MCTC

Marshall Community & Technical College

www.mctc.edu

Supplement to the

2008-09 CATALOG

Get an
E-Z Start
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Administrative Assistant Technology
- Executive Option
- Legal Option
- Medical Option
- Medical Transcription Option

Banking and Finance

Board of Governors

Clinical Assistant

Dental Laboratory Technology

Early Childhood Education

Electronics Technology
- Biomedical Technology
- Electronics Option

Health Information Technology

Hospitality Management
- Culinary Arts Option
- Hotel/Lodging Management Option

Information Technology
- Geospatial Studies Option
  (GIS, GPS, RS)
- Network Systems Administration
  Option (MCSE)
- Network Systems Security Option
  (CISCO and MCSA)
- Program Developer Option
- Web Developer Option

Interior Design

Legal Assistant

Management Technology
- Accounting Option
- Business Management Option
- Call Center Supervision Option
- Management Dual Degree Option
- Industrial Management Option

Massage Therapy

Medical Assistant

Occupational Development
- Building and Construction
  Trades Option
- Child Development Specialist
- Fire Fighter Option
- Law Enforcement
  Specialty Option
- Mine Inspection Option
- Painting and
  Allied Trades Option
- Social Work Assistant Option

Paramedic Science

Physical Therapist Assistant

Police Science

Public Library Technology

Radiologic Technology (Allied)

Respiratory Therapy

Surgical Technology

Technical Studies
- Agricultural Science Option
- Air Conditioning/
  Refrigeration Option
- Automotive Technology Option
- General Building
  Construction Option
- Graphic Design/Graphic
  Communications Option
- Machinist Technology Option
- Maritime Training Option
- Welding Option

**Associate in Arts – General
Studies/Transfer**

One-Year Certificate Programs

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Certified Coding Specialist

CISCO Certified Network Associate

Culinary Arts

Dental Laboratory Technology

Medical Transcription

**Microsoft Certified Systems
Engineer (MCSE)**

Paramedic Science

Police Science

Public Library Technology

Technical Studies
- Agricultural Science
- Graphic Design/
  Graphic Communications
- Machinist
- Maritime Training

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*Classes are designed to help working adults
complete their degree quickly and conveniently, with
little interference to their professional responsibilities.*

···▶ *Call today to talk to an advisor!*

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Marshall Community & Technical College

MCTC
Marshall Community & Technical College

Student's Responsibility

It is the responsibility of the student to be aware of the information in this Catalog. The student also is responsible for keeping informed as additions, deletions and corrections are announced via various school media.

Disclaimer

The provisions of this Catalog do not constitute a contract, expressed or implied, between any applicant or student and Marshall Community & Technical College. The College reserves the right to change any of the provisions, schedules, programs, courses, rules, regulations or fees whenever the College authorities deem it expedient to do so.

Marshall Community & Technical College is accredited by

The Higher Learning Commission,
North Central Association of Colleges and Schools
30 North LaSalle Street, Suite 2400
Chicago, IL 60602
Toll-free: 1-800-621-7440

For additional information or information not covered in this catalog, please contact 1-866-N-ROLLED or (304) 696-6282.

# ACADEMIC CALENDAR 2008-2009

First Semester 2008-2009 (FALL 2008)

August 18, Monday – August 22, Friday. . . . . Registration/Schedule Adjustment

August 22, Friday, 9 a.m.. . . . . .Residence Halls Open for Freshmen

August 25, Monday, 8 a.m.. . . . . .First Day of Classes

August 25, Monday – August 29, Friday. . . . . .Late Registration and Add/Drop (Schedule Adjustment)

August 29, Friday. . . . . Last Day to Add Classes (Withdrawals Only After This Date)

August 30 , Saturday – September 1, Monday . . . . University Computer Services Unavailable

September 1, Monday. . . . . Labor Day Holiday – University Closed

September 2 , Tuesday . . . ."W" Withdrawal Period Begins

September 19, Friday. . . . . .Application for December Graduation Due in Academic Dean's Office

September 26, Friday. . . . . Last Day to Drop 1st 8 Weeks Courses

October 14, Tuesday. . . . . Mid-Semester, 1st 8 Weeks Courses End

October 15, Wednesday. . . . . 2nd 8 Weeks Courses Begin

October 20, Monday, Noon. . . . . .Deadline for Submitting Freshmen Mid Term Grades

October 27, Monday . . . . Students should schedule appointments with
advisors to prepare for advance registration (Required for students who have mandatory advising holds)

October 31, Friday. . . . . Last Day to Drop a Full Semester Individual Course

November 3 , Monday . . . . .Recommended Date to Apply for May 2009 Graduation

November 3, Monday – December 9, Tuesday . . . . Complete Withdrawals Only

November 10, Monday – November 21, Friday . . . . .Advance Registration for Spring Semester for Currently Enrolled Students

November 14, Friday. . . . . Last Day to Drop 2nd 8 Weeks Courses

November 22, Saturday, Noon . . . . .Residence Halls Close

November 24, Mon – December 16, Tuesday . . . . . .Advance Registration for Spring Semester Open to All Admitted/Re-Admitted Students

November 24, Monday – November 29, Saturday . . . . Thanksgiving/Fall Break - Classes Dismissed

November 27, Thursday – November 30, Sunday . . . . University Computer Services Unavailable

November 27, Thursday. . . . . Thanksgiving Holiday – University Closed

November 28, Friday. . . . . .University Holiday – University Closed

November 30, Sunday, Noon. . . . . Residence Halls Open

December 1 , Monday. . . . . .Classes Resume

December 3, Wednesday – December 9, Tuesday. . . . . "Dead Week"

December 9, Tuesday. . . . . Last Class Day and Last Day to Completely Withdraw for Fall Semester

December 10, Wednesday . . . . .Study Day - Exams for Wednesday Classes 3 p.m. and After Will Be Held

December 11, Thursday. . . . . Exam Day

December 12, Friday. . . . . Exam Day

December 13, Saturday. . . . . Exam Day for Saturday Classes (and some common finals)

December 15, Monday. . . . . Exam Day

December 16, Tuesday. . . . . Exam Day – Fall Semester Closes – Official Graduation Date For Fall Semester

December 17, Wednesday Noon . . . . Residence Halls Close

December 17, Wednesday – December 28, Sunday . . . . . . Advance Registration/Schedule Adjustment for Spring Semester is Suspended

December 18, Thursday, Noon. . . . . Deadline for Submitting Final Set of Grades

December 23, Tuesday – January 1, 2009, Thursday . . . . University Closed

December 29, Monday – December 31, Wednesday . . . . .On-Line Registration Resumes

ACADEMIC CALENDAR 2008-2009

Second Semester 2008-2009 (SPRING 2009)

January 2, 2009, Friday . . . . .University Offices Open

January 2, Friday – January 9, Friday . . . . Registration/Schedule Adjustment

January 11, Sunday, 9 a.m. . . . . Residence Hall Open

January 12, Monday . . . . .First Day of Class

January 12, Monday – January 16, Friday . . . . Late Registration and Add/Drop (Schedule Adjustment)

January 16, Friday . . . . Last Day to Add Classes (Withdrawals Only After This Date)

January 19, Monday . . . . Martin Luther King, Jr. Holiday – University Closed

January 20, Tuesday . . . ."W" Withdrawal Period Begins

February 6, Friday . . . . .Application for May Graduation Due in Academic Dean's Office

February 13, Friday . . . . .Last Day to Drop 1st 8 Weeks Courses

March 4, Wednesday . . . . .Mid-Semester, 1st 8 Weeks Courses End

March 5, Thursday . . . . 2nd 8 Weeks Courses Begin

March 9, Monday, Noon . . . . Deadline for Submitting Freshmen Mid Term Grades

March 20, Friday . . . . Last Day to Drop a Full Semester Individual Course

March 21, Saturday, Noon . . . . .Residence Halls Close

March 22, Sunday – March 29, Sunday . . . . .Spring Break – Classes Dismissed

March 23, Monday – May 1, Friday . . . . Complete Withdrawals Only

March 29, Sunday, Noon . . . . Residence Halls Open

March 30, Monday . . . . Classes Resume

March 30, Monday . . . . .Students should schedule appointments with advisors to prepare for advance registration (Required for students who have mandatory advising holds)

March 30, Monday – April 3, Friday .Advance Registration For Summer Session for Currently Enrolled Students

April 6, Monday . . . . .Recommended Date to Apply for December 2009 Graduation

April 6, Monday . . . . Advance Registration for Summer Session Open to All Admitted/Re-admitted Students

April 8, Wednesday . . . . .Assessment Day – Classes Cancelled for University-Wide Assessment Activities. Students obtain list of activities from department chair. Undecided students should go to their college office for a list. (Evening Classes 4:00 p.m. or Later Will Meet)

April 10, Friday . . . . Last Day to Drop 2nd 8 Weeks Courses

April 13, Monday – April 24, Friday . . . . .Advance Registration Fall Semester for Currently Enrolled Students

April 27, Monday – May 1, Friday . . . ."Dead Week"

April 27, Monday – May 8, Friday . . . . .Advance Registration for Fall Semester Open to All Admitted/Re-Admitted Students except First Time Fall Undergraduates

May 1 , Friday . . . . Last Class Day and Last Day to Completely Withdraw For Spring Semester

May 2 , Saturday . . . . .Exam Day for Saturday Classes (and some common finals)

May 4 , Monday . . . . Exam Day

May 5, Tuesday . . . . Exam Day

May 6, Wednesday . . . . Study Day – Exams for Wednesday Classes 3 p.m. and After Will Be Held

May 7, Thursday . . . . .Exam Day

May 8, Friday . . . . .Exam Day

May 9, Saturday – May 17, Sunday . . . . Advance Registration/Schedule Adjustment for Fall Semester is suspended

May 9, Saturday . . . . .172nd Commencement Exercises

May 9, Saturday, Noon . . . . .Residence Halls Close

May 11, Monday . . . . Summer 1 Begins

May 12, Tuesday . . . . .Deadline for Submitting Final Set of Grades

May 18, Monday . . . . Registration/Schedule Adjustment Resumes for Fall Semester for All Students except First-Time Fall Undergraduates

May 23, Saturday – May 25, Monday . . . . .University Computer Services Unavailable

May 25, Monday . . . . Memorial Day Holiday – University Closed
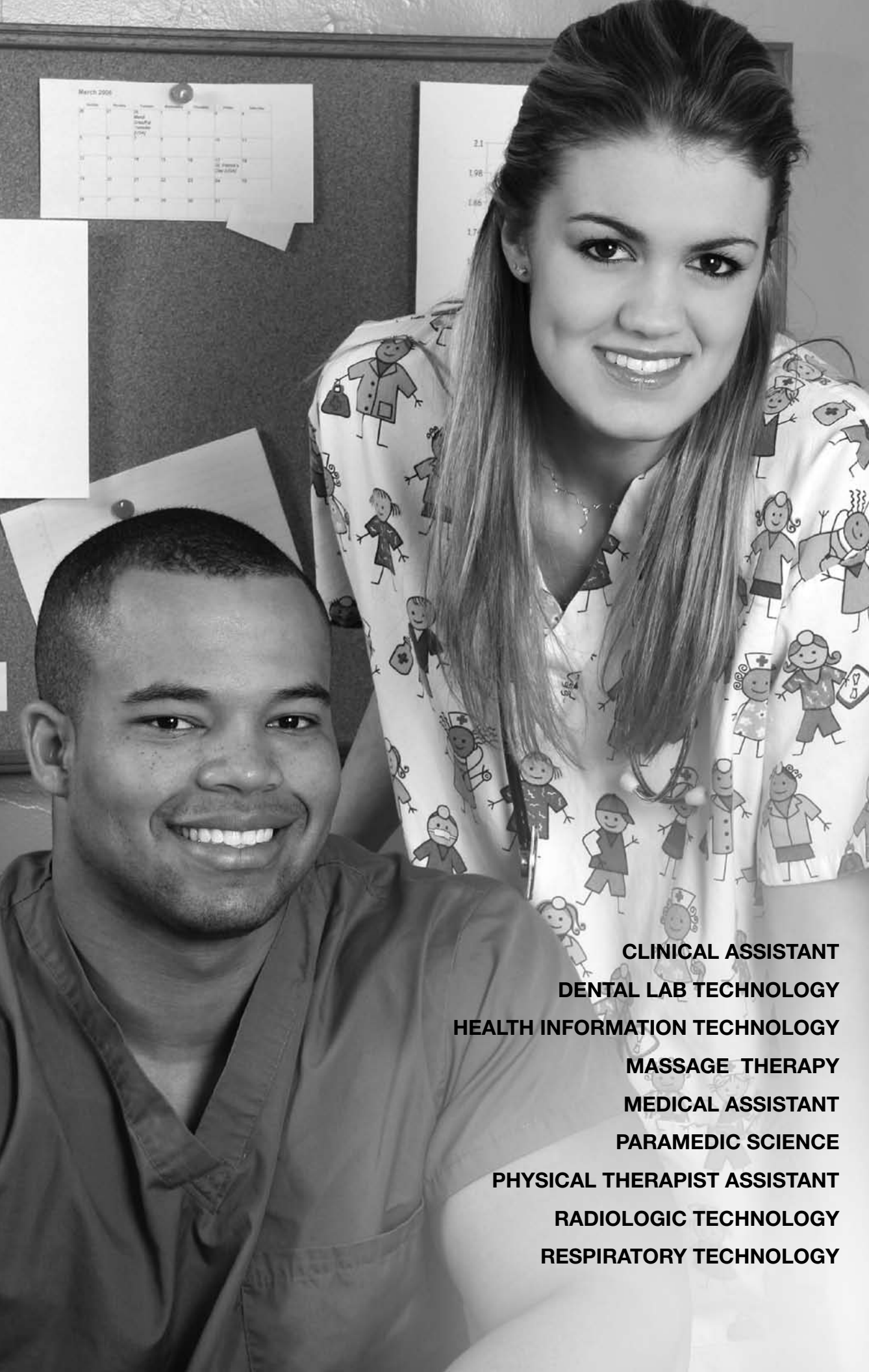
Allied Health

CLINICAL ASSISTANT
DENTAL LAB TECHNOLOGY
HEALTH INFORMATION TECHNOLOGY
MASSAGE THERAPY
MEDICAL ASSISTANT
PARAMEDIC SCIENCE
PHYSICAL THERAPIST ASSISTANT
RADIOLOGIC TECHNOLOGY
RESPIRATORY TECHNOLOGY

CLINICAL ASSISTANT - ASSOCIATE IN APPLIED SCIENCE

Program Description:
Clinical Assistants (CA) are multi-skilled clinical laboratory professionals competent to perform waived and low-to-moderate complexity laboratory testing. As a critical component of the health care team, the clinical laboratory is responsible for approximately 90% of the information physicians' use to detect, diagnose, and treat medical conditions and infectious disease. Typically, Clinical Assistants work under the supervision of a Medical Laboratory Technician or Medical Technologist.

The multi-faceted role of the Clinical Assistant includes collection of blood and non-blood specimens, preparation of blood and body fluid specimens for laboratory analysis, as well as laboratory testing in the areas of chemistry, hematology, microbiology, urinalysis, immunology, and blood product screening/component processing. Clinical Assistants perform laboratory testing using low-to-moderately complex automated instruments for specimen analysis, and routinely use Laboratory Information Systems for ordering tests and result documentation. The Clinical Assistant is capable of comparing laboratory test results to normal reference ranges, as well as recognizing abnormal laboratory test results and their relationship to common disease states. Strict adherence to safe laboratory practice and infection control policies is an essential element of this profession. A successful Clinical Assistant must be detail-oriented, possess excellent customer service skills, and be capable of prioritizing tasks in a manner to maintain workflow and productivity.

The A.A.S. Clinical Assistant Degree includes a total of 63 credit hours, of which 24 credit hours focus specifically on the field of laboratory medicine. Successful completion of the CA program will include a clinical internship at an affiliated health care facility. Many states require licensure in order to perform laboratory testing. The West Virginia Office of Laboratory Services (WVOLS) currently requires licensure of all laboratorians performing moderate-complexity laboratory testing. Upon completion of the Clinical Assistant program, graduates will be eligible for WV state licensure as a Clinical Laboratory Practitioner-Point of Care Technician, with appropriate documentation as required by WVOLS.

Career Outlook:
Opportunities for job placement in the field of laboratory medicine are excellent. At present, the number of jobs currently available exceed the number of qualified applicants. With steady population growth and implementation of new laboratory tests, employment is expected to grow faster than the average for all other occupations through the year 2014. With the rapid growth of point of care testing, employment opportunities in physician's offices and other ambulatory health care facilities will dramatically increase over the next five to ten years.

Salary Forecast:
Clinical Assistants working in a hospital setting earn an average of $12-15/hour with full health care benefits, retirement, and possible tuition and relocation reimbursement. For those working in phlebotomy positions, the 2003 median hourly wages were as follows: hospitals=$11.13/hour; physician office laboratories or private clinics=$10.50/hour.

(Information obtained from Occupational Outlook Handbook, 2006-2007)

Program Admission Requirements:
1. Completion of Clinical Assistant Program Admission Packet, including official transcripts.
2. Applicants must be able to meet technical standards as listed in the Program Admission Packet.
3. Applicants must complete all general education and prerequisite courses with a grade of "C" or better, and must have a cumulative GPA of 2.5 or higher.
4. Proof of medical insurance coverage is required for internship.
5. Prior to internship, students must submit proof of Tuberculosis testing and Hepatitis B vaccination, or sign a waiver refusing vaccination.
6. Some clinical facilities may require random drug screen testing or background checks prior to acceptance into internship.
7. The CA program is a limited enrollment program. Program admission for the upcoming fall semester will be granted beginning in May.
8. Admission packets may be obtained from the Allied Health Division Office, Cabell Hall 314 after February 1st.

CLINICAL ASSISTANT

MAJOR CODE - CH50

FIRST YEAR[1]	
First Semester	**Second Semester**
AH 151 Medical Terminology (EDGE). 3	COM 112 Oral Communication 3
ENL 111 Written Communication[1]. 3	IT 101 Fundamentals of Computers (EDGE) .3
EME 105 First on Scene (EDGE). 3	SCI 220 Introduction to Chemistry[3]. 3
MAT 145 Applications in Algebra[2]. 3	BIOL 265 Applied Human Physiology. 4
BIOL 260 Applied Human Anatomy (EDGE) 4	SS 215 Lifespan Psychology 3
TOTAL CREDITS. 16	**TOTAL CREDITS. 16**

SECOND YEAR	
Third Semester	**Third Semester**
AH 207 Infection Control for Health Professionals[5]. .4	CLA 203 Specimen Collection and Processing[8]. . . .4
CLA 201 Laboratory Safety, Ethics, and Law. 2	CLA 206 Intro to Physician Office Lab[10.] 2
CLA 202 Laboratory Calculations[7]. 2	CLA 299 Clinical Assistant/POCT Internship[11]. . . .4
CLA 204 Intro to Point of Care Testing.. 4	AH 205 Principles of Disease[4]. 4
CLA 205 Intro to Automated Instrumentation[9]. 2	
ENL 231 Technical Report Writing[6]. 3	
TOTAL CREDITS. 17	**TOTAL CREDITS. 14**

HOURS REQUIRED FOR GRADUATION: 63

Employment Opportunities:
- Hospitals
- Health Care Clinics
- Physicians' Office Laboratories
- Blood Donation/Collection Centers
- Reference Laboratories
- Medical Research Laboratories

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Pam Meadows, MT (ASCP) • Cabell Hall, Room 302
Phone: 304-696-3749 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: meadow63@marshall.edu

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1. ENL 111 has a prerequisite of COM 095, ENL 095, ACT 18, or PLAC 101.
2. MAT 145 has a prerequisite of ACT 19, MAT 097, or PLAC 101.
3. SCI 220 has a prerequisite of MAT 145, MAT 145E, MAT 150, or MAT 150E.
4. AH 205 has a prerequisite of SCI 257 or BSC 227.
5. AH 207 has a prerequisite of AH 151.
6. ENL 231 has a prerequisite of ENL 111, COM 111, COM 111E, ENG 101, or ENG 101E.
7. CLA 202 has a prerequisite of MAT 145.
8. CLA 203 has a prerequisite of SCI 257 or SCI 260.
9. CLA 205 has a prerequisite of SCI 257, SCI 260, or SCI 265.
10. CLA 206 has a prerequisite of SCI 257, SCI 260, or SCI 265.
11. CLA 299 requires completion of all previous CLA coursework with a minimum grade of "C", admission to CA/POCT program, and permission of program coordinator.

In order to graduate from the A.A.S. CA program, students must maintain a minimum grade of "C" or better in all CLA courses. Should a student receive a "D" or "F" in any of the CLA courses, they will be allowed to repeat the course one time before dismissal from the program.

HEALTH OCCUPATIONS

DENTAL LABORATORY TECHNOLOGY - ASSOCIATE IN APPLIED SCIENCE

Program Description:
One year of training at the Putnam Career and Technical Center (PCTC) and thirty-one hours credit at Marshall Community & Technical College will result in an Associate in Applied Science degree in Dental Laboratory Technology. Students will follow the Putnam County school calendar while completing the Dental Laboratory Technology courses, and attend the PCTC every day from 8:30 a.m.-3:00 p.m. during the technical portion of the program.

Career Outlook:
Dental Laboratory Technicians make and repair dental appliances such as dentures, crowns, and braces. Specializations are available in various aspects of the work prescribed by dentists and orthodontists: Crown and Bridge Technicians, Metal Dental Technicians, Partial Denture Technicians, Dental Ceramists and Orthodontic Technicians. Most dental laboratory technicians work in commercial dental laboratories employing 2 to 20 people. Employment opportunities are available in private dental offices, dental schools, hospitals, and companies that manufacture dental prosthetic materials.

Most job openings will arise from the need to replace technicians who transfer to other occupations or who leave the labor force. During the last few years, demand has arisen from an aging public that is growing increasingly interested in cosmetic prostheses. For example, many dental laboratories are filling orders for composite fillings that are the same shade of white as natural teeth to replace older, less attractive fillings.

Salary Forecast:
Median hourly earnings of dental laboratory technicians were $14.93 in May 2004. The middle 50 percent earned between $11.18 and $19.71 an hour. The lowest 10 percent earned less than $8.86, and the highest 10 percent earned more than $25.48 an hour. Median hourly earnings of dental laboratory technicians in May 2004 were $15.95 in offices of dentists and $14.40 in medical equipment and supplies manufacturing. Dental technicians in large laboratories tend to specialize in a few procedures and, therefore, tend to be paid a lower wage than those employed in small laboratories that perform a variety of tasks.

(Information obtained from Occupational Outlook Handbook, 2006-2007)

Program Admission Requirements:
The college adheres to an open admissions policy which means applicants with a high school diploma or a GED are eligible for admission into MCTC. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

Employment Opportunities:
- Dental labs
- Private dental offices
- Dental schools
- Dental labs that manufacture prosthetic materials

DENTAL LABORATORY TECHNOLOGY

MAJOR CODE - CD10

FIRST YEAR[1]	

First Semester[2]
DLT 101 Intro to Dental Technology[3] (EDGE) 6
   (1st 9 weeks)
DLT 104 Complete Dentures (EDGE) 9
   (2nd 9 weeks)
 	
TOTAL CREDITS. 15
	Second Semester
	DLT 108 Partial Dentures (EDGE). 9
	   (1st 9 weeks)
	DLT 112 Inlays/Crowns/Bridges/Ceramics(EDGE)10
	   (2nd 9 weeks)
	DLT 116 Clinical Experience[4] (EDGE) 1
	   (2nd 9 weeks)
	TOTAL CREDITS. 20

SECOND YEAR	
Third Semester AH 151 Medical Terminology (EDGE) . . . . .3 ENL 111 Written Communication . . . . . . 3 IT 101 Fundamentals of Computers (EDGE) . . .3 MG 101 Intro to Business (EDGE). . . . . .3 SCI 120 Basics in Phycial Science . . . . .4 **TOTAL CREDITS. 16**	**Fourth Semester** COM 112 Oral Communication . . . . .3 BIOL 257 Intro to Anatomy & Physiology (EDGE). . . 3 MAT 115 Business Mathematics . . . . .3 MG 202 Business Organization & Management[5] . . . .3 SS 215 Lifespan Psychology . . . . .3 **TOTAL CREDITS. 15**
HOURS REQUIRED FOR GRADUATION: 66	

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Adam Swolsky • Cabell Hall, Room 303
Phone: 304-696-3750 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: swolsky@marshall.edu
or
Jesse Smith • Putnam Career and Technical Center
Phone: 304-586-3494 ext. 213

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1. Dental Laboratory Technology courses are delivered at Putnam Career and Technical Center at Eleanor, WV
2. All first semester Dental Laboratory Technology courses must be completed with a "C" or better before student can register for second semester coursework.
3. DLT 101 has a prerequisite of admission to the Dental Laboratory Technology Program.
4. DLT 116 has a prerequisite of DLT 101, DLT 104, DLT 108 and co-requisite of DLT 112.
5. MG 202 has prerequisite of MG 101.

HEALTH INFORMATION TECHNOLOGY - ASSOCIATE IN APPLIED SCIENCE

Program Description:
The health information technician is the professional responsible for maintaining components of health information systems in a manner consistent with the medical, administrative, ethical, legal, accreditation, and regulatory requirements of the health care delivery system. In all types of facilities, and in various locations within a facility, the technician possesses the technical knowledge and skill necessary to process, maintain, compile, and report data for reimbursement, facility planning, marketing, risk management, quality assessment, and research; to abstract and code clinical data using appropriate classification systems; and to analyze health records according to standards. The health information technician may be responsible for functional supervision of the various components of the health information system.

Within the 67 credit hours students must earn for the associate degree, 29 credit hours of health information technology classes are required. This includes 5 credit hours of directed practice where the students will practice their skills in a health information setting.

Career Outlook:
Job prospects should be very good. Employment of medical records and health information technicians is expected to grow much faster than the average for all occupations through 2012, due to rapid growth in the number of medical tests, treatments, and procedures that will be increasingly scrutinized by third-party payers, regulators, courts, and consumers (www.bls.gov).

Salary Forecast:
Median annual earnings of medical records and health information technicians were $25,590 in 2004. The middle 50 percent earned between $20,650 and $32,990. The lowest 10 percent earned less than $17,720, and the highest 10 percent earned more than $41,760. Median annual earnings in the industries employing the largest numbers of medical records and health information technicians in 2004 were as follows:

General medical and surgical hospitals	$26,640
Nursing care facilities	$26,330
Outpatient care centers	$23,870
Offices of physicians	$22,130

(Information obtained from Occupational Outlook Handbook, 2006-2007)
You may also contact the American Health Information Association at (312) 787-2672 or www.ahima.org.

Program Admission Requirements:
1. Completion of the first year of course work with a grade point average of 2.5 or above with a grade of at least C in all courses.
2. Completion of a minimum of 20 hours of observation in a health information management department of a health care facility.
3. Applications will be accepted from January 1 of each year for the upcoming fall semester. Admission to the program will be granted starting in May. This is a limited enrollment program.

Accreditation Information:
The Health Information Technology program is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (www.cahiim.org).

Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM)
Accreditation Services
233 N. Michigan Ave, 21st Floor
Chicago, IL 60601-5800
www.cahiim.org

Employment Opportunities:
- Acute care facilities
- Long-term care facilities
- Insurance companies
- Rehabilitation centers
- Physicians' offices
- Medical transcription
- Ambulatory care facilities
- State and local health departments
- Sales representatives for health information supplies
- Professional billing companies
- Attorneys' offices

HEALTH OCCUPATIONS

HEALTH INFORMATION TECHNOLOGY

MAJOR CODE - CH10

FIRST YEAR[1]	
Fall Semester	**Spring Semester**
AAT 136 Introduction to Word Processing (EDGE) 3 AH 151 Medical Terminology (EDGE). . . . . 3 ENL 111 Written Communication . . . . .3 MAT 150 Applied Professional Mathematics . . . . .3 SS 215 Lifespan Psychology . . . . .3 **TOTAL CREDITS. 15**	AAT 253 Medical Transciption[1] . . . . .3 BIOL 260 Applied Human Anatomy . . . . .4 COM 112 Oral Communication . . . . .3 IT 101 Applied Human Physiology. . . . . .3 LAS 245 Medical Law . . . . .3 **TOTAL CREDITS. 16**

SECOND YEAR[3,4]	
Fall Semester (HIT Classes Offered in Fall Only)	**Spring Semester (HIT Classes Offered in Spring Only)**
AH 216 Basic Pharmacology[5]. . . . . .3 HIT 201 Health Information Technology[6]. . . . . .3 HIT 201L Health Information Technology I Lab . . .1 HIT 203 Basic ICS-9-CM Coding . . . . .4 HIT 206 Hospital Rates & Percentages . . . . . .2 HIT 210 Computer Health Information Systems . .2 HIT 214 Directed Practice I[7,8]. . . . . .1 **TOTAL CREDITS. 16**	AH 205 Principles of Disease[9] . . . . .4 HIT 202 Health Information Technology II[6]. . . . . .3 HIT 202L Health Information Technology II Lab. . . .1 HIT 204 Advanced Coding Concepts. . . . . .4 HIT 208 Quality Improvement in Healthcare. . . . . 2 HIT 215 Directed Practice II . . . . .3 **TOTAL CREDITS. 17**
Summer Intersession	
HIT 212 Health Information Technology[11]. 2	HIT 218 Directed Practice III[8,12] 2

HOURS REQUIRED FOR GRADUATION: 68

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Janet B. Smith • Cabell Hall, Room 210
Phone: 304-696-3048 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: smithjan@marshall.edu

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1. AAT 253 has prerequisite of AAT 136 and AH 151.
2. The LAS 248 prerequisite of LAS 101 is waived for Health Information Technology program majors. Please see advisor.
3. Application Process for Health Information Technology: File a Marshall University application provided by the Office of Admission. File a Health Information Technology program application provided by the HIT program coordinator in the spring of the first year in the program prior to starting classes in the fall. Submit a complete HIT Observation Form verifying a minimum of 20 hours of observation.
4. Academic Policy for Health Information Technology: Each HIT course must be completed with a grade of C or better. Students earning a grade of less than C in an HIT course must repeat the course. Evidence of a current satisfactory health record must be submitted prior to participation in the Directed Practice Experience. Students are responsible for transportation to and from the Directed Practice sites.
5. AH 216 has a prerequisite of AH 151.
6. HIT 201 and HIT 202 have respective co-requisites of HIT 201L and HIT 202L.
7. HIT 214 has a co-requisite of HIT 201.
8. HIT 214, 215 and 218 should be taken in sequence.
9. AH 205 has a prerequisite of BIOL 260.
10. HIT 215 has a co-requisite of HIT 202.
11. HIT 212 has a prerequisite of HIT 201, 201L, 202, 202L, 203, 204, 206, 208, and 210.
12. HIT 218 has prerequisite of HIT 215.

MASSAGE THERAPY - ASSOCIATE IN APPLIED SCIENCE

Program Description:
The A.A.S. degree in Massage Therapy is a cooperative program through Marshall Community & Technical College and Mountain State School of Massage in Charleston. Licensed Massage Therapists (LMTs) offer a range of services from relaxation massage to precise clinical soft tissue treatment. Massage techniques can release scar tissue, increase joint range of motion, enhance circulation of blood and lymph and increase the supply of oxygen and nutrients to cells, eliminating toxic waste products resulting in a healthier person. A holistic approach to massage therapy integrates an understanding that there are physical, mental, emotional and spiritual components to each individual. LMTs are currently employed through private practice, chiropractic offices, hospitals, health clubs, day spas, cruise ships, fitness centers, beauty salons and more.

Career Outlook:
Nationally, the number of jobs for massage therapists is expected to grow faster than average through the year 2012 (www.bls.gov).

Many factors will affect this growth. More people are becoming interested in massage as a way to relieve stress and promote health. As disposable incomes grow, many people will seek massages for personal benefit. There will also be growth in full-service spa salons. These salons offer services such as beauty wraps, pedicures, and massages in addition to traditional hair and makeup services. Many employees will be needed to offer a range of services.

The medical benefits of massage are becoming more widely known. As a result, more naturopaths, acupuncturists, chiropractors, physical therapists, and physicians will refer their patients to massage therapists. However, this will depend somewhat on if massage therapy is covered by health insurance plans. In addition, an aging population will increase the number of people with conditions that can benefit from massage therapy.

Salary Forecast:
Median hourly earnings of massage therapists, including gratuities earned, were $15.36 in May 2004. The middle 50 percent earned between $9.78 and $23.82. The lowest 10 percent earned less than $7.16, and the highest 10 percent earned more than $32.21. Generally, massage therapists earn 15 to 20 percent of their income through gratuities. For those who work in a hospital or other clinical setting, however, tipping is not common.

(Information obtained from Occupational Outlook Handbook, 2006-2007)

Program Admission Requirements:
Students applying for admission to Mountain State School of Massage must:

- be 19 years of age; (may be waived through personal interview with the Directors);
- submit an application along with a non-refundable $50 application fee;
- submit a document containing relevant biographical data, basic philosophy of health care and motivation for training in massage therapy;
- be at least a high school graduate (or equivalent) and submit transcripts from the last attended academic institution (or G.E.D.);
- submit (2) letters of reference. At least (1) must be an academic or employer reference.

Accreditation Information:
Mountain State School of Massage is accredited through:

The Commission on Massage Therapy Accreditation (COMTA)
1007 Church Street, Suite 302
Evanston, Illinois 60201
847-869-5039 or 847-869-6739
www.comta.org

Program Admission Requirements:
The college adheres to an open admissions policy which means applicants with a high school diploma or a GED are eligible for admission to MCTC. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

MASSAGE THERAPY

MAJOR CODE - CM70

Marshall Community & Technical College	Mountain State School of Massage
Allied Health Courses	**Coursework in Massage Therapy**[2,3]
ENL 111 Written Communication. 3	MAS 205 Anatomy & Phys. for Massage Therapy 11
COM 112 Oral Communication 3	MAS 210 Orientation, Awareness Skills, Bus.&Res.4
IT 101 Fundamentals of Computers (EDGE). . .3	MAS 215 Bodywork I 6
MAT 150 Applied Professional Mathematics. 3	MAS 220 Bodywork II 5
SCI 201 Integrated Science[1] 4	MAS 225 Pathology for Massage Therapy 5
SS 215 Lifespan Psychology 3	MAS 230 Kinesiology for Massage Therapy 7
	MAS 235 Student Clinic Integrative Massage 3-4
TOTAL CREDITS. 19	**TOTAL CREDITS. 41-42**
HOURS REQUIRED FOR GRADUATION: 60-61	

Employment Opportunities:
- Doctors' offices
- Chiropractors' offices
- Hospitals
- Physical therapy offices
- Medical clinics
- Massage therapy practices

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Adam Swolsky • Cabell Hall, Room 303
Phone: 304-696-3750 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: swolsky@marshall.edu
     or
Kellie Ray, Admission Director • Mountain State School of Massage
Phone: (304) 926-8822

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1. SCI 201 has a prerequisite of MAT 150.
2. Massage Therapy courses are delivered at Mountain State School of Massage.
3. All first semester Massage Therapy courses must be completed with a "C" or better before students can register for subsequent Massage Therapy courses.

MEDICAL ASSISTANT - ASSOCIATE IN APPLIED SCIENCE

Program Description:
Medical Assistants are Allied Health professionals who assist physicians in their offices or other medical settings. In accordance with respective state laws, they perform a broad range of administrative and clinical duties, as indicated by the American Association of Medical Assistants recent role delineation study.   The Marshall Community & Technical College Medical Assistant program is accredited by the Commission on Accreditation of Allied Health Education Programs upon the recommendation of the Curriculum Review Board of the American Association of Medical Assistants Endowment (AAMAE).

Administrative duties include scheduling and receiving patients, preparing and maintaining medical records, performing basic secretarial skills and medical transcription, handling telephone calls and written correspondence, serving as a liaison between the physician and other individuals, and managing practice finances. Clinical duties include asepsis and infection control, taking patient histories and vital signs, performing first aid and CPR, preparing patient for procedures, assisting the physician with examinations and treatments, collecting and processing specimens, performing selected diagnostic tests, and preparing and administering medications as directed by the physician.

Both administrative and clinical duties involve maintenance of equipment and supplies for the practice. A medical assistant who is sufficiently qualified by education and/or experience may be responsible for supervising personnel, developing and conducting public outreach programs to market the physician's professional services, and participating in the negotiation of leases and of equipment and supply contracts.

Career Outlook:
Employment of medical assistants is expected to grow much faster than the average for all occupations through the year 2012 as the health services industry expands because of technological advances in medicine and a growing and aging population. Increasing utilization of medical assistants in the rapidly-growing health care industries will result in fast employment growth for the occupation. In fact, medical assistants are projected to be the fastest growing occupation through 2012 (www.bls.gov).

Salary Forecast:
The earnings of medical assistants vary, depending on their experience, skill level, and location. Median annual earnings of medical assistants were $24,610 in May 2004. The middle 50 percent earned between $20,650 and $28,930. The lowest 10 percent earned less than $18,010, and the highest 10 percent earned more than $34,650. Median annual earnings in the industries employing the largest numbers of medical assistants in May 2004 were:

Colleges, universities, and professional schools	$27,490
Outpatient care centers	$25,360
General medical and surgical hospitals	$25,160
Offices of physicians	$24,930
Offices of other health practitioners	$21,930

(Information obtained from Occupational Outlook Handbook, 2006-2007)

Program Admission Requirements:
1. Completion of the first year general and support courses with a 2.5 or better GPA with at least a C in all MA courses;
2. CPR certification (EME 105);
3. Physical exam with proper documentation of vaccinations, prior to internship.

Applications will be accepted beginning January 1 each year for the upcoming fall semester. Admission to the program will be granted starting in May. This is a limited enrollment program. For additional information about careers as a Medical Assistants, visit the American Association of Medical Assistants web site at www.aama-ntl.org.

Accreditation Information:
The Medical Assistant Program is accredited by the:

Commision on Accreditation of Allied Health Education Programs (CAAHEP)
1361 Park Street
Clearwater, FL 33756
(727) 210-2350

MEDICAL ASSISTANT

MAJOR CODE - CM30

<table>
<tr><td colspan="2">FIRST YEAR[1]</td></tr>
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Fall Semester
AAT	136	Intro to Word Processing (EDGE)	3
AH	151	Medical Terminology (EDGE)	3
ENL	111	Written Communication	3
EME	105	First on Scene	3
IT	101	Fundamentals of Computers (EDGE)	3
MAT	115	Business Mathematics	3
		TOTAL CREDITS	**18**

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Spring Semester
AAT	253	Medical Transcription[2]	3
AH	220	Basic Nutrition	3
BIOL	257	Intro to Anatomy & Physiology (EDGE)	3
COM	112	Oral Communication	3
IT	150	Applications to Spreadsheets[3] (EDGE)	3
SS	215	Lifespan Psychology	3
		TOTAL CREDITS	**18**

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<tr><td colspan="2">SECOND YEAR</td></tr>
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Fall Semester
AAT	265	Administrative Office Procedures[4]	3
HIT	201	Health Information Technology[5,6]	3
HIT	201L	Health Information Technology I Lab	1
LAS	248	Medical Law[7]	3
MA	201	Medical Assisting Techniques I[8]	3
MA	204	Physician's Office Medical Coding	3
		TOTAL CREDITS	**16**

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Spring Semester
AH	216	Basic Pharmacology[9]	3
MA	202	Medical Assisting Techniques II[10]	4
MA	203	Medical Lab Techniques	3
MA	205	Medical Office Claims Procedures	3
		TOTAL CREDITS	**13**

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Summer
MA	207	Medical Office Internship[11]	3

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<tr><td colspan="2">HOURS REQUIRED FOR GRADUATION: 68</td></tr>
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Employment Opportunities:
- ` Physicians' offices
- Clinics
- Hospitals
- Any other type of healthcare setting

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Janet Smith • Cabell Hall, Room 205
Phone: 304-696-3048 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: smithjan@marshall.edu

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1. Students must maintain a 2.5 GPA in the first year of course work.
2. AAT 253 has a prerequisite of AAT 136 & AH 151.
3. IT 150 has a prerequisite of IT 101.
4. AAT 265 has a prerequisite of AAT 136.
5. HIT 201 has a prerequisite of admission to the Medical Assisting Program. Please see advisor.
6. HIT 201 has a co-requisite of HIT 201L
7. The LAS 248 prerequisite of LAS 101 will be waived for Medical Assistant Program majors. Please see advisor.
8. Prerequisite: Admission to MA program. Student should apply in the spring semester prior to taking MA courses.
9. AH 216 has a prerequisite of AH 151.
10. MA 202 has a prerequisite of MA 201.
11. MA 207 has a prerequisite of MA 201, MA 202, MA 203, MA 204, and MA 205.

HEALTH OCCUPATIONS

PARAMEDIC SCIENCE - ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Emergency Medical Technician-Paramedic (EMT-Paramedic) is a specialist in the pre-hospital care of the sick and injured. This person bridges the gap between the emergency room physician and the critical patient in the out-of-hospital setting. Paramedics provide emergency medical treatment and stabilization, rescue of persons entrapped in life-threatening situations, transportation of critical patients to specialized treatment facilities, support and assistance to fire and law enforcement agencies, and public education and safety training to target populations.

The student completing an Associate in Applied Science Paramedic Degree will complete in addition to the Paramedic courses, general education courses that will better prepare the student to enter the workforce and progress to competitive job markets and management positions.

The EMT-Paramedic Associate Degree program is an intense program designed for individuals involved in both career and volunteer aspects of the Emergency Medical Services realm. The program consists of classroom lectures, practical labs and approximately 400 hours of clinical internships, as well as core courses and EMS courses specifically designed for EMS professionals. Students will be eligible to sit for the National Registry of Emergency Medical Technicians Paramedic Examination after completion of the Paramedic Science (Certificate) Program only if the student has maintained a letter grade of "C" or higher in all Paramedic Science (Certificate) courses and credit "CR" in all Paramedic Clinical courses.

Students approved for program admission in the academic year 2008-09 will begin core coursework for the Paramedic Program (Associate of Applied Science and Fast Track) in the fall of 2008.

Career Outlook:
Employment of emergency medical technicians and paramedics is expected to grow faster than the average for all occupations through 2012. Population growth and urbanization will increase the demand for full-time paid EMTs and Paramedics rather than for volunteers. In addition, a large segment of the population—the aging baby boomers—will further spur demand for EMT services as they become more likely to have medical emergencies. There will still be demand for part-time, volunteer EMTs and paramedics in rural areas and smaller metropolitan areas. In addition to those arising from job growth, openings will occur because of replacement needs.

Salary Forecast:
Earnings of EMTs and paramedics depend on the employment setting and geographic location as well as the individual's training and experience. Median annual earnings of EMTs and paramedics were $27,070 in May 2006. The middle 50 percent earned between $21,290 and $35,210. The lowest 10 percent earned less than $17,300, and the highest 10 percent earned more than $45,280. Median annual earnings in the industries employing the largest numbers of EMTs and paramedics in May 2004 were:

Local government	$32,140
General medical and surgical hospitals	$30,400
Ambulatory health care services.	$26,740

(Information obtained from Occupational Outlook Handbook, 2006-2007)

Program Admission Requirements:
The college adheres to an open admission policy which means applicants with a high school diploma or a GED are eligible for admission to MCTC. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

HEALTH OCCUPATIONS

PARAMEDIC SCIENCE

MAJOR CODE - CP30

FIRST YEAR[1]	
Fall Semester[2]	**Spring Semester**
ENL 111 Written Communication 3	BIOL 260 Applied Human Anatomy 4
IT 101 Fundamentals of Computers (EDGE). . . 3	COM 112 Oral Communication. 3
MAT 150 Applied Professional Mathematics 3	EME 109 Emergency Medical Technician (EDGE) .6
SS 201 Human Relations 3	EME 109L Emergency Medical Technician Lab (EDGE) 1
TOTAL CREDITS. 12	**TOTAL CREDITS. 14**
SECOND YEAR	
Fall Semester	**Spring Semester**
PAR 130 Intro to EMS Systems 3	PAR 220 Cardiovascular Emergencies 4
PAR 210 Patient Assessment & Airway 2	PAR 221 OB/GYN/Neonatal/PediatricEmergencies .2
PAR 211 Principles of Trauma Management. 2	PAR 230 Pre-Hospital Care Considerations 2
PAR 212 Pre-Hospital Pharmacology 2	PAR 231 Medical Emergencies. 4
PAR 241 Advanced Paramedic Skills Lab I 3	PAR 242 Advanced Paramedic Skills Lab II 3
PAR 251 Paramedic Clinic[4]. 3	PAR 252 Paramedic Clinical II[4]. 3
TOTAL CREDITS. 15	**TOTAL CREDITS. 18**
Summer Semester	
PAR 125 Rescue Operations 3	
PAR 243 Advanced Paramedic Skills Lab III. . . . 3	
PAR 253 Paramedic Clinical III[4]. 3	
TOTAL CREDITS 9	
HOURS REQUIRED FOR GRADUATION: 68	

Employment Opportunities:
- Hospitals
- Emergency medical service providers
- Private corporations
- Governmental agencies
- Aeromedical flight services
- Industry

Those in emergency medical services who are part of fire or police departments receive the same benefits as firefighters or police officers. For example, many are covered by pension plans that provide retirement at half pay after 20 or 25 years of service or if the worker is disabled in the line of duty.

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Edward Bays • Cabell Hall, Room 21

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1. Students must be EMT-B certified and maintain EMT-B certification as prerequisite for admission to and continuation in the program. See program advisor for information on application to the Paramedic Science AAS Program.
2. Students move through paramedic coursework in sequence, beginning with the First Semester (Fall) coursework.
3. Students must receive a letter grade of "C" or higher in "PAR" courses to be eligible to graduate from the program.
4. Clinical Grades will be given on a Credit/Non-Credit basis. Students must earn a credit grade in all "PAR" clinical courses to be eligible to graduate from the program.
5. Students who at anytime during the program earn a letter grade below a "C" in "PAR" courses or receive a non-credit in "PAR" clinical courses will be dismissed from the program.
6. Students who are dismissed from the program may reapply the next time the program begins.

HEALTH OCCUPATIONS

PHYSICAL THERAPIST ASSISTANT - ASSOCIATE IN APPLIED SCIENCE

Program Description:
Physical Therapist Assistants (PTA) are educated, skilled health care workers who work under the supervision of a Physical Therapist (PT). PTAs' assist in implementing physical therapy interventions in accordance with an established plan of care. Physical Therapist Assistants perform various treatment procedures as delegated by a Physical Therapist. Treatments may involve the therapeutic use of water, massage, ultrasound, and the thermal properties of light and electricity to promote healing and relieve pain. The assistant also implements exercise programs designed for the restoration of strength, endurance, coordination, relaxation, and range of motion.

The program is designed to facilitate problem-solving, critical thinking, group interaction and improved self-assessment skills. The program is designed in a 1 + 1 curricular format. The first year's general prerequisite courses total 32 credit hours, focusing on General Studies. Students receive foundational courses in functional human anatomy and neuroanatomy.

Through selective admissions, students enter the second year of the program. This year consists of Physical Therapist Assistant technical education courses. Second-year courses include a comprehensive curriculum in adult, orthopedic, pediatric and spinal cord rehabilitation. The student will participate in 720 hours of full-time clinical education. The costs of clinical education (travel, housing, incidentals) are the responsibility of the student.

Career Outlook:
Employment of Physical Therapist Assistants is expected to grow much faster than the average through the year 2012. The impact of proposed Federal legislation imposing limits on reimbursement for therapy services may adversely affect the short-term job outlook for PTAs. However, over the long run, demand for PTAs and aides will continue to rise in accordance with growth in the number of individuals with disabilities or limited function. The growing elderly population is particularly vulnerable to chronic and debilitating conditions that require therapeutic services. These patients often need additional assistance in their treatment, making the roles of assistants vital. The large baby-boom generation is entering the prime age for heart attacks and strokes, further increasing the demand for cardiac and physical rehabilitation. In addition, future medical developments should permit an increased percentage of trauma victims to survive, creating added demand for therapy services.

Salary Forecast:
Median annual earnings of physical therapist assistants were $37,890 in May 2004. The middle 50 percent earned between $31,060 and $44,050. The lowest 10 percent earned less than $24,110, and the highest 10 percent earned more than $52,110. Median annual earnings of physical therapist aides were $21,380 in May 2004. The middle 50 percent earned between $17,990 and $26,310. The lowest 10 percent earned less than $15,380, and the highest 10 percent earned more than $33,550. Median annual earning of physical therapist aides in May 2004 were $21,120 in general medical and surgical hospitals and $20,360 in offices of physical therapists.

(Information obtained from Occupational Outlook Handbook, 2006-2007)

Program Admission Requirements:
The following must be met for admission consideration to the second year of the program:

• Completed program application packet with official transcripts.
• Student has completed or is in the process of completing the first year of general classes.
• Student must demonstrate a cumulative grade point average of 2.85 and a "C" or better in each of the prerequisite general education courses.
• Applicants are required to complete 40 hours of volunteer or work experience, which must be documented in their application. The 40 hours must be divided between two settings under the supervision of a Physical Therapist or Physical Therapist Assistant.
• Completion of a Health Careers Aptitude Exam.
• Submission of a writing sample and completion of an admissions interview.
• Note: Applicants may be required to complete a criminal background check following program admission. As some clinical sites require this information prior to placement, failure to do so will limit opportunities for clinical education and the type of learning experiences available.
• Application packets are available after October 15 from the Allied Health Division Office, Cabell Hall Room 304.
• Annual application deadline is March 1.

Accreditation:
The PTA program is accredited by the Commission of Accreditation in Physical Therapy Education of the American Physical Therapy Association (CAPTE). For additional information, contact the American Physical Therapy Association, Department of Accreditation at: 1-800-999-APTA or online at http://www.apta.org/.

PHYSICAL THERAPIST ASSISTANT

MAJOR CODE - CP10

FIRST YEAR	
Fall Semester	**Spring Semester**
ENL 111 Written Communication. 3	COM 112 Oral Communication 3
IT 101 Fundamentals of Computers (EDGE) 3	ESS 321 Kinesiology[2] 3
MAT 145 Applications in Algebra. 3	ESS 345 Physiology of Exercise[2]. 3
ESS 201 Scientific Foundations for PE. 3	SCI 110 Intro to Physics[3] 4
BIOL 260 Human Anatomy* 4	Social Science Requirment[1]. 3
TOTAL CREDITS. 16	**TOTAL CREDITS. 16**
Summer	
PTA 100 Intro to Physcial Therapy[4]. **3**	

SECOND YEAR[10]	
Fall Semester	**Spring Semester**
PTA 110 Physical Therapy Modalities 2	PTA 200 Pathological Conditions. 3
PTA 110L Physical Therapy Modalities Lab[5] 1	PTA 220 Orthopedic Rehabilitation. 3
PTA 120 Patient Care Skills. 2	PTA 220L Orthopedic Rehabilitation Lab 1
PTA 120L Patient Care Skills Lab[5]. 1	PTA 230 Adult Rehabilitation. 3
PTA 130 Functional Anatomy & Procedures 3	PTA 230L Adult Rehabilitation Lab. 1
PTA 130L Functional Anatomy & Procedures Lab[5].1	PTA 240 Clinical Practice III[6,9]. 4
PTA 160 Neuroanatomy and Physiology 3	PTA 250 Peds and Spinal Cord Rehabilitation. . . .2
PTA 140 Clinical Practice I[6,7] 1	PTA 250L Peds and Spinal Cord Rehabilitation Lab[6] .1
PTA 150 Clinical Practice II[6,8] 1	PTA 270 Physical Therapist Assistant Seminar[9]. . . .1
TOTAL CREDITS. 15	**TOTAL CREDITS. 19**
Summer	
PTA 260 Clinical Practice IV[9]. **4**	

HOURS REQUIRED FOR GRADUATION: 70

Employment Opportunities:

- Home health
- Rehabilitation hospitals
- Private practice offices
- Nursing homes
- Acute care hospitals
- Skilled nursing units
- Outpatient departments
- School systems

Earn a Degree and Graduate Early (EDGE):

This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:

Travis Carlton, PTA, M.S. • Cabell Hall, Room 208
Phone: 304-696-3008 or 1-866-N-ROLLED (1-866-676-5533) • Email: carltont@marshall.edu

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1. Social Science Requirement: Select from SS 201, SS 215, or PSY 100.
2. ESS 321 and ESS 345 have a prerequisite of ESS 201 (May be met by BSC 228).
3. SCI 110 has a prerequisite of MAT 145 (may be met by PHY 101/101L).
4. Admission to PTA program is a prerequisite to all PTA coursework.
5. All PTA Lab courses have PTA course co-requisites: PTA 110/PTA 110L; PTA 120/PTA 120L; PTA 130/PTA 130L; PTA 220/PTA 220L; PTA 230/PTA 230L and PTA 250/PTA 20L.
6. Clinical grades will be given on a credit/non-credit basis. The student will be required to pass each clinical. If the students does not pass the clinical, the student may be allowed to repeat the clinical one time. Failure on the repeat will result in program dismissal.
7. PTA 140 has prerequisites of completion of PTA 100, PTA 110, PTA 110L, PTA 120, PTA 120L, PTA 130, and PTA 130 L and PTA 160 with "C" or better.
8. PTA 150 has a prerequisite of PTA 140.
9. PTA 240 and PTA 260 have a prerequisite of completion of all PTA coursework with a grade of "C" or better.
10. Students are required to make a "C" or better in each course in the second year before graduating from the program. The student will be allowed to repeat a course one time before being dismissed from the program. Sequencing of courses and progression will be determined by the program faculty. If a student receives a "D" or "F" in more than one course, then the student is dismissed from the program.
BSC 227 is recommended if planning to seek advanced degree (see advisor before enrolling as course may not be transferrable).

RADIOLOGIC TECHNOLOGY (COLLINS CAREER CENTER PROGRAM)
ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Radiologic Technology Program is a cooperative effort between Marshall Community & Technical College (MCTC) and Collins Career Center (CCC). The student should complete or be enrolled in a pre-radiologic admission course before applying to the program. Admission requirements to Collins Career Center Radioligic Technology program may vary year to year. Please contact Jean Chappell, MCTC, Associate Dean of Allied Health at (304)-696-4645 for up-to-date admissions information.

The CCC Radiologic Technology program provides the students with a total of 1,000 classroom hours and 1,420 hours of clinical experience.

Career Outlook:
Job opportunities are expected to be favorable. Some employers report difficulty hiring sufficient numbers of radiologic tehnologists and technicians. Imbalances between the demand for, and supply of, radiologic technologists and technicians should spur efforts to attract and retain qualified workers, such as improved compensation and working conditions. Radiologic technologists who also are experienced in more complex diagnostic imaging procedures, such as CT and MRI, will have better employment opportunities, brought about as employers seek to control costs by using multi-skilled employees.

Hospitals will remain the principal employer of radiologic technologists and technicians. However, a greater number of new jobs will be found in offices of physicians and diagnostic imaging centers. Health facilities such as these are expected to grow rapidly through 2014, due to the strong shift toward outpatient care, encouraged by third-party payers and made possible by technoligical advances that permit more procedures to be performed outside the hospital. Some job openings also will arise from the need to replace technologists and technicians who leave the occupation.

Salary Forecast:
Median annual earnings of radiologic technologists and technicians were $43,350 in May 2004. The middle 50 percent earned between $36,170 and $52,430. The lowest 10 percent earned less than $30,020, and the highest 10 percent earned more than $60,210. Median annual earnings in the industries employing the largest numbers of radiologic technologists and technicians in May 2004 were $46,620 in medical and diagnostic laboratories, $43,690 in general medical and surgical hospitals, and $40,290 in offices of physicians.

(Information obtained from Occupational Outlook Handbook, 2006-2007)

Program Admission Requirements
Prior to acceptance into the Radiologic Technology Program, a student must have completed the following:
- Prerequisite college courses. Courses may be completed at any post-secondary institution. For courses to qualify for the Associates of Applied Science degree in Radiologic Technology through Marshall University, they must be accepted and successfully transferred to Marshall Community & Technical College. This transfer process is the sole responsibility of the student. A minimum of 12 hours must be taken directly on the Marshall campus to be granted the Associate's Degree. The following courses must be passed with a "C" or better: MAT 145 - College Algebra, ENL 111 - Written Communication, BIOL 260 - Human Anatomy, SS 215 - Lifespan Psychology.
- Twelve hours of general diagnostic radiography shadowing completed at a qualified medical institution.

To get an application to the Radiology program a student must complete one of the following two.
- Minimum ACT score of 21 or
- Successful completion of the pre-entrance (Work Keys) examination with a score of four in Locating for Information, and five in both Math and Reading for Comprehension.

High School and Post-Secondary GPA are also weighted factors in the application process. Points will be awarded for the following: High School GPA of 3.0 or better - College GPA of 2.5 or better, Completion of College Chemistry and/or Physics with a grade of "C" or better will be awarded additional points.

HEALTH OCCUPATIONS

RADIOLOGIC TECHNOLOGY (COLLINS CAREER CENTER)

MAJOR CODE - CP30

FIRST YEAR[1,2]	
Fall Semester[2,3,4]	**Spring Semester[2,3,4]**
AH 151 Medical Terminology (EDGE). 3	COM 112 Oral Communication. 3
BIOL 260 Applied Human Anatomy 4	IT 101 Fundamentals of Computers (EDGE) . . .3
ENL 111 Written Communication. 3	SCI 110 Introduction to Physics[5]. 4
MAT 145 Applications in Algebra 3	SS 215 Lifespan Phsycology. 3
TOTAL CREDITS. 13	**TOTAL CREDITS. 13**
SECOND YEAR[2,6]	
RS 201 Fundamentals of Radiographic Science .1	RS 205 Clinical Practice I 5
RS 202 Patient Care 1	RS 208 Radiographic Procedures II/Lab II. 4
RS 203 Ethics and Law 1	RS 209 Radiographic Science Pharmacology 2
RS 204 Radiographic Procedures I/Lab I 4	RS 221 Human Diversity for Radiologic Tech. . . .3
TOTAL CREDITS 7	**TOTAL CREDITS. 14**
THIRD YEAR	
RS 206 Radiobiology. 2	RS 215 Clinical Practice III 6
RS 207 Radiation Protection 2	RS 216 Computers in Radiologic Science 1
RS 211 Radiation Production & Characteristics .2	RS 217 Imaging Equipment. 2
RS 212 Imaging & Processing/Imaging Lab I. . 4	RS 218 Advanced Imaging Modality Seminar. . .0
RS 213 Radiographic Pathology. 2	RS 219 Registry Review Seminar. 0
RS 214 Imaging Lab II 1	
TOTAL CREDITS. .13	**TOTAL CREDITS. .9**
HOURS REQUIRED FOR GRADUATION: 69	

Employment Opportunities:
- Hospitals
- Clinics
- Commercial radiological laboratories
- Physicians' offices
- Mobile radiological services

Earn a Degree and Graduate Early (EDGE):

This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:

Jean Chappell • Cabell Hall, Room 209 / Phone: 304-696-4645 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: jean.chappell@marshall.edu

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1. Cooperative degree between Marshall Community & Technical College and Collins Career Center.
2. Admissions requirements to Collins Career Center Radiologic Technology Program may vary from year to year. Please contact Jean Chappell, MCTC, Associate Dean of Allied Health at (304) 696-4645 for up-to-date admissions information.
3. Pre-Radiological Admission Courses are to be taken at Marshall Community & Technical College.
4. It is recommended that students complete AH 151, BIOL 260, SCI 110, and MAT 145 before the application to the program.
5. SCI 110 has a prerequisite of MAT 145.
6. Admission to Radiologic Technology program is required before beginning second and third year RS courses. Students should contact Collins Career Center Radiology Program at (740) 867-6641 for appliction information.

RADIOLOGIC TECHNOLOGY (ST. MARY'S) - ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Radiologic Technology Program is a cooperative effort between Marshall Community & Technical College and St. Mary's Medical Center (SMMC). Among the required Pre-Radiologic Admission courses, at least 12 of the 26 credits must be completed at Marshall Community and Technical College. The student should complete MAT 145, SCI 110, AH 151, and BSC 227 before application to the St. Mary's program. The student may either complete the remainder of the Marshall Community & Technical College courses prior to application to the program or complete the courses after completing the Radiologic Technology coursework.

The Radiologic Technology program prepares students for careers as radiographers, who work under the supervision of medical radiologists or physicians. The radiographer produces a radiographic image of the highest diagnostic quality of any designated area of the human body. The radiologist then makes an interpretation of the image.

Career Outlook:
The job outlook is expected to remain good. According to the Occupational Outlook Handbook, 2003 the employment of radiologic technologists is expected to increase faster than the average for all occupations through the year 2010. This increase is mainly due to the growth of the middle-aged and elderly population. Most of the jobs are in hospital departments. Some employment is found in physician offices and clinics. Some job openings will arise from the need to replace technologists and technicians who leave the occupation.

Salary Forecast:
The following wage forecast information has been gathered from various state and career-specific web pages. Salary ranges depend on the geographic location of the job. Median hourly earnings across the United States of Radiologic Technologists were $18.75 in 2000. The middle 50% earned between $15.75 and $22.59 an hour. The median annual earning was $36,000 in 2000. The lowest 10% earned less than $25,310 (US Department of Labor, Bureau of Labor Statistics, Occupational Outlook Handbook, 2003)

Employment Opportunities:
- Hospitals
- Clinics
- Commercial radiological laboratories
- Physicians' offices
- Mobile radiological services

Program Admission Requirements
18 to 20 applicants are accepted into the program per year. Minimum requirements for consideration are:

- Applicants for admission to SMMC School of Radiography Technology must complete an application between January 1 and April 1 for the class beginning the following July.
- High school diploma or successful completion of the GED.
- A minimum of 14 hours of college credit.
- A "C" or better in the following Marshall Community & Technical College courses: MAT 145, SCI 110, AH 151, SCI 260, SCI 265 and SCI 220.
- A minimum cumulative GPA of 2.5 in all college level courses is required at St. Mary's. A minimum GPA of 2.5 must be obtained on all math and science courses.
- A minimum composite score of 19 on the ACT and a minimum score of 19 on the math and science portions of the ACT will improve an applicant's chances of being accepted into the program.

St. Mary's Program:
The training program at SMMC School of Radiography Technology consists of 24 months of class work and clinical experience. The program provides the students with a total of 800 classroom hours and 1,950 hours of clinical experience. All new students are evaluated after their first two months with the program. If a student's class work or clinical experience is unsatisfactory, the school will request that the student withdraw from the program at that time.

HEALTH OCCUPATIONS

RADIOLOGIC TECHNOLOGY (ST. MARY'S)

MAJOR CODE - CR10

FIRST YEAR[2,3]	
Spring Semester	**Fall Semester**
AH 151 Medical Terminology (EDGE). 3	COM 112 Oral Communication. 3
BIOL 260 Applied Human Anatomy 4	IT 101 Fundamentals of Computers. 3
COM 111 Written Communication. 3	SCI 110 Intro to Physics. 4
MAT 145 Applications in Algeba. 3	BIOL 265 Applied Human Physiology 4
SCI 220 Basic Chemisty[1]. 3	SS 215 Lifespan Psychology 3
TOTAL CREDITS. .16	**TOTAL CREDITS. 17**

SECOND YEAR[6,7]	
Semester I	**Semester II**
RS 201 Fundamentals of Radiographic Science .1	RS 208 Radiographic Procedures II/Lab II. 4
RS 202 Patient Care 1	RS 209 Radiographic Science Pharmacology 2
RS 203 Ethics and Law 1	RS 210 Clinical Practice II 7
RS 204 Radiographic Procedures I/Lab I 4	RS 221 Human Diversity for Radiologic Tech. . . .3
RS 205 Clinical Practice I. 5	
TOTAL CREDITS. .12	**TOTAL CREDITS. 16**

THIRD YEAR[6,7]	
	Semester IV
	RS 206 Radiobiology. 2
	RS 207 Radiation Protection 2
Semester III	RS 214 Imaging Lab II 1
RS 211 Radiation Productionand Characteristics .2	RS 216 Computers in Radiologic Science 1
RS 212 Imaging & Processing/Imaging Lab I. . 4	RS 217 Imaging Equipment. 2
RS 213 Radiographic Pathology. 2	RS 218 Advanced Imaging Modality Seminar. . .0
RS 215 Clinical Practice III 6	RS 219 Registry Review Seminar. 0
	RS 220 Clinical Practice IV. 4
TOTAL CREDITS. .14	**TOTAL CREDITS. 12**

HOURS REQUIRED FOR GRADUATION: 87

Employment Opportunities:
- Hospitals
- Clinics
- Commercial radiological laboratories
- Physicians' offices
- Mobile radiological services

### Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Adam Swolsky • Cabell Hall, Room 303 / Phone: 304-696-4645 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: swolsky@marshall.edu

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1. Cooperative degree between Marshall Community & Technical College and St. Mary's Medical Center.
2. Pre-Radiological Admission Courses are taken at Marshall Community and Technical College.
3. SCI 110 has a prerequisite of MAT 145.
4. SS 210 may be substituted for SS 215.
5. Admission to Radiologic Technology program is required before beginning second and third year coursework. Students should contact St. Mary's School of Radiology at 304-526-1259 or rfisher@st-marys.org for more information.
6. Instructor permission is required for all Radiologic Technology coursework.

HEALTH OCCUPATIONS

RESPIRATORY - ASSOCIATE IN APPLIED SCIENCE

Program Description:
Respiratory Therapy is an allied health program whose practitioners are employed under medical direction to provide treatment, management, diagnostic evaluation, and care to patients with problems associated with the cardiopulmonary system. Job responsibilities vary from the administration of oxygen, humidity, aerosols and the drainage of lung secretions, mechanical ventilation, to the use of technologically sophisticated monitoring devices and treatment techniques to enhance the survival of patients in intensive care units. Respiratory therapists may also perform pulmonary function testing.

The Respiratory Therapy Program is a cooperative effort between Collins Career Center and Marshall Community & Technical College. There are 30 semester credit hours required from Marshall Community & Technical College. The student may either complete the MCTC courses prior to application to the program or finish the courses while completing the Respiratory Therapy courses at Collins Career Center.

Career Outlook:
Job opportunities are expected to be very good, especially for respiratory therapists with cardiopulmonary care skills or experience working with infants. Employment of respiratory therapists is expected to increase faster than the average for all occupations through the year 2012 because of substantial growth in numbers of the middle-aged and elderly population—a development that will heighten the incidence of cardiopulmonary disease.

Salary Forecast:
Median annual earnings of respiratory therapists were $43,140 in May 2004. The middle 50 percent earned between $37,650 and $50,860. The lowest 10 percent earned less than $32,220, and the highest 10 percent earned more than $57,580. In general medical and surgical hospitals, median annual earnings of respiratory therapists were $43,140 in May 2004.

Median annual earnings of respiratory therapy technicians were $36,740 in May 2004. The middle 50 percent earned between $30,490 and $43,830. The lowest 10 percent earned less than $24.40 and the highest 10 percent earned more than $52,280. Median annual earnings of respiratory therapy technicians employed in general medical and surgical hospitals were $26,990 in May 2004.

(Information obtained from Occupational Outlook Handbook, 2006-2007)

Program Admission Requirements:
The Respiratory Therapy program has selective admissions each year. The first 24 eligible applications received will be admitted to the program. If admitted, there are 84-quarter hours of Respiratory Therapy courses to be completed at Collins Career Center. As part of the 84-quarter hours, the student will be required to complete clinical practice rotations at area health care facilities.

Employment Opportunities:
- Home health
- Skilled nursing homes
- Skilled nursing units within an acute care hospital
- Outpatient centers
- Rehabilitation hospitals
- Acute care hospitals
- Physicians' office

HEALTH OCCUPATIONS

RESPIRATORY

MAJOR CODE - CR20

<table>
<tr><td colspan="2">FIRST YEAR</td></tr>
<tr>
<td>

First Quarter
AH   151   Medical Terminology (EDGE). 3
IT   101   Fundamentals of Computers (EDGE) 3
MAT 145   Applications in Algebra. 3
RTT   110   Cardiopulmonary/Renal A&P. 4
BIOL 257   Introduction to Anatomy & Physiology 3

      TOTAL CREDITS. 16

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Second Quarter
AH   226   Respiratory Therapy Pharmacology[6]. 3
ENL   111   Written Communication 3
RTT   210   Respiratory Care Professional Strategies. .3
BIOL 210   Microbiology[7]. 3
SCI   220   Basic Chemistry[7]. 3
SS   201   Human Relations 3

      TOTAL CREDITS. 18

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Third Quarter
COM 112   Oral Communication 3
RTT   101   Respiratory Care Procedures I 5
RTT   101L Respiratory Care Procedures I Lab 2
RTT   102   Respiratory Care Physics 3
RTT   104   Cardiopulmonary/Renal A&P 4
CLIN 101   Clinical Practice I 2

      TOTAL CREDITS. 19

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<td>

Fourth Quarter
RTT   111   Cardiopulmonary Pathophysiology. . . .4
RTT   202   Respiratory Care Procedures II 4
RTT   202L Respiratory Care Procedures II Lab 2
CLIN 102   Clinical Practice II. 4

      TOTAL CREDITS. 14

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<tr><td colspan="2">SECOND YEAR</td></tr>
<tr>
<td>

Fifth Quarter
RTT   103   Mechanical Vent Technology. 3
RTT   103L Mechanical Vent Technology Lab 2
RTT   201   Cardiopulmonary Rehab/Homecare 4
RTT   207   Cardiopulmonary/Renal A&P. 4
CLIN 103   Clinical Practice III 4

      TOTAL CREDITS. 17

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Sixth Quarter
RTT   204   Mechanical Vent Technology 4
RTT   204L Mechanical Vent Technology Lab 2
RTT   205   Neonatal/Pediatric Respiratory Care 4
CLIN 204   Clinical Practice IV 4

      TOTAL CREDITS. 14

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Seventh Quarter
RTT   206   Seminar/Board Review 4
CLIN 205   Clinical Practice V 4

      TOTAL CREDITS. 8

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Eighth Quarter
CLIN   206   Clinical Practice VI 8

      TOTAL CREDITS. 8

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</tr>
<tr><td colspan="2" align="center">MCTC HOURS: 30
COLLINS QUARTER HOURS: 84</td></tr>
</table>

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Adam Swolsky • Cabell Hall, Room 303 / Phone: 304-696-4645 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: swolsky@marshall.edu

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1.   Cooperative degree between Marshall Community & Technical College and Collins Career Center.
2.   Respiratory classes (RTT) have a prerequisite of admission to Respiratory Therapy Program and are taught by Collins Career Center faculty.
3.   Marshall Community & Technical College classes are indicated by italics.
4.   For information on admission to Respiratory Therapy program contact, Keith Terry at Collins Career Center (740) 867-6641 Ext. 411.
5.   Students move through Respiratory Therapy coursework in sequence, beginning with first quarter coursework.
6.   AH 226 has a prerequisite of admission to Respiratory Therapy program and AH 151.
7.   BIOL 210 and SCI 220 have a prerequisite of MAT 145 or MAT 150.
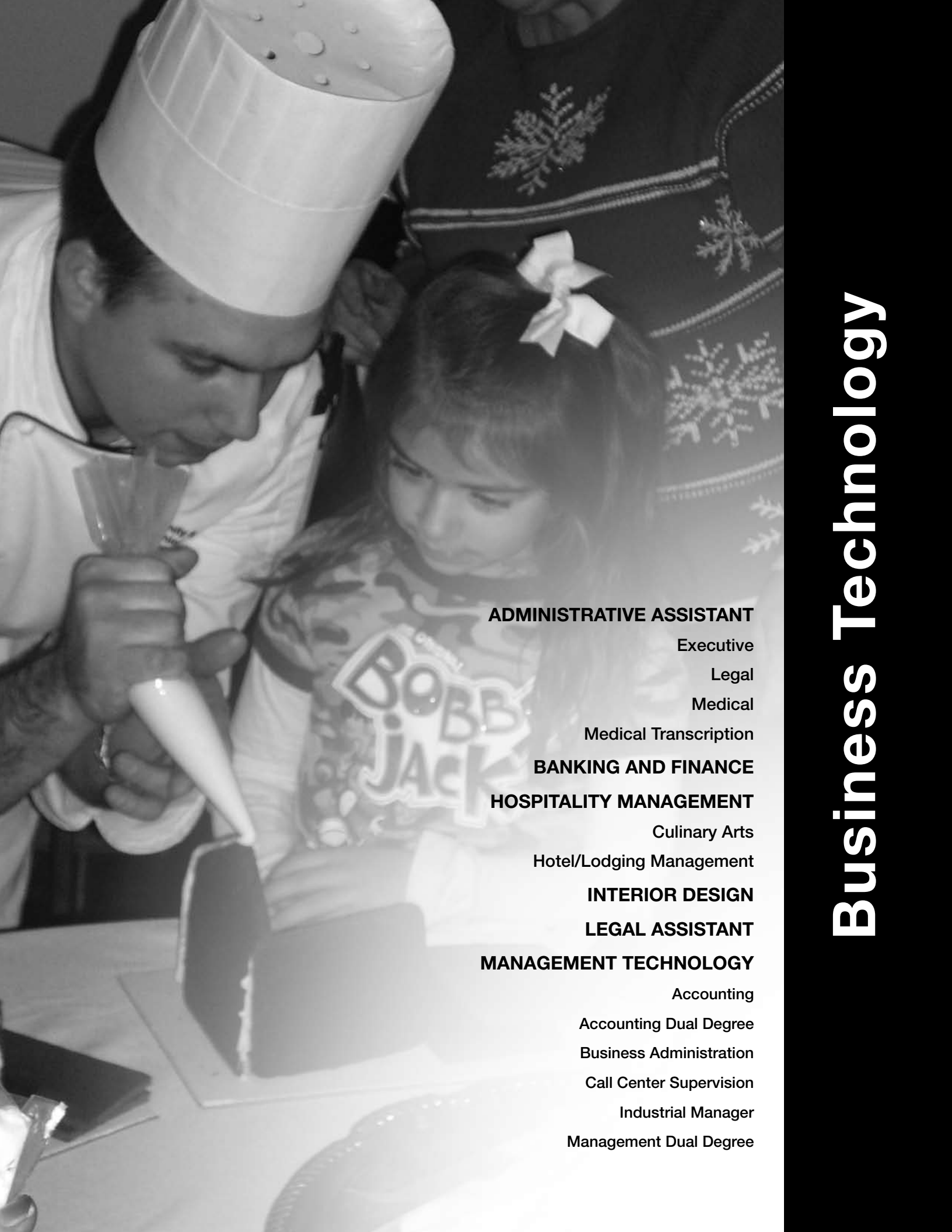
ADMINISTRATIVE ASSISTANT

Executive

Legal

Medical

Medical Transcription

BANKING AND FINANCE

HOSPITALITY MANAGEMENT

Culinary Arts

Hotel/Lodging Management

INTERIOR DESIGN

LEGAL ASSISTANT

MANAGEMENT TECHNOLOGY

Accounting

Accounting Dual Degree

Business Administration

Call Center Supervision

Industrial Manager

Management Dual Degree

Business Technology

ADMINISTRATIVE ASSISTANT TECHNOLOGY

EXECUTIVE - ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Administrative Assistant Technology—Executive Option program maintains student learning as its main priority and is committed to excellence in a learning environment that emphasizes procedures in a business office, problem solving, and skilled use of computer business software applications to provide for workforce development, career preparation, and lifelong learning. The complexities of today's business offices have created the need for highly skilled employees who possess the knowledge and confidence necessary to handle a wide variety of administrative and office tasks. Upon completion of the Associate in Applied Science Degree in Administrative Assistant Technology—Executive Option, the graduate will be able to demonstrate knowledge that is specific to a business office and gain real-life experience through placement in a business office internship.

Career Outlook:
Secretaries and administrative assistants held about 4.2 million jobs in 2006, ranking among the largest occupations in the U.S. economy. The state of West Virginia has classified the Administrative Assistant field as being in "high demand" because the number of anticipated qualified employees is significantly lower than the number of expected job openings in the state. Projected employment of administrative assistants will vary by occupational specialty. Rapidly growing industries such as administrative/support services and professional/technical services will continue to generate most new job opportunities through 2016. In addition to those resulting from growth, numerous job openings will result from the need to replace workers who transfer to other occupations or leave this very large occupation for other reasons each year. The United States Bureau of Labor Statistics indicates that opportunities should be best for applicants with extensive knowledge of software applications.

Salary Forecast:
Median annual earnings of executive secretaries and administrative assistants were $37,240 in May 2006. The middle 50 percent earned between $30,240 and $46,160. The lowest 10 percent earned less than $25,190, and the highest 10 percent earned more than $56,740. Median annual earnings in the industries employing the largest numbers of executive secretaries and administrative assistants in May 2006 were:

Management of companies and enterprises	$41,570
Local government	$38,670
Colleges, universities, and professional schools	$36,510
Employment services	$35,830
State government	$31,600

Information obtained from Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2008-09 Edition, Secretaries and Administrative Assistants, on the Internet at http://www.bls.gov/oco/ocos151.htm (Visted January 18, 2008)

Program Admission Requirement:
The college adheres to an open admissions policy which means applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

Career Description:
As the reliance on technology continues to expand in offices, the role of the Administrative Assistant has greatly evolved. Office automation and organizational restructuring have led office professionals to assume responsibilities once reserved for managerial and professional staff. Many secretaries and administrative assistants now provide training and orientation for new staff, conduct research on the Internet, and operate and troubleshoot new office technologies. In spite of these changes, however, the core responsibilities for secretaries and administrative assistants have remained much the same: performing and coordinating an office's administrative activities and storing, retrieving, and integrating information for dissemination to staff and clients.

Accreditation
The Association of Collegiate Business Schools and Programs (ACBSP) accredits the Administrative Assistant Technology Executive degree program. The ACBSP is the only nationally recognized organization that grants specialized accreditation to two- and four-year college and university business programs.

ADMINISTRATIVE ASSISTANT TECHNOLOGY

EXECUTIVE

MAJOR CODE - CO20 • CONCENTRATION CODE - CO25

FIRST YEAR[1]	
First Semester	**Second Semester**
AAT 136 Comprehensive Word Processing (EDGE) .3	AAT 114 Keyboarding II[1] (EDGE) 3
ENL 111 Written Communication 3	AAT 160 Intro to Presentation Software (EDGE) 3
IT 101 Fundamentals of Computers (EDGE). 3	AC 108 Accounting for Business 3
MAT 115 Business Mathematics 3	COM 112 Oral Communication 3
MG 101 Intro to Business (EDGE) 3	IT 150 Applications to Spreadsheets (EDGE) . . .3
TOTAL CREDITS. 15	**TOTAL CREDITS. 15**
SECOND YEAR	
Third Semester	**Fourth Semester**
AAT 104 Records Management 3	AAT 261 Integrated Document Formatting[6]. 3
AAT 255 Desktop Publishing[2]. 3	AAT 290 Internship[7] 3
AAT 265 Administrative Office Procedures[3] (EDGE) .3	ENL 231 Technical Report Writing[8,9] 3
MG 202 Business Organization & Management[4] . . .3	Elective[10]. 3-4
Social Science Requirement[5]. 3	Math/Science Requirement[11]. 3-4
TOTAL CREDITS. 15	**TOTAL CREDITS. 15-17**
HOURS REQUIRED FOR GRADUATION: 60-62	

Employment Opportunities:

- Administrative assistant
- Administrative secretary
- Clinics
- County court systems
- Desktop publisher
- Executive assistant
- Executive secretary
- Hospitals
- Law firms
- Law offices
- Medical schools
- Nursing homes
- Physicians' offices
- Rehabilitation facilities
- Secretary/receptionist
- Transcriptionist
- Word processing specialist

Earn a Degree and Graduate Early (EDGE):

This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:

Wylma Skean • Corbly Hall, Room 323

Phone: 304-696-3060 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: skean@marshall.edu

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1. Students must demonstrate a minimum of 35 wpm with 5 or fewer errors before they can enroll in AAT 114. AAT 114 has a prerequisite of AAT 136 or permission.
2. IT 150 and AAT 255 have a prerequisite of IT 101.
3. AAT 265 has a prerequisite of AAT 136.
4. MG 202 has a prerequisite of MG 101 or permission.
5. Social Science Requirement: Select from EC 102, SS 201, SS 210, or SS 215.
6. AAT 261 has a prerequisite of AAT 114.
7. AAT 290 has a prerequisite of completion of 45 program credit hours or permission.
8. ENL 231 has a prerequisite of COM 111 or ENL 111.
9. COM 235 may be substituted for COM 231 or ENL 231.
10. Elective credits must be sufficient to meet program completion requirement of 60 minimum total credits.
11. Math/Science Requirement: Select from MAT 150, MAT 210, SCI 101, or SCI 257.

ADMINISTRATIVE ASSISTANT TECHNOLOGY

LEGAL - ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Administrative Assistant Technology—Legal Option program maintains student learning as its main priority and is committed to excellence in a learning environment that emphasizes procedures in a legal office, problem solving, and skilled use of computer business software applications to provide for workforce development, career preparation, and lifelong learning. The increasing complexities of today's legal office have created the need for highly skilled employees who possess the knowledge and confidence necessary to handle a wide variety of administrative and legal office tasks. Upon completion of the Associate in Applied Science Degree in Administrative Assistant Technology—Legal Option, the graduate will be able to demonstrate knowledge that is specific to the legal office and gain real-life experience through placement in a legal office internship.

Career Outlook:
Secretaries and administrative assistants held about 4.2 million jobs in 2006, ranking among the largest occupations in the U.S. economy. The state of West Virginia has classified the Administrative Assistant field as being in "high demand" because the number of anticipated qualified employees is significantly lower than the number of expected job openings in the state. Projected employment of administrative assistants will vary by occupational specialty. Employment growth in the legal services industry should lead to average growth for legal administrative assistants through 2016. In addition to those resulting from growth, numerous job openings will result from the need to replace workers who transfer to other occupations.

Developments in office technology are certain to continue, and they will bring about further changes in the work of secretaries and administrative assistants. However, many secretarial and administrative duties are of a personal, interactive nature and, therefore, not easily automated. Responsibilities such as planning conferences, working with clients, and instructing staff require tact and communication skills. Because technology cannot substitute for these personal skills, secretaries and administrative assistants will continue to play a key role in most organizations.

Salary Forecast:
Legal Services	$39,670
Local Government (OES designation)	$36,990
State Government (OES designation	$38,360
Employment Services	$40,890
Insurance Carriers	$43,140
Software Publisher	$66,720
Medical Equipment and Supplies Manufacturing	$55,710
Semiconductor and Other Electronic Component Manufacturing	$50,240
Pharmaceutical and Medicine Manufacturing	$49,640
Securities and Commodity Contracts Intermediation and Brokerage	$49,440

Information obtained from Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2008-09 Edition, Secretaries and Administrative Assistants, on the Internet at http://www.bls.gov/oco/ocos151.htm (Visted January 18, 2008)

Program Admission Requirement:
The college adheres to an open admissions policy which means applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

Career Description:
Legal administrative assistants are responsible for a variety of administrative and clerical duties necessary to run a legal office effectively. They serve as information managers for the office, plan and schedule meetings and appointments, organize and maintain paper and electronic files, manage projects, and provide information by using the telephone, postal mail, and e-mail as well as handle travel arrangements. Legal administrative assistants perform highly specialized work requiring knowledge of legal terminology and procedures. Duties may include preparing correspondence and legal papers such as summonses, complaints, motions, responses, and subpoenas under the supervision of an attorney or paralegal. They also may review legal journals and assist in other ways with legal research.

ADMINISTRATIVE ASSISTANT TECHNOLOGY

LEGAL

MAJOR CODE – CO20 • CONCENTRATION CODE - CO26

FIRST YEAR	
First Semester	**Second Semester**
AAT 136 Comprehensive Word Processing (EDGE) .3	AAT 104 Records Management 3
ENL 111 Written Communication. 3	AAT 114 Keyboarding II[1] (EDGE) 3
IT 101 Fundamentals of Computers (EDGE). 3	AC 108 Accounting for Business 3
MAT 115 Business Mathematics 3	COM 112 Oral Communication 3
MG 101 Intro to Business (EDGE) 3	LAS 101 General Law I 3
TOTAL CREDITS. 15	Social Science Requirement[2] 3
	TOTAL CREDITS. 18

SECOND YEAR	
Third Semester	**Fourth Semester**
AAT 242 Legal Terminology & Transcription[3] 3	AAT 261 Integrated Document Formatting[7] 3
AAT 255 Desktop Publishing[4] 3	AAT 290 Internship[8] 3
AAT 265 Administrative Office Procedures[5] (EDGE) .3	ENL 231 Technical Report Writing[9,10]. 3
LAS 102 General Law II[6]. 3	Math/Science Requirement[11]. 3-4
LAS 213 Computer Applications to the Law Office[5] ..3	Recommended Elective[12]. 3
TOTAL CREDITS. 15	**TOTAL CREDITS. 15-16**

HOURS REQUIRED FOR GRADUATION: 63-64

Accreditation
The Association of Collegiate Business Schools and Programs (ACBSP) accredits the Administrative Assistant Technology Legal degree program. The ACBSP is the only nationally recognized organization that grants specialized accreditation to two- and four-year college and university business programs.

Employment Opportunities:
- Administrative assistant
- Administrative secretary
- Executive assistant
- Executive secretary
- Secretary/receptionist

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Wylma Skean • Corbly Hall, Room 323
Phone: 304-696-3060 or 1-866-N-ROLLED (1-866-676-5533 • E-mail: skean@marshall.edu

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1. Students must demonstrate a minimum of 35 wpm with 5 or fewer errors before they can enroll in AAT 114. AAT 114 has a prerequisite of AAT 136 or Permission.
2. Social Science Requirement: Select from EC 102, SS 201, SS 210, or SS 215.
3. AAT 242 has a prerequisite of AAT 114.
4. AAT 255 has a prerequisite of IT 101.
5. AAT 265 and LAS 213 have a prerequisite of AAT 136.
6. LAS 102 has a prerequisite of LAS 101.
7. AAT 261 has a prerequisite of AAT 114.
8. AAT 290 has a prerequisite of completion of 45 program credit hours or permission.
9. ENL 231 has a prerequisite of COM 111 or ENL 111.
10. COM 235 may be substituted for COM 231 or ENL 231.
11. Math/Science Requirement: Select from MAT 150, MAT 210, SCI 101, or SCI 257.
12. Select from: AAT 160, IT 150, LAS 248, MG 202, MG 226, or MK 210.

ADMINISTRATIVE ASSISTANT TECHNOLOGY

MEDICAL - ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Administrative Assistant Technology—Medical Option program maintains student learning as its main priority and is committed to excellence in a learning environment that emphasizes procedures in a medical office, problem solving, and skilled use of computer business software applications to provide for workforce development, career preparation, and lifelong learning. The complexities of today's medical office have created the need for highly skilled employees who possess the knowledge and confidence necessary to handle a wide variety of administrative and medical office tasks. Upon completion of the Associate in Applied Science Degree in Administrative Assistant Technology—Medical Option, the graduate will be able to demonstrate knowledge that is specific to the medical office and gain real-life experience through placement in a medical office internship.

Career Outlook:
Secretaries and administrative assistants held about 4.2 million jobs in 2006, ranking among the largest occupations in the U.S. economy. The state of West Virginia has classified the Administrative Assistant field as being in "high demand" because the number of anticipated qualified employees is significantly lower than the number of expected job openings in the state. Employment growth in the health care services industries should lead to average growth for medical administrative assistants through 2016. In addition to those resulting from growth, numerous job openings will result from the need to replace workers who transfer to other occupations or leave this very large occupation for other reasons each year. Projected employment of medical administrative assistants will vary by occupational specialty.

Salary Forecast:
Offices of Physicians	$28,560
General Medical and Surgical Hospitals	$28,440
Offices of Dentists	$33,930
Offices of Other Health Practitioners	$26,630
Outpatient Care Centers	$28,890
Business, Professional, Labor, Political, and Similar Organizations	$37,110
Management of Companies and Enterprises	$36,810
State Government (OES designation)	$34,170
Agencies, Brokerages, and Other Insurance Related Activities	$33,290

Information obtained from Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2008-09 Edition, Secretaries and Administrative Assistants, on the Internet at http://www.bls.gov/oco/ocos151.htm (Visted January 18, 2008)

Career Description:
Medical administrative assistants are responsible for a variety of administrative and clerical duties necessary to run a medical office effectively. They serve as information managers for the office; schedule and notify patients; code patients' visits; bill insurance; process deductibles; plan and schedule meetings and appointments; organize and maintain paper and electronic files; and provide information to patients, physicians, insurance companies, and others by using the telephone, postal mail, and e-mail. Administrative assistants also may handle travel arrangements. Specific job duties vary with experience and titles. Medical administrative assistants perform highly specialized work requiring knowledge of medical terminology and procedures. They transcribe dictation, prepare correspondence, and assist physicians or medical scientists with reports, speeches, articles, and conference proceedings. They also record simple medical histories, arrange for patients to be hospitalized, and order supplies. Medical administrative assistants need to be familiar with insurance rules, billing practices, hospital or laboratory procedures, and HIPAA.

Accreditation:
The Association of Collegiate Business Schools and Programs (ACBSP) accredits the Administrative Assistand Technology Medical Degree Program. The ACBSP is the only nationally recognized organization that grants specialized accreditation to two- and four-year college and university business programs.

ADMINISTRATIVE ASSISTANT TECHNOLOGY

MEDICAL
MAJOR CODE – CO20 • CONCENTRATION CODE - CO27

FIRST YEAR	
First Semester	**Second Semester**
AAT 136 Comprehensive Word Processing (EDGE) .3 AH 151 Medical Terminology (EDGE) . . . . .3 ENL 111 Written Communication . . . . .3 IT 101 Fundamentals of Computers (EDGE). . . .3 MAT 115 Business Mathematics . . . . .3 **TOTAL CREDITS. 15**	AAT 104 Records Management . . . . .3 AAT 114 Keyboarding II[1] (EDGE) . . . . .3 AAT 253 Medical Transcription[2] . . . . .3 AC 108 Accounting for Business . . . . .3 COM 112 Oral Communication . . . . .3 BIOL 257 Intro to Anatomy & Physiology . . . . .3 **TOTAL CREDITS. 18**
SECOND YEAR	
Third Semester	**Fourth Semester**
IT 150 Applications to Spreadsheets[3] (EDGE) . .3 AAT 265 Administrative Office Procedures[4] (EDGE) .3 LAS 248 Medical Law[5] . . . . .3 MA 204 Physician's Office Medical Coding . . . . . .3 Social Science Requirements[6] . . . . . . .3 **TOTAL CREDITS. .15**	AAT 261 Integrated Document Formatting[7]. . . . .3 AAT 290 Internship[8] .3 AH 216 Basic Pharmacology[9] . . . . .3 ENL 231 Technical Report Writing[10]. . . . . .3 MA 205 Medical Office Claims Procedures . . . . . .3 **TOTAL CREDITS. 15**
HOURS REQUIRED FOR GRADUATION: 63	

Employment Opportunities:

- Administrative assistant
- Administrative secretary
- Executive assistant
- Executive secretary
- Secretary/Receptionist
- Clinics
- Hospitals
- Medical schools
- Nursing homes
- Physicians' offices
- Rehabilitation facilities

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Wylma Skean • Corbly Hall, Room 323
Phone: 304-696-3060 or 1-866-N-ROLLED (1-866-676-5533 • E-mail: skean@marshall.edu

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1. Students must demonstrate a minimum of 35 wpm with 5 or fewer errors before they can enroll in AAT 114. AAT 114 has a prerequisite of AAT 136 or permission.
2. AAT 253 has a prerequisite of AAT 136 and AH 151.
3. IT 150 has a prerequisite of IT 101.
4. AAT 265 has a prerequisite of AAT 136.
5. The LAS 248 prerequisite of LAS 101 will be waived for AAT: Medical Option Program majors. Please see advisor.
6. Social Science Requirement: Select from EC 102, SS 201, SS 210, or SS 215.
7. AAT 261 has a prerequisite of AAT 114.
8. AAT 290 has a prerequisite of completion of 45 program credit hours or permission.
9. AH 216 has a prerequisite of AH 151.
10. ENL 231 has a prerequisite of COM 111 or ENL 111.

ADMINISTRATIVE ASSISTANT TECHNOLOGY

MEDICAL TRANSCRIPTION - ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Administrative Assistant Technology—Medical Transcription Option program maintains student learning as its main priority and is committed to excellence in a learning environment that emphasizes procedures in a medical transcription office, problem solving, and skilled use of computer business software applications to provide for workforce development, career preparation, and lifelong learning. The complexities of today's medical transcription office have created the need for highly skilled employees who possess the knowledge and confidence necessary to handle a wide variety of administrative and transcription office tasks. Upon completion of the Associate in Applied Science Degree in Administrative Assistant Technology—Medical Transcription Option, the graduate will be able to demonstrate knowledge that is specific to the medical transcription field and gain real-life experience through placement in a medical transcription internship.

Career Outlook:
Secretaries and administrative assistants held about 4.2 million jobs in 2006, ranking among the largest occupations in the U.S. economy. The state of West Virginia has classified the Administrative Assistant field as being in "high demand" because the number of anticipated qualified employees is significantly lower than the number of expected job openings in the state. Job opportunities will be good. Employment of medical transcriptionists is projected to grow faster than the average for all occupations through 2016. Demand for medical transcription services will be spurred by a growing and aging population. Older age groups receive proportionately greater numbers of medical tests, treatments, and procedures that require documentation. A high level of demand for transcription services also will be sustained by the continued need for electronic documentation that can be easily shared among providers, third-party payers, regulators, and consumers. Growing numbers of medical transcriptionists will be needed to amend patients' records, edit for grammar, and identify discrepancies in medical records.

Salary Forecast:
Wage-and-salary medical transcriptionists had median hourly earnings of $14.40 in May 2006. The middle 50 percent earned between $12.17 and $17.06. The lowest 10 percent earned less than $10.22, and the highest 10 percent earned more than $20.15. Median hourly earnings in the industries employing the largest numbers of medical transcriptionists were:

Medical and diagnostic laboratories	$15.68/hour
General medical and surgical hospitals	$14.62/hour
Business support services	$14.34/hour
Outpatient care centers	$14.31/hour
Offices of physicians	$14.00/hour

Compensation methods for medical transcriptionists vary. Some are paid based on the number of hours they work or on the number of lines they transcribe. Others receive a base pay per hour with incentives for extra production. Employees of transcription services and independent contractors almost always receive production-based pay. Independent contractors earn more than do transcriptionists who work for others, but independent contractors have higher expenses than their corporate counterparts, receive no benefits, and may face higher risk of termination than do wage-and-salary transcriptionists.

Information obtained from Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2008-09 Edition, Secretaries and Administrative Assistants, on the Internet at http://www.bls.gov/oco/ocos151.htm (Visted January 18, 2008)

Career Description:
Employers prefer to hire transcriptionists who have completed postsecondary training in medical transcription offered by many vocational schools, community colleges, and distance-learning programs.

Completion of a 2-year associate degree or 1-year certificate program - including coursework in anatomy, medical terminology, legal issues relating to health care documentation, and English grammar and punctuation - is highly recommended, but not always required. Many of these programs include supervised on-the-job experience. Some transcriptionists, especially those already familiar with medical terminology from previous experience as a nurse or medical secretary, become proficient through refresher courses and training.

Program Admission Requirements:
Entrance exams in grammar, spelling, and punctuation are required. A minimum keyboarding speed of 45 wpm is required. Applicants should possess basic word processing skills. Arrangements for exams may be made through the Advising Center at (304) 696-3460.

ADMINISTRATIVE ASSISTANT TECHNOLOGY

MEDICAL TRANSCRIPTION
MAJOR CODE – CO20 • CONCENTRATION CODE - CO28

FIRST YEAR[1]	
First Semester	**Second Semester**
AAT 136 Comprehensive Word Processing (EDGE) .3	AAT 114 Keyboarding II[1] (EDGE) 3
ENL 111 Written Communication. 3	COM 112 Oral Communication 3
IT 101 Fundamentals of Computers (EDGE) 3	LAS 248 Medical Law[2] 3
MA 204 Physicians Office Medical Coding. 3	MA 205 Medical Office Claims Procedures 3
MAT 115 Business Mathematics 3	SS 201 Human Relations 3
TOTAL CREDITS. .15	**TOTAL CREDITS. 15**

SECOND YEAR	
Third Semester[3,4]	**Fourth Semester**[3,5]
AAT 220 Anatomy & Physiology for Transcription . . .3	AAT 224 Advanced Lab Medicine for Transcription . . .1
AAT 221 Medical Terminology for Transcription . . . 3	AAT 225 Human Disease for Transcription. 3
AAT 222 Pharmacology for Transcription 3	AAT 226 Surgical Procedures for Transcription . . . 1
AAT 223 Beginning Lab Medicine Transcription . . .1	AAT 245 Pathology Transcription 2
AAT 244 Beginning Medical Transcription 8	AAT 246 Radiology Transcription 2
TOTAL CREDITS. .18	AAT 247 Gastroenterology Transcription 2
	AAT 248 Cargiology Transcription 2
	AAT 249 Orthopedics Transcription 2
	AAT 250 Medical Transcription Internship 1
	TOTAL CREDITS. 16

HOURS REQUIRED FOR GRADUATION: 64

Employment Opportunities:
- Secretary/Receptionist
- Transcriptionist
- Physicians' offices/clinics
- Hospitals
- Medical schools
- Acute care facilities
- Physical therapy facilities
- Rehabilitation facilities
- Nursing homes
- Transcription companies
- Independent contractors
- Work from home

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Wylma Skean • Corbly Hall, Room 323
Phone: 304-696-3060 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: skean@marshall.edu

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1. Students must demonstrate a minimum of 35 wpm with 5 or fewer errors before they can enroll in AAT 114. AAT 114 has a prerequisite of AAT 136 or permission.
2. The LAS 248 prerequisite of LAS 101 will be waived for the Administrative Assistant Technology: Medical Transcription Option. Please see an advisor.
3. The third and fourth semesters are composed of courses from the One-Year Medical Transcription Certificate Program. Entrance exams verifying above-average grammar, spelling, and punctuation skills, basic word processing skills, minimum keyboarding speed of 45 wpm, and instructor permission are required for admission to the program and enrollment in the third semester courses. Successful completion of third semester courses (C or better) is required for entrance into fourth semester courses. Students who have completed the One-Year Medical Transcription Certificate Program may complete the first and second semester courses (or demonstrate required skills via competency exams where available) to complete the two-year degree program.
4. Third semester AAT courses have prerequisites of admission to the program and instructor permission. Please see an advisor for further information on program admission requirements.
5. Fourth semester courses have prerequisites of successful completion of third semester courses (C or better) and instructor permission.

BUSINESS OCCUPATIONS

BANKING AND FINANCE - ASSOCIATE IN APPLIED SCIENCE

Program Description:
The increasing complexities of the banking and financial environment have created the need for individuals who possess a greater diversity of skills. Interpersonal, communication, analytical, decision-making, customer service, and computer skills are essential for success in banking and finance. Marshall Community & Technical College's Banking and Finance program provides these skills and provides a background in subject matter relevant to institutions such as commercial banks, savings banks, credit unions, mortgage banks, and other financial institutions. The program is designed for students seeking careers with financial institutions and for those individuals already working for financial institutions who desire career advancement.

Upon completion of the Associate of Applied Science Degree in Banking and Finance, the graduate will be able to:

- Understand banking and finance terminology
- Apply knowledge of business computer software to financial institution activities
- Apply relevant mathematical skills to financial institution activities
- Demonstrate a working knowledge of ethical, legal, and social skills that relate to the banking and finance environment
- Make decisions after gathering and analyzing information
- Prepare and present written and oral business communication

Career Outlook:
Wage and salary employment in banking is projected to increase 2 percent between 2004 and 2014, compared with the 16 percent growth projected for the economy as a whole. The combined effects of technology, deregulation, mergers, and population growth will continue to affect total employment growth and the mix of occupations in the banking industry. Overall declines in office and administrative support occupations will be offset by growth in professional, managerial, and sales occupations. The Banking and Finance program is operated in cooperation with the American Institute of Banking (AIB). Students employed by a bank or savings and loan can also receive certificates from the AIB.

Salary Forecast:

Median hourly earnings of selected occupations in banking:	State	National
Financial managers	$31.02	$39.37
Loan officers	$21.38	$23.48
First-line supervisors/managers of office and administrative support workers	$7.78	$19.72
Loan interviewers and clerks	$13.13	$13.94
Customer service representatives	$12.57	$12.99
Office clerks, general	$11.21	$10.95

(Information obtained from the Occupational Outlook Handbook 2006-2007)

Program Admission Requirements:
The college adheres to an open admissions policy which means applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

Accreditation:
The Association of Collegiate Business Schools and Programs (ACBSP) accredits the Banking and Finance degree program. The ACBSP is the only nationally recognized organization that grants specialized accreditation to two- and four-year college and university business programs.

BUSINESS OCCUPATIONS

BANKING AND FINANCE
MAJOR CODE – CB10

FIRST YEAR[1]	
First Semester	**Second Semester**
ENL 111 Written Communication 3	AC 108 Accounting for Business[1] 3
FN 151 Principles of Bank Operations 3	EC 102 Basic Economics[1] 3
IT 101 Fundamentals of Computers (EDGE) . .3	ISM 133 Principles of Supervision & Management.3
MAT 115 Business Mathematics 3	MAT 210 Statistics for Business & Industry[1,2]. . . .3
MG 101 Intro to Business (EDGE) 3	MK 130 Fundamentals of Marketing 3
	Banking/Finance Elective[1,3] 3
TOTAL CREDITS. 15	**TOTAL CREDITS. 18**

SECOND YEAR	
Third Semester	**Fourth Semester**
ENL 231 Technical Report Writing[4,5] 3	AC 221 Computerized Accounting[1,8] 3
FN 252 Law & Banking[6] 3	MG 296 Integrated Business Strategies[9]. 3
IT 150 Applications to Spreadsheets[7]. 3	MK 210 Customer Service[4]. 3
COM 112 Oral Communication 3	Banking/Finance Elective[1,3]. 3
Banking/Finance Elective[1,3]. 3	Banking/Finance Elective[1,3]. 3
Banking/Finance Elective[1,3]. 3	
TOTAL CREDITS. 18	**TOTAL CREDITS. 15**

HOURS REQUIRED FOR GRADUATION: 66

Employment Opportunities:
- Beginning personal banker
- Management trainee
- Vault teller
- Trust administrative assistant
- Marketing assistant
- Collections assistant
- Teller supervisor
- Consumer loan assistant
- Commercial loan assistant
- Credit evaluation assistant
- Commercial banks, savings and loans, credit unions and mortgage banks

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Rick Brown • Corbly Hall, 324
Phone: 304-696-3012 1-866-N-ROLLED (1-866-676-5533) • E-mail: brownr@marshall.edu

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1. Students pursuing the dual baccalaureate degree in Finance (Banking Option) must substitute AC 201 for AC 108; ACC 210 for AC 221; ECN 250 for EC 102; MAT 145 for MAT 210; and must consult the program advisor regarding appropriate electives.
2. MAT 210 has a prerequisite of MAT 115.
3. Recommended Banking/Finance Electives: AC 234, FN 163, FN 231, FN 250, FN 251, FN 258, FN 259, FN 264, MG 226, MG 253, MG 299, and MK 255.
4. ENL 231 and MK 210 have a prerequisite of ENL 111 or COM 111.
5. COM 235 may be substituted for ENL 231.
6. FN 252 has a prerequisite of FN 151.
7. IT 150 has a prerequisite of IT 101.
8. AC 221 has a prerequisite of AC 108.
9. MG 296 has a prerequisite of 45 credit hours completed in the program.

HOSPITALITY MANAGEMENT

CULINARY ARTS - ASSOCIATE IN APPLIED SCIENCE

Program Description:
The hospitality and food service industry is a large, diverse field that provides challenging and exciting career opportunities for people from all walks of life. The possibilities for satisfying careers are almost limitless. The rewards and satisfactions provided by the industry far exceed those of many other fields of work.

While the different segments of the hospitality and tourism industry have their own unique characteristics, they all share the same mission and heritage-serving the guest or customer. The segments of hospitality and tourism are traveling services, lodging, food service, and recreation services. They all possess a common future as the most dynamic employment and career fields available. The program offers advanced chef training as well as restaurant management skills. After studying the fundamentals of classical and contemporary cuisine and restaurant procedures, students will develop advanced skills in garde manger and a la carte cooking. The graduate will have the necessary training to work in a variety of culinary establishments as Sous Chef, Garde Manger, Kitchen Supervisor, and Restaurant Manager.

Career Description:
Chefs, cooks, and food preparation workers prepare, season, and cook a wide range of foods—from soups, snacks, and salads to entrees, side dishes, and desserts—in a variety of restaurants and other food services establishments. Chefs and cooks create recipes and prepare meals, while food preparation workers peel and cut vegetables, trim meat, prepare poultry, and perform other duties such as keeping work areas clean and monitoring temperatures of ovens and stovetops.

Career Outlook:
Job openings for chefs, cooks, and food preparation workers are expected to be plentiful through 2014; however, competition for jobs in the top kitchens of higher-end restaurants should be keen. While job growth will create new positions, the overwhelming majority of job openings will stem from the need to replace workers who leave this large occupational group.

(Information obtained from Occupational Outlook Handbook, 2006-2007)

Salary Forecast:

Chef | West Virginia

Low	Average	High	Bonus	Benefits	Total Compensation
$29,097	$44,046	$106,930	6.9%	19.0%	$55,462

United States of America National Average

Low	Average	High	Total Compensation
$40,378	$61,123	$148,388	$72,799

(Information obtained from salaryexpert.com)

Program Admission Requirements
The college adheres to an open admissions policy meaning applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

Tech Prep Affiliation:
The Hospitality Management program is aligned with the West Virginia Tech Prep Business cluster. This career track provides the opportunity for students to acquire college credit while attending high school.

For high school students interested in foodservice careers and coming from applicable programs offering ProStart© curriculum, the program will provide for a seamless transition from ProStart through the completion of the Culinary Arts Certificate.

Students who complete the high school ProStart© program and pass the ProStart© examination with a score of 75% or higher will receive 6 credit hours toward the Culinary Arts Certificate. This will leave 30 credit hours to complete the certificate requirement of 36 credit hours.

HOSPITALITY MANAGEMENT

CULINARY ARTS
MAJOR CODE - CH20 • CONCENTRATION CODE - CH21

FIRST YEAR	
Fall Semester	**Spring Semester**
CA 105 Fabrication & Knife Skills (1st 8 weeks) .3	CA 269 Soups, Stocks & Sauces (1st 8 weeks) . . .3
CA 110 Mise en Place[1] (2nd 8 weeks) 3	CA 112 Garde Manger[2] (2nd 8 weeks) 3
CA 120 A la Carte Dining Room Service[1*] (EDGE) .3	CA 270 Managing Culinary Operations 3
CA 200 Sanitation & Safety[1*](EDGE) 3	CA 275 Cost Control & Revenue Management[3] . .3
HM 101 Travel, Tourism & Hospitality Industry . . .3	ENL 111 Written Communications 3
IT 101 Fundamentals of Computers (EDGE). .3	CA 195 Hospitality Lab Practicum II 1
CA 190 Hospitality Lab Practicum I 1	Math/Science Requirement[4]. 3
TOTAL CREDITS. 19	**TOTAL CREDITS. 19**

SECOND YEAR	
Fall Semester	**Spring Semester**
CA 116 Intro to Breads & Doughs (2nd 8 weeks). .3	CA 135 International Cuisine[9] (1st 8 weeks). 3
CA 205 A la Carte Dining Room II[2,5](2nd 8 weeks) . .3	CA 225 Advanced Cooking & Artistry[2] (2nd 8 weeks) 3
CA 245 Culinary Nutrition 3	CA 235 Menu Planning 3
COM 112 Oral Communication 3	CA 260 Culinary Selection and Procurement 3
MAT 115 Business Mathematics 3	HM 240 Intro to Vineyards & Breweries[6] 4
SS 201 Human Relations. 3	HM 299 Internship Apprenticeship[7]. 3
CA 290 Hospitality Practicum Lab III. 1	
TOTAL CREDITS. 19	**TOTAL CREDITS. 19**

HOURS REQUIRED FOR GRADUATION: 76

Employment Opportunities:
- Restaurants
- Kitchen supervisor
- Sous chef
- Garde manger chef
- A la carte chef
- Restaurant manager

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Phone: 304-696-5230 or 1-866-N-ROLLED (1-866-676-5533)

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1. Students who complete the high school ProStart program and pass the ProStart examination with a score of 75% or higher will receive college credit for CA 120 and CA 200. Documentation of the test results must be provided for the student to receive credit.
2. CA 112, CA 116, CA 135, CA 205, CA 225, CA 255 have a prerequisite of CA 110.
3. CA 275 has a prerequisite of IT 101.
4. Math/Science Requirement: Select from: MAT 150, MAT 210, SCI 101, SCI 210, and SCI 220.
5. CA 205 has a prerequisite of CA 120.
6. HM 240 or CA 257 has a prerequisite of HM 101; CA 257 may be substituted for HM 240.
7. Students must receive permission from the program coordinator to enroll in HM 299. Students may complete this requirement between the 1st and 2nd year.

*ProStart Course

HOSPITALITY MANAGEMENT

HOTEL/LODGING MANAGEMENT - ASSOCIATE IN APPLIED SCIENCE

Program Description:
The hospitality and tourism industry is a large, diverse field that provides challenging and exciting career opportunities for people from all walks of life. The possibilities for satisfying careers are almost limitless. The rewards and satisfactions provided by the industry far exceed those of many other fields of work.

While the different segments of the hospitality and tourism industry have their own unique characteristics, they all share the same mission and heritage, serving the guest or customer. The segments of hospitality and tourism are traveling services, lodging, food service, and recreation services. They all possess a common future as one of the most dynamic employment and career fields available. Students will attain knowledge in food service disciplines, customer service, sanitation, purchasing and inventory control, business operations, marketing, retailing, accounting management, and communication skills.

Career Outlook:
Employment of lodging management is expected to grow more slowly than the average for all occupations through 2012. Additional job openings are expected to occur as experienced managers transfer to other occupations or leave the labor force. Job opportunities are expected to be best for persons with college degrees in hotel or restaurant management.

A comfortable room, good food, and a helpful staff can make time away from home an enjoyable experience for both vacationing families and business travelers. While most lodging managers work in traditional hotels and motels, some work in other lodging establishments, such as camps, inns, boarding houses, dude ranches, and recreational resorts. In full-service hotels, lodging managers help their guests have a pleasant stay by providing many of the comforts of home, including cable television, fitness equipment, voice mail, as well as specialized services such as health spas. Lodging managers often schedule available meeting rooms and electronic equipment for business travelers, including slide projectors and fax machines. Lodging managers are responsible for keeping their establishments efficient and profitable. In a small establishment with a limited staff, the manager may oversee all aspects of operations. However, large hotels may employ hundreds of workers, and the general manager usually is aided by a number of assistant managers assigned to the various departments of the operation. In hotels of every size, managerial duties vary significantly by job title.

Salary Forecast:
Median annual earnings of lodging managers were $37,660 in May 2004. The middle 50 percent earned between $28,640 and $51,030. The lowest 10 percent earned less than $22,680, while the highest 10 percent earned more than $72,160.

Tech Prep Affiliation:
The Hospitality Management program is aligned with the West Virginia Tech Prep Business/Marketing cluster. This career track provides the opportunity for students to acquire college credit while attending high school.

For high school students interested in foodservice careers and coming from applicable programs offering ProStart curriculum, the program will provide for a seamless transition from ProStart through the completion of an Associate in Applied Science Degree in Hospitality Management.

Students who complete the high school ProStart program and pass the ProStart examination with a score of 75% or higher will receive 9 credit hours toward the associate degree. This will leave 57 credit hours to complete the associate degree requirement of 66 credit hours.

HOSPITALITY MANAGEMENT

HOTEL/LODGING MANAGEMENT
MAJOR CODE - CH20 • CONCENTRATION CODE - CH22

FIRST YEAR	
First Semester	**Second Semester**
CA 200 Culinary Sanitation & Safety[3]* (EDGE). . . .3	HM 137 Trends in the Hospitality Industry 3
ENL 111 Written Communication 3	HM 145 Hotel Front Office Procedures 3
HM 101 Travel, Tourism, & Hospitality 3	HM 155 Hospitality Information Systems[1] 3
HM 220 Managing Catering Operations 3	MAT 150 Applied Professional Math[2]. 3
IT 101 Fundamentals of Computers* (EDGE) . . .3	SS 201 Human Relations 3
MAT 115 Business Mathematics[2]. 3	
TOTAL CREDITS. 18	**TOTAL CREDITS. 15**

SECOND YEAR	
Third Semester	**Fourth Semester**
CA 235 Menu Planning 3	CA 260 Culinary Selection & Procurement 3
CA 120 A la Carte Dining Service I[3](EDGE) 3	CA 275 Cost Control & Revenue Management[1]. . 3
COM 112 Oral Communication 3	HM 210 Human Resources & Diversity Management 3
HM 222 Rooms Division Management[4]. 3	HM 240 Intro to Vineyards & Breweries 4
HM 250 Managing Hospitality Marketing 3	HM 299 Internship/Apprenticeship[5]. 3
HM 285 Legal Aspects of Hospitality Mgmt. 3	
TOTAL CREDITS. 18	**TOTAL CREDITS. 16**

HOURS REQUIRED FOR GRADUATION: 67

Employment Opportunities:
- Hotel management
- Resort management
- Tourism offices
- Travel services
- Recreation services

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Phone: 304-696-5230 or 1-866-N-ROLLED (1-866-676-5533)

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1. HM 155 and CA 275 have a prerequisite of IT 101.
2. MAT 115 and MAT 150 has a prerequisite of ACT 19; MAT 095, MAT 097, MAT 097E, or PLAC 100.
3. Students who complete the high school ProStart program and pass the ProStart examination with a score of 75% or higher will receive college credit for CA 120, and CA 200. Documentation of the test results must be provided for the student to receive credit.
4. HM 222 has a prerequisite of HM 145.
5. HM 240 or CA 257 has a prerequisite of HM 101; CA 257 may be substituted for HM 240.
6. Students must receive permission from the program coordinator to enroll in HM 299. Students may complete this requirement between the 1st and 2nd year.
*ProStart Course

INTERIOR DESIGN

ASSOCIATE IN APPLIED SCIENCE

Program Description:

The Interior Design program is a cooperative effort between Marshall Community & Technical College (MCTC) and Cabell County Career Technology Center (CCCTC). Students will take their interior design technical training at Cabell County Career Technology Center and their business and general education courses at Marshall Community & Technical College.

The Interior Design program is associated with the American Society of Interior Design (ASID). It is designed for individuals who wish to seek employment in interior design or related fields. The program provides students the opportunity to acquire knowledge and understanding of the equipment and supplies, principles and elements of design, and actual hands-on training required for entry-level positions. Students also learn the basics of efficient space planning, color theory, drafting, lighting, furniture, floral design, exterior design and human factors affecting interior design.

Upon completion of the Interior Design, Associate in Applied Science Degree, the graduate will be able to:

- Exhibit knowledge of the terminology associated with interior design;
- Apply interior design concepts to planning the space and furnishing the interiors of private homes, public buildings, and or institutional establishments;
- Demonstrate good interpersonal and customer service skills;
- Prepare and present written and oral communication;
- Gain real-life experience through placement in an internship.

Career Outlook:

Interior designers enhance the function, safety, and quality of interior spaces of private homes, public buildings, and business or institutional facilities, such as offices, restaurants, retail establishments, hospitals, hotels, and theaters. They also plan the interiors of existing structures that are undergoing renovation or expansion.

Increasingly, designers are using computers to plan layouts because computers make it easy to change plans to include ideas received from the client. Interior designers also design lighting and architectural details: such as crown molding, built-in bookshelves, or cabinets; coordinate colors; and select furniture, floor coverings, and window treatments. Rising demand for interior design of private homes, offices, restaurants and other retail establishments, and institutions that care for the rapidly growing elderly population should spur employment growth of interior designers.

Salary Forecast:

Earnings for interior designers vary widely depending on the type of design they do, whether they are self-employed or salaried, years of experience, reputation, demand, regional differences, and other factors. As in many other professions, entry-level salaries are low, and senior practitioners and firm principals or partners often earn several times that of junior staff. Median annual earnings for interior designers were $40,670 in May 2004. The middle 50 percent earned between $30,890 and $53,790. The lowest 10 percent earned less than $23,440, and the highest 10 percent earned more than $71,220.

Program Admission Requirements:

In addition to complying with Marshall Community & Technical College's admission standards, students must also apply for admission to Cabell County Career Technology Center and meet the Center's admission standards to be able to take the interior design courses taught at the Center.

INTERIOR DESIGN

MAJOR CODE – CI10

FIRST YEAR	
First Semester ENL 111 Written Communication . . . . .3 ID 110 Perspective Drawing Techniques. . . . .3 IT 101 Fundamentals of Computers (EDGE) . . .3 MAT 115 Business Mathematics. . . . . .3 MK 130 Fundamentals of Marketing . . . . .3 **TOTAL CREDITS. 15**	**Second Semester** COM 112 Oral Communication . . . . .3 EC 102 Basic Economics . . . . .3 ID 260 Advanced Perspective Drawing[3]. . . . . .3 MK 279 Advertising/Merchandising & Sales Promotion.3 Math/Science Requirement[4] . . . . .3 **TOTAL CREDITS. 15**
SECOND YEAR	
Component II Interior Design Technical Training taught by Cabell County Career Technology Center (First or second year depending on whether students start at MCTC or CCCTC).[1,2] **Third Semester** CAD 111 Computer-Aided Drafting for Interior Design .3 ID 111 Interior Design Theory (EDGE). . . . . .3 ID 112 Design Graphics (EDGE) . . . . .3 ID 205 Interior Design Architecture (EDGE) . . . . .3 ID 211 Technical Drawing (EDGE) . . . . .3 ID 212 Interior Textile Materials (EDGE). . . . . .3 **TOTAL CREDITS. .18**	**Fourth Semester** CAD 211 Advanced Computer Aided Interior Design .3 ID 115 Visual Merchandising[5] (EDGE) . . . . . . .3 ID 215 Floral Design and Application[5] (EDGE). . .3 ID 220 Window/Wall/Floor Treatments[6] (EDGE). . .3 ID 225 Furniture Construction/History[6] (EDGE) . . .2 ID 299 Internship[7] (EDGE) . . . . .3 **TOTAL CREDITS. 17**
HOURS REQUIRED FOR GRADUATION: 65	

Employment Opportunities:
- Architectural firms
- Interior design firms
- Kitchen design centers
- Department stores
- Furniture stores

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Rick Brown • Corbly Hall, Room 324
Phone: 304-696-3012 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: brownr@marshall.edu
or
Lou Etta Bowen • Cabell County Career Technology Center
Phone: 304-528-5106 • E-mail: lbowen@marshall.edu

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1. Interior Design Technical Training taught by Cabell County Career Technology Center first or second year depending on whether students start at MCTC or CCCTC.
2. Students who intend to apply for financial aid must enroll exclusively at one institution, and must apply through the institution in which they enroll. Financial aid received through one of the institutions will not apply to courses taken at the other institution.
3. ID 120 has a prerequisite of ID 110.
4. Math/Science Requirement: select from MAT 150, MAT 210, SCI 101E, or another math/science course approved by an advisor.
5. ID 115 and ID 215 have a prerequisite of ID 111.
6. ID 220 and ID 225 have a prerequisite of ID 212.
7. Students must complete a minimum of 48 credit-hours of the program before they are eligible for ID 299.

LEGAL OCCUPATIONS

LEGAL ASSISTANT - ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Legal Assistant program was planned with assistance from the West Virginia State Bar and a program advisory committee consisting of attorneys and legal assistants. The program has been granted approval by the American Bar Association.

The program offers the Associate in Applied Science degree graduates the opportunity to pursue a baccalaureate degree in Legal Studies from Marshall University's College of Liberal Arts, Criminal Justice Department.

Upon completion of the Legal Assistant Associate in Applied Science Degree, the graduate will be able to:

* Exhibit knowledge of legal terminology to communicate with attorneys, peers, managers, and other professionals
* Develop specific skills in those areas of law practice in which legal assistants customarily function
* Assist attorneys with client interviews, legal research, preparation of documents and pleadings for trial and other professional activities normally undertaken by paraprofessionals to assist with the practice of law
* Exhibit knowledge of appropriate ethical behavior for legal assistants

A legal assistant is a highly skilled paraprofessional with specialized training who works under the direct supervision of an attorney. Job responsibilities require knowledge of law and legal procedures in rendering direct assistance to lawyers and clients. Tasks may include interviewing, case investigation, the preparation of pleadings, and legal research. The increasing complexities of the legal assistant's work environment have also created the need for individuals who possess skills including interpersonal, communication, analytical, decision-making, customer service, and computer skills. Legal Assistants cannot provide legal services directly to the public except as permitted by law.

Career Outlook:
Employment of paralegals and legal assistants is projected to grow faster than the average for all occupations through 2012. Some employment growth stems from law rooms and other employers with legal staff hiring paralegals/legal assistants to lower the cost and increase the availability and efficiency of legal services. The job openings for paralegals in the future will be new jobs created by employment growth, and additional job openings will arise as people leave the occupation. Despite projections of fast employment growth, competition for jobs should continue as many people seek to go into this profession; however, highly skilled, formally trained paralegals have excellent employment potential.

Salary Forecast:
Earnings of paralegals and legal assistants vary greatly. Salaries depend on education, training, experience, type and size of employer, and geographic location of the job. In general, paralegals who work for large law firms or in large metropolitan areas earn more than those who work for smaller firms or in less populated regions. Median annual earnings in the industries employing the largest numbers of paralegals in 2004 were as follows:

Federal government	$59,370
Legal services	$37,870
Local government	$38,260
State government	$34,910

Program Admission Requirements:
The college adheres to an open admissions policy meaning applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

LEGAL OCCUPATIONS

LEGAL ASSISTANT
MAJOR CODE - CL10

FIRST YEAR[1,13]	
First Semester	**Second Semester**
AAT 136 Intro to Word Processing (EDGE) 3	COM 112 Oral Communication 3
ENL 111 Written Communication 3	EC 102 Basic Economics 3
LAS 101 General Law I 3	LAS 102 General Law II[2] 3
LAS 103 Legal Assisting 3	LAS 213 Comp. Apps. to Law[3] 3
MAT 150 Applied Professional Mathematics 3	SCI 201 Integrated Science: Health, Law & Environment[4] .4
TOTAL CREDITS. 15	**TOTAL CREDITS. 16**
SECOND YEAR	
Third Semester	**Fourth Semester**
ENL 115 Written Communication II[5]. 3	ENL 231 Technical Report Writing[9]. 3
LAS 209 Adm. Agency Adv. 3	FN 248 Real Estate Law 3
LAS 211 Legal Research and Writing[6]. 3	LAS 212 Legal Research & Writing[10] 3
LAS 235 Civil Litigation[6]. 3	LAS 290 Internship[11]. 3
LAS Elective[7]. 3	LAS Elective[7 or 12]. 3
Social Science Elective[8]. 3	
TOTAL CREDITS. 18	**TOTAL CREDITS. 15**
HOURS REQUIRED FOR GRADUATION: 64	

Employment Opportunities:
- Legal assistant/Paralegal for law firms
- Legal assistant/Paralegal for a business entity's legal department
- Legal assistant/Paralegal for governmental agencies
- Administrator for a nonprofit legal services corporation
- Trust administrative assistant
- Editor of a legal publishing company
- Criminal justice occupations in corrections and law enforcement

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Heather R. Hussell • Corbly Hall, Room 320
Phone: 304-696-3021 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: hussell8@marshall.edu

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1. The College of Liberal Arts, Marshall University, Criminal Justice Program permits students possessing an Associate Degree in Legal Assistant from Marshall Community and Technical College to apply designated credits toward a baccalaureate degree in Criminal Justice/Legal Studies. Students interested in pursuing the Legal Assistant/Legal Studies Degree Programs should contact the Chair of the Criminal Justice Department for information concerning the requirements of the College of Liberal Arts to assure timely completion.
2. LAS 102 has a prerequisite of LAS 101.
3. LAS 213 has a prerequisite of AAT 136.
4. SCI 201 has a prerequisite of MAT 150.
5. ENL 115 has a prerequisite of ENL 111 or COM 111.
6. LAS 211 and LAS 235 have a prerequisite of LAS 101.
7. Recommended Legal Assistant Electives: LAS 110, LAS 225, LAS 231, LAS 240, LAS 244, LAS 248, LAS 250 or LAS 290.
8. Recommended Social Science Electives: SS 201, SS 210, or SS 215.
9. ENL 231 has a prerequisite of ENL 111 or COM 111.
10. LAS 212 has a prerequisite of LAS 211.
11. LAS 290 has a prerequisite of permission by program coordinator.
12. Students pursuing the 4-year degree in Criminal Justice Legal Studies Track must take CJ 200.
13. Students are required to make a "C" or better in each LAS course before graduating from the program.

MANAGEMENT TECHNOLOGY

ACCOUNTING - ASSOCIATE IN APPLIED SCIENCE

Program Description:
The increasing complexities of the business environment have created the need for individuals who possess a greater diversity of skills. Inter-personal, communication, analytical, decision-making, customer service, and computer skills are essential for success in business. Marshall Community & Technical College's Management Technology program provides these skills and prepares students for entry-level positions in organizations with career paths that eventually lead to supervisory and management positions. The program also prepares employed individuals for upward mobility within their organizations.

The Accounting option prepares the student for a non-supervisory position. This person performs a variety of complex clerical and entry level accounting activities applying accepted procedures to the preparation and maintenance of accounting and other records, and preparing financial, statistical, and/or technical reports to ensure accurate accounting records.

Career Outlook:
Bookkeeping, accounting, and auditing clerks are an organization's financial record keepers. They update and maintain one or more accounting records, including those that tabulate expenditures, receipts, accounts payable and receivable, and profit and loss. They have a wide range of skills and knowledge from full-charge bookkeepers who can maintain an entire company's books to accounting clerks who handle specific accounts. All of these clerks make numerous computations each day and increasingly must be comfortable using computers to calculate and record data.

Salary Forecast:

	State Average	National Average
Bookkeeping, accounting and auditing clerks	$24,810	$28,570
Payroll and timekeeping clerks	$25,800	$30,350
Billing and posting clerks	$22,330	$27,040

Having completed some college is becoming increasingly important for financial clerks, particularly for those occupations requiring knowledge of accounting. For occupations such as bookkeepers, accounting clerks, and procurement clerks, an associate's degree in business or accounting often is required.

Program Admission Requirements:
The college adheres to an open admissions policy which means applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

Accreditation:
The Association of Collegiate Business Schools and Programs (ACBSP) accredits the Management Technology degree program. The ACBSP is the only nationally recognized organization that grants specialized accreditation to two- and four-year college and university business programs.

MANAGEMENT TECHNOLOGY

ACCOUNTING
MAJOR CODE - CM10 • CONCENTRATION CODE - CM15

FIRST YEAR	
Fall Semester	**Spring Semester**
AC 103 Intro to Accounting (EDGE). 3	AC 201 Financial Accounting I[2] 3
ENL 111 Written Communication. 3	AC 221 Computerized Accounting I[3] 3
IT 101 Fundamentals of Computers (EDGE). . .3	ECN 250 Principles of Microeconomics 3
MAT 115 Business Mathematics[1]. 3	IT 150 Applications to Spreadsheets[4] (EDGE) . .3
MG 101 Intro to Business(EDGE) 3	MAT 210 Statistics for Business & Industry[6] (EDGE). .3
TOTAL CREDITS. 15	SS 215 Lifespan Psychology 3
	TOTAL CREDITS. 18

SECOND YEAR	
Fall Semester	**Spring Semester**
AC 210 Managerial Accounting[5]. 3	AC 234 Taxation[5]. 3
COM 112 Oral Communication 3	ACC 318 Cost Accounting I[10] 3
ENL 115 Written Communciation II[7]. 3	FN 231 Business Finance[5]. 3
ECN 253 Principles of Macroeconomics[8]. 3	MG 226 Commercial Papers & Transactions 3
MG 202 Business Organization & Management[9] .3	MG 296 Integrated Business Strategies 3
MK 130 Fundamentals of Marketing. 3	
TOTAL CREDITS. 18	**TOTAL CREDITS. 15**

HOURS REQUIRED FOR GRADUATION: 66

Employment Opportunities:
Accounting paraprofessionals are qualified for numerous career opportunities such as accountant's assistants, accounting clerks, book-keepers, banking support staff, finance support staff, and income tax preparation clerks.

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Gerald Doyle • Corbly Hall, Room 322
Phone: 304-696-3019 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: doyle1@marshall.edu

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1.   Students pursuing the articulated baccalaureate degree with Lewis College of Business must take MAT 145 instead of MAT 115.
2.   AC 201 has a prerequisite of AC 103 or permission.
3.   AC 221 has a prerequisite of IT 101 and AC 103, or IT 101 and AC 108, or permission.
4.   IT 150 has a prerequisite of IT 101.
5.   AC 210, AC 234, and FN 231 have a prerequisite of AC 103 or AC 201.
6.   MAT 210 has a prerequisite of MAT 115 or MAT 145.
7.   ENL 115 has a prerequisite of COM 111 or ENL 111.
8.   ECN 253 has a prerequisite of ECN 250.
9.   MG 202 has a prerequisite of MG 101.
10. ACC 318 has a prerequisite of AC 210.
11. MG 296 has a prerequisite of 45 credit hours completed in the program.

MANAGEMENT TECHNOLOGY

ACCOUNTING (DUAL DEGREE) - ASSOCIATE IN APPLIED SCIENCE

Program Description:
The increasing complexities of the business environment have created the need for individuals that possess a greater diversity of skills. Inter-personal, communication, analytical, decision-making, customer service, and computer skills are essential for success in business. Marshall Community & Technical College's Management Technology program provides these skills and prepares students for entry-level positions in organizations with career paths that eventually lead to supervisory and management positions. The program also prepares employed individuals for upward mobility within their organizations.

The Accounting option prepares the student for a nonsupervisory position. This person performs a variety of complex clerical and entry level accounting activities applying accepted procedures to the preparation and maintenance of accounting and other records, and preparing financial, statistical, and/or technical reports to ensure accurate accounting records.

Dual Degree Option: The Accounting Dual Degree option offers the associate degree graduate the opportunity to pursue a baccalaureate degree from Marshall University's Elizabeth McDowell Lewis College of Business.

Career Outlook:
Bookkeeping, accounting, and auditing clerks are an organization's financial record keepers. They update and maintain one or more accounting records, including those that tabulate expenditures, receipts, accounts payable and receivable, and profit and loss. They have a wide range of skills and knowledge from full-charge bookkeepers who can maintain an entire company's books to accounting clerks who handle specific accounts. All of these clerks make numerous computations each day and increasingly must be comfortable using computers to calculate and record data.

Salary Forecast:

	State Average	National Average
Bookkeeping, accounting and auditing clerks	$24,810	$28,570
Payroll and timekeeping clerks	$25,800	$30,350
Billing and posting clerks	$22,330	$27,040

Having completed some college is becoming increasingly important for financial clerks, particularly for those occupations requiring knowledge of accounting. For occupations such as bookkeepers, accounting clerks, and procurement clerks, an associate's degree in business or accounting often is required.

(Information obtained from the Bureau of Labor Statistics).

The Association of Collegiate Business Schools and Programs (ACBSP) accredits the Management Technology degree program. The ACBSP is the only nationally recognized organization that grants specialized accreditation to two- and four-year college and university business programs.

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Gerald Doyle • Corbly Hall, Room 322 • Phone: 304-696-3019 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: doyle1@marshall.edu

MANAGEMENT TECHNOLOGY

ACCOUNTING (DUAL DEGREE)
MAJOR CODE - CM10 • CONCENTRATION CODE - CM18

FIRST & SECOND YEAR	
First Semester	**Second Semester**
AC 103 Intro to Accounting (EDGE). 3	AC 201 Financial Accounting I[1](ACC 215) 3
ENL 111 Written Communiction (ENG 101) 3	AC 221 Computerized Accounting[2]. 3
IT 101 Fundamentals of Computers (EDGE) . . .3	ECN 250 Principles of Microeconomics 3
MAT 115 Business Mathematics (MTH 123) 3	IT 150 Application of Spreadsheets[3] 3
MG 101 Intro to Business (EDGE) 3	MAT 210 Statistics for Business & Industry[4] (MGT 218) 3
	SS 215 Lifespan Psychology (PSY 201). 3
TOTAL CREDITS. 15	**TOTAL CREDITS. 18**
Third Semester	**Fourth Semester**
AC 210 Managerial Accounting[5]. 3	AC 234 Taxation[5] 3
COM 112 Oral Communication (CMM 207). 3	ACC 318 Cost Accounting[11] 3
ENL 115 Written Communication II[6] (ENG 102). 3	FN 231 Business Finance[12] (FIN 323) 3
ECN 253 Principle of Macroeconomics[7]. 3	MG 226 Commercial Papers & Transactions (LE 207) 3
MG 202 Business Organization & Management[8,9].3	MG 296 Integrated Business Strategies[13]. 3
MK 130 Fundamentals of Marketing[10] (MKT 340) .3	
TOTAL CREDITS. .18	**TOTAL CREDITS. 15**
HOURS REQUIRED FOR GRADUATION: 66	
TRANSFER TO LEWIS COLLEGE OF BUSINESS AFTER COMPLETION OF ASSOCIATE DEGREE REQUIREMENTS	
Fifth Semester	**Sixth Semester**
ACC 311 Intermediate Accounting I 3	ACC 312 Intermediate Accounting II 3
ACC 348 Federal Taxation 3	ACC 341 Accounting Information Systems 3
LE 308 Commericial Law 3	ACC Accounting Elective 3
MAT 203 Calculus for Business 3	International Studies Elective 3
Arts/Humanities Elective 3	ISC Science Elective 4
CMM Elective 3	
TOTAL CREDITS. .18	**TOTAL CREDITS. 16**
Seventh Semester	**Eighth Semester**
ACC 414 Advance Accounting Problems. 3	ACC 499 Senior Seminar 3
ACC 429 Auditing I 3	MGT 460 Strategic Managment 3
ACC Accounting Elective. 3	ACC Accounting Elective 3
American Institutions Elective 3	American Institutions Elective 3
Art/Humanities Elective. 3	ECN 340 or ECN 420 3
International Elective 3	Science Elective 3
TOTAL CREDITS. .18	**TOTAL CREDITS. 18**

1. AC 201 has a prerequisite of AC 103 or permission.
2. AC 221 has a prerequisite of AC 103, and IT 101 or permission.
3. IT 150 has a prerequisite of IT 101.
4. MAT 210 has a prerequisite of MAT 145.
5. AC 210 and AC 234 have a prerequisite of AC 201.
6. ENL 115 has a prerequisite of ENL 111.
7. ECN 253 has a prerequisite of ECN 250.
8. MG 202 has a prerequisite of MG 101.
9. MG 202 must be validated by passing MGT exam provided by LCOB or by taking MGT 422 and receiving a grade of "C" or better to receive credit for MGT 320.
10. MK 130 must be validated by passing MKT exam provided by LCOB.
11. ACC 318 has a prerequisite of AC 210.
12. FN 231 has a prerequisite of AC 201 and must be validated with a "C" or better in ECN 340 or ECN 420 to receive credit for FIN 323.
13. MG 296 has a prerequisite of 45 credit hours completed in the program.

MANAGEMENT TECHNOLOGY

BUSINESS ADMINISTRATION - ASSOCIATE IN APPLIED SCIENCE

Program Description:
The increasing complexities of the business environment have created the need for individuals who possess a greater diversity of skills. Interpersonal, communication, analytical, decision-making, customer service, and computer skills are essential for success in business. Marshall Community and Technical College's Management Technology program provides these skills and prepares students for entry-level positions in organizations with career paths that eventually lead to supervisory and management positions. The program also prepares employed individuals for upward mobility within their organization.

The flexibility of the Management Technology curriculum allows students to tailor a course of study to meet their own career goals and interests. The Business Administration option is designed to train students who seek supervisory positions in a retail environment. Upon completion of the Associate in Applied Science Degree in Management Technology, the graduate will be able to:

- Demonstrate fundamental supervisory skills
- Apply knowledge of business computer software to business activities
- Apply relevant mathematical skills to business activities
- Demonstrate a working knowledge of ethical, legal, and social skills that relate to the business environment
- Make decisions after gathering and analyzing information
- Prepare and present written and oral communication
- Demonstrate knowledge specific to the specialized option

Career Outlook:
The Business Administration option provides an avenue for immediate employment and for advancement to upper levels of management. Employers seek graduates for positions ranging from business manager and sales representative to production supervisor and project planner. Graduates of the program obtain positions in manufacturing, retailing, construction, financial institutions, government and a host of other fields. Students also find this major to be of value in preparation for law school.

Salary Forecast:
While employment growth varies among industries, the U.S. Bureau of Labor predicts demand for general managers to grow as fast as all occupations through 2008. Demand will be greatest for those who possess the right skills - the skills obtained at Marshall Community & Technical College.

Retail supervisors/managers – median annual salary	$31,880
Nonretail supervisors/managers – median annual salary	$58,630

(Information obtained from the West Virginia, May 2005)

Program Admission Requirements:
The college adheres to an open admissions policy which means applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

Accreditation:
The Association of Collegiate Business Schools and Programs (ACBSP) accredits the Management Technology degree program. The ACBSP is the only nationally recognized organization that grants specialized accreditation to two- and four-year college and university business programs.

MANAGEMENT TECHNOLOGY

BUSINESS ADMINISTRATION
MAJOR CODE - CM10 • CONCENTRATION CODE - CM16

FIRST YEAR	
First Semester	**Second Semester**
AC 103 Intro to Accounting (EDGE). 3	AAT 104 Records Management 3
ENL 111 Written Communication. 3	AC 201 Financial Accounting[1]. 3
IT 101 Fundamentals of Computers (EDGE). . . .3	EC 102 Basic Economics 3
MAT 115 Business Mathematics. 3	MAT 210 Statistics for Business & Industry[2] 3
MG 101 Intro to Business (EDGE). 3	MK 130 Fundamentals of Marketing 3
TOTAL CREDITS. 15	MK 210 Customer Service[3] 3
	TOTAL CREDITS. 18

SECOND YEAR	
Third Semester	**Fourth Semester**
COM 112 Oral Communication 3	AC 234 Taxation[7] 3
ENL 231 Technical Report Writing[4] 3	FN 231 Business Finance[7]. 3
MG 181 Retailing .3	MG 226 Commercial Papers & Transaction 3
MG 202 Business Organization & Management[5] .3	MG 233 Personal Management[5]. 3
Recommended Elective[6]. 3	MG 296 Integrated Business Strategies[8]. 3
	MK 279 Advertising & Sales Promotion 3
TOTAL CREDITS. .15	**TOTAL CREDITS. 18**

HOURS REQUIRED FOR GRADUATION: 66

Employment Opportunities:
Graduates with business management skills will find employment opportunities in a variety of business settings. Virtually every industry employs business managers; however, the largest employers of managers are the retail, wholesale, and service industries. The greatest expansion in the job market over the next ten years is expected to occur in the small business sector including employment prospects for business managers. Opportunities for advancement are enhanced by a student's motivation and desire to succeed.

Business Administration Option: This option offers employment opportunities in various types of profit and nonprofit businesses and organizations as management trainees. The focus is on retailing establishments. The mission of the A.A.S. Degree in Management Technology Business Administration Option is to prepare students in the fundamentals, principles, techniques, and skills essential to the theory and effective practice of business.

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Rick Brown • Corbly Hall, Room 324
Phone: 304-696-3012 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: brownr@marshall.edu

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1. AC 201 has a prerequisite of AC 103 or permission.
2. MAT 210 has a prerequisite of MAT 115.
3. MK 210 has a prerequisite of ENL 111 or COM 111.
4. ENL 231 has a prerequisite of ENL 111 or COM 111.
5. MG 202 and MG 233 have a prerequisite of MG 101.
6. Recommended Electives: AC 221, AC 222, FN 141, FN 151, FN 163, HM 200, HM 210, HM 230, HM 250, HM 275, HM 285, IT 107, IT 115, IT 120, IT 150, ISM 133, LAS 101, and other courses recommended by a program advisor.
7. AC 234 and FN 231 have a prerequisite of AC 201 or AC 103.
8. MG 296 has a prerequisite of 45 credit hours completed in the program.

MANAGEMENT TECHNOLOGY

CALL CENTER SUPERVISION - ASSOCIATE IN APPLIED SCIENCE

Program Description:

The increasing complexities of the business environment have created the need for individuals who possess a greater diversity of skills. Inter-personal, communication, analytical, decision-making, customer service, and computer skills are essential for success in business. Marshall Community & Technical College's Management Technology program provides these skills and prepares students for entry-level positions in organizations with career paths that eventually lead to supervisory and management positions. The program also prepares employed individu-als for upward mobility within their organization.

The flexibility of the Management Technology curriculum allows students to tailor a course of study to meet their own career goals and inter-ests. The Call Center Management program is designed to train students who seek management positions in a call center or the teleservice industry. Students completing these courses will be proficient in all facets of communication and will tailor their communication skills to the call center environment.

This program provides students with a deeper knowledge of current contact center management topics, operations and practices. Courses focus on the analytical skills to determine the needs of the call center industry and problem-solving skills to apply management to meet those requirements. Emphasis is placed on communication, teamwork, ethics, and the skills for managing diversity within the contact center industry.

Upon completion of the Associate in Applied Science Degree in Management Technology, the graduate will be able to:

- Demonstrate fundamental supervisory skills
- Apply knowledge of business computer software to business activities
- Apply relevant mathematical skills to business activities
- Demonstrate a working knowledge of ethical, legal, and social skills that relate to the business environment
- Make decisions after gathering and analyzing information
- Prepare and present written and oral communication
- Demonstrate knowledge specific to the specialized option

Career Outlook:

According to the Bureau of Labor Statistics, West Virginia has the highest number of individuals per capita employed in the call center and teleservice industry in the United States. The need for qualified supervisors should continue to grow in the future.

Salary Forecast:

	Huntington, WV (Median)	United States (Median)
Call Center Supervisor I (Inbound)	$38,118	$40,677
Call Center Supervisor II (Inbound)	$47,371	$50,662
Call Center Supervisor III (Inbound)	$63,637	$68,059
Call Center Supervisor I (Outbound)	$33,345	$35,797
Call Center Supervisor II (Outbound)	$44,673	$47,777
Call Center Supervisor III (Outbound)	$66,764	$71,403

Program Admission Requirements:

The college adheres to an open admission policy which means applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis. Students admitted to the program must be employed in a call center or teleservice industry by the start of the third semester.

MANAGEMENT TECHNOLOGY

CALL CENTER SUPERVISION
MAJOR CODE - CM10 • CONCENTRATION CODE - CM17

FIRST YEAR[1]	
First Semester	**Second Semester**
AC 103 Intro to Accounting (EDGE) 3	COM 112 Oral Communication 3
ENL 111 Written Communication[1]. 3	MAT 210 Statistics for Business and Industry[3] 3
IT 101 Fundamentals of Computers (EDGE) 3	MG 105 Intro to Workplace Training 3
MAT 115 Business Mathematics[2]. 3	MG 233 Personnel Management[4] 3
MG 101 Intro to Business (EDGE). 3	SS 201 Human Relations 3
TOTAL CREDITS. 15	**TOTAL CREDITS. 15**

SECOND YEAR	
Third Semester	**Fourth Semester**
ENL 231 Technical Report Writing[6,7]. 3	MG 203 Managing Call Center Teams[10]. 3
MG 202 Business Organization & Management[4] . . 3	LAS 250 Employment Law[11]. 3
MG 205 Call Center Enviroment/Technology[8] . . .3	MG 209 Occupational Safety. 3
MG 207 Managing Call Center Data[9] 3	MG 299 Cooperative Work Experience[12]. 3
Recommended Elective[5] 3	Recommended Elective[5]. 3
TOTAL CREDITS. 15	**TOTAL CREDITS. 15**

HOURS REQUIRED FOR GRADUATION: 60

Employment Opportunities:
Call Center Supervision Option: This option offers employees of call center and teleservice industries the skills and knowledge they will need to move into supervisory positions. The Call Center Supervisor Option in Management Technology is open to students who are already employed at a call center or teleservice industry and want to prepare for the opportunity for advancement.

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Rick Brown • Corbly Hall, Room 324
Phone: 304-696-3012 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: brownr@marshall.edu

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1. Students must be working for a Teleservice/Call Center organization by the start of the third semester of the Associate in Applied Science in Management Technology-Call Center Supervision.
2. A higher level mathematics class may be substituted for MAT 115.
3. MAT 210 has a prerequisite of MAT 115, MAT 145, or MAT 150.
4. MG 202 and MG 233 have a prerequisite of MG 101.
5. Recommended Electives: AC 221, AC 222, FN 141, FN 151, IT 107, IT 115, IT 120, IT 150, ISM 133, LAS 101, AAT 136, AAT 160, AAT 255 and other courses recommended by a program advisor.
6. ENL 231 has a prerequisite of ENL 111 or COM 111.
7. COM 235 may be substituted for ENL 231.
8. MG 205 has a prerequisite of IT 101.
9. MG 207 has a prerequisite of MAT 210.
10. MG 203 has a prerequisite of MG 202 or SS 201.
11. LAS 250 has a prerequisite of MG 233.
12. MG 299 has a prerequisite of permission by Division Director or Program Coordinator.

MANAGEMENT TECHNOLOGY

INDUSTRIAL MANAGEMENT - ASSOCIATE IN APPLIED SCIENCE

Program Description:
The increasing complexities of the business environment have created the need for individuals who possess a greater diversity of skills. Interpersonal, communication, analytical, decision-making, customer service, and computer skills are essential for success in business. Marshall Community & Technical College's Management Technology program provides these skills and prepares students for entry-level positions in organizations with career paths that eventually lead to supervisory and management positions. The program also prepares employed individuals for upward mobility within their organization.

The Industrial Management Technology option is specifically designed to provide students with the skills necessary to be successful in a position of supervisory leadership. Students can benefit from this program by becoming qualified for advancement into a supervisory position or a position of greater responsibility and influence.

Upon completion of the Associate in Applied Science Degree in Management Technology, the graduate will be able to:

- Demonstrate fundamental supervisory skills;
- Apply knowledge of business computer software to business activities;
- Apply relevant mathematical skills to business activities;
- Demonstrate a working knowledge of ethical, legal, and social skills that relate to the business environment;
- Make decisions after gathering and analyzing information;
- Prepare and present written and oral communication;
- Demonstrate knowledge specific to their specialized option.

Career Outlook:
This option offers employment opportunities in various types of profit and nonprofit businesses and organizations as management trainees. The focus is on manufacturing establishments. Employment of industrial production managers is expected to grow more slowly than the average for all occupations through 2012. However, a number of job openings will stem from the need to replace workers who transfer to other occupations or leave the labor force. Projected job growth varies by industry.

Salary Forecast:
The following information is provided by Salary.com. The ranges of salaries for the following industrial supervisor positions in Huntington, West Virginia, are:

Assembly Supervisor	$39,019 up to $71,010
Machine Shop Maintenance Supervisor	$41,543 up to $58,384
Machine Shop Production Supervisor	$31,737 up to $58,319
Materials Management Supervisor	$25,836 up to $49,331
Operations Supervisor	$28,282 up to $46,031

(Note that National figures are higher than the figures shown above. Also generally speaking for individuals to receive these salaries they must have work experience.)

Accreditation:
The Association of Collegiate Business Schools and Programs (ACBSP) accredits the Management Technology degree program. The ACBSP is the only nationally recognized organization that grants specialized accreditation to two- and four-year college and university business programs.

Program Admission Requirements:
The college adheres to an open admissions policy, which means applicants with the high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

INDUSTRIAL MANAGEMENT
MAJOR CODE - CM10 • CONCENTRATION CODE - CM12

FIRST YEAR	
Fall Semester	**Spring Semester**
AC 103 Intro to Accounting (EDGE) 3	AAT 104 Records Management 3
ENL 111 Written Communication[3]. 3	AC 201 Financial Accounting[1]. 3
IT 101 Fundamentals of Computers (EDGE). . .3	ISM 133 Principles of Supervision and Management.3
MAT 145 Applications to Algebra. 3	MAT 210 Statistics for Business and Industry[2]. 3
MG 101 Introduction to Business (EDGE) 3	MK 210 Customer Service[3]. 3
	MFE 120 Intro to Manual Machining[4]. 4
TOTAL CREDITS. .15	**TOTAL CREDITS. 19**

SECOND YEAR	
Fall Semester	**Third Semester**
COM 112 Oral Communication 3	AC 234 Taxation[9] 3
ENL 231 Technical Report Writing[5] 3	FN 231 Business Finance[9] 3
MK 130 Fundamentals of Marketing 3	MG 226 Commercial Papers & Transactions 3
MFE 220 Computer Aided Design I[6] 3	MG 233 Personnel Management[10] 3
Manufacturing Elective[7]. 3	MG 296 Integrated Business Strategies[11]. 3
Social Science Requirement[8]. . . . 3	
TOTAL CREDITS. .18	**TOTAL CREDITS. 15**

HOURS REQUIRED FOR GRADUATION: 67

Employment Opportunities:
This option offers employment opportunities in various types of profit and nonprofit businesses and organizations as management trainees. The focus is on manufacturing establishments.

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Rick Brown • Corbly Hall, Room 324
Phone: 304-696-3012 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: brownr@marshall.edu

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1. AC 201 has a prerequisite of AC 103, or permission.
2. MAT 210 has a prerequisite of MAT 145.
3. MK 210 has a prerequisite of ENL 111 or COM 111.
4. MFE 120 has a prerequisite of MAT 145 or permission.
5. ENL 231 has a prerequisite of ENL 111 or COM 111.
6. MFE 220 has a prerequisite of permission.
7. Manufacturing Electives: all courses beginning with MT designator.
8. Social Science Requirement: Select from EC 102, SS 201, SS 210, or SS 215.
9. AC 234 and FN 231 have a prerequisite of AC 201.
10. MG 233 has a prerequisite of MG 101.
11. MG 296 has a prerequisite of least 45 credit hours completed in the program.

MANAGEMENT TECHNOLOGY

MANAGEMENT DUAL DEGREE - ASSOCIATE IN APPLIED SCIENCE

Program Description:
The increasing complexities of the business environment have created the need for individuals who possess a greater diversity of skills. Inter-personal, communication, analytical, decision-making, customer service, and computer skills are essential for success in business. Marshall Community & Technical College's Management Technology program provides these skills and prepares students for entry-level positions in organizations with career paths that eventually lead to supervisory and management positions. The program also prepares employed individuals for upward mobility within their organization.

This program is designed for students who wish to transfer to Marshall University's Elizabeth McDowell Lewis College of Business baccalaureate program. Its flexibility permits the students to work with their college advisors to adapt the program to the requirements of the Marshall University transfer curriculum.

Career Outlook:
Graduates with business management skills will find employment opportunities in a variety of business settings. Virtually every industry employs business managers; however, the largest employers of managers are retail, wholesale, and service industries. The greatest expansion in the job market over the next ten years is expected to occur in the small business sector including employment prospects for business managers. Opportunities for advancement are enhanced by a student's motivation and desire to succeed.

Business Administration Option: This option offers employment opportunities in various types of profit and nonprofit businesses and organizations as management trainees. The focus is on retailing establishments. The mission of the A.A.S. Degree in Management Technology Business Administration Option is to prepare students in the fundamentals, principles, techniques, and skills essential to the theory and effective practice of business.

Salary Forecast:
While employment growth varies among industries, the U.S. Bureau of Labor predicts demand for general managers to grow as fast as all occupations through 2008. Demand will be greatest for those who possess the right skills - the skills obtained at Marshall Community & Technical College.

Financial manager	$55,070
Human resources manager	$49,010
Marketing manager	$57,300
Production manager	$56,300
Purchasing manager	$41,830
General manager	$55,890

The Association of Collegiate Business Schools and Programs (ACBSP) accredits the Management Technology degree program. The ACBSP is the only nationally recognized organization that grants specialized accreditation to two- and four-year college and university business programs.

(Information obtained from Occupational Outlook Handbook 2005).

Program Admission Requirements:
The MCTC adheres to an open admissions policy, which means applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis. Refer to the MU catalog for admission requirements for LCOB.

Employment Opportunites:
Call Center Supervision Option: This option offers employees of call center and teleservice industries the skills and knowledge they will need to move into supervisory positions. The Call Center Supervisor Option in Management Technology is open to students who are already employed at a call center or teleservice industry and want to prepare for the opportunity for advancement.

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Rick Brown • Corbly Hall, Room 324 / Phone: 304-696-3012 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: brownr@marshall.edu

MANAGEMENT TECHNOLOGY

MANAGEMENT DUAL DEGREE
MAJOR CODE - CM10 • CONCENTRATION CODE - CM18

FIRST YEAR			
First Semester		**Second Semester**	
ENL 111 Written Communication 3		AAT 104 Records Management 3	
ECN 250 Principles of Microeconomics. 3		AC 201 Financial Accounting I. 3	
IT 101 Fundamentals of Computers (EDGE). . .3		COM 112 Oral Communication. 3	
MAT 115 Business Mathematics. 3		ENL 231 Technical Report Writing[1,2]. 3	
MG 101 Introduction to Business (EDGE) 3		ECN 253 Principles of Macroeconomics[3]. 3	
		MK 130 Fundamentals of Marketing 3	
TOTAL CREDITS. .15		**TOTAL CREDITS. 18**	

SECOND YEAR			
Third Semester		**Fourth Semester**	
AC 210 Managerial Accounting 3		AC 234 Taxation I[4] 3	
ENL 115 Written Communication II[5] 3		FN 231 Business Finance[4] 3	
MAT 145 Applications in Algebra 3		MG 226 Commercial Papers & Transactions 3	
MG 181 Retailing. 3		MG 296 Integrated Business Strategies[7]. 3	
MG 202 Business Organization & Management[6]. .3		MK 279 Advertising and Sales Promotion. 3	
SS 215 Lifespan Psychology. 3			
TOTAL CREDITS. .18		**TOTAL CREDITS. 15**	

HOURS REQUIRED FOR GRADUATION: 66

Transfer to Lewis College of Business after Completion of Associate Degree Requirements			
Fifth Semester		**Sixth Semester**	
MGT 218 Business Statistics 3		FIN 323 Principles of Business Finance 3	
MTH 203 Calculus for Business. 3		International Studies Elective. 3	
American Institutions (Multicultural). . . .3		MIS 290 Principles of Management	
RST 205 Intro to Religious Traditions of the West .3		Information Systems. 3	
CMM Studies Elective 3		Science Elective. 3	
TOTAL CREDITS. .15		Management Elective. 3	
		TOTAL CREDITS. 15	
Seventh Semester		**Eighth Semester**	
LE 308 Commercial Law or (MGT Elective). . . .3		MGT 423 Organizational Development. 3	
MGT 360 Intro to Small Business Management. . . 3		MGT 425 Industrial Relations 3	
MGT 419 Business and Society. 3		MGT 460 Strategic Management. 3	
MGT 420 Operations Management 3		ISC Science Elective 4	
MGT 422 Organizational Human Behavior. 3		American Institutions Elective. 3	
MGT 424 Human Resource Management. 3		International Economic Elective. 3	
TOTAL CREDITS. .18		**TOTAL CREDITS. 19**	

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1. ENL 231 has a prerequisite of ENL 111 or COM 111.
2. COM 235 may be substituted for ENL 231.
3. ECN 253 has a prerequisite of ECN 250.
4. AC 234 and FN 231 have a prerequisite of AC 201.
5. ENL 115 has a prerequisite of ENL 111 or COM 111.
6. MG 202 has prerequisite of MG 101.
7. MG 296 has a prerequisite of 45 credit hours completed in the program.
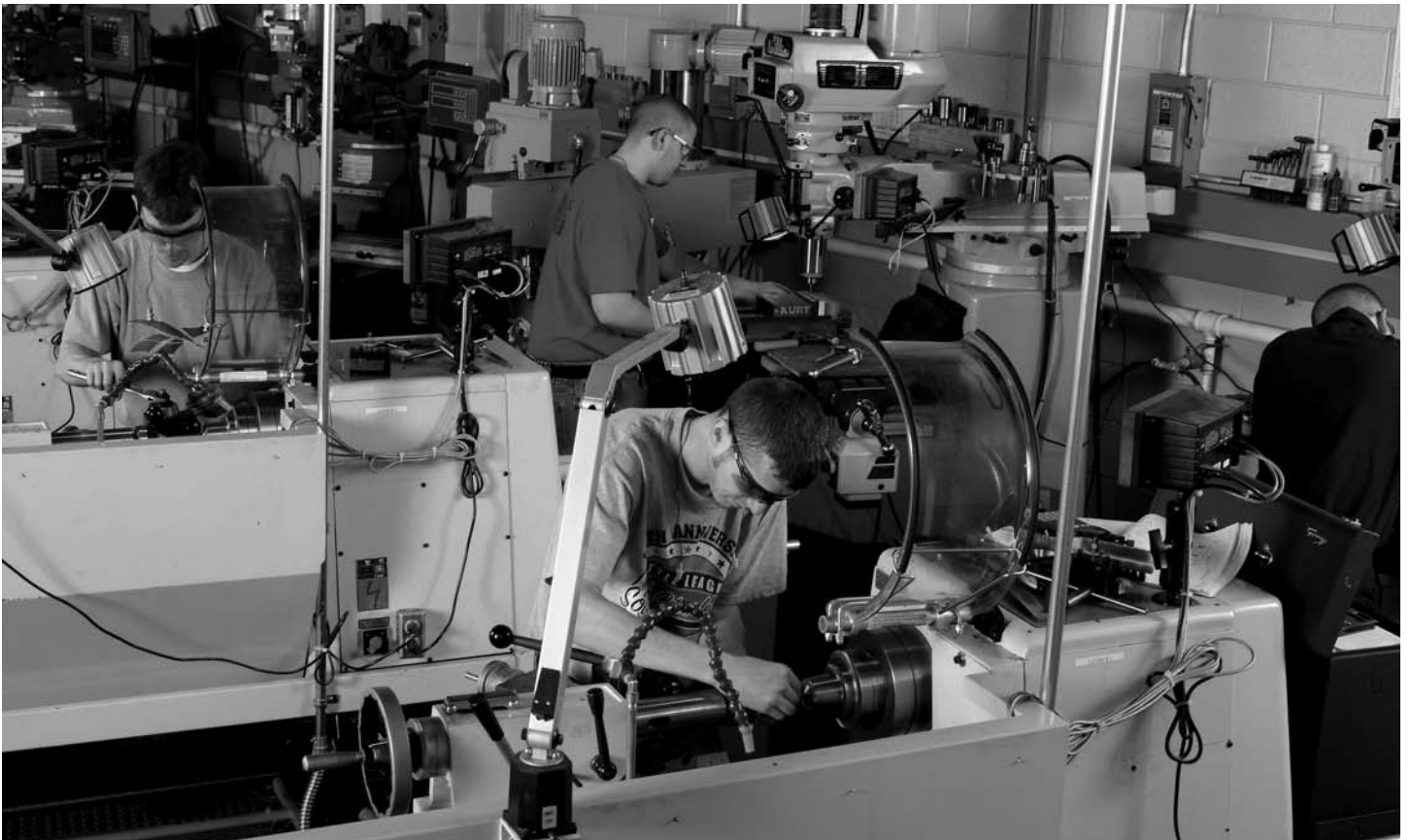
AGRICULTURAL SCIENCE

AIR CONDITIONING/REFRIGERATION

AUTOMOTIVE TECHNOLOGY

BOARD OF GOVERNORS

EARLY CHILDHOOD EDUCATION

ELECTRONICS TECHNOLOGY

Biomedical

Electronics

GENERAL BUILDING CONSTRUCTION

GENERAL/TRANSFER STUDIES

GRAPHIC DESIGN/COMMUNICATION

MACHINIST TECHNOLOGY

MARITIME TRAINING

PUBLIC LIBRARY TECHNOLOGY

SURGICAL TECHNOLOGY

WELDING

General/Technical Studies

AGRICULTURAL SCIENCE

ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Technical Studies Degree, limited to high school students enrolled in the EDGE program, is designed to provide for cooperatively sponsored educational opportunities leading to the Associate in Applied Science degree and/or One-Year Certificate.

Marshall Community & Technical College delivers educational programs in a variety of occupational fields to businesses and industries having an immediate need for such programs.

Components of the program include the following: general education, classroom instruction in a technical core and in the occupational area, and possible on-the-job training.

Technical Studies students must meet all normal admission and performance standards. Credits earned through either the approved apprenticeship programs or through industry-based education and training programs will not be added to the student's collegiate transcript until the student has completed twelve program credit hours from Marshall Community & Technical College and has obtained at least a 2.00 GPA.

The student who graduates with the Associate in Applied Science Degree in Technical Studies will possess:

- Supervisory skills
- Computer software skills
- Relevant essential math skills
- Written and oral communication skills

Career Outlook:
Advancement of agricultural workers depends on motivation and experience. Farm workers who work hard and quickly, have good communication skills, and take an interest in the business may advance to crew leader or other supervisory positions. Some agricultural workers may aspire to become farm, ranch, and other agricultural managers, or farmers or ranchers themselves. In addition, their knowledge of raising and harvesting produce may provide an excellent background for becoming purchasing agents and buyers of farm products. Knowledge of working a farm as a business can help agricultural workers become farm and home management advisors. Those who earn a college degree in agricultural science could become agricultural and food scientists.

Salary Forecast:
Median hourly earnings in May 2006 for each of the occupations found in this statement are as follows:

Agricultural inspectors	$18.36
Animal breeders	$13.02
Agricultural equipment operators	$9.72
Farmworkers, farm and ranch animals	$9.17
Graders and sorters, agricultural products	$8.27
Farmworkers and laborers, crop, nursery, and greenhouse	$7.95

(Information obtained from the Occupational Outlook Handbook 2008-2009)

Vocational Site Partnership:
In addition, Marshall Community & Technical College (MCTC) offers a One-Year Certificate Program and an Associate of Applied Science in Technical Studies in conjunction with its Vocational Site Partnerships in Cabell, Mason, and Wayne counties at Technical Centers and/or high schools through EDGE.

Employment Opportunities:
- Nurseries
- Farms
- Feed & seed stores

AGRICULTURAL SCIENCE

MAJOR CODE – CT20 • CONCENTRATION CODE - CT28

COMPONENT I - General Education[1]

COM 112	Oral Communication.	3
ENL 111	Written Communication.	3
ENL 231	Technical Report Writing[2].	3
IT 101	Fundamentals of Computers (EDGE)	3
MAT/SCI	Electives[3].	6
SS	Social Science[4].	3

TOTAL CREDITS. 21

COMPONENT II - Technical Core

AAT 104	Records Management.	3
HMN 235	Leadership Development Studies[5].	3
ISM 133	Principles of Supervision & Management.	3
MG 101	Introduction to Business (EDGE).	3
MG 202	Business Organization & Management[6].	3
MG 209	Occupational Safety.	3
MK 210	Customer Service[2].	3
MG 226	Commercial Papers & Transactions.	3
MG 233	Personnel Management.	3

TOTAL CREDITS. 9-21

COMPONENT III - Technical/Occupational Specialty[7]
Common Core Courses:
Agriscience & Agriculture Production System Focus:
Agriscience 11 (EDGE)
Agriscience 12 (EDGE)
Agriculture Mechanics Focus:
Agriculture Mechanics I (EDGE)
Agriculture Mechanics II (EDGE)
Animal Processing Focus:
Animal Processing (EDGE)
Food Science and Processing (EDGE)
Agriculture and Natural Resources I (EDGE)
Agriculture and Natural Resources II (EDGE)
Animal Science Focus:
Animal/ Veterinary Science: Large Animals
Small Animal Care and Management (EDGE)
Plant Systems Focus:
Greenhouse Technology (EDGE)
Horticulture (EDGE)

TOTAL COMPONENT III HOURS. 20

COMPONENT IV (Optional) On-the-Job Training in the occupation (1-12 credit hours may be awarded)

A letter verifying completion of contact hours must be recieved by the Associate Dean's Office, located in the Marshall Community & Technical College Advising Center, prior to applying for graduation for credit to be awarded. 160 clock hours equals 1 college credit hour.

HOURS REQUIRED FOR GRADUATION: 60

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Sumeeta Patnaik • MCTC, Room 115
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1. Students must complete a minimum of 3 credit hours with Marshall Community & Technical College to establish academic residency.
2. ENL 231 and MK 210 has a prerequisite of ENL 111, COM 111 or COM 111E.
3. Six total Quantitative Skills/Laboratory Science/Experience credits are required. At least one college-level mathematics course must be selected from: MAT 115, MAT 145, or MAT 150. Students may complete the six credit requirement with a second college-level mathematics course or select from the following: SCI 101, SCI 120 or SCI 201.
4. Select from EC 102, SS 201, SS 210, or SS 215.
5. Required capstone course.
6. MG 202 has a prerequisite of MG 101.
7. Verification of completion of CTE classes with a score of 74% or better on the final exam must be forwarded to West Virginia Community and Technical College System in Charleston, by course instructor.

AIR CONDITIONING REGFRIGERATION

ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Technical Studies Degree, limited to high school students enrolled in the EDGE program, is designed to provide for cooperatively sponsored educational opportunities leading to the Associate in Applied Science degree and/or One-Year Certificate.

Marshall Community & Technical College delivers educational programs in a variety of occupational fields to businesses and industries having an immediate need for such programs.

Components of the program include the following: general education, classroom instruction in a technical core and in the occupational area, and possible on-the-job training.

Technical Studies students must meet admission and performance standards. Credits earned through either the approved apprenticeship programs or through industry-based education and training programs will not be added to the student's collegiate transcript until the student has completed twelve program credit hours from Marshall Community & Technical College and has obtained at least a 2.00 GPA.

Career Outlook:
Job prospects for heating, air-conditioning, and refrigeration mechanics and installers are expected to be good, particularly for those with technical school or formal apprenticeship training. Employment of heating, air-conditioning, and refrigeration mechanics and installers is expected to grow faster than the average for all occupations through the year 2012. As the population and economy grow, so does the demand for new residential, commercial, and industrial climate-control systems. Technicians who specialize in installation work may experience periods of unemployment when the level of new construction activity declines, but maintenance and repair work usually remain relatively stable. People and businesses depend on their climate-control systems and must keep them in good working order, regardless of economic conditions.

Salary Forecast:
Median hourly earnings of heating, air-conditioning, and refrigeration mechanics and installers were $18.11 in May 2006. The middle 50 percent earned between $14.12 and $23.32 an hour. The lowest 10 percent earned less than $11.38, and the top 10 percent earned more than $28.57. Median hourly earnings in the industries employing the largest numbers of heating, air-conditioning, and refrigeration mechanics and installers in 2006 were as follows:

Electrical contractors	$16.74
Hardware, and plumbing and heating equipment and supplies merchant wholesalers	$20.53
Direct selling establishments	$19.12
Plumbing, heating, and air conditioning contracts	$17.46

(Information obtained from Occupational Outlook Handbook 2008-2009)

Program Admission Requirements:
The college adheres to an open admission policy which means applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

Vocational Site Partnership:
In addition, Marshall Community & Technical College offers an Associate in Applied Science, Technical Studies in conjunction with its Vocational Site Partnerships at Technical Centers in Cabell, Mason, Putnam and Wayne counties through EDGE.

AIR CONDITIONING REGFRIGERATION

MAJOR CODE - CT20 • CONCENTRATION CODE - CT24

COMPONENT I - General Education[1]		COMPONENT II - Technical Core	
COM 112 Oral Communication. 3		ENL 115 Written Communications II[2] 3	
ENL 111 Written Communication. 3		ELT 110 Basic Electronics. 3	
ENL 231 Technical Report Writing[2]. 3		HMN 235 Leadership Development Studies[5]. 3	
IT 101 Fundamentals of Computers (EDGE) . .3		ISM 133 Principles of Supervision & Management .3	
MAT/SCI Electives[3]. 6		MG 101 Intro to Business (EDGE). 3	
SS Social Science Elective[4]. 3		MG 202 Business Organization & Management[6] . 4	
		MG 209 Occupational Safety. 3	
		MK 210 Customer Service[2]. 3	
TOTAL CREDITS. 21		**TOTAL CREDITS. 9-21**	
COMPONENT III - Technical/Occupational Specialty[7]		COMPONENT IV- (optional) On-the-Job Training in the occupation (1-12 credit hours may be awarded)	
Fundamentals of Air Conditioning/Refrigeration (EDGE)		A letter verifying completion of contact hours must be	
Basic Control Circuits (EDGE)		received by the Associate Dean's Office, located in the	
Heating Systems (EDGE)		Marshall Community & Technical College Advising Center,	
Domestic Refrigeration (EDGE)		prior to applying for graduation for credit to be awarded.	
		160 clock hours equals 1 college credit hour.	
TOTAL COMPONENT III HOURS. 20			
HOURS REQUIRED FOR GRADUATION: 60			

Employment Opportunities:

- School maintenance
- Direct selling establishments
- Hardware/Plumbing/Heating equipment & supplies merchant/wholesalers
- Self-employment
- Local governments
- Federal government
- Hospitals

Earn a Degree and Graduate Early (EDGE):

This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:

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1. Students must complete a minimum of 3 credit hours with Marshall Community & Technical College to establish academic residency.
2. ENL 115, ENL 231 and MK 210 have a prerequisite of ENL 111 or COM 111.
3. Six total Quantitative Skills/Laboratory Science/Experience credits are required. At least one college-level mathematics course must be selected from: MAT 115, MAT 145, or MAT 150. Students may complete the six credit requirement with a second college-level mathematics course or select from the following: SCI 101, SCI 120 or SCI 201.
4. Select from EC 102, SS 201, SS 210, or SS 215.
5. Required capstone course.
6. MG 202 has prerequisite of MG 101.
7. Verification of completion of CTE classes with a score of 74% or better on the final exam must be forwarded to West Virginia Community and Technical College System in Charleston, by course instructor.

AUTOMOTIVE TECHNOLOGIES

ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Technical Studies Degree, limited to high school students enrolled in the EDGE program, is designed to provide for cooperatively sponsored educational opportunities leading to the Associate in Applied Science degree and/or One-Year Certificate.

Marshall Community & Technical College delivers educational programs in a variety of occupational fields to businesses and industries having an immediate need for such programs.

Components of the program include the following: general education, classroom instruction in a technical core and in the occupational area, and possible on-the-job training.

Technical Studies students must meet admission and performance standards. Credits earned through either the approved apprenticeship programs or through industry-based education and training programs will not be added to the student's collegiate transcript until the student has completed twelve program credit hours from Marshall Community & Technical College and has obtained at least a 2.00 GPA.

Career Outlook:
Job opportunities in this occupation are expected to be very good for persons who complete automotive training programs in high school, vocational and technical schools, or community colleges. Persons with good diagnostic and problem-solving skills, and whose training includes basic electronics skills, should have the best opportunities. For well-prepared people with a technical background, automotive service technician careers offer an excellent opportunity for good pay and the satisfaction of highly skilled work with vehicles incorporating the latest in high technology. However, persons without formal automotive training are likely to face competition for entry-level jobs.

Employment of automotive service technicians and mechanics is expected to increase as fast as the average through the year 2014. Through 2014, demand for technicians will grow as the number of vehicles in operation increases, reflecting continued growth in the number of multi-car families. Growth in demand will be offset somewhat by slowing population growth and the continuing increase in the quality and durability of automobiles, which will require less frequent service. Additional job openings will be due to the need to replace a growing number of retiring technicians, who tend to be the most experienced workers.

Salary Forecast:
Median hourly earnings of automotive service technicians and mechanics, including commission, were $16.24 in May 2006. The middle 50 percent earned between $11.96 and $21.56. The lowest 10 percent earned less than $9.17, and the highest 10 percent earned more than $27.22. Median hourly earnings in the industries employing the largest numbers of service technicians in 2004 were as follows:

Local government, excluding schools	$19.07
Automobile dealers	$18.85
Gasoline stations	$14.51
Automotive repair and maintenance	$14.55
Automotive parts, accessories, and tire stores	$14.38

(Information obtained from Occupational Outlook Handbook 2008-2009)

Admission Requirements:
The college adheres to an open admissions policy which means applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

Vocational Site Partnership:
In addition, Marshall Community & Technical College offers an Associate in Applied Science in Technical Studies in conjunction with its Vocational Site Partnerships at Technical Centers in Cabell, Mason, Putnam and Wayne counties, through EDGE.

AUTOMOTIVE TECHNOLOGIES

MAJOR CODE - CT20 • CONCENTRATION CODE - CT25

COMPONENT I - General Education[1]	COMPONENT II - Technical Core
COM 112 Oral Communication. 3	ENL 115 Written Communications II[2] 3
ENL 111 Written Communication. 3	EC 102 Basic Economics. 3
ENL 231 Technical Report Writing[2]. 3	ELT 110 Basic Electronics. 3
IT 101 Fundamentals of Computers (EDGE) . .3	HMN 235 Leadership Development Studies[5]. 3
MAT/SCI Electives[3]. 6	MG 101 Intro to Business (EDGE). 3
SS Social Science Elective[4]. 3	MG 202 Business Organization & Management[6] . 4
	MG 209 Occupational Safety. 3
	MK 210 Customer Service[2]. 3
TOTAL CREDITS. 21	**TOTAL CREDITS. 9-21**
COMPONENT III - Technical/Occupational Specialty[7]	**COMPONENT IV- (optional)**
Fundamentals of Automotive Technology (EDGE)	**On-the-Job Training in the Occupation**
Suspension and Steering Diagnosis (EDGE)	**(1-12 credit hours may be awarded)**
Brakes (EDGE)	A letter verifying completion of contact hours must be
Basic Engine Concepts (EDGE)	received by the Associate Dean's Office, located in the
	Marshall Community & Technical College Advising Center
TOTAL COMPONENT III HOURS. 20	prior to applying for graduation for credit to be awarded.
	160 clock hours equals 1 college credit hour.

HOURS REQUIRED FOR GRADUATION: 60

Employment Opportunities:
- Automotive technician
- Repair shop owner

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Sumeeta Patnaik • MCTC, Room 115
Phone: 304-696-3025 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: patnaik1@marshall.edu

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1. Students must complete a minimum of 3 credit hours with Marshall Community & Technical College to establish academic residence.
2. ENL 115, ENL 231 and MK 210 have a prerequisite of ENL 111 or COM 111.
3. Six total Quantitative Skills/Laboratory Science Experience credits are required for Technical Studies Degree and General Education Core. At least one college-level mathematics course must be selected from: MAT 115, MAT 145, or MAT 150. Students may complete the six credit requirement with a second college-level mathematics course or select a laboratory science course from the following: SCI 110, SCI 120, or SCI 201.
4. Select from EC 102, SS 201, SS 210, or SS 215.
5. Required capstone course.
6. MG 202 has a prerequisite of MG 101.
7. Verification of completion of CTE classes with a score of 74% or better on the final exam must be forwarded to West Virginia Community and Technical College System in Charleston, by course instructor.

ASSOCIATE IN APPLIED SCIENCE

Program Description:

The Board of Governors Associate in Applied Science Degree is designed to assist adult learners to meet occupational goals, employment requirements, establish professional credentials, or achieve personal goals. This degree provides Marshall Community & Technical College a mechanism to deliver educational programs to nontraditional students desiring to complete their post-secondary education.

This program is available to nontraditional students who have graduated from high school two or more years prior to enrollment. For those students who earned their GED certificate, program application must be at least two years from the date their class would have graduated from high school.

This degree requires participants to complete a minimum of 12 credit hours from a regionally accredited institution of higher education of which three (3) credits hours must be earned at Marshall Community & Technical College with a letter grade of "C" or higher.

Those students desiring to develop specific job skills may opt to earn their degree in an 'Area of Emphasis.' To be eligible for an 'Area of Emphasis' students must complete 15 credit hours of work in an approved occupational concentration. For more information on available 'Area of Emphasis' for this degree, contact the program coordinator at (304) 696-3366.

Students must meet all admission and performance standards. Credits earned through portfolios, military credits, challenge exams, special assessment of licensure/certifications, formal training programs; and CLEP and DANTES exams will be placed on the transcript the semester that the credits are evaluated and awarded. Students must have a GPA of 2.0 or above to graduate.

The student who graduates with the Board of Governors Associate in Applied Science will possess:

- Ability to work collaboratively in groups;
- Computer software skills;
- Communication skills;
- Critical thinking skills;
- Job skills in an optional area of emphasis.

The Board of Governors Associate in Applied Science will seamlessly articulate with the West Virginia Board of Regents Bachelor of Arts Degree and the Bachelor of Applied Science Degree.

BOARD OF GOVERNORS

MAJOR CODE – CG30

COMPONENT I - General Education[1,2]	COMPONENT II - General Electives
English/Communication[3]. . . . . 6 Mathematics/Sciences[4]. .6 Computer Literacy[5] (EDGE). . . . . 3 Social Science/Humanitites[4]. 6	This component consists of credit hours from the following options: Area of Emphasis[6]; portfolio course (TS 101) credits[7], CLEP and DANTES exames, Military Credits, challenge exams, special assessment of licensure/certifications/formal training programs and capstone course[8].
TOTAL CREDITS. 21	**TOTAL CREDITS. 39**
HOURS REQUIRED FOR GRADUATION: 60	

Employment Opportunities:
- Enhanced skills for work environment
- Transferable to RBA degree

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Steven Brown • Cabell Hall, Room 110
Phone: 304-696-3366 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: brown175@marshall.edu

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1. This program is available to students who have graduated from high school two or more years prior to enrollment. For those students who earned their GED certificate, it must be two years from the   date their class would have graduated from high school.
2. To fulfill residency requirements, a minimum of 12 credit hours must be completed from a regionally accredited higher educational institution. Further, 3 of these 12 credit hours must be completed with Marshall Community & Technical College.
3. ENL 111 or COM 111 and COM 112 may be used to fulfill the Communication's requirements.
4. Students must complete a total of six (6) credit hours in one or a combination of both subject areas.
5. IT 101 may be used to fulfill the Computer Literacy requirements.
6. A minimum of 15 credit hours are required for an Area of Emphasis.
7. Student desiring to submit a portfolio for credit evaluation must enroll in a portfolio development course (TS 101) that will count as one of the General Electives credits.
8. Students seeking college credit for "Adult Equivalent Learning," should contact Steven Brown, program coordinator at (304) 696-3366, for more infor-mation on nontraditional education opportunities and options.

EARLY CHILDHOOD EDUCATION

ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Associate in Applied Science in Early Childhood Education degree consists of 62 credit hours and is approximately one half of the curriculum required for a Bachelor of Arts in Education. The degree is designed to allow the holder to serve in a support capacity including, but not limited to, facilitating instruction and direct or indirect supervision of pupils under the direction of an educator. This program is designed to allow a seamless transfer to the baccalaureate degree at Marshall University.

Career Description:
Childcare workers nurture and care for children who have not yet entered formal schooling and also work with older children in before- and after-school situations. These workers play an important role in a child's development by caring for the child when parents are at work or away for other reasons. In addition to attending to children's basic needs, childcare workers organize activities that stimulate children's physical, emotional, intellectual, and social growth. They help children explore individual interests, develop talents and independence, build self-esteem, and learn how to get along with others.

As childcare workers gain experience, some may advance to supervisory or administrative positions in large childcare centers or preschools. Often, these positions require additional training, such as a bachelor's or master's degree. Other workers move on to work in resource and referral agencies, consulting with parents on available child services. A few workers become involved in policy or advocacy work related to childcare and early childhood education. With a bachelor's degree, workers may become preschool teachers or become certified to teach in public or private schools. Some workers set up their own childcare businesses.

Career Outlook:
High replacement needs should create good job opportunities for childcare workers. Qualified persons who are interested in this work should have little trouble finding and keeping a job. Employment of childcare workers is projected to increase about as fast as the average for all occupations through the year 2014. The number of women in the labor force of childbearing age and the number of children less than 5 years of age are both expected to rise over the next 10 years. There is also an increasing emphasis on early childhood education programs. There is likely to be a rise in enrollment in private preschools as the value of formal education before kindergarten becomes more widely accepted.

Salary Forecast:
Pay depends on the educational attainment of the worker and the type of establishment. Although the pay generally is very low, more education usually means higher earnings. Median hourly earnings of wage and salary childcare workers were $8.06 in May 2004. The middle 50 percent earned between $6.75 and $10.01. The lowest 10 percent earned less than $5.90, and the highest 10 percent earned more than $12.34. Median hourly earnings in the industries employing the largest numbers of childcare workers in 2004 were as follows:

Other residential care facilities	$9.66
Other amusement and recreation industries	$7.58
Elementary and secondary schools	$9.22
Child daycare services	$7.34
Civic and social organizations	$7.62

Earnings of self-employed childcare workers vary depending on the hours worked, the number and ages of the children, and the location.

Benefits vary, but are minimal for most childcare workers. Many employers offer free or discounted child care to employees. Some offer a full benefits package, including health insurance and paid vacations, but others offer no benefits at all. Some employers offer seminars and workshops to help workers learn new skills. A few are willing to cover the cost of courses taken at community colleges or technical schools. Live-in nannies receive free room and board.

Employment Opportunities:
* Childcare workers
* Child daycare services
* Preschool employment

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

EARLY CHILDHOOD EDUCATION

EARLY CHILDHOOD EDUCATION
MAJOR CODE – CE30

FIRST YEAR[1,2,12]	
Fall Semester	**Spring Semester**
ENL 111 Written Communication. 3	ENL 115 Written Communications II[5] 3
IT 101 Fundamentals of Computers (EDGE). . .3	EDUC 204 Parenting[4],*. 3
COM 112 Oral Communication. 3	EDUC 105 Comp Instruction Technology
EDUC 150 Foundations of Early Childhood* 3	in Classroom[3] 3
EME 105 First on Scene*. 3	SS 215 Lifespan Psychology. 3
TOTAL CREDITS. 15	HST 103 The World Since 1850. 3
	TOTAL CREDITS. 15
SECOND YEAR	
Fall Semester	**Spring Semester**
ENL 240 Literature of American Pop Culture[5]. . .3	AH 220 Basic Nutrition. 3
EDUC 225 Development of Young Children[6],* . . . 3	EDUC 261 The Exceptional Child[9]. 3
HMN 235 Leadership Studies[5] 3	EDUC 299 Capstone[10]. 3
EDUC 270 Level 1 Clinical Experience[7]. 3	SCI 201 Integrated Science[11]. 4
MAT 150 Applied Professional Mathematics. 3	SS 210 Fundamentals of Sociology. 3
Lab Science[8]. 4	
TOTAL CREDITS. 19	**TOTAL CREDITS. 16**
HOURS REQUIRED FOR GRADUATION: 65	

Contact Information:
Sarah Dick • MCTC, Room 127
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1. Students wishing to continue onto the bachelor program in Early Childhood Education please note the Teacher Education admission requirements on the College of Education and Human Services Website http://www.marshall.edu/coehs/academics/certification/levelrequirements/default.asp
2. EDUC 120 has a pre-requisite of ENL 094 and/or 095.
3. EDUC 105 has a prerequisite of IT 101.
4. EDUC 204 has a prerequisite of EDUC 120 and ENL 111.
5. ENL 115 and HMN 235 have a prerequisite of COM 111, ENL 111 or ENG 101. ENL 240 has a prerequisite of ENL 115 or ENG 102.
6. EDUC 225 has a prerequisite of 204.
7. EDUC 270 has a co-requisite of EDUC 225 or SS 215 for ACDS students.
8. Either SCI 110 or BIOL 260 or 265 may be taken.
9. EDUC 261 has a prerequisite of EDUC 225.
10. EDUC 299 by permission
11. SCI 201 has a prerequisite of MAT 145 or MAT 150.
12. To graduate and/or facilitate seamless transfer to Marshall University College of Education and Human Services students must obtain a "C" or better in all EDUC courses and SS 215.

Only students who began Apprenticeship Child Development Specialist classes Fall 2002 or after will receive credit for these courses upon completion of their certificate.

ELECTRONICS TECHNOLOGY

BIOMEDICAL ELECTRONICS - ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Electronics Technology program is offered in cooperation with the Cabell County Career Technology Center (CCCTC). The CCCTC is responsible for providing the electronics courses and electronics laboratories. Marshall Community & Technical College provides support courses that enhance a student's analytical, communication, computer, customer service, and interpersonal skills.

Upon completion of the Associate of Applied Science Degree in Electronics Technology, the graduate will be able to:

- Exhibit knowledge of electronic terminology;
- Demonstrate a working knowledge of the proper techniques for maintaining, troubleshooting, and repairing electronic devices through proper use of schematic diagrams and common test equipment;
- Apply quantitative principles to analyze and solve problems;
- Make decisions after gathering and analyzing information;
- Prepare and present written and oral communication;
- Demonstrate teamwork and customer service skills.

Career Outlook:
Electronics Technician is one of today's fastest growing careers, a career that can provide not only a great salary and job security but also exciting work in a field that is always growing and changing. This field has many opportunities including maintenance, design, service and sales in commercial, manufacturing and process industries.

The following industries employ electronic technicians: computer industry, consumer electronics industry, robotics industry, utility companies, health care, broadcast, manufacturing, aerospace, automotive, mining, office equipment, waste-treatment, and any other industries that use electrical/electronic systems.

Salary Forecast:
- Low Range $21,710 to $27,680
- Mid Range $27,680 to $45,750
- High Range $45,750 to $62,540

Tech Prep Affiliation:
The Electronics Technology program is aligned with the West Virginia Tech Prep Engineering/Technical cluster. This career track provides the opportunity for West Virginia students to acquire college credit while attending high school.

BIOMEDICAL/ELECTRONICS TECHNOLOGY

MAJOR CODE - CE10 • CONCENTRATION CODE - CE13

<table>
<tr><td colspan="2">FIRST YEAR</td></tr>
<tr>
<td valign="top">

First Semester
ENL 111 Written Communication. 3
ELT 111 Direct Current Circuit Analysis[1]. 4
ELT 111L Direct Current Electronics Lab. 2
IT 101 Fundamentals of Computers (EDGE). . .3
MAT 145 Applications in Algebra. 3
SS Social Science Elective[2]. 3
TOTAL CREDITS. .18

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<td valign="top">

Second Semester
COM 112 Oral Communication 3
ELT 121 Alternating Current Circuit Analysis[1,3] 4
ELT 121L Alternating Current Electronics Lab. . . .2
MAT 215 Applied Discrete Mathematics[4] 3
SCI 110 Intro to Physics[4] 4
TOTAL CREDITS. 16

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</tr>
<tr><td colspan="2">SECOND YEAR</td></tr>
<tr>
<td valign="top">

Third Semester
IT 131 Intro to Networking[5]. 4
ELT 131 Analog Circuits[1,6]. 5
ELT 131L Analog Circuits Lab 1
ELT 211 Combinational Logic Circuits[1,7] 5
ELT 211L Combinational Logic Circuits Lab. 2
IT 270 Computer Repair[5] (EDGE). 3
TOTAL CREDITS. 20

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Fourth Semester
AH 151 Medical Terminology (EDGE). 3
ELT 222 Intro to Microprocessor[8]. 4
ELT 223 Biomedical Instrumentation[9]. 3
ELT 299 Electronic Technology Internship. 3
BIOL 257 Intro to Anatomy & Physiology. 3
TOTAL CREDITS. 16

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</tr>
<tr><td colspan="2" align="center">HOURS REQUIRED FOR GRADUATION: 70</td></tr>
</table>

Employment Opportunities:

- Bench technician
- Design technician
- Process control technician
- Bio-medical technician
- Maintenance technician
- Electronics trainers

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Carol Perry • MCTC, Room 129
Phone: 304-696-3018 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: perry@marshall.edu

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1. ELT 111, ELT 121, ELT 131 and ELT 211 must be taken concurrently with their respective labs: ELT 111L, ELT 121L, ELT 131L and ELT 211L.
2. Social Science requirement: Select from EC 102, SS 201, SS 210, or SS 215.
3. ELT 121 has a prerequisite of ELT 111.
4. MAT 215 and SCI 110 have a prerequisite of MAT 145.
5. IT 131 and IT 270 have a prerequisite of IT 101
6. ELT 131 has a prerequisite of ELT 121.
7. ELT 211 has a prerequisite of ELT 131 and MAT 215.
8. ELT 222 has a prerequisite of ELT 211.
9. ELT 223 has a prerequisite of ELT 211 and ELT 211L.

ELECTRONICS

ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Electronics Technology program is offered in cooperation with the Cabell County Career Technology Center (CCCTC). The CCCTC is responsible for providing the electronics courses and electronics laboratories. Marshall Community & Technical College provides support courses that enhance a student's analytical, communication, computer, customer service, and interpersonal skills.

Upon completion of the Associate of Applied Science Degree in Electronics Technology, the graduate will be able to:

*   Exhibit knowledge of electronic terminology;
*   Demonstrate a working knowledge of the proper techniques for maintaining, troubleshooting, and repairing electronic devices through proper use of schematic diagrams and common test equipment;
*   Apply quantitative principles to analyze and solve problems;
*   Make decisions after gathering and analyzing information;
*   Prepare and present written and oral communication;
*   Demonstrate teamwork and customer service skills.

Career Outlook:
Electronics Technician is one of today's fastest growing careers, a career that can provide not only a great salary and job security but also exciting work in a field that is always growing and changing. This field has many opportunities including maintenance, design, service and sales in commercial, manufacturing and process industries.

The following industries employ electronic technicians: computer industry, consumer electronics industry, robotics industry, utility companies, health care, broadcast, manufacturing, aerospace, automotive, mining, office equipment, waste-treatment, and any other industries that use electrical/electronic systems.

Salary Forecast:
Low Range	$21,710 to $27,680
Mid Range	$27,680 to $45,750
High Range	$45,750 to $62,540

Tech Prep Affiliation:
The Electronics Technology program is aligned with the West Virginia Tech Prep Engineering/Technical cluster. This career track provides the opportunity for West Virginia students to acquire college credit while attending high school.

ELECTRONICS

MAJOR CODE – CE10

FIRST YEAR	
First Semester ENL 111 Written Communication. . . . . . .3 ELT 111 Direct Current Circuit Analysis[1]. . . . . .4 ELT 111L Direct Current Electronics Lab. . . . . . 2 IT 101 Fundamentals of Computers (EDGE). . .3 MAT 145 Applications in Algebra. . . . . .3 SS Social Science Elective[2]. . . . . . . 3 **TOTAL CREDITS. .18**	**Second Semester** COM 112 Oral Communication . . . . .3 ELT 121 Alternating Current Circuit Analysis[1,3] . . . .4 ELT 121L Alternating Current Electronics Lab. . . .2 MAT 215 Applied Discrete Mathematics[4] . . . . .3 SCI 110 Intro to Physics[4] . . . . .4 **TOTAL CREDITS. 16**
SECOND YEAR	
Third Semester IT 131 Intro to Networking[5]. . . . . .4 ELT 131 Analog Circuits[1,6]. . . . . 5 ELT 131L Analog Circuits Lab . . . . .1 ELT 211 Combinational Logic Circuits[1,7] . . . . . . .5 ELT 211L Combinational Logic Circuits Lab. . . . . .2 IT 270 Computer Repair[5] (EDGE). . . . . .3 **TOTAL CREDITS. 20**	**Fourth Semester** ELT 222 Intro to Microprocessor[8]. . . . . . . 4 ELT 299 Electronic Technology Internship. . . . . .3 IT 276 Computer Maintenance[9] (EDGE) . . . . . 3 Approved Elective. . . . . .6 **TOTAL CREDITS. 16**
HOURS REQUIRED FOR GRADUATION: 70	

Employment Opportunities:

- Bench technician
- Design technician
- Process control technician
- Bio-medical technician
- Maintenance technician
- Electronics trainers

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Carol Perry • MCTC, Room 129
Phone: 304-696-3018 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: perry@marshall.edu

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1. ELT 111, ELT 121, ELT 131 and ELT 211 must be taken concurrently with their respective labs: ELT 111L, ELT 121L, ELT 131L and ELT 211L.
2. Select from EC 102, SS 201, SS 210, or SS 215.
3. ELT 121 has a prerequisite of ELT 111.
4. MAT 215 and SCI 110 have a prerequisite of MAT 145.
5. IT 131 and IT 270 have a prerequisite of IT 101.
6. ELT 131 has a prerequisite of ELT 121.
7. ELT 211 has a prerequisite of ELT 131 and MAT 215.
8. ELT 222 has a prerequisite of ELT 211.
9. IT 276 has a prerequisite of IT 270.

GENERAL BUILDING CONSTRUCTION

ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Technical Studies Degree, limited to high school students enrolled in the EDGE program, is designed to provide for cooperatively sponsored educational opportunities leading to the Associate in Applied Science degree and/or one-year Certificate. Marshall Community & Technical College delivers educational programs in a variety of occupational fields to businesses and industries having an immediate need for such programs.

Components of the program include the following: general education, classroom instruction in a technical core and in the occupational area, and possible on-the-job training.

Technical Studies students must meet admission and performance standards. Credits earned through either the approved apprenticeship programs or through industry-based education and training programs will not be added to the student's collegiate transcript until the student has completed twelve program credit hours from Marshall Community & Technical College and has obtained at least a 2.00 GPA.

Career Outlook:
Job opportunities are expected to be excellent in the construction industry, especially for workers with training and experience in construction occupations, due largely to the numerous openings arising each year as experienced construction workers leave their jobs. Further, many potential workers may prefer work that is less strenuous and has more comfortable working conditions. The continued shortage of adequate training programs also will contribute to the favorable job market.

Salary Forecast:
Earnings in construction are significantly higher than the average for all industries. Production or non-supervisory workers in construction average $18.51 an hour, or about $712 a week. Average earnings of workers in the specialty trade contractors segment were somewhat higher than those of workers employed by building or heavy and civil engineering construction contractors.

Earnings of workers in the construction industry vary by the education and experience of the worker, type of work, the size and nature of the construction project, geographic location, and economic conditions. Earnings of construction trade workers are often affected by poor weather. Heavy rain may slow or even stop work on a construction project. Traditionally, winter is the slack period for construction activity, especially in colder parts of the country, but there is a trend toward more year-round construction even in colder areas. Because construction trades are dependent on one another—especially on large projects—work delays in one trade delay or stop work in another.

Nineteen percent of construction trades workers are union members or covered by union contracts, compared with about 15 percent of workers throughout private industry. Many different unions represent the various construction trades and form joint apprenticeship committees with local employers to supervise apprenticeship programs.

(Information obtained from the Occupational Outlook Handbook 2008-2009)

Program Admission Requirements:
The college adheres to an open admissions policy which means applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

Vocational Site Partnerships:
In addition, Marshall Community & Technical College offers a One-Year Certificate Program and an Associate of Applied Science in Technical Studies in conjunction with its Vocational Site Partnerships in Cabell, Mason, Putnam and Wayne counties through EDGE.

GENERAL BUILDING CONSTRUCTION

MAJOR CODE - CT20 • CONCENTRATION CODE - CT26

COMPONENT I - General Education[1]	COMPONENT II - Technical Core
COM 112 Oral Communication. 3	HMN 235 Leadership Studies[5] 3
ENL 111 Written Communication. 3	EC 102 Basic Economics. 3
ENL 231 Technical Report Writing[2]. 3	ELT 111 Direct Current Circuit Analysis. 3
IT 101 Fundamentals of Computers (EDGE). . .3	ELT 111L DIrect Current Electronics Lab 3
MAT/SCI Electives[3]. 6	ISM 133 Principles of Supervision & Management. .3
SS Social Science Elective[4]. 3	MG 101 Intro to Business (EDGE) 3
TOTAL CREDITS. 21	MG 202 Business Organization and Management[6].3
	MK 210 Customer Service[2]. 6
	SS 201 Human Relations. 3
	TOTAL CREDITS. 9-21
COMPONENT III - Technical/Occupational Specialty[7]	COMPONENT IV- (Optional) On-the-Job Training in the Occupation (1-12 credit hours may be awarded)
Fundamentals of building Construction (EDGE)	A letter verifying of contact hours must be recieved by the
Masonry and Plumbing (EDGE)	Associate Dean's Office, located in the Marshall Communi-
Foundation and Framing (EDGE)	ty & Technical College Advising Center prior to graduation
Finishing and Carpentry (EDGE)	for credit to be awarded. 160 clock hours equals 1 college
TOTAL COMPONENT III HOURS. 20	credit hour.
HOURS REQUIRED FOR GRADUATION: 60	

Employment Opportunities:
General building construction

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Sumeeta Patnaik • MCTC, Room 115

Phone: 304-696-3024 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: patnaik1@marshall.edu

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1. Students must complete a minimum of 3 credit hours with Marshall Community & Technical College to establish academic residency.
2. ENL 231 and MK 210 have a prerequisite of ENL 111 or COM 111.
3. Six total Quantitative Skills/Laboratory Science/Experience credits are required. At least one college-level mathematics course must be selected from: MAT 115, MAT 145, or MAT 150. Students may complete the six credit requirement with a second college-level mathematics course or select from the following: SCI 101, SCI 120 or SCI 201.
4. Select from SS 201, SS 210, 215 or EC 102.
5. Required Capstone Course.
6. MG 202 has a prerequisite of MG 101
7. Verification of completion of CTE classes with a score of 74% or better on the final exam must be forwarded to West Virginia Community and Technical College System in Charleston, by course instructor.

GENERAL/TRANSFER STUDIES

ASSOCIATE IN APPLIED SCIENCE

Program Description:
A degree in General/Transfer Studies can establish the foundation for a lifetime of continual learning and serve as the framework for a productive professional and personal life. This degree is for the student who:

- Is planning to earn a baccalaureate degree at a four-year institution
- Has educational needs not covered by more specific technical programs
- Finds access to the main campus for instruction physically challenging
- Is not ready to declare a major

The degree requires 63 credit hours of General Education core courses: 45 of the credit hours provide the student with a broad background in written and oral communication, humanities, social science, sciences/mathematics, and computer competency; 18 credit hours of 100-level or higher courses are required to complete the degree. The A. A. degree utilizes both on-site as well as distance education.

Career Outlook:
Many businesses and industries seek well-rounded employees whose maturity level and communication and decision-making skills are a step above those of traditional high school graduates. The Associate in Arts Degree in Transfer Studies provides graduates with enhanced work skills without requiring the larger commitment of time or money necessary for a bachelor's degree. This degree is ideal for currently employed high school graduates who need a college degree to advance in their positions.

Program Admission Requirements:
The college adheres to an open admissions policy which means applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

Available On-line:
A unique feature of the Associate in Arts in Transfer Studies is that the degree may be obtained completely on-line. Through Marshall Community & Technical College courses, MUOnline courses, and Kentucky Community and Technical College System courses offered through the Kentucky Virtual University, the student is not required to come to campus. The courses allow a flexible schedule to fit the students busy lifestyles and personal time demands. It also allows the opportunity to obtain a degree for those students who, because of transportation problems or other obligations, might be unable to do so.

GENERAL/TRANSFER STUDIES

MAJOR CODE – CG10

COMPONENT I - General Education[1,10]		GENERAL EDUCATION ELECTIVES[4]	
ENL 111 Written Communication.	3	Social Science Electives[5].	9
COM 112 Oral Communication.	3	Humanities Electives[6].	6
ENL 115 Written Communication II[2].	3	Math Restricted Elective[7].	3
IT 101 Fundamentals of Computers (EDGE).	3	Natural Science Electives[8].	4-8
SS 210 Fundamentals of Sociology[3].	3	General Education Electives.	2-5
SS 215 Lifespan Pyschology.	3		
		TOTAL CREDITS. 23-31	
		COMPONENT II - Electives	
TOTAL CREDITS. 18		Student should select 18 hours from any course 100-level or higher[9]	
HOURS REQUIRED FOR GRADUATION: 63			

Employment Opportunities:
• Transfer to 4-year program

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Betty Dennison • MCTC, Room 133
Phone: 304-696-2665 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: dennisonb@marshall.edu

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1. This degree can be completed totally on-line or in a classroom setting. Students seeking to complete an on-line degree should contact the MCTC Advising Center for assistance in planning their schedules.
2. ENL 115 has a prerequisite of ENL 111 or COM 111.
3. SS 210 is designated multicultural and fulfills the Marshall Plan requirement.
4. Students should use courses for these electives to fulfill Marshall Plan requirements if preparing to transfer to Marshall University B.A. programs.
5. Social Science Elective: Select from MCTC/KYV on-line 100/200-level social science courses or Marshall University (MU) on-campus or on-line 100/200 level social science courses. See Transfer Studies On-Line Advising Guide for approved courses.
6. Humanities Elective: Select from ENL 240, MCTC/KYV on-line arts, classics, foreign language, music, philosophy, or theater courses or MU on-campus or on-line courses. See Transfer Studies On-Line Advising Guide for approved courses.
7. Math Restricted Elective: Select from MAT 145, MAT 146, MAT 150, or MAT 210. See Transfer Studies On-Line advising guide for approved math elective.
8. Natural Science Electives: Select from SCI 201 or a MCTC/KYV lab science on-line course. See Transfer Studies On-Line Advising Guide for approved courses.
9. Students are advised to consult the college catalog of the institution to which they plan to transfer to determine appropriate elective courses for their intended major. Students should also consult their academic advisor regarding required prerequisites for coursework.
10. Students should review the list of MCTC/MU courses currently available through on-line delivery. Contact MCTC Advising Center for information.

GRAPHIC DESIGN/GRAPHIC COMMUNICATION

ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Technical Studies Degree, limited to high school students enrolled in the EDGE program, is designed to provide for cooperatively sponsored educational opportunities leading to the Associate in Applied Science degree and/or One-Year Certificate.

Marshall Community & Technical College delivers educational programs in a variety of occupational fields to businesses and industries having an immediate need for such programs.

Components of the program include the following: general education, classroom instruction in a technical core and in the occupational area, and possible on-the-job training.

Technical Studies students must meet all normal admission and performance standards. Credits earned through either the approved apprenticeship programs or through industry-based education and training programs will not be added to the student's collegiate transcript until the student has completed twelve program credit hours from Marshall Community & Technical College and has obtained at least a 2.00 GPA.

The student who graduates with the Associate in Applied Science Degree in Technical Studies will possess:
• Supervisory skills
• Computer software skills
• Relevant essential math skills
• Written and oral communication skills

Vocational Site Partnerships:
In addition, Marshall Community & Technical College (MCTC) offers a One-Year Certificate Program and an Associate of Applied Science in Technical Studies in conjunction with its Vocational Site Partnerships at Technical Centers in Cabell, Mason, Putnam and Wayne counties through EDGE.

GRAPHIC DESIGN/GRAPHIC COMMUNICATION

MAJOR CODE - CT20 • CONCENTRATION CODE - CT27

COMPONENT I - General Education[1]	
COM 112	Oral Communication. 3
ENL 111	Written Communication. 3
ENL 231	Technical Report Writing[2]. 3
IT 101	Fundamentals of Computers (EDGE). . .3
MAT/SCI	Electives[3]. 6
SS	Social Science Elective[4]. 3
TOTAL CREDITS. 21	

COMPONENT II - Technical Core		
AAT	255	Desktop Publishing[5] 3
ENL	115	Written Communications II[2]. 3
HMN	235	Leadership Development Studies[6] 3
ID	110	Perspective Drawing Techniques. 3
ID	120	Advanced Perspective Drawing[7]. 3
IT	107	Fundamentals of the Internet 3
IT	212	Publishing on the Internet[8]. 3
IT	240	Internet Data Communications[8]. . . . 6
MG	101	Intro to Business (EDGE). 3
MG	209	Occupational Safety. 3
TOTAL CREDITS. 9-21		

COMPONENT III - Technical/Occupational Specialty[9]
Common Core Course:
Fundamentals of Graphic Design and Procedures (EDGE)
Graphic Design Focus:
Basic Illustration[1] (EDGE)
Illustration[1] (EDGE)
Graphic Design[1] (Edge)
Graphic Communication Focus:
Basic Darkroom Procedures (EDGE)
Image Assembly and Plate Making (EDGE)
Offset Press and Bindery Operations (EDGE)
TOTAL COMPONENT III HOURS. 20

COMPONENT IV- (Optional) On-the-Job Training in the Occupation (1-12 credit hours may be awarded)
A letter verifying contact hours must be recieved by the Associate Dean's Office, located in the Marshall Community & Technical College Advising Center prior to graduation for credit to be awarded. 160 clock hours equals 1 college credit hour.

HOURS REQUIRED FOR GRADUATION: 60

Employment Opportunities:
- Print shops
- Advertising agency
- Newspaper

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Sumeeta Patnaik • MCTC, Room 115
Phone: 304-696-3024 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: patnaik1@marshall.edu

1. Students must complete a minimum of 3 credit hours with Marshall Community & Technical College to establish academic residency.
2. ENL 115 and ENL 231 have a prerequisite of ENL 111 or COM 111.
3. Six total Quantitative Skills/Laboratory Science Experience credits are required for Technical Studies Degree and General Education Core. At least one college-level mathematics course must be selected from: MAT 115, MAT 145, or MAT 150. Students may complete the six credit requirements with a second college-level mathematics course or select a laboratory science course from the following: SCI 110, SCI 120, or SCI 201.
4. Select from EC 102, SS 201, SS 210, or SS 215
5. AAT 255 has prerequisite of IT 101.
6. Required capstone course.
7. ID 120 has a prerequisite of ID 110.
8. IT 212 and IT 240 have prerequisite of IT 107.
9. Verification of completion of CTE classes with a score of 74% or better on the final exam must be forwarded to West Virginia Community and Technical College System in Charleston, by course instructor.

MACHINIST TECHNOLOGY

ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Machinist Technology Program at the Robert C. Byrd Institute for Advanced Flexible Manufacturing (RCBI) is an industry-driven, hands-on program that prepares individuals to meet the rigorous demands of the manufacturing sector. An element of the RCBI program enables students to earn an Associate in Applied Science degree in Technical Studies by completing additional course work through Marshall Community & Technical College.

Adhering to standards set by the National Institute for Metalworking Skills (NIMS), the RCBI program provides individuals the technical skills they need to enter a shop floor setting and begin work immediately upon graduation. Placement opportunities are excellent according to the Bureau of Labor Statistics which reports that 30,000 jobs go unfilled each year.

Participants in the Machinist Technology program receive technical skills training to work in industrial machining. Course work includes manual machine operation and technical support, introductory CNC (computer-numerical-control) machine operation and technical support, industrial communications and organizational skills, mathematics for machinists, and safety issues.
Working closely with an 11-member industry-based advisory board, RCBI designed the program's core technical components so they meet the manufacturing sector's needs.

Comprehensive full- and part-time programs are available, thus enabling current workforce members to improve their technical skills and develop professionally while helping their employers become more competitive.

Career Outlook:
Despite projected slower-than-average employment growth, job opportunities for machinists should continue to be excellent. The number of workers obtaining the skills and knowledge necessary to fill machinist jobs is expected to be less than the number of job openings arising each year from employment growth and from the need to replace experienced machinists who transfer to other occupations or retire.

Salary Forecast:
Median hourly earnings of machinists were $16.33 in 2004. The middle 50 percent earned between $12.84 and $20.33. The lowest 10 percent earned less than $10.08, while the top 10 percent earned more than $24.34. Median hourly earnings in the manufacturing industries employing the largest number of machinists in 2004 were:

Metalworking machinery manufacturing	$17.06
Machine shops; turned product; and screw, nut, and bolt manufacturing	$15.87
Motor vehicle parts manufacturing	$17.46
Employment services	$11.09

Program Admission Requirements:
The Machinist Technology Program has admission and candidacy requirements in addition to the Marshall Community & Technical College admission guidelines.

Tech Prep Affiliation:
The Machinist Technology Program is aligned with the West Virginia Tech Prep Engineering/Technical Cluster.

MACHINIST TECHNOLOGY

MAJOR CODE - CT20 • CONCENTRATION CODE - CT21

FIRST YEAR	
First Semester IT 101 Fundamentals of Computers (EDGE) . . . .3 MAT 135 Mathematics for Machinist Technology[1]. .6 MT 105 Industrial Safety (EDGE). . . . . .2 MT 121 Intro to Machinery[1] (EDGE). . . . . . . .4 MT 200 Blueprint Reading (EDGE). . . . . . .3 MT 205 Precision Management (EDGE). . . . . . .3 **TOTAL CREDITS. 21**	**Second Semester** COM 112 Oral Communication . . . . .3 ENL 231 Technical Report Writing[2]. . . . . .3 MT 215 Metal Working Theory and Applications[1] .12 **TOTAL CREDITS. 18**
SECOND YEAR	
Third Semester MFE 220 Computer Aided Design I. . . . . .4 MT 223 Advanced Technical Specialization[3]. . . 6 MT 233 NIMS Credentialing[1,4]. . . . . .6 ISM 133 Principles of Supervision & Management[5].3 **TOTAL CREDITS. 19**	**Fourth Semester** MT 289 Internship for Machinist[1]. . . . . .6 Social Science Elective[6] . . . . .3 **TOTAL CREDITS. 9**
HOURS REQUIRED FOR GRADUATION: 67	

Employment Opportunities:

Entry-level positions for which graduates will compete include:

- Manual machinist
- CNC machinist
- Industrial sales representative
- Auto plant
- Machinist shop
- Fabricator

Earn a Degree and Graduate Early (EDGE):

This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:

Ed Black
Phone: 304-781-1690 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: eblack@rcbi.org

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1.   MAT 135, MT 121, MT 215, MT 233, and MT 289 have a prerequisite of instructor permission.
2.   ENL 231 has a prerequisite of ENL 111 or COM 111. This prerequisite may be waived for Machinist Technology majors. See advisor for information.
3.   MT 223 has a prerequisite of MT 215.
4.   NIMS Credentialing (National Institute for Metalworking Skills) students must be certified in at least three different skill areas as recognized by NIMS.
5.   SS 201 may be substituted for ISM 133.
6.   Choose at least one of the following: on campus: EC 102, SS 210, or SS 215; online: EC 102, HST 102, HST 103, HST 230, PSC 104, PSY 201, SOC 200, SS 201.

MARITIME TRAINING OPTION

ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Maritime Training in Technical Studies program provides training to career-oriented individuals interested in obtaining an Associate in Applied Science Degree in inland marine related subjects. Individuals typically start out as deckhands and can progress to positions of greater responsibility based upon experience and meeting US Coast Guard regulated licensing requirements. Deckhands are responsible for rigging barges, maintaining barges once underway, and performing routine maintenance on towboats and barges.

Career Outlook:
The job outlook is expected to remain competitive for jobs in water transportation occupations. Increased river traffic (expected to grow 1.1% per year along the Ohio River through the year 2060) plus an aging workforce will provide opportunities for employment to both entry-level and tenured workers.

Salary Forecast:
The following annual pay and benefits information was provided by the inland marine industry:

Master	$90,000
Pilot	$70,000
Mate	$36,000
Engineer	$45,000
Tankerman	$41,000
Deckhand	$25,000

Salaries may vary depending on location, experience, and amount of education. Workers can also expect to receive varying amounts of production and safety bonuses and cost-share medical benefits. The annual pay and benefits vary by company. Please note that inland marine workers typically work only 8 months out of the year.

Program Admission Requirements:
The maritime worker is responsible for movement of huge amounts of cargo, as well as passengers, within the nation. The barge and towing industry provides:

- Extended time-off to its workers. When working, they are usually on duty for 6-hour periods, 24 hours a day, for up to 21 days. After each completed work schedule on board a towboat, workers have several days off at a stretch totaling as much as 8 months of time off annually.
- The flexibility to live where they want. Towboat crews often live several hundred miles from the waterways where they work. This flexibility means workers can live near their family and friends, and still be able to meet the boat when it is time to head back to work.
- The opportunity for a stable, well-paid career with unlimited potential to move up to positions of greater responsibility in a dynamic industry and drug-free environment.

Maritime workers operate and maintain tugboats, dredges, excursion vessels and various waterborne craft on the Great Lakes, rivers and canals, and other waterways in harbors. After 18 months of actual deckhand experience, individuals can attend U.S. Coast Guard-approved license training that leads to a license as a Master of Towing Vessels.

MARITIME TRAINING OPTION

MAJOR CODE - CT20 • CONCENTRATION CODE - CT22

COMPONENT I - General Education[2]		
ENL	111	Written Communication[3]. 3
COM	112	Oral Communication[3]. 3
IT	101	Fundamentals of Computers (EDGE). . .3
MAT	150	Applied Professional Mathematics 3
SCI	101	Unified Principles of Biology[4]. 3
SS		Social Science Elective[5]. 3
		General Education Elective[6]. 3

TOTAL CREDITS. 21

COMPONENT III - Technical/Occupational Speciality		
Choose 15 hours from the following:		
ENL	115	Written Communications II[8]. 3
HMN	235	Leadership Development Studies[8] 3
ELT	110	Basic Electronics. 3
ISM	133	Principles of Supervision & Management . .3
MG	101	Intro to Business (EDGE) 3
MG	202	Business Organization & Management[9] 3
MT	205	Precision Measurement. 3

TOTAL CREDITS. 15

COMPONENT II - Technical Core		
EC	102	Basic Economics. 3
EME	105	First on Scene. 3
MT	105	Industrial Safety. 2
		Deckhand Training[1]. 3
		Fire School Training[7]. 1

TOTAL CREDITS. 12

COMPONENT IV- (Optional) On-the-Job Training in the Occupation[10]

Maximum of 1,920 contact hours of on-the-job training can be earned for the Technical Studies Degree. Documentation of the total number of contact hours experienced on the job by the student may be placed on the college record. This credit will be recorded immediately prior to awarding the degree.

TOTAL CREDITS. 12

HOURS REQUIRED FOR GRADUATION: 60

Employment Opportunities:
- Deckhand
- Tankerman
- Engineer
- Mate
- Pilot
- Master

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Steven Brown • Cabell Hall, Room 110
Phone: 304-696-3366 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: brown175@marshall.edu

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1. Must have certificate of completion of Deckhand Class or present a letter from employer confirming six (6) months employment as a deckhand.
2. Students must complete a minimum of 3 credit hours with Marshall Community & Technical College to establish academic residency.
3. Fulfills MCTC General Education and State Communication Skills requirements for Technical Studies Degree.
4. SCI 101 is currently available only as an Internet course. For information, contact advisor.
5. Select from EC 102, SS 201, SS 210, or SS 215.
6. Student may use a social science/humanities course to fulfill this requirement.
7. Must provide a certificate of completion of MCTC Fire School Training or provide proof of equivalency.
8. ENL 115 and HMN 235 have a prerequisite of ENL 111 or COM 111.
9. MG 202 has a prerequisite of MG 101.
10. A letter must be received from employer to verify employment and completed contact hours.

PUBLIC LIBRARY TECHNOLOGY

ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Public Library Technology program will provide critical training in areas such as cataloging, technical services, administration, children's and young adult programming, and technology as well as the general education skills needed to work in a public library. Because the program is available 100% on-line, those individuals who may be single-staff library operations in rural locations can take these courses without having to leave their libraries or homes.

Career Outlook:
Job opportunities are expected to be very good because a large number of librarians are expected to retire in the coming decade. More than 3 in 5 librarians are aged 45 or older and will become eligible for retirement in the next 10 years, which will result in many job openings. Also, the number of people going into this profession has fallen in recent years, resulting in more jobs than applicants in some cases. Jobs for librarians outside traditional settings will grow the fastest over the decade. Nontraditional librarian jobs include working as information brokers and working for private corporations, nonprofit organizations, and consulting firms. Many companies are turning to librarians because of their research and organizational skills and their knowledge of computer databases and library automation systems. Librarians can review vast amounts of information and analyze, evaluate, and organize it according to a company's specific needs. Librarians also are hired by organizations to set up information on the Internet.

Salary Forecast:
Median annual earnings of library technicians in May 2004 were $24,940. The middle 50 percent earned between $18,640 and $32,600. The lowest 10 percent earned less than $14,760, and the highest 10 percent earned more than $40,730. Salaries of library technicians in the Federal Government averaged $39,647 in 2005. Median annual earnings in the industries employing the largest numbers of library technicians in May 2004 were as follows:

Colleges, universities, and professional schools	$28,940
Local government	$23,560
Other information services	$22,550
Elementary and secondary schools	$22,510

Program Admission Requirements:
The college adheres to an open admissions policy which means applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

Educational Opportunities:
Once a student completes the A.A.S. in the Transfer Studies program, s/he can move into the Regents Bachelor of Arts in Applied Science easily. Once a student earns a B.A. he/she can move on to a Master's in Library Science—the terminal credential required of professional librarians. Median annual earnings of librarians in May 2004 were $45,900. The middle 50 percent earned between $36,980 and $56,960. The lowest 10 percent earned less than $28,930, and the highest 10 percent earned more than $70,200.

PUBLIC LIBRARY TECHNOLOGY

MAJOR CODE – CL30

FIRST YEAR[1,2]	
Fall Semester	**Spring Semester**
ENL 111 Written Communication. 3	COM 112 Oral Communication. 3
IT 101 Fundamentals of Computers (EDGE). . .3	PLT 210 Public Library Catagloging. 3
MAT 115 Business Mathematics. 3	PLT 235 Advanced Reference Skills[3]. 3
PLT 100 Intro to Public Libraries[3]. 3	PLT 250 Public Library Technology[3]. 3
PLT 230 Public Library Reference &	SS 201 Human Relations. 3
Young Adult Services[3]. 3	
PLT 240 Public Library Organization	**TOTAL CREDITS. 15**
& Administration. 3	
TOTAL CREDITS. 18	

SECOND YEAR	
Fall Semester	**Spring Semester**
ENL 115 Written Communication II[4] 3	ENL 231 Technical Report Writing[4]. 3
IT 107 Fundamentals of the Internet. 3	ENL 240 Literature of American Pop Culture. . . . 3
PLT 215 Advanced Cataloging. 3	PLT 265 Preservation of Library Materials[4]. 3
PLT 255 Collection Development[3]. 3	PLT 280 Sp Tp: Public Library Marketing. 3
	SS 215 Lifespan Psychology. 3
TOTAL CREDITS. 12	**TOTAL CREDITS. 15**

Summer
PLT 220 Children's & Young Adult Services. 3
PLT 260 Adult Library Services 3
Other Required Course
PLT 299 Capstone Experience. 3

HOURS REQUIRED FOR GRADUATION: 69

Employment Opportunities:
- Library assistants
- Library technicians

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Dr. Monica Brooks • Drinko Library, Room 304
Phone: 304-696-6613 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: brooks@marshall.edu

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1. All PLT courses are offered only online.
2. The complete PLT A.A.S. degree may be obtained online.
3. This is an eight-weeks' course.
4. ENL 115, ENL 231 and ENL 240 have a prerequisite of ENL 111 or COM 111.

SURGICAL TECHNOLOGY

ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Technical Studies Degree is designed to meet three major needs:
1. To provide for cooperatively sponsored educational opportunities leading to the Associate in Applied Science degree and/or one-year Certificate for students in quality education and training programs.
2. To increase the abilities of employees to use technology effectively and responsibly.
3. To assist those employed in the workforce to understand that education is a life-long process. Marshall Community and Technical College delivers educational programs in a variety of occupational fields to businesses and industries having an immediate need for such programs.

Components of the program include the following: general education, classroom instruction in a technical core and in the occupational area, and possible on-the-job training. Technical Studies students must meet admission and performance standards. Credits earned through either the approved apprenticeship programs or through industry based education and training programs will not be added to the student's collegiate transcript until the student has completed three program credit hours from Marshall Community & Technical College and has obtained at least a 2.00 GPA.

Career Outlook:
Employment of surgical technologists is expected to grow much faster than average for all occupations through the year 2014 as the volume of surgery increases. Job opportunities are expected to be good. The number of surgical procedures is expected to rise as the population grows and ages. The number of older people, including the baby boom generation, who generally require more surgical procedures, will account for a larger portion of the general population. Technological advances, such as fiber optics and laser technology, will permit an increasing number of new surgical procedures to be performed and also will allow surgical technologists to assist with a greater number of procedures. Hospitals will continue to be the primary employer of surgical technologists, although much faster employment growth is expected in offices of physicians and in outpatient care centers, including ambulatory surgical centers.

Salary Forecast:
Salary ranges depend on the geographic location of the job. Median hourly earnings across the United States of surgical technologist were $34,010 in May 2004. The middle 50 percent earned between $28,560 and $40,750 per year. The lowest 10 percent earned less than $23,940 and the highest 10 percent earned more than $45,990 per year.

(US Department of Labor, Bureau of Labor Statistics, Occupational Outlook and Handbook, 2003)

West Virginia	$30,910
Tennessee	$34,070
South Carolina	$32,040
Offices of dentists	$37,510
Offices of physicians	$36,570
General medical and surgical hospitals	$33,130

Program Admission Requirements:
Prior to acceptance into the Surgical Technology Program, a student must have completed the following:

1. Prerequisite college courses. Courses may be completed at any postsecondary institution. For courses to qualify for the Associate of Applied Science degree in Surgical Technology through Marshall University, they must be accepted and successfully transferred to Marshall Community & Technical College. This transfer process is the sole responsibility of the student. A minimum of 12 hours must be taken directly on Marshall Campus to be granted the Associate degree.

   The following courses must be passed with a "C" or better.
   - MAT 145-College Algebra
   - ENL 111-Written Communication
   - SS 215- Lifespan Psychology
   - BIOL-257-Intro to Anatomy & Physiology

To get an application to the Surgical Technology program you must complete numbers 2 or 3.

2. Minimum ACT score of 21 or
3. Successful completion of the pre-entrance (Work Keys) examination with a score of four in Locating for Information, and five in both the Math and Reading for Comprehension.

SURGICAL TECHNOLOGY

MAJOR CODE – CS10

COMPONENT I - General Education[1]	COMPONENT II - Technical Core
COM 112 Oral Communication. . . . . .3 ENL 111 Written Communication. . . . . .3 ENL 231 Technical Report Writing. . . . . . . .3 IT 101 Fundamentals of Computers (EDGE) . . . .3 MAT 145 Applications in Algebra[2] . . . . .3 BIOL 257 Introduction to Anatomy & Physiology. .3 SS 215 Lifespan Psychology. . . . . .3 **TOTAL CREDITS. 21**	AH 151 Medical Terminology (EDGE). . . . . . . .3 AH 207 Infection Control for Health Professionals .4 **TOTAL CREDITS. 7**
COMPONENT III - Technical Occupational Specialty[3] Technical component articulated from Collins Career Center consists of the following courses. Surgical Technology 100 Surgical Technology 101 Pharmacology for Surgical Technology Surgical Technology 200 Surgical Technology 201 Surgical Technology 300 Surgical Technology 301 Surgical Technology 400 Surgical Technology 401 **TOTAL ARTICULATED CREDITS. 35**	COMPONENT IV – On-The-Job Training (1-12 Credit Hours may be awarded) A letter verifying completion of contact hours must be received by the Associate Dean's Office, located in the Marshall Community & Technical College Advising Center, prior to applying for graduation, for credit to be awarded. 160 clock hours equals 1 college credit hour.
HOURS REQUIRED FOR GRADUATION: 63	

Employment Opportunities:
- Hospitals
- Physicians office
- Dentist office
- Outpatient care centers
- Ambulatory surgical center

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Adam Swolsky • Cabell Hall, Room 303
Phone: 304-696-3750 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: swolsky@marshall.edu

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1. Cooperative Degree between Marshall Community & Technical College and Collins Career Center.
2. MAT 145 has a prerequisite of ACT 19; MAT 097; or PLAC 100.
3. 35 credit hours are awarded, based on successful completion of all nine surgical technology courses.

WELDING

ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Technical Studies Degree, limited to high school students enrolled in the EDGE program, is designed to provide for cooperatively sponsored educational opportunities leading to the Associate in Applied Science degree and/or One-Year Certificate.

Marshall Community & Technical College delivers educational programs in a variety of occupational fields to businesses and industries having an immediate need for such programs.

Components of the program include the following: general education, classroom instruction in a technical core and in the occupational area, and possible on-the-job training.

Technical Studies students must meet admission and performance standards. Credits earned through either the approved apprenticeship programs or through industry-based education and training programs will not be added to the student's collegiate transcript until the student has completed twelve program credit hours from Marshall Community & Technical College and has obtained at least a 2.0 GPA.

Career Outlook:
Employment of welding, soldering, and brazing workers is expected to grow more slowly than average for all occupations over the 2004-14 period. Despite this, job prospects should be excellent as employers report difficulty finding enough qualified people. In addition, many openings are expected to arise as a large number of workers retire over the next decade.

Despite slower-than-average job growth, technology is creating more uses for welding in the workplace and expanding employment opportunities. For example, new ways are being developed to bond dissimilar materials and nonmetallic materials, such as plastics, composites, and new alloys. Also, laser beam and electron beam welding, new fluxes, and other new technologies and techniques are improving the results of welding, making it useful in a wider assortment of applications. Improvements in technology have also boosted welding productivity, making welding more competitive with other methods of joining materials.

Salary Forecast:
Median hourly earnings of welders, cutters, solderers, and brazers were $14.72 in May 2004. The middle 50 percent earned between $11.90 and $18.05. The lowest 10 percent had earnings of less than $9.79, while the top 10 percent earned over $22.20. The range of earnings of welders reflects the wide range of skill levels. Median hourly earnings in the industries employing the largest numbers of welders, cutters, solderers, and brazers in May 2004 were:

Motor vehicle parts manufacturing	$16.47
Agriculture, construction, and mining machinery manufacturing	$14.12
Architectural and structural metals manufacturing	$13.98
Commercial and industrial machinery and equipment (except automotive and electronic) repair and maintenance	$13.45
Motor vehicle body and trailer manufacturing	$13.45

Program Admission Requirements:
The college adheres to an open admission policy which means applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

Vocational Site Partnerships:
In addition, Marshall Community & Technical College offers an Associate in Applied Science Technical Studies in conjunction with its Vocational Site Partnerships at Technical Centers in Cabell, Mason, Putnam and Wayne counties, through EDGE.

WELDING

MAJOR CODE – CT20 • CONCENTRATION CODE – CT29

COMPONENT I - General Education[1]	COMPONENT III - Technical/Occupational Speciality[7]
COM 112 Oral Communication. 3	Fundamentals Welding Technology (EDGE)
ENL 111 Written Communication. 3	Thermal Cutting and Welding (EDGE)
ENL 231 Technical Report Writing[2]. 3	Shielded Metal Arc Welding (EDGE)
IT 101 Fundamentals of Computers (EDGE). . .3	Gas Metal Arc Welding (EDGE)
MAT/SCI Electives[3]. 6	**TOTAL COMPONENT III.** 20
SS Social Science Elective[4]. 3	
TOTAL CREDITS. 21	
COMPONENT II - Technical Core	**COMPONENT IV- (Optional)**
ENL 115 Written Communication II[2]. 3	**On-the-Job Training in the Cccupation**
HMN 235 Leadership Studies[5]. 3	**(1-12 Credit Hours May be Awarded)**
EC 102 Basic Economics. 3	A letter verifying completion of contact hours must be
ELT 110 Basic Electronics. 3	recieved by the Associate Dean's Office, located in the
MG 101 Intro to Buisness (EDGE). 3	Marshall Community & Technical College Advising Center
MG 202 Wusiness Organization & Management[6]. .3	prior to applying for graduation for credit to be awarded. 160
MG 209 Occupational Safety. 3	clock hours equals 1 college credit hour.
MK 210 Customer Service[2]. 3	**TOTAL CREDITS.** 12
TOTAL CREDITS. 9-21	

HOURS REQUIRED FOR GRADUATION: 60

Employment Opportunities:
• Building equipment contractor
• School maintenance
• Repair shop
• Self-employment

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Steven Brown • Cabell Hall, Room 307
Phone: 304-696-3366 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: brown175@marshall.edu

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1. Students must complete a minimum of 3 credit hours with Marshall Community & Technical College to establish academic residency.
2. ENL 115, ENL 231, and MK 210 have a prerequisite of ENL 111 or COM 111.
3. Six total Quantitative Skills/Laboratory Science Experience credits are required for Technical Studies Degree and General Education Core. At least one college-level mathematics course must be selected from: MAT 115, MAT 145, or MAT 150. Students may complete the six credit requirement with a second college-level mathematics course or select a laboratory science course from the following: SCI 110, SCI 120, or SCI 201.
4. Select from EC 102, SS 201, SS 210, or SS 215.
5. Required capstone course.
6. MG 202 has a prerequisite of MG 101.
7. Verification of completion of CTE classes with a score of 74% or better on the final exam must be forwarded toWest Virginia Community and Technical College System in Charleston, by course instructor.

Information Technology

ANIMATION AND GAME DEVELOPER

NETWORK SYSTEMS DEVELOPMENT (CCNA)

GEOSPATIAL STUDIES

NETWORK SYSTEMS ADMINISTRATION (MCSE)

NETWORK SYSTEMS SECURITY (CCNA AND MCSA)

PROGRAM DEVELOPER

WEB DEVELOPER

ANIMATION AND GAME DEVELOPER

ASSOCIATE IN APPLIED SCIENCE

Program Description:
Students who receive an A.A.S. in Information Technology (IT) will possess a broad base of computer skills and knowledge. The curriculum is designed to maintain flexibility in order to compete in the changing workforce. Today's games are very complex. They require teams of programmers, designers, artists, testers, advertisers, and producers to organize and develop them. Training needed for game development is enormous, warranting a complex education of multiple courses in multiple fields. The Animation and Gaming curriculum is designed to provide training in principles and techniques used to create interactive 2D and 3D computer games.

- Design Software
- Programming Languages
- Modeling and Animation Skills
- Web Graphic Design
- Game Engines used to Design and Develop Games

IT 299, an internship course taken in the fourth semester, requires the student to apply knowledge and skills acquired in the classroom to a real-world employment environment.

Career Outlook:
According to the U.S. Dept. of Labor Occupational Outlook Handbook, 2008-09, employment in professional, scientific, and technical services will grow by 28.8 percent and add 2.1 million new jobs by 2016. Employment in computer systems design and related services will grow by 38.3 percent and add nearly one-fourth of all new jobs in professional, scientific, and technical services. Employment growth will be driven by the increasing reliance of business on information technology and the continuing importance of maintaining system and network security. Management, scientific, and technical consulting services also will grow at a staggering 768 percent and account for another third of growth in this super sector. Demand for these services will be spurred by the increased use of new technology and computer software and the growing complexity of business.

One of the most important requirement needs as an IT student is the willingness to learn and to keep on learning throughout one's professional career. The IT Division can provide students with the knowledge and skills to start on that path. The successful student will provide the energy, enthusiasm, and drive to continue to acquire new knowledge and skills in order to succeed in the rapidly changing world of Information Technology.

Salary Forecast:
According to November 2006 West Virginia Bureau of Labor Occupational Employment and Wage Estimates for the Metropolitan Area of Huntington-Ashland, WV-KY-OH, Median annual earning of computer support specialists/programmers was $41,160 in 2006.

Program Admission Requirements:
The college adheres to an open admission policy which means applicants with a high school diploma or GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

ANIMATION AND GAME DEVELOPER

MAJOR CODE - CI20 • CONCENTRATION CODE - C12X

FIRST YEAR			
Fall Semester[1]		**Spring Semester**	
ENL 101 Written Communication. 3		COM 112 Oral Communication 3	
IT 101 Fundamentals of Computers (EDGE). .3		IT 115 Intro to BASIC[2] 3	
IT 107 Fundamentals of the Internet. 3		IT 171 Intro to Gaming Concepts II 3	
IT 171 Introduction to Gaming Concepts I. . .3		IT 221 Computer Operating Systems[3] 3	
IT 120 Operating Systems I[2]. 4		IT 270 Computer Repair[2] (EDGE) 3	
MAT 145 Applications in Algebra. 3		MAT Approved Math Elective[6]. 3	
TOTAL CREDITS. 19		**TOTAL CREDITS. 18**	

SECOND YEAR			
Fall Semester		**Spring Semester**	
COM 103 Technical Report Writing. 3		IT 213 Web/Graphic Design 3	
IT 212 Publishing on the Internet[4]. 3		IT 272 Intro to 3D Modular Programming[9]. . . 3	
IT 215 Advanced Programming (C++)[7]. 3		IT 240 Internet Data Communications[6]. 3	
IT 250 Applications to Databases[2] 3		IT 242 Advanced Internet[8] 3	
IT 276 Computer Maintenance[5] (EDGE). 3		IT 299 Information Technology Internship[10]. . . 3	
SCI 201 Integrated Science 4		SS 210 Fundamentals of Sociology. 3	
TOTAL CREDITS. 19		**TOTAL CREDITS. 18**	

HOURS REQUIRED FOR GRADUATION: 74

Employment Opportunities:
- Programmers
- Web/Game designer
- Product tester
- Animation designer
- Project manager
- Software publishers
- Educational support services

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Dr. Randall L. Jones • Corbly Hall, Room 314
Phone: 304-696-3059 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: jonesr@marshall.edu

Patrick Smith • Corbly Hall, Room 309
Phone: 304-696-4633 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: smith288@marshall.edu

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1. Students are expected to have basic knowledge of computers including operating systems such as Windows XP or Vista and Microsoft Office 2003 or Office 2007 before entering this program. The student must register for IT 101 during his or her first semester or successfully pass a challenge exam for IT 101.
2. IT 115, IT 120, IT 250, and IT 270 have a prerequisite of IT 101.
3. IT 221 has a prerequisite of IT 120.
4. IT 212 and IT 240 has a prerequisite of IT107.
5. IT 276 has a prerequisite of IT 270.
6. MAT 146, MAT 150, MAT 210, and MAT 215. (Select one based on program track – verify specific prerequisite – see advisor)
7. IT 215 has a prerequisite of IT 115.
8. IT 242 has a prerequisite of IT 212.
9. IT 272 has a prerequisite of IT 215.
10. Permission of Division Director is required in order to enroll in IT 299.

GEOSPATIAL STUDIES

ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Marshall Community & Technical College offers the student the opportunity to work with and develop technical skills with image and image-processing software products. The application of satellite imaging, aerial photography, remote sensing, and geographical information systems is a large growth area with application to many career fields where image enhancement and data analysis can be used in decision making situations. The geospatial worker should possess basic skills in the manipulation of existing GIS software, problem identification and solving; mastery of analytic geospatial tools; and critical topics in the fields of computer science, mathematics and statistics, and information technology.

The geospatial workforce must be capable of dealing with a continuing pattern of rapid change, as well as with the substantial challenge of adapting existing knowledge and tools to uses in a variety of new, complex situations. Above-average knowledge of computer and information science, as well as the ability to spend their careers in near-continuous learning mode, become critical characteristics at nearly all levels of the future geospatial workforce.

Career Outlook:
The U.S. Department of Labor recently identified the growing importance of the geospatial based industry, together with 13 other sectors, as the focus of its High-Growth Job Training Initiative. The 14 sectors were selected based on the following criteria:

1. They are projected to add substantial numbers of new jobs to the economy or affect the growth of other industries, or
2. They are existing or emerging businesses being transformed by technology and innovation requiring new skill sets for workers.

In addition to the geospatial industry, only biotechnology and nanotechnology were identified as being among the most important of these emerging and evolving fields (Gewin 2004). While new career titles are being created, the U.S. Department of Labor states that overall employment of surveyors, cartographers, photogrammetrists, and surveying technicians is expected to grow about as fast as the average for all occupations through the year 2014.

Salary Forecast: (U.S. Department of Labor latest update, 2004)

Median annual earnings of surveying and mapping technicians were $30,380 in 2004.
Median annual earnings of cartographers and photogrammetrists were $46,080 in 2004.
Median annual earnings of surveying and mapping technicians employed in architectural, engineering, and related services were $28,610 in May 2004, while those employed by local governments had median annual earnings of $34,810.

Program Admission Requirements:
The college adheres to an open admissions policy which means applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

Common Career Opportunities and Approximate Salaries:

- Technician - junior position, generally 1 to 5 years experience
  ($20,000 to 29,999 13%) ($30,000 to 39,999 33%) ($40,000 to 49,999 19%)

- Analyst - a more senior tech. responsible for spatial analysis and more senior responsibilities on projects. Generally has 3-7 years experience. ($30,000 to 39,999 27%) ($40,000 to 49,999 34%) (> $50,000 28%)

- Programmer - educational focus was on programming skills. Typically skilled in web programming, VB, MapBasic, AML, etc... Generally has at least 2 years experience. ($40,000 to 49,999 18%)($50,000 to 59,999 24%) ($60,000 to 69,999 15%)

GEOSPATIAL STUDIES

MAJOR CODE – CI20 • CONCENTRATION CODE – CI27

FIRST YEAR	

COMPONENT I - General Education Requirements
COM 112 Oral Communication. 3
ENL 111 Written Communication. 3
ENL 115 Written Communication II. 3
IT 101 Fundamentals of Computers (EDGE). . .3
MAT 145 Applications in Algebra. 3
MAT 146 Applications in Trigonometry. 3
   TOTAL CREDITS. .18
	COMPONENT II
	Geospatial Computer Requirements
	IT 120 Operating Systems I. 4
	IT 221 Operating Systems II[3]. 3
	IT 250 Applications to Databases. 3
	IT 270 Computer Repair (EDGE). 3
	IT 276 Computer Maintenance[4] (EDGE). 3
	   TOTAL CREDITS. .16

General Education Electives
Humanities Elective. 3
Science Elective[1]. 8
Social Science Elective[2]. 6
 	
   TOTAL CREDITS. 17
	Geospatial Studies Requirements
	IT 160 Geographic Information System Concepts. 3
	IT 165 Spatial Analysis & 3D Modeling[5]. 3
	IT 260 Integration of GIS & RS Systems. 3
	IT 266 Image Web Server Development. 3
	IT 299 Internship[6]. 3
	   TOTAL CREDITS. 15

HOURS REQUIRED FOR GRADUATION: 66	

Employment Opportunities:
- Business: financial services, insurance, real estate, retail, and commercial business cartography and map publishing
- Communications: location-based services, media and press, telecommunications conservation
- Defense: defense and intelligence
- Education: schools, libraries, and museums
- Engineering: civil engineering, surveying
- Government: economic development, elections, federal, homeland security, land records, law enforcement, public safety, state and local sustainable development, urban and regional planning
- Health and human services: hospitals and health systems, public health and human services
- Natural Resources: agriculture, archaeology, cave, environmental management, forestry, marine and coast, mining and earth science, petroleum, pipeline, water resources
- Transportation: logistics, transportation systems and networks
- Utilities: electric and gas, water/wastewater

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Dr. Randall Jones • Corbly Hall, Room 314
Phone: 304-696-3059 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: jonesr@marshall.edu

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1. SCI 110 and another 100-level or above natural science class.
2. These courses should be chosen from EC 102, SS 201, SS 210, and SS 215.
3. IT 221 has a prerequisite of IT 120
4. IT 276 has a prerequisite of IT 270
5. IT 165, IT 260, and IT 266 have a prerequisite of IT 160
6. Permission of Program Coordinator or Dean is required in order to enroll in IT 299.

NETWORK SYSTEMS DEVELOPMENT (CCNA)

ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Cisco Networking Academy at Marshall Community & Technical College offers Cisco Certified Network Associate (CCNA) training that prepares individuals to install, configure, and operate LAN, WAN, and dial access services for enterprise organizations with networks from 100 to more than 500 nodes. Concepts laboratory exercises focus on IP, Ethernet based LANs, Frame Relay and Serial WANs, interior routing protocols such as RIP and IGRP and exterior protocols such as BGP. The Cisco Networking Academy Program is a comprehensive-learning program that provides students with the IT skills essential in a global economy. The Networking Academy delivers web-based content, online assessment, student performance tracking, hands-on labs, instructor support, and preparation for the CCNA industry-standard certifications.

Career Outlook:
The U.S. Department of Labor states that Network Systems and Data Communications Analysts will see an increase in employment growth of 91.4% between 2002 and 2012. The computer systems design and related services industry is expected to be one of the top-ten fastest growing industries in the U.S. economy, projected to add more than 600,000 jobs between 2002 and 2012. Professionals and specialists will see the best prospects for employment because they have the higher level skills necessary to stay abreast of rapid changes in technology. (http://bls.gov/oco/cg/cgs033.htm).

Salary Forecast:
In a 2006-2007 Salary Survey conducted by TCP Magazine (http://tcpmag.com/salarysurveys/), CCNA's reported average annual salaries of $47,070 for individuals with at least three years of experience. The U.S. Department of Labor listed the Huntington, WV - Ashland, KY Metropolitan Area average annual wage for Network Systems and Data Communications Analysts at $43,410

(http://stats.bls.gov/oes/current/oes_26580.htm#b15-0000)

Program Admission Requirements:
The college adheres to an open admission policy which means applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

Career Description:
The U.S. Department of Labor states that Network Systems and Data Communications Analysts analyze, design, test, and evaluate network systems, such as local area networks (LAN), wide area networks (WAN), Internet, intranet, and other data communications systems; perform network modeling, analysis, and planning; research and recommend network and data communications hardware and software. This includes telecommunications specialists who deal with the interfacing of computer and communications equipment. Analysts may supervise computer programmers. (http://stats.bls.gov/oes/current/oes151081.htm).

NETWORK SYSTEMS DEVELOPMENT (CCNA)

MAJOR CODE – CI20 • CONCENTRATION CODE – CI25

FIRST YEAR			
Fall Semester[1]		**Spring Semester**	
ENL 111 Written Communication. 3		COM 112 Oral Communication 3	
IT 101 Fundamentals of Computers[1] (EDGE) 3		IT 115 Intro to BASIC. 3	
IT 120 Operating Systems I[1]. 4		IT 221 Operating Systems II. 3	
IT 131 Intro to Networking (EDGE). 4		IT 141 Networking Systems II[2] (EDGE). 4	
MAT 145 Applications in Algebra. 3		IT 230 Network Communications. 3	
TOTAL CREDITS. 17		**TOTAL CREDITS. 16**	
SECOND YEAR			
Fall Semester		**Spring Semester**	
ENL 231 Technical Report Writing[6]. 3		IT 225 Fundamentals of Wireless LANs[8]. 4	
IT 231 Networking Systems III[4] 4		IT 241 Networking Systmes IV[5] (EDGE). 4	
IT 224 Fundamentals of Network Security[7] . . .3		IT 276 Computer Maintenance[9] (EDGE). 3	
IT 270 Computer Repair[1] (EDGE) 3		IT 299 Information Technology Internship[10]. 3	
SS 201 Human Relations. 3		Approved Math/Science Elective[11]. 3	
TOTAL CREDITS. 16		**TOTAL CREDITS. 17**	
HOURS REQUIRED FOR GRADUATION: 66			

Employment Opportunities:
- Network administrator
- Network engineer
- Systems support technician
- Network designer
- Network security systems designer

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Scott Nicholas • Corbly Hall, Room 328
Phone: 304-696-3020 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: scott.nicholas@marshall.edu

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1. Students are expected to have basic knowledge of computers including operating systems such as Windows 2003 or XP and Microsoft Office 2003 or XP before entering this program. The student must register for IT 101 during his or her first semester or successfully pass a challenge exam for IT 101.
2. IT 141 has a prerequisite or co-requisite of IT 131.
3. IT 221 has a prerequisite or co-requisite of IT 120.
4. IT 231 has a prerequisite of IT 141.
5. IT 241 has a prerequisite or co-requisite of IT 231.
6. ENL 231 has a prerequisite ENL 111 or COM 111.
7. IT 224 has a prerequisite of IT 217 or permission.
8. IT 225 has a prerequisite of IT 141.
9. IT 276 has a prerequisite of IT 270.
10. Permission of Program Coordinator/or Dean is required in order to enroll in IT 299.
11. The following courses are approved as Math/Science electives: MAT 146, MAT 150, MAT 215, MAT 215, SCI 101, SCI 110, BIOL 210, SCI 220, and BIOL 257.

NETWORK SYSTEMS ADMINISTRATION (MCSE)

ASSOCIATE IN APPLIED SCIENCE

Program Description:
As a leading Microsoft IT Academy, Marshall Community & Technical College offers the Network Systems Administration option to help pre-pare students for the Microsoft Certified Systems Engineer (MCSE) Certification examinations. The curriculum and course materials are de-signed by Microsoft, and the College's instructors are Microsoft Certified Trainers (MCT) with industry experience that take a personal interest in mentoring students through every step of the certification process.

Career Outlook:
The U.S. Department of Labor – Bureau of Labor Statistics states that computer-related jobs (IT) hold numerous positions within the Top-20 Fastest Growing Occupations in the country. Additionally, IT jobs are reported to have the highest earning of any of the occupations in the list.

Computer occupations are expected to be some of the fastest growing in the U.S. economy and will account for 5 out of the 20 fastest grow-ing occupations over the next decade through 2015. Employment growth will be driven by the increasing reliance of businesses on informa-tion technology and the continuing importance of maintaining system and network security. In addition to high growth rates, computer and healthcare occupations combined will add more than 1.5 million new jobs. High growth rates among computer occupations reflect projected rapid growth in the computer and data processing industries.

Management, scientific and technical consulting services will grow very rapidly, by 55.4%, spurred by the increased use of new technology and the growing complexity of business.

Salary Forecast:
Although salaries vary a great deal, reflecting differences in skill, experience, and amount of education, the salaries for the job titles in the fol-lowing table reflect HR Reported data as of January 2007 for Huntington, West Virginia.

Job Title	10th Percentile	Median	90th Percentile
LAN Support I	$34,609	$44,683	$54,757
LAN Support II	$40,527	$52,630	$64,733
LAN Support III	$49,715	$66,789	$83,863
Network Administrator I	$34,026	$43,828	$53,630
Network Administrator II	$41,639	$53,351	$65,063
Network Administrator III	$47,609	$62,872	$78,134
Network Administrator IV	$54,694	$71,227	$87,760
Network Administrator V	$64,276	$81,494	$98,711
Network Engineer I	$37,706	$54,617	$71,528
Network Engineer II	$48,212	$63,034	$77,855
Network Engineer III	$58,073	$75,374	$92,655
Network Security Systems Manager	$44,231	$79,047	$113,862

Program Admission Requirements:
The college adheres to an open admission policy which means applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

Career Description:
The Microsoft Certified Systems Engineer (MCSE) credential is the premier certification for professionals who analyze the business require-ments and design and implement the infrastructure for business solutions based on the Microsoft Windows platform and Microsoft Server software. It is one of the most widely recognized and sought after technical certifications in the IT industry demonstrating to employers, clients and colleagues that an individual has achieved expertise in the area in Information Technology.

NETWORK SYSTEMS ADMINISTRATION (MCSE)

MAJOR CODE – CI20 • CONCENTRATION CODE – CI24

FIRST YEAR		
Fall Semester[1]		**Spring Semester**		
ENL	111	Written Communication. 3	COM	112	Oral Communication 3
IT	115	Intro to BASIC[2]. 3	ENL	231	Technical Report Writing[3]. 3
IT	120	Operating Systems I[2]. 4	IT	221	Operating Systems II[4]. 3
IT	270	Computer Repair[2,*] (EDGE). 3	IT	276	Computer Maintenance[5,*] (EDGE). 3
MAT	145	Applications in Algebra. 3	IT	230	Network Communications 3
IT	101	Fundamentals of Computers[1] (EDGE). .3	SS	201	Human Relations. 3
		TOTAL CREDITS. 19			**TOTAL CREDITS. 18**

SECOND YEAR		
Fall Semester		**Spring Semester**		
IT	210	Networking Administration I[7,12]. 3	IT	219	Networking Administration V[8,9]. 3
IT	211	Networking Administration II[7] 3	IT	222	Networking Administration VI[8,9]. 3
IT	216	Networking Administration III[7]. 3	IT	223	Networking Administration VII[8,9]. . . .3
IT	217	Networking Administration IV[7] 3	IT	224	Fundamentals of Network[9]. 3
		Approved Math Elective[12] 3	IT	240	Internet Data Communications[10]. 3
			IT	299	Information Technology Internship[11]. 3
		TOTAL CREDITS. 15			**TOTAL CREDITS. 18**

HOURS REQUIRED FOR GRADUATION: 70

Employment Opportunities:
- Network administrator
- Network engineer
- Systems support technician
- Network designer
- Network security systems designer

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Scott Nicholas • Corbly Hall, Room 328
Phone: 304-696-3020 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: scott.nicholas@marshall.edu

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1. Students are expected to have basic knowledge of computers including operating systems such as Windows XP or 2003 and Microsoft Office XP or 2003 before entering this program. The student must register for IT 101 (EDGE) during his or her first semester or successfully pass a challenge exam for IT 101 (EDGE).
2. IT 115, IT 120, and IT 270 have prerequisite of IT 101.
3. ENL 231 has a prerequisite of ENL 111 or COM 111 or permission.
4. IT 221 has a prerequisite of IT 120.
5. IT 276 has a prerequisite of IT 270.
6. Networking Administration classes IT 210, IT 211, IT 216 and IT 217 must be taken concurrently. These classes cannot be taken individually.
7. Networking Administration classes IT 219, IT 222 and IT 223 must be taken concurrently. These classes cannot be taken individually.
8. IT 219, IT 222, IT 223, and IT 224 have a prerequisite of IT 217.
9. IT 240 has a prerequisite of IT 210.
10. Permission of Program Coordinator/or Dean is required in order to enroll in IT 299.
11. IT 210 has a prerequisite of IT 270 and IT 276 or permission.
12. The following courses are approved as Math/Science electives: MAT 146, MAT 150, MAT 215, MAT 215, SCI 101, SCI 110, BIOL 210, SCI 220, and BIOL 257.

IT 270 and IT 276 prepare students for A+ Certification.

NETWORK SYSTEMS SECURITY (CCNA & MCSA)

ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Associate in Applied Science Degree Program in Network Systems Security offers comprehensive network training from Marshall Community & Technical College's Microsoft Information Technology Academy and Cisco Networking Academy. Within the two-year Associate Degree program, students take courses developed by Microsoft and Cisco, providing specialized skills in network administration, design, and security. Students will take courses preparing them for the following certifications:

CompTIA's A+ Hardware and Operating Systems   Microsoft's MCSA (Microsoft Certified System Administrator)
CompTIA's Linux+   Cisco's CCNA (Cisco Certified Network Associate)
CompTIA's Security+   CISCO Firewall Specialist
CompTIA's Server+   PIX Firewall Advanced exams Cisco's Wireless LAN Support Specialist

Career Outlook:
Released on February 14, 2003, the National Strategy to Secure Cyberspace identifies a need for training programs in cyber security to produce a workforce capable of securing our nation's information technology infrastructure (http://csrc.nist.gov/policies/cyberspace_strategy.pdf). A recent IDC survey shows the total information technology security market revenues, including software, hardware, and services, is expected to increase from $17 billion in 2001 to $45 billion by 2006, thus fueling a 24% rise in spending for network security services. For more information visit (http://www.idc.com), then search for February 4, 2003 Press Release entitled "Total IT Security Market."

Salary Forecast:
Salary ranges depend upon geographic location of the job. The U.S. Department of Labor listed the Huntington, WV - Ashland, KY Metropolitan Area average annual wage for Network Systems and Data Communications Analysts at $43,410 (http://stats.bls.gov/oes/current/oes_26580.htm#b15-0000).

In a 2006-2007 Salary Survey conducted by (http://tcpmag.com/salarysurveys/), CCNA's reported average annual salaries of $47,070 for individuals with at least three years of experience and Cisco Firewall Specialists reported an average salary of $86,520 for individuals with 5 to 10 years of experience.

Career Description:
A well-rounded network professional is capable of performing network administration, design, maintenance, and security on a variety of network operating systems and devices. Microsoft Certified Systems Administrators manage and troubleshoot system environments running the Windows 2003 operating system. Cisco Certified Network Associates design, build, and maintain computer networks using a variety of network devices. CompTIA Security+ and Cisco Network Security Specialists design and implement security solutions that reduce network vulnerability. Cisco Wireless LAN Support Specialists implement and troubleshoot Wireless LANs. MCTC's Network Systems Security option provides fundamental networking knowledge and skills with specific network security training crucial for entry into information security positions in public corporations and government entities.

NETWORK SYSTEMS SECURITY (CCNA & MCSA)

MAJOR CODE – CI20 • CONCENTRATION CODE – CI26

FIRST YEAR		
Fall Semester[1]		**Spring Semester**		
ENL 111 Written Communication. 3		COM 112 Oral Communication 3
IT 120 Operating Systems I[1]. 4		IT 231 Networking Systems III[3] (EDGE). 4
IT 131 Intro to Networking[1] (EDGE). 4		IT 241 Networking Systems IV[4] (EDGE) 4
IT 141 Networking Systems II[2] (EDGE) 4		IT 270 Computer Repair[1] (EDGE). 3
MAT 145 Applications in Algebra. 3		IT 230 Network Communication. 3
TOTAL CREDITS. 18		**TOTAL CREDITS. 17**

SECOND YEAR		
Fall Semester		**Spring Semester**		
IT 210 Networking Administration I[5,7]. 3		IT 224 Network Security Fundamentals[8]. 3
IT 211 Networking Administration II[5]. 3		IT 225 Fundamentals of Wireless LANs[9]. 4
IT 216 Networking Administration III[5]. 3		IT 226 Networking Security Routers[10]. 3
IT 217 Networking Administration IV[5]. 3		IT 227 Networking Security Firewalls[11]. 3
IT 276 Computer Maintenance[6] (EDGE) 3		IT 299 Information Technology Internship[12]. 3
SS 201 Human Relations. 3		
TOTAL CREDITS. 18		**TOTAL CREDITS. 16**

HOURS REQUIRED FOR GRADUATION: 69

Employment Opportunities:
- Network administrator
- Web designer
- Systems support technician
- Network designer
- Security solutions designer
- Help desk technician
- Hardware technician
- Software applications

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Phone: 304-696-5431 or 1-866-N-ROLLED (1-866-676-5533)

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1. Students are expected to have basic knowledge of computers including operating systems such as Windows XP or 2003 and Microsoft Office XP or 2003 before entering this program. The student must register for IT 101 during his or her first semester or successfully pass a challenge exam for IT 101.
2. IT 141 has a prerequisite or co-requisite of IT 131
3. IT 231 has a prerequisite of IT 141, Networking Systems II, or Cisco Semester 2, and a co-requisite of IT 241.
4. IT 241 has a prerequisite or co-requisite of IT 231.
5. Networking Administration classes IT 210, IT 211, IT 216 and IT 217 must be taken concurrently. These classes cannot be taken individually.
6. IT 276 has a prerequisite of IT 270.
7. IT 210 has a prerequisite of IT 270 or permission.
8. IT 224 has a prerequisite of IT 217 or MCSA certification.
9. IT 225 has a prerequisite of IT 141 or CCNA certification or Cisco Semester 2.
10. IT 226 has a prerequisite of IT 241 or Networking Systems IV or CCNA or Cisco Semester 4.
11. IT 227 has a prerequisite of IT 241 or Networking Systems IV or CCNA or Cisco Semester 4.
12. Permission of Program Coordinator/or Dean is required in order to enroll in IT 299.

PROGRAM DEVELOPER

ASSOCIATE IN APPLIED SCIENCE

Program Description:
Students who receive an A.A.S. in Information Technology (IT) will possess a broad base of computer skills and knowledge. The curriculum is designed to maintain maximum flexibility in order to compete in the changing workforce. In addition to completing a core curriculum including operating systems (Windows and UNIX), technical mathematics and technical report writing, the student will select an area of specialization. One of the IT specialization options is Program Developer. Consider it "filling the computer's brain" or "creating" the computer's job description. It is the art of programming. The Information Revolution has created the need for a new kind of professional: someone skilled in locating, organizing, manipulating, filtering, and presenting information. Courses required in the Program Developer option, such as IT 115 and IT 215 (Introduction to Programming and Advanced Programming), IT 250 (Applications to Databases), IT 212 and IT 242 (Publishing on the Internet and Advanced Internet) provide the opportunity for IT students to gain valuable and marketable skills in locating, organizing, manipulating, filtering, and presenting information. IT 299, an internship course taken in the fourth semester, requires the student to apply knowledge and skills acquired in the classroom to a real-world employment environment.

Career Outlook:
A recent Information Technology Association of America report titled "The Employment Outlook in Today's IT" estimates the number of currently unfilled IT positions at 230,000 for businesses with 100 or more employees. This translates to 10% of the current workforce or roughly three vacancies for each company. The American Electronics Association released two key reports, "Cybernation" and "Cyberstates," that provide an in-depth view of the high-tech industry and its impact on society. The reports provide information about current employment, wages, and other industry details on a state-by-state basis. Key findings include:

There is a major shift in the industry from electronics and computer hardware to IT services and information management. IT services and management now constitute one of the fastest-growing industries in the nation. One of the most important requirements one needs as an IT student is the willingness to learn and to keep on learning throughout one's professional career. The IT Division can provide students with the knowledge and skills to start on that path. The successful student will provide the energy, enthusiasm, and drive to continue to acquire new knowledge and skills in order to succeed in the rapidly changing world of Information Technology.

Salary Forecast:
According to a 2006 Salary Survey conducted by (http://www.tcpmag.com), the national average wage for high-tech employees with CCNA/MCSE certifications is $51,000 plus.

Program Admission Requirements:
The college adheres to an open admission policy which means applicants with a high school diploma or a GED are eligible for admission.

PROGRAM DEVELOPER

MAJOR CODE – CI20 • CONCENTRATION CODE – CI23

FIRST YEAR	
Fall Semester[1]	**Spring Semester**
ENL 111 Written Communication. 3	COM 112 Oral Communication 3
IT 101 Fundamentals of Computers (EDGE) . .3	IT 115 Intro to BASIC[2]. 3
IT 107 Fundamentals of Internet. 3	IT 150 Applications to Spreadsheets[2] (EDGE) . .3
IT 120 Operating Systems I[2]. 4	IT 221 Computer Operating Systems[3]. 3
MAT 145 Applications in Algebra. 3	IT 270 Computer Repair[2] (EDGE) 3
	Recommended Computer Elective[4]. . . .3
TOTAL CREDITS. 16	**TOTAL CREDITS. 18**

SECOND YEAR	
Fall Semester	**Spring Semester**
ENL 231 Technical Report Writing[5]. 3	IT 215 Advanced Programming[8]. 3
IT 212 Publishing on the Internet[6]. 3	IT 240 Internet Data Communications[6]. 3
IT 230 Network Communications[3]. 3	IT 242 Advanced Internet[9]. 3
IT 250 Applications to Databases[2]. 3	IT 299 Information Technology Internship[10]. . . .3
IT 276 Computer Maintenance[7] (EDGE) 3	SS 201 Human Relations. 3
	Approved Math/Science Elective[11]. . . .3
TOTAL CREDITS. 15	**TOTAL CREDITS. 18**

HOURS REQUIRED FOR GRADUATION: 67

Employment Opportunities:
- Network administrator
- Web designer
- Systems support technician
- Network designer

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Rhonda Scragg • Corbly Hall, Room 313
Phone: 304-696-3063 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: robinson@marshall.edu

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1. Students are expected to have basic knowledge of computers including operating systems such as Windows 2000 or XP and Microsoft Office 2000 or XP before entering this program. The student must register for IT 101 during his or her first semester or successfully pass a challenge exam for IT 101.
2. IT 115, IT 120, IT 150, IT 250, and IT 270 have a prerequisite of IT 101.
3. IT 221 and IT 230 have a prerequisite of IT 120.
4. The following list of courses may be used as computer electives: IT 131, MIS 207, MIS 209, MIS 290, or IST 130.
5. ENL 231 has a prerequisite of ENL 111 or COM 111.
6. IT 212 and IT 240 have a prerequisite of IT 107.
7. IT 276 has a prerequisite of IT 270.
8. IT 215 has a prerequisite of IT 115.
9. IT 242 has a prerequisite of IT 212.
10. Permission of Program Coordinator/or Dean is required in order to enroll in IT 299.
11. The following courses are approved as Math/Science electives: MAT 146, MAT 150, MAT 215, MAT 215, SCI 101, SCI 110, BIOL 210, SCI 220, and BIOL 257.

WEB DEVELOPER

ASSOCIATE IN APPLIED SCIENCE

Program Description:
Students who graduate with the Web Developer option can expect to find employment at an Internet Service Provider (ISP), computer consulting firm or an entry-level position within a computer department. The student will be prepared with specific job skills that include web authoring, web developer, or database support technician.

Career Outlook:
Organizations are increasingly using the World Wide Web for a diverse set of business purposes. Web sites are used for marketing, sales, communications, public relations, and training, just to name a few. Careers in Web development involve the design and maintenance of such sites. Web developers typically work with a client to determine the needs of the organization. A design will be created, tested and documented. Some positions in the Web development require creativity. The majority of positions are found at companies that specialize in Web development and multimedia creations, but some large corporations hire Web developers for in-house design as well. The array of organizations seeking Web developers is extremely diverse. These organizations may include publishing firms, electronic game companies, educational institutions, marketing firms, government agencies and many more.

The demand for skilled computer professionals is expected to increase as organizations attempt to maximize the efficiency of their computer systems. As international and domestic competition increases, organizations will face growing pressure to use technological advances in areas such as factory and office automation and telecommunications technology. Many more computer trained individuals will be needed to incorporate these advances in new or existing systems.

Salary Forecast:
According to November 2004 West Virginia Bureau of Labor Occupational Employment and Wage Estimates for the Metropolitan Area of Huntington, median annual earnings of computer support specialists/programmers were $45,340 in 2004. The average salary for the entire state of West Virginia in the computer support specialists/programmer area was $48,480.

Program Admission Requirements:
The college adheres to an open admission policy which means applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

WEB DEVELOPER

MAJOR CODE – CI20 • CONCENTRATION CODE – CI21

FIRST YEAR				
Fall Semester[1]				
ENL	111	Written Communication.		3
IT	101	Fundamentals of Computers (EDGE) .		3
IT	107	Fundamentals of Internet.		3
MAT	145	Applications in Algebra.		3
		TOTAL CREDITS.		**12**

Spring Semester				
COM	112	Oral Communication		3
IT	120	Operating Systems[2].		4
IT	212	Publishing on the Internet[3].		3
IT	213	Web Graphics/Design[3].		3
IT	270	Computer Repair[2] (EDGE)		3
		TOTAL CREDITS.		**16**

SECOND YEAR				
Fall Semester				
ENL	231	Technical Report Writing[4,5].		3
IT	115	Intro to BASIC[2].		3
IT	150	Applications to Spreadsheets[2] (EDGE)		3
IT	242	Advanced Internet[5].		3
IT	276	Computer Maintenance[6] (EDGE).		3
		Recommended Elective[7].		3
		TOTAL CREDITS.		**18**

Spring Semester				
IT	240	Internet Data Communications[3].		3
IT	250	Applications to Databases[2].		3
IT	299	Information Technology Internship[8].		3
SS	201	Human Relations.		3
		Recommended Elective[11].		3
		TOTAL CREDITS.		**15**

HOURS REQUIRED FOR GRADUATION: 64

Employment Opportunities:
- Network administration
- Web designer
- Systems support technician
- Network designer
- Security solutions designer
- Help desk technician
- Hardware technician
- Software applications

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Kim Preece • Corbly Hall, Room 308
Phone: 304-696-3214 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: preece@marshall.edu

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1. Students are expected to have basic knowledge of computers including operating systems such as Windows XP or 2003 and Microsoft Office XP or 2003 before entering this program. The student must register for IT101 during his or her first semester or successfully pass a challenge exam for IT 101.
2. IT 115, IT 120, IT 150, IT 250, and IT 270 have a prerequisite of IT 101.
3. IT 212, IT 213, and IT 240 have a prerequisite of IT 107.
4. ENL 231 has a prerequisite of ENL 111 or COM 111.
5. IT 242 has a prerequisite of IT 212.
6. IT 276 has a prerequisite of IT 270.
7. The following list of courses are recommended as electives: AAT 104, AAT 136, AAT 160, AAT 255, AAT 265, AC 103, AC 108, COM 231, COM 235, EC 102, LAS 101, MG 101, MG 181, MK 130, MK 210, MK 279, IT 215, IT 221, IT 230, or SS 215.
8. Permission of instructor is required in order to enroll in IT 299.

Occupational Development
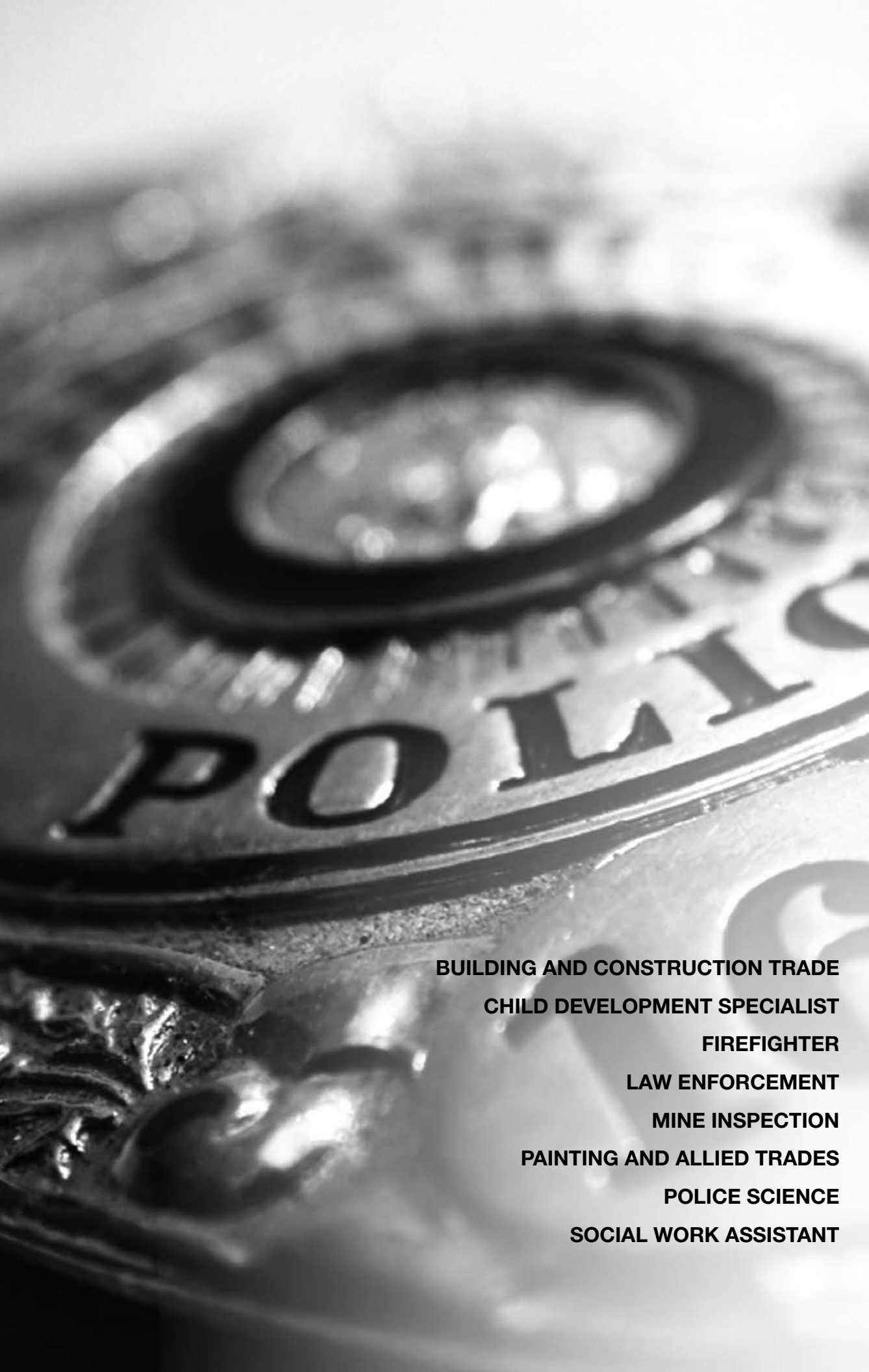
BUILDING AND CONSTRUCTION TRADE

CHILD DEVELOPMENT SPECIALIST

FIREFIGHTER

LAW ENFORCEMENT

MINE INSPECTION

PAINTING AND ALLIED TRADES

POLICE SCIENCE

SOCIAL WORK ASSISTANT

BUILDING AND CONSTRUCTION TRADES

ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Occupational Developmental Degree in Building and Construction Trades is designed to meet two major needs:
  (1) To provide for cooperatively sponsored educational opportunities leading to the Associate in Applied Science degree for students in approved apprenticeship training programs;
  (2) To provide a mechanism for Marshall Community & Technical College to deliver educational programs to individuals employed in the Building and Construction Trades field.

The United States Department of Labor, Bureau of Apprenticeships and Training (BAT) identifies eligible apprenticeships. Components of the program include the following: general education courses, classroom instruction in Building and Construction Trades, and on-the-job training.

Occupational Development students must meet admission and performance standards. Credits earned through either approved apprenticeship programs or through industry-based education and training programs will not be added to the students' collegiate transcripts until they have completed three program credit hours from Marshall Community & Technical College and have obtained at least a 2.00 GPA.

The student who graduates with the Occupational Development Degree in Building and Construction Trades will possess:

  - Supervisory skills
  - Computer software skills
  - Relevant essential math skills
  - Written and oral communication skills

Career Outlook:
Good employment opportunities for construction managers are expected through 2012 because the number of job openings should be sufficient to accommodate the number of qualified managers seeking to enter the occupation.

Salary Forecast:
Earnings of salaried construction managers and self-employed independent construction contractors vary depending upon the size and nature of the construction project, its geographic location, and economic conditions. In addition to typical benefits, many salaried construction managers receive benefits such as bonuses and use of company motor vehicles.

Median annual earnings of construction managers in 2004 were $69,870. The middle 50 percent earned between $53,430 and $92,350. The lowest 10 percent earned less than $42,120, and the highest 10 percent earned more than $126,330. Median annual earnings in the industries employing the largest numbers of construction managers in 2004 were:

Nonresidential building construction	$71,700
Foundation, structure, and building exterior contractors	$64,250
Building finishing contractors	$72,560
Residential building construction	$67,190
Other specialty trade contractors	$68,110

According to a 2005 salary survey by the National Association of Colleges and Employers, candidates with a degree in construction science/management received job offers averaging $42,923 a year.

Program Admission Requirements:
The college adheres to an open admissions policy which means applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

BUILDING AND CONSTRUCTION TRADES

MAJOR CODE - C010 • CONCENTRATION CODE – C017

FIRST YEAR	
Component I - General Education[1] ENL 111 Written Communication[2]. . . . . . . .3 COM 112 Oral Communication[3]. . . . . .3 IT 101 Fundamentals of Computers[4] (EDGE) . .3 General Education Elective. . . . . .3 Laboratory Science Course[5]. . . . .3-4 Quantitative Skills Course[5]. . . . . .3 Social Science Course[6]. . . . . . . .3 **TOTAL CREDITS. 21-22**	**Component II -** **Classroom Instruction in the Occupation[7]** 450-750 Classroom/Laboratory contact hours of Occupational Education converted to credit hours at the usual ration of 15:1 classroom or 30:1 laboratory. **MAXIMUM TOTAL CREDITS. 40**
Component III - On-the-Job Training in Occupation[8] Maximum of 2,400 contact hours of on-the-job training, converted to credit hours on a ratio of 200:1, can be counted toward the A.A.S. Degree. A statement of the total number of contact hours experienced on the job by the student may be placed on the college record. This credit will be recorded immediately prior to graduation from the college **TOTAL CREDITS. 12**	
HOURS REQUIRED FOR GRADUATION: 60	

Employment Opportunities:
- Building and trades
- Apprenticeship instructor

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Steven Brown • Cabell Hall, Room 110
Phone: 304-696-3366 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: brown175@marshall.edu

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1. Students must be employed in an occupation and complete an apprenticeship.
2. Fulfills state Written Communication Skills requirement for Occupational Development Degree.
3. Fulfills state Oral Communication Skills requirement for Occupational Development Degree.
4. IT 101 fulfills state General Education Elective Requirement for Occupational Development Degree and General Education Core.
5. Six total Quantitative Skills/Laboratory Science Experience credits are required for Occupational Development Degree and General Education Core. At least one college-level mathematics course must be selected from: MAT 115, MAT 145, or MAT 150. Students may complete the six credit requirement with a second college-level mathematics course or select a laboratory science course from the following: SCI 110, SCI 120, or SCI 201.
6. To fulfill Social Science Course requirement for Occupational Development select from EC 102, SS 201, SS 210, or SS 215.
7. Must provide documentation of completed Building and Construction Trades classroom instruction apprenticeship. A statement of the total number of classroom instruction hours may be placed on the college record, with credit being recorded immediately prior to graduation from college.
8. A letter must be received from employer to verify this employment.

CHILD DEVELOPMENT SPECIALIST

ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Occupational Developmental Degree in Child Development Specialist is designed to meet two major needs:
   (1)   To provide for cooperatively sponsored educational opportunities leading to the Associate in Applied Science degree for students in approved apprenticeship training programs;
   (2)   To provide a mechanism for Marshall Community & Technical College to deliver educational programs to individuals employed in the Child Development field.

The United States Department of Labor, Bureau of Apprenticeships and Training (BAT) identifies eligible apprenticeships. Components of the program include the following: general education courses, classroom instruction in child development, and on-the-job training.

Occupational Development students must meet all admission and performance standards. Credits earned through either approved apprenticeship programs or through industry-based education and training programs will not be added to the students' collegiate transcripts until they have completed three program credit hours from Marshall Community & Technical College and have obtained at least a 2.00 GPA.

The Occupational Development Degree in Child Development Specialist will prepare the student for employment in daycare centers, Head Start Programs, and other early childhood learning centers. The Child Development Specialist graduate will possess:

   •   Supervisory skills
   •   Computer software skills
   •   Relevant essential math skills
   •   Written and oral communication skills

Career Outlook:
High replacement needs should create good job opportunities for childcare workers. Many childcare workers must be replaced each year as they leave the occupation to take other jobs, to meet family responsibilities, or for other reasons. Qualified persons who are interested in this work should have little trouble finding and keeping a job. Opportunities for nannies should be especially good, as many workers prefer not to work in other people's homes.

Salary Forecast:
Pay depends on the educational attainment of the worker and the type of establishment. Although the pay generally is low, more education usually means higher earning potential. Median hourly earnings of wage and salary childcare workers were $8.06 in 2004. The middle 50 percent earned between $6.75 and $10.01. The lowest 10 percent earned less than $5.90 and the highest 10 percent earned more than $12.34. Median hourly earnings in the industries employing the largest numbers of childcare workers in 2004 were as follows:

Other residential care facility	$9.66
Elementary and secondary schools	$9.22
Civic and social organizations	$7.62
Child daycare services	$7.56
Other amusement and recreation industries	$7.34

Earnings of self-employed childcare workers vary depending on the hours worked, the number and ages of the children, and the location.

Program Admission Requirements:
The college adheres to an open admissions policy which means applicants with a high school diploma or a GED are eligible for admission.

CHILD DEVELOPMENT SPECIALIST

MAJOR CODE - C010 • CONCENTRATION CODE – C012

FIRST YEAR	
Component I - General Education[1,3] ENL 111 Written Communication[4]. . . . . . . .3 COM 112 Oral Communication[4]. . . . . .3 IT 101 Fundamentals of Computers (EDGE) . .3 General Education Elective. . . . . .3 Laboratory Science Course[5]. . . . .3-4 Quantitative Skills Course[5]. . . . . .3 Social Science Course[6]. . . . . . . .3 **TOTAL CREDITS. 21-22**	**Component II - Classroom Training** Occupational Component Elective[2]. . . . . .7 Classroom Training in Child Development[7]. . . . .20 **MAXIMUM TOTAL CREDITS. 27**
Component III - On-the-Job Training in Child Development[8,9] A letter verifying completion of contact hours must be received by the Dean's Office, located in Marshall Community & Technical College Advising Center prior to applying for graduation for credit to be awarded. **TOTAL CREDITS. 12**	
HOURS REQUIRED FOR GRADUATION: 60	

Employment Opportunities:
• Childcare supervisor

Earn a Degree Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Sara Dick • Cabell Hall, Room 110
Phone: 304-696-3366 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: crouse@marshall.edu

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1. Students may enter this program with no prior experience, but must complete approved Child Development Apprenticeship before being eligible for graduation.
2. Child Development Associate (CDA) may fulfill 12 credit hours of electives in Occupational Component Electives, otherwise contact advisor for selecting courses to fulfill this requirement.
3. Students must complete a minimum of 3 credit hours with Marshall Community & Technical College to establish academic residency.
4. Fulfills MCTC General Education and State Communication Skills requirement for Occupational Development Degree.
5. Six total Quantitative Skills/Laboratory Science Experience credits are required for Occupational Development Degree and General Education Core. At least one college-level mathematics course must be selected from: MAT 115, MAT 145, or MAT 150. Students may complete the six credit requirement with a second college-level mathematics course or select a laboratory science course from the following: SCI 110, SCI 120, or SCI 201.
6. To fulfill Social Science Course requirements for Occupational Development and General Education Core Degree select from EC 102, SS 201, SS 210, or SS 215.
7. Must provide documentation of West Virginia Department of Education and the Bureau of Apprenticeship and Training "Child Development Specialist" completion to have credit recorded immediately prior to graduation.
8. A letter must be received from employer to verify this employment.
9. Maximum of 2,400 contact hours of on-the-job training, converted to credit hours on a ratio of 200:1, can be counted toward the A.A.S. degree.

FIREFIGHTER

ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Occupational Developmental Degree in Firefighting is designed to meet two major needs:

(1) To provide for cooperatively sponsored educational opportunities leading to the Associate in Applied Science degree for students in approved apprenticeship training programs;

(2) To provide a mechanism for Marshall Community & Technical College to deliver educational programs for individuals working in the Firefighting field.

The United States Department of Labor, Bureau of Apprenticeships and Training (BAT) identifies eligible apprenticeships. Components of the program include the following: general education courses, classroom instruction in Firefighting, and possible on-the-job training.

Occupational Development students must meet admission and performance standards. Credits earned through either approved apprenticeship programs or through industry-based education and training programs will not be added to the students' collegiate transcripts until they have completed three program credit hours from Marshall Community & Technical College and have obtained at least a 2.00 GPA.

Firefighters are government employees who help protect the public from fires and other emergencies. Firefighters administer first aid and emergency medical attention and are often the first emergency personnel on the scene of an accident. While work schedules vary greatly, firefighters typically work 24-hour shifts with one to three days off between shifts. The profession can be very rewarding and is highly regarded by the general public.

Career Outlook:
Employment of fire fighters is expected to grow faster than the average for all occupations through 2014. Most job growth will occur as volunteer firefighting positions are converted to paid positions in growing suburban areas. In addition to job growth, openings are expected to result from the need to replace firefighters who retire, stop working for other reasons, or transfer to other occupations.

Salary Forecast:
Median hourly earnings of firefighters were $18.43 in May 2004. The middle 50 percent earned between $13.65 and $24.14. The lowest 10 percent earned less than $9.71, and the highest 10 percent earned more than $29.21. Median hourly earnings were $18.78 in local government, $17.34 in the federal government, and $14.94 in state government.

Program Admission Requirements:
The college adheres to an open admissions policy which means applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

FIREFIGHTER

MAJOR CODE - C010 • CONCENTRATION CODE – C013

FIRST YEAR	
Component I - General Education[1,2] ENL 111 Written Communication[3]. . . . . . . .3 COM 112 Oral Communication[3]. . . . . .3 IT 101 Fundamentals of Computers[4] (EDGE) . .3 General Education Elective[5]. . . . . .3 Science Course[6]. . . . . .3-4 Quantitative Skills Course[6]. . . . . .3 Social Science Course[7]. . . . . . . .3 **TOTAL CREDITS. 21-22**	**Component II -** **Classroom Instruction in the Occupation[8]** 450-750 Classroom/Laboratory contact hours of Occupational Education converted to credit hours at the usual ratio of 15:1 classroom or 30:1 laboratory. **TOTAL CREDITS. 30-40**
Component III - On-the-Job Training in the Occupation Maximum of 2,400 contact hours of on-the-job training, converted to credit hours on a ratio of 200:1, can be counted toward the A.A.S. Degree. A letter from the employer verifying the total number of contact hours experienced on the job by the student may be placed on the college record. This credit will be recorded immediately prior to graduation from the college. **TOTAL CREDITS. 9-12**	
HOURS REQUIRED FOR GRADUATION: 60	

Employment Opportunities:
- Firefighter
- Firefighter supervisor

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Steven Brown • Cabell Hall, Room 110
Phone: 304-696-3366 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: brown175@marshall.edu

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1. Student must be employed in firefighter occupation and complete an approved apprenticeship training program.
2. Students must complete a minimum of 3 credit hours with Marshall Community & Technical College to establish academic residency.
3. Fulfills MCTC General Education and State Communication Skills requirement for Occupational Development Degree.
4. IT 101 fulfills state General Education Elective Requirement for Occupational Development Degree and General Studies Core.
5. COM 115, SS 201, SS 210, or SS 215 may be used to fulfill state requirements for the General Education Elective for the Occupational Development Degree.
6. Six total Quantitative Skills/Science Experience credits are required for Occupational Development Degree and General Education Core. At least one college-level mathematics course must be selected from: MAT 115, MAT 145, or MAT 150. Students may complete the six credit requirement with a second college-level mathematics course or select a laboratory science course from the following: SCI 101, SCI 110, SCI 120, SCI 201, or SCI 257.
7. To fulfill Social Science Course requirements for Occupational Developmental and General Education Core Degree, select from EC 102, SS 201, SS 210, or SS 215.
8. Must provide a certificate or letter of completed Firefighter classroom instruction. A statement of the total number of classroom instruction hours may be placed on the college record, with credit being recorded immediately prior to graduation from college.

LAW ENFORCEMENT

ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Occupational Developmental Degree in Law Enforcement is offered in cooperation with the West Virginia State Police.

Admission to this program is restricted to state and local (city/county) law enforcement personnel who have been selected to attend or have completed training at the Police Academy.

The State Police Academy currently serves the state of West Virginia as the only law enforcement training facility that has been approved by the Governor's Committee on Crime, Delinquency, and Correction to provide mandatory entry-level police training.

Local law enforcement officers spend 16 weeks in residence at the State Police Academy and may receive up to 18 hours of academic credits toward Associate in Applied Science degree requirements. Remaining degree requirements may be met either on the Marshall Community & Technical College campus or at another institution of higher education offering appropriate coursework in proximity of place of residence. The program requires 21-22 credit hours of general education; 18 credit hours of classroom instruction; 9 credit hours of occupation-specific college courses and/or certification of training, Military Police Security Training, or training received through Law Enforcement Continuing Education; and 12 credit hours of on-the-job-training.

Career Outlook:
The opportunity for public service through law enforcement work is attractive to many because the job is challenging and involves much personal responsibility. Furthermore, law enforcement officers in many agencies may retire with a pension after 20 or 25 years of service, allowing them to pursue a second career while still in their 40s. Because of relatively attractive salaries and benefits, the number of qualified candidates exceeds the number of job openings in federal law enforcement agencies and in most state police departments—resulting in increased hiring standards and selectivity by employers. Competition should remain keen for higher paying jobs with state and federal agencies and police departments in more affluent areas. Opportunities will be better in local and special police departments, especially in departments that offer relatively low salaries, or in urban communities where the crime rate is relatively high. Applicants with college training in police science, military police experience, or both should have the best opportunities.

Employment of police and detectives is expected to grow faster than the average for all occupations through 2012. A more security-conscious society and concern about drug-related crimes should contribute to the increasing demand for police services.

Salary Forecast:
Police and sheriff's patrol officers had median annual earnings of $45,210 in May 2004. The middle 50 percent earned between $34,410 and $56,360. The lowest 10 percent earned less than $26,910, and the highest 10 percent earned more than $68,880. Median annual earnings were $44,750 in federal government, $48,980 in state government, and $45,010 in local government.
In May 2004, median annual earnings of police and detective supervisors were $64,430. The middle 50 percent earned between $49,370 and $80,510. The lowest 10 percent earned less than $36,690, and the highest 10 percent earned more than $96,950. Median annual earnings were $86,030 in federal government, $62,300 in state government, and $63,590 in local government.

Program Admission Requirements:
The college adheres to an open admissions policy which means applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

LAW ENFORCEMENT

MAJOR CODE - C010 • CONCENTRATION CODE – C014

<table>
<tr><td colspan="2" align="center">FIRST YEAR</td></tr>
<tr>
<td>

Component I - General Education[1,2]
ENL 111 Written Communication[3]. 3
COM 112 Oral Communication[3]. 3
IT 101 Fundamentals of Computers[4] (EDGE) . .3
Science Course[4]. 3-4
Quantitative Skills Course[4]. 3
Social Science Course[5]. 3
General Education Elective[6]. 3

TOTAL CREDITS. 21-22

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Component II - A
Classroom Instruction in the Occupation[7,8]
Classroom/Laboratory contact hours (450-750)of
Occupational Education converted to credit hours at the
usual ration of 15:1 classroom or 30:1 laboratory.
PST 111 Law Enforcement Orientation. 3
PST 122 Police Arsenal and Weapons. 3
PST 231 Fundamentals of Criminal Law. 2
PST 233 Fundamentals of Criminal. 3
PST 239 Criminal Evidence and Procedure. 3
PST 244 Intro to Criminalistics. 2
PST 248 Traffic Administration and Enforcement. .2
TOTAL CREDITS. 18

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Component II - B
LAS 101 General Law 1, LAS 102 General Law II,
EME 109 Emergency Medical Technician (EDGE), or
other approved courses, certifications, or Military Police
Security Training, or training received through Law
Enforcement Continuing Education may be substituted.

TOTAL CREDITS. 9

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Component III -
On-the-Job Training in Law Enforcement[9]
Maximum of 2400 contact hours of on-the-job train-
ing, converted to credit hours on a ratio of 200:1, can
be counted toward the A.A.S. Degree. A letter from the
employer verifying the total number of student contact
hours on the job will be placed on the college record,
with credit recorded immediately prior to graduation
from the college.
TOTAL CREDITS. 12

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<tr><td colspan="2" align="center">HOURS REQUIRED FOR GRADUATION: 60</td></tr>
</table>

Employment Opportunities:
- Deputy sheriff
- City police

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Steven Brown • Cabell Hall, Room 110 • Phone: 304-696-3366 or 1-866-N-ROLLED (1-866-676-5533)
E-mail: brown175@marshall.edu

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1. Student must be employed in Law Enforcement to begin this degree.
2. Students must complete a minimum of 3 credit hours with Marshall Community & Technical College to establish academic residency.
3. Fulfills MCTC General Education and State Communication Skills requirement for Occupational Development Degree.
4. Six total Quantitative Skills/ Science Experience credits are required for Occupational Development Degree and General Education Core. At least one college-level mathematics course must be selected from: MAT 115, MAT 145, or MAT 150. Students may complete the six credit requirement with a second college-level mathematics course or select a laboratory science course from the following: SCI 101, SCI 110, SCI 120, SCI 201, or SCI 257.
5. To fulfill Social Science Course requirements for Occupational Developmental and General Education Core Degree, select from EC 102, SS 201, SS 210, or SS 215.
6. Student may use a social science/humanities course to fulfill this requirement.
7. These hours are taken at the West Virginia State Police Academy.
8. These hours can be transferred to other state institutions.
9. Director of WV State Police must approve employment site. Call 304-746-2117 for more information.

MINE INSPECTION

ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Occupational Developmental Degree is designed to meet two major needs:

(1.) To provide for cooperatively sponsored educational opportunities leading to the Associate in Applied Science degree for students in approved apprenticeship training programs;
(2.) To provide a mechanism for Marshall Community & Technical College to deliver educational programs in a variety of occupational fields to businesses and industries having an immediate need for such programs.

The United States Department of Labor, Bureau of Apprenticeships and Training (BAT) identifies eligible apprenticeships. Components of the program include the following: general education, classroom instruction, and on-the-job training.

Occupational Development students must meet all admission and performance standards. Credits earned through either approved apprenticeship programs or through industry-based education and training programs will not be added to the students' collegiate transcripts until they have completed three program credit hours from Marshall Community & Technical College and have obtained at least a 2.00 GPA.

The student who graduates with the Associate in Applied Science Degree in Occupational Development will possess:

- Supervisory skills
- Computer software skills
- Relevant essential math skills
- Written and oral communication skills

Career Outlook:
Job opportunities should be favorable for construction, extraction, and production workers in coal mining and nonmetallic mineral mining. Many miners are approaching retirement age and younger miners will be hired to replace the retirees. Job turnover rates also are high in nonmetallic mineral mining because most mines are small and operate only during warm months; therefore, these mines tend to hire workers as they are needed. Jobs in nonmetallic mineral mining attract many migrant workers and those looking for summer employment. Job opportunities for professional workers, such as scientists and engineers, will be best in operations that provide exploration and mining.

Salary Forecast:
Average wage and salary earnings in mining were significantly higher than the average for all industries. In 2004, production workers earned $21.57 an hour in coal mining, $22.91 an hour in metal mining, and $17.74 an hour in nonmetallic minerals mining compared to the private industry average of $15.67 an hour. Workers in underground mines spend time traveling from the mine entrance to their working areas, so that their paid workday is slightly longer than that of surface mine workers, 8 hours versus 7 1/4-hour shifts.

Program Admission Requirements:
The college adheres to an open admissions policy which means applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

MINE INSPECTION

MAJOR CODE - C010 • CONCENTRATION CODE – C015

<table>
<tr><td colspan="2" align="center">FIRST YEAR</td></tr>
<tr>
<td>
Component I - General Education[1,2]
ENL 111 Written Communication[3]. 3
COM 112 Oral Communication[3]. 3
IT 101 Fundamentals of Computers[4] (EDGE) . .3
      Social Science Courses[5]. 3
      General Education Elective[6]. 3
      Quantitative Skills Course[6]. 3
      Laboratory Science Course[7]. . . .3-4
    TOTAL CREDITS. 21-22
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<td>
Component II -
Classroom Instruction in the Occupation[8]
450-750 Classroom/Laboratory contact hours of Occupational Education converted to credit hours at the usal ratio of 15:1 classroom or 30:1 laboratory.

    TOTAL CREDITS. 30-40
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<tr>
<td colspan="2">
Component III - On-the-Job Training in Occupation
Maximum of 2,400 contact hours of on-the-job training, converted to credit hours on a ratio of 200:1, can be counted toward the A.A.S. Degree. A statement of the total number of contact hours experienced on the job by the student may be placed on the college record. This credit will be recorded immediately prior to graduation from the college
    TOTAL CREDITS. 12
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</tr>
<tr><td colspan="2" align="center">HOURS REQUIRED FOR GRADUATION: 60</td></tr>
</table>

Employment Opportunities:
• Mine safety inspector

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Steven Brown • Cabell Hall, Room 110
Phone: 304-696-3366 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: brown175@marshall.edu

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1. Students must be employed in an occupation and complete an apprenticeship.
2. Students must complete a minimum of 3 credit hours with Marshall Community & Technical College to establish academic residency.
3. Fulfills MCTC General Education and State Communication Skills requirements for Occupational Development Degree.
4. IT 101 fulfills state General Education Elective Requirement for Occupational Development Degree and General Studies Core.
5. To fulfill General Education Electives requirement for Occupational Development and General Education Core Degree, select from COM 115, EC 102, SS 201, SS 210, or SS 215.
6. Six total Quantitative Skills/Science Experience credits are required for Occupational Development Degree and General Education Core. At least one college-level mathematics course must be selected from: MAT 115, MAT 145, or MAT 150. Students may complete the six credit requirement with a second-college level mathematics course or select a laboratory science course from the following: SCI 101, SCI 110, SCI 120, SCI 201 and SCI 257.
7. To fulfill Social Science Course requirements for Occupational Developmental and General Education Core Degree, select from EC 102, SS 201, SS 210, or SS 215
8. Must provide a certificate or letter of completed classroom instruction. A statement of the total number of classroom instruction hours may be placed on the college record, with credit being recorded immediately prior to graduation from college.

PAINTING AND ALLIED TRADES

ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Occupational Developmental Degree in Painting and Allied Trades is designed to meet two major needs:
(1) To provide for cooperatively sponsored educational opportunities leading to the Associate in Applied Science degree for students in approved apprenticeship training programs;
(2) To provide a mechanism for Marshall Community & Technical College to deliver educational programs for individuals working in the Painting and Allied Trades field.

The United States Department of Labor, Bureau of Apprenticeships and Training (BAT), identifies eligible apprenticeships. Components of the program include the following: general education courses, classroom instruction, and on-the-job training.
Occupational Development students must meet admission and performance standards. Credits earned either through approved apprenticeship programs or through industry-based education and training programs will not be added to the students' collegiate transcripts until they have completed three program credit hours from Marshall Community & Technical College and have obtained at least a 2.00 GPA.

The student who graduates with the Occupational Development Degree in Painting and Allied Trades will possess:

- Apprenticeship training skills
- Supervisory skills
- Computer software skills
- Relevant essential math skills
- Written and oral communication skills

Career Outlook:
Overall employment of painting and coating workers is expected to grow about as fast as the average for all occupations through the year 2012. Employment growth for highly skilled transportation painters and automotive refinishers is projected to be faster than for lesser skilled painting, coating, and spraying machine operators. In addition to jobs arising from growth, some jobs will become available each year as employers replace experienced operators who transfer to other occupations or leave the labor force.

Salary Forecast:
In May 2004, median hourly earnings of painters, construction and maintenance were $14.55. The middle 50 percent earned between $11.59 and $19.04. The lowest 10 percent earned less than $9.47, and the highest 10 percent earned more than $25.11. Median hourly earnings in the industries employing the largest numbers of painters in May 2004 were as follows:

Local government	$18.36
Residential building construction	$15.09
Nonresidential building construction	$14.97
Building finishing contractors	$14.44
Employment services	$11.31

In May 2004, median hourly earnings for paperhangers were $15.73. The middle 50 percent earned between $12.23 and $20.70. The lowest 10 percent earned less than $9.57, and the highest 10 percent earned more than $26.58.

Admission Requirements:
The college adheres to an open admission policy which means applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

PAINTING AND ALLIED TRADES

MAJOR CODE - C010 • CONCENTRATION CODE – C016

FIRST YEAR	
Component I - General Education[1],[2] ENL 111 Written Communication[3]. . . . . . . .3 COM 112 Oral Communication[3]. . . . . .3 IT 101 Fundamentals of Computers[4] (EDGE) . .3 Social Science Courses[5]. . . . . . . .3 General Education Elective[6]. . . . . .3 Quantitative Skills Course[6]. . . . . .3 Laboratory Science Course[7]. . . . .3-4 **TOTAL CREDITS. 21-22**	**Component II -** **Classroom Instruction in the Occupation[7]** 450 to 750 Classroom/Laboratory contact hours of Occupational Education converted to credit hours at the usual ratio of 15:1 classroom or 30:1 laboratory **MAXIMUM TOTAL CREDITS. 40**
Component III - On-the-Job Training in Occupation Maximum of 2,400 contact hours of on-the-job training, converted to credit hours on a ratio of 200:1, can be counted toward the A.A.S. Degree. A statement of the total number of contact hours experienced on the job by the student may be placed on the college record. This credit will be recorded immediately prior to graduation from the college **TOTAL CREDITS. .12**	
HOURS REQUIRED FOR GRADUATION: 60	

Employment Opportunities:
• Work as journeyman
• Apprenticeship instructor
• Jobsite foreman

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Steven Brown • Cabell Hall, Room 110
Phone: 304-696-3366 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: brown175@marshall.edu

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1. Student must complete a Department of Labor approved apprenticeship.
2. Fulfills state Written Communication Skills requirement for Occupational Development Degree.
3. Fulfills state Oral Communication Skills requirement for Occupational Development Degree.
4. IT 101 fulfills state General Education Elective Requirement for Occupational Development Degree and General Education Core.
5. To fulfill Social Science Course requirements for Occupational Development and General Education Core Degree, select from EC 102, SS 201, SS 210, or SS 215. Check with an advisor for approved Humanities or other general education approved courses. Three hours total of TTA 101, TTA 102, and/or TTA 103 may be used to fulfill 3 credit hours of the Social Science and General Education Electives.
6. Six total Quantitative Skills/Science Experience credits are required for Occupational Development Degree and General Education Core. At least one college-level mathematics course must be selected from: MAT 115, MAT 145, or MAT 150. Students may complete the six credit requirement with a second college-level mathematics course or select a laboratory science course from the following: SCI 101, SCI 110, SCI 120, SCI 201, or SCI 257. Note: 3 credit hours of lab science can be met with specialized training listed as OD 104 through 111.
7. Must provide a certificate or letter of completed classroom instruction. A statement of the total number of classroom instruction hours may be placed on the college record, with credit being recorded immediately prior to graduation from college.

POLICE SCIENCE

ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Police Science Degree is offered in cooperation with the West Virginia State Police and is located at the State Police Academy in Institute, West Virginia. This program is not designed for regular full-time or part-time students. Admission to this program is restricted to those accepted into the West Virginia State Police Cadet training corps. The State Police Academy currently serves the state of West Virginia as the only law enforcement training facility that has been approved by the Governor's Committee on Crime, Delinquency, and Correction to provide mandatory entry-level police training.

- The prospective student must be 21 years of age and meet the requirements of the State Police Academy.
- State Police personnel complete a 30-week residential program in which all degree coursework, with the exception of the internship, is completed.
- A field internship must be completed during the employee's probationary employment period before the degree is awarded.

Career Outlook:
The opportunity for public service through law enforcement work is attractive to many because the job is challenging and involves much personal responsibility. Furthermore, law enforcement officers in many agencies may retire with a pension after 25 or 30 years of service, allowing them to pursue a second career while still in their 40s or 50s. Because of relatively attractive salaries and benefits, the number of qualified candidates exceeds the number of job openings in federal law enforcement agencies and in most state police departments—resulting in increased hiring standards and selectivity by employers. Competition should remain keen for higher-paying jobs with state and federal agencies and police departments in more affluent areas. Opportunities will be better in local and special police departments, especially in departments that offer relatively low salaries, or in urban communities where the crime rate is relatively high. Applicants with college training in police science, military police experience, or both should have the best opportunities.

Salary Forecast:
West Virginia State Police Officers are set by rank and time in service. The current salary ranges are below:

Rank	Minimum	Maximum
Trooper	$28,122	$46,494
Senior Trooper	$38,482	$46,882
Trooper First Class	$39,070	$47,470
Corporal	$39,658	$48,058
Sergeant	$43,834	$52,234
First Sergeant	$45,922	$54,322
2nd Lieutenant	$48,010	$56,410
1st Lieutenant	$50,098	$58,498
Captain	$52,186	$60,586
Major	$54,274	$62,674
Lieutenant Colonel	$56,362	$64,762

Program Admission Requirements:
The college adheres to an open admissions policy which means applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

POLICE SCIENCE

MAJOR CODE – CP20

FIRST YEAR		
Police Science Training Component[1,2]		**General Education Component**
EME 105 First on Scene. 3		ENL 111 Written Communication 3
PST 111 Law Enforcement Orientation. 3		COM 112 Oral Communication 3
PST 113 Police Defense Tactics. 2		IT 101 Fundamentals of Computers (EDGE). . .3
PST 120 Patrol Operations and Procedures. . .3		MAT 139 Mathematics for Political Science[4]. 5
PST 122 Police Arsenal and Weapons. 3		PST 242 Police Community Relations[5]. 3
PST 231 Fundamentals of Criminal Law. 3		PST 244 Intro to Criminalistics[4]. 4
PST 233 Fundamentals of Criminal Investigation .3		
PST 235 Police Organization and Administration. .3		
PST 237 Police Role in Crime and Delinquency. .3		
PST 239 Criminal Evidence and Procedure. . . .3		
PST 246 Police Records and Reports. 3		
PST 248 Traffic Administration and Enforcement. .3		
PST 290 Law Enforcement and Internship[3]. . . .9		
TOTAL CREDITS. 44		**TOTAL CREDITS. 21**
HOURS REQUIRED FOR GRADUATION: 65		

Employment Opportunities:
- West Virginia State Police
- Federal Bureau of Investigation
- Federal Marshal

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
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Phone: 304-696-3366 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: brown175@marshall.edu

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1. Student must be accepted as a Cadet at West Virginia State Police Academy for program enrollment. Contact Personnel Director of West Virginia State Police at (304) 746-2117 or local State Police Detachment for program application information.
2. All courses are taught at West Virginia State Police Academy in Institute.
3. PST 290 has a requirement of instructor permission. Student must complete one year of full-time employment with the West Virginia State Police to fulfill course requirements.
4. MAT 139 and PST 244 fulfill degree requirements for Quantitative Skills/Science for General Education Core.
5. PST 242 fulfills degree requirement for Social Science General Education Core.

SOCIAL WORK ASSISTANT

ASSOCIATE IN APPLIED SCIENCE

Program Description:
The Occupational Development Degree in Social Work Assistant is designed to meet three major needs:

(1) To provide for cooperatively sponsored educational opportunities leading to the Associate of Applied Science degree for students in approved apprenticeship training programs;

(2) To provide a mechanism for the Marshall Community & Technical College to deliver educational programs for individuals working in the Social Work Assistant field;

(3) To provide a preparation for the Social Work Bachelor's Degree. Occupational Development students must meet admission and performance standards. Credits either earned through the approved apprenticeship programs or through industry based education and training programs will not be added to the students' collegiate transcript until they have completed three program credit hours from Marshall Community & Technical College and have obtained at least a 2.00 GPA.

Career Outlook:
Job opportunities for social and human service assistants are expected to be excellent, particularly for applicants with appropriate postsecondary education. The number of social and human service assistants is projected to grow much faster than the average for all occupations through and 2014—ranking the occupation among the most rapidly growing. Many additional job opportunities will arise from the need to replace workers who advance into new positions, retire, or leave the workforce for other reasons. There will be more competition for jobs in urban areas than in rural areas, but qualified applicants should have little difficulty finding employment. Faced with rapid growth in the demand for social and human services, many employers increasingly rely on social and human service assistants to undertake greater responsibility for delivering services to clients.

Salary Forecast:
Median annual earnings of social and human service assistants were $24,270 in May 2004. The middle 50 percent earned between $19,220 and $30,900. The top 10 percent earned more than $39,620, while the lowest 10 percent earned less than $15,480.
Median annual earnings in the industries employing the largest numbers of social and human service assistants in May 2004 were:

State government	$29,270
Local government	$28,230
Individual and family	$23,400
Community food and housing, and emergency and other relief services	$21,770
Residential mental retardation, mental health and substance abuse facilities	$20,410

Program Admission Requirements:
The college adheres to an open admissions policy which means applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

Career Description:
Social work and human service assistant is a generic term for people with a wide array of job titles, including human service worker, case management aide, social work assistant, community support worker, mental health aide, community outreach worker, life skill counselor, or gerontology aide. They usually work under the direction of professionals from a variety of fields, such as nursing, psychiatry, psychology, rehabilitative or physical therapy, or social work. The amount of responsibility and supervision they are given varies a great deal.

Social and human service assistants provide direct and indirect client services to ensure that individuals in their care reach their maximum level of functioning. They assess clients' needs, establish their eligibility for benefits and services such as food stamps, Medicaid, or welfare, and help clients to obtain these services. They also arrange for transportation and escorts, if necessary, and provide emotional support. Social work and human service assistants monitor and keep case records on clients and report progress to supervisors and case managers.

SOCIAL WORK ASSISTANT

MAJOR CODE - C010 • CONCENTRATION CODE – C018

FIRST YEAR	
COMPONENT I - General Education[1,2] ENL 111 Written Communcation[3,4]. . . . . .3 COM 112 Oral Communication[3,4]. . . . . 3 IT 101 Fundamentals of Computers[4] (EDGE). . . .3 General Educative Elective[5]. . . . . .3 Quantitive Skills Course3[3,6]. . . . . . . .3-4 Science Course[6] . . . . .3 Social Science[7] . . . . .3 **TOTAL CREDITS. 21-22**	**COMPONENT II - A** **A Classroom Insruction in Social Service** Introduction to Social Work Assistant; Groups, Organizations, and Evaluation; Individual and Family Development; Cultural Sensitivity/Special Populations; Communication and Problem Solving; Various In-Service Trainings. **TOTAL CREDITS. 20**
COMPONENT II - B **General Education Electives (Select 9 hours)** BSC 105 Introduction to Biology[4,8]. . . . . .4 ENL 115 Written Communication II[4,9]. . . . . 3 ENL 231 Technical Report Writing[9]. . . . . .3 HMN 235 Leadership Development Studies[9]. . . . . .3 EC 102 Basic Economics[4]. . . . . .3 ECN 250 Principles of Microeconomics[4]. . . . . . . .3 PSY 201 General Psychology[4]. . . . . .3 SOC 200 Introductory Sociology[4]. . . . . .3 BIOL 257 Intro to Anatomy & Physiology[4] (EDGE). . .3 **TOTAL CREDITS. 9**	**COMPONENT III - On-the-job Training in Social Service Aid[10,11]** A maximum of 12 credit hours can be earned for employment in an approved apprenticeship employment site. Contact program advisor for more information. **TOTAL CREDITS. 12**
HOURS REQUIRED FOR GRADUATION: 60	

Employment Opportunities:
• Social work assistant

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
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1. Students may enter this program with no prior experience, but must complete approved Social Service-Assistant Apprenticeship requirements before being eligible for graduation.
2. Students must complete a minimum of 3 credit hours with Marshall Community & Technical College to establish academic residency.
3. Fulfills MCTC General Education and State Communication Skills requirement for Occupational Development Degree.
4. Fulfills requirements for Bachelor's Degree in Social Work.
5. Student may use a social science/humanities course to fulfill this requirement.
6. Six total Quantitative Skills/Science Experience credits are required for Occupational Development Degree and General Education Core. At least one college-level mathematics course must be selected from: MAT 115, MAT 145, or MAT 150. Students may complete the six credit requirement with a second college-level mathematics course or select a laboratory science course from the following: SCI 101, SCI 110, SCI 120, SCI 201, or SCI 257.
7. To fulfill Social Science Course requirements for Occupational Developmental and General Education Core Degree select three (3) credits from EC 102, SS 201, SS 210, or SS 215.
8. BSC 105 has a prerequisite of BSC 104 may be waived for Social Work Assistant majors. To register, please see an advisor.
9. ENL 115, ENL 231, and HMN 235 have a prerequisite of ENL 111 or COM 111.
10. A letter must be received from employer to verify this employment.
11. Maximum of 2,400 contact hours of on-the-job training, converted to credit hours on a ratio of 200:1, can be counted toward the A.A.S. degree.
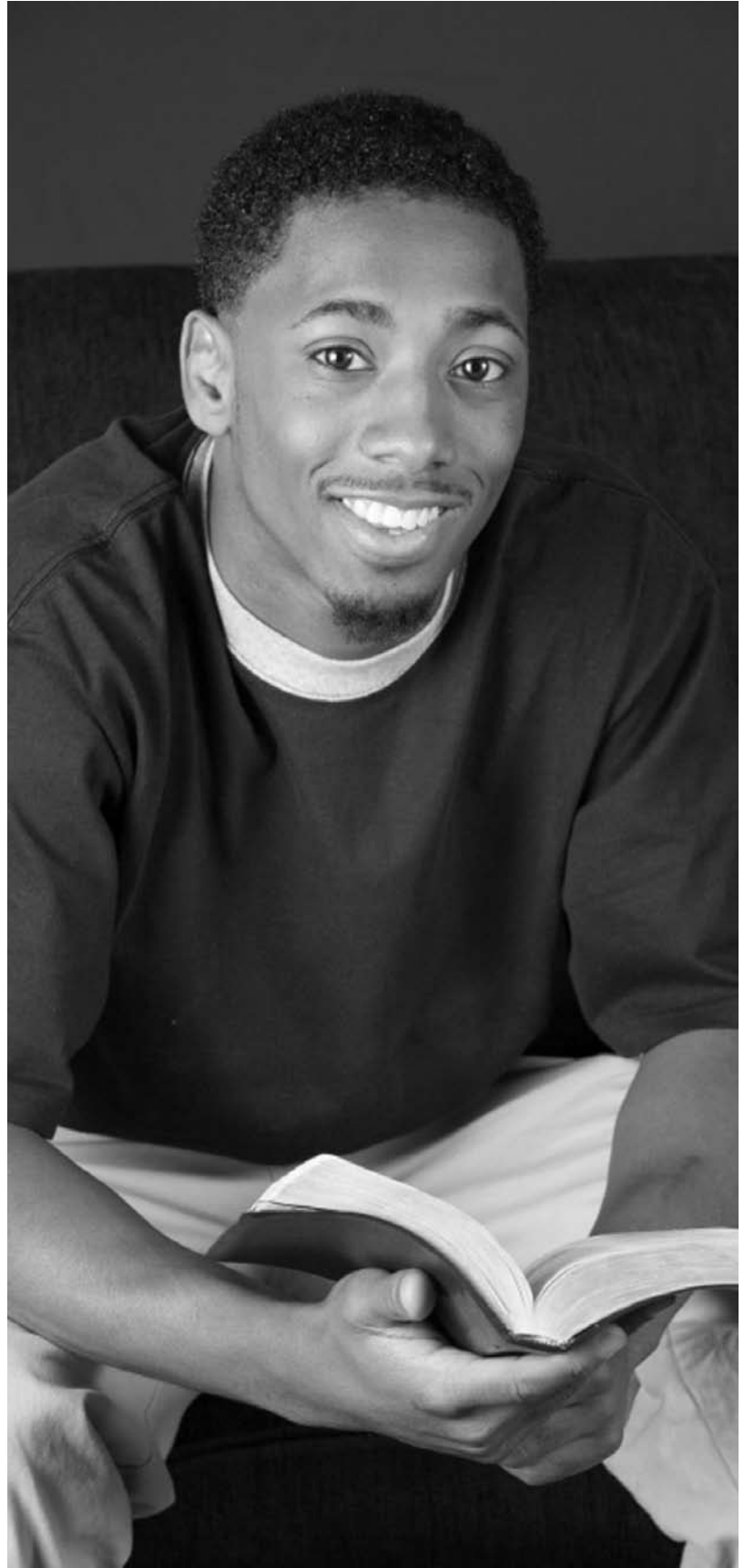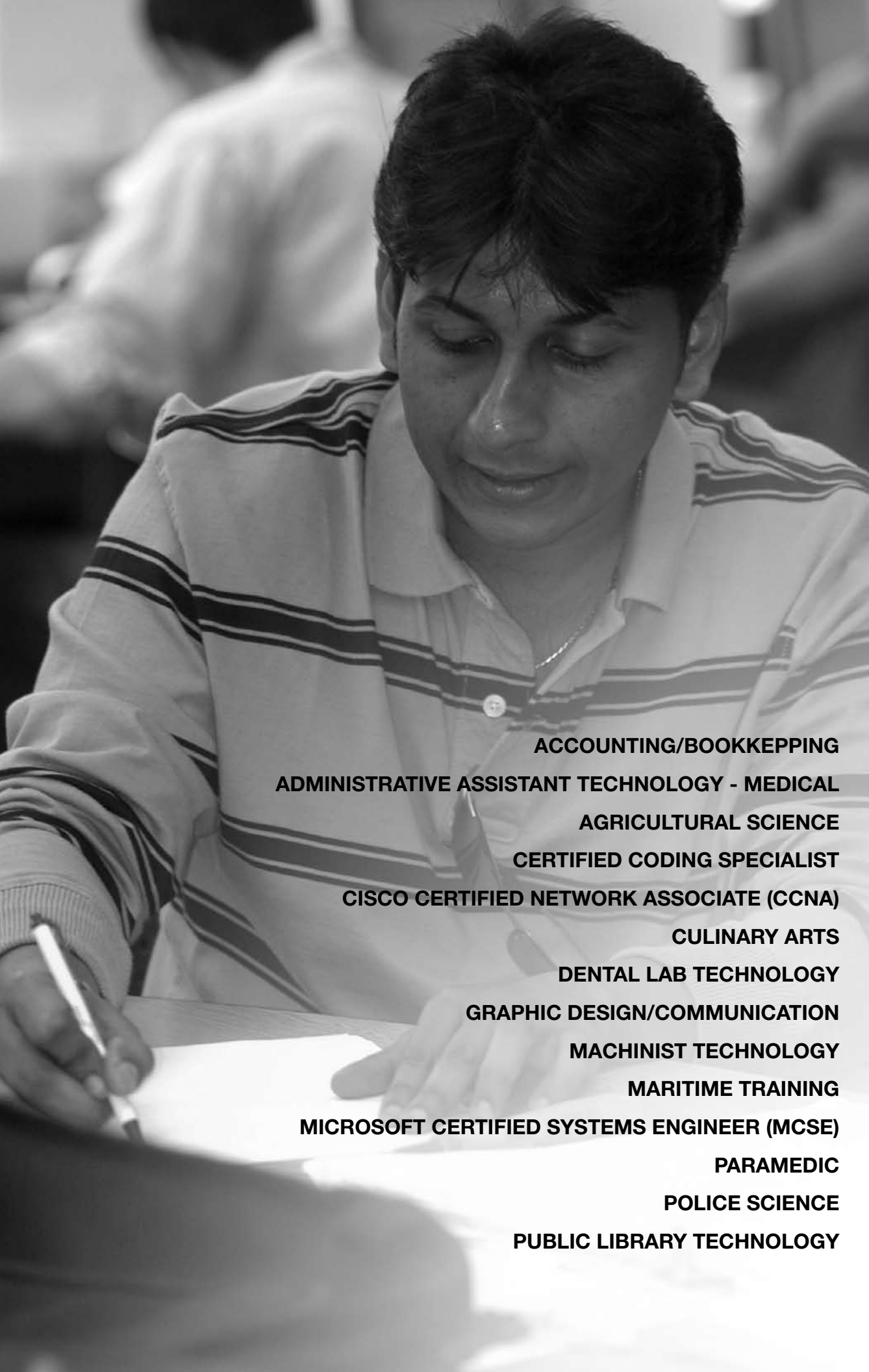
ACCOUNTING/BOOKKEPPING

ADMINISTRATIVE ASSISTANT TECHNOLOGY - MEDICAL

AGRICULTURAL SCIENCE

CERTIFIED CODING SPECIALIST

CISCO CERTIFIED NETWORK ASSOCIATE (CCNA)

CULINARY ARTS

DENTAL LAB TECHNOLOGY

GRAPHIC DESIGN/COMMUNICATION

MACHINIST TECHNOLOGY

MARITIME TRAINING

MICROSOFT CERTIFIED SYSTEMS ENGINEER (MCSE)

PARAMEDIC

POLICE SCIENCE

PUBLIC LIBRARY TECHNOLOGY

One-Year Certificates

MANAGEMENT TECHNOLOGY

ACCOUNTING/BOOKKEEPING - CERTIFICATE

Program Description:
The Accounting/Bookkeeping Certificate Program is designed to prepare students for entry-level positions in the accounting/bookkeeping field. The completion of the certificate program prepares students to work for CPA firms, corporate accounting departments, and small businesses. This would include clerical positions in specialized areas such as accounts payable, accounts receivable, and payroll, as well as any positions involved in the accounting functions of a business.

Students who successfully complete the certificate program will be able to demonstrate the following competencies:

- Identify and describe the fundamental principles and practices of accounting;
- Apply fundamental accounting principles and practices to prepare common income statements, balance sheets, and cash flow statements;
- Utilize microcomputer accounting software systems for the purpose of maintaining a general ledger, accounts receivable, accounts payable, and payroll;
- Identify, describe, and prepare a variety of tax records and reports necessary to maintain a business and to meet local, state, and federal requirements;
- Develop and analyze accounting information for managerial planning and control;
- Complete computer applications including word processing, spreadsheets, databases, electronic mail, and the Internet;
- Identify and apply the techniques of effective oral and written communication in a business setting;
- Perform business mathematical operations utilizing the calculator for computations.

Students who successfully complete the certificate program are eligible to transfer all of the 30 credit hours into the two-year Management Technology, Accounting Option, and Associate in Applied Science Degree Program.

Career Outlook:
Accounting paraprofessionals are qualified for numerous career opportunities such as accountant's assistants, accounting clerks, bookkeepers, banking support staff, finance support staff, and income tax preparation clerks. According to the Bureau of Labor Statistics, "The large size of this occupation ensures plentiful job openings, including many opportunities for temporary and part-time work."

Salary Forecast:
Salaries of financial clerks vary considerably. The region of the country, size of the city, and type and size of the establishment all influence salary levels. Also, the level of expertise required and the complexity and uniqueness of a clerk's responsibilities may affect earnings. Median hourly earnings of full-time financial clerks were as follows:

Procurement clerks	$14.85
Payroll and timekeeping clerks	$14.60
Bookkeeping, accounting, and auditing clerks	$13.72
Bill and account collectors	$13.20
Billing and posting clerks and machine operators	$13.00
Tellers	$10.15

(Information obtained from the Bureau of Labor Statistics, Occupational Outlook Handbook 2005-2006).

Program Admission Requirements:
The college adheres to an open admissions policy, which means applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

MANAGEMENT TECHNOLOGY

ACCOUNTING/BOOKKEEPING
MAJOR CODE – CA30

FIRST YEAR	
First Semester[1]	**Second Semester**
AC 103 Introduction to Accounting (EDGE)......3	AC 201 Financial Accounting[2]..............3
ENL 111 Written Communication............3	AC 221 Computerized Accounting[3]...........3
IT 101 Fundamentals of Computers (EDGE)....3	AC 234 Taxation[2] 3
MAT 115 Business Mathematics...........3	FN 231 Business Finance[2].................3
MG 101 Introduction to Business (EDGE)......3	IT 150 Applications to Spreadsheets[4] (EDGE) ...3
TOTAL CREDITS.........................15	**TOTAL CREDITS.........................15**
HOURS REQUIRED FOR GRADUATION: 30	

Employment Opportunities:
- Accountant's assistants
- Accounting clerk
- Bookkeeper

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
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1. The one-year certificate in Accounting/Bookkeeping will allow the student to apply 30 academic credits toward the A.A.S. degree in Management Technology - Accounting.
2. AC 201, AC 234 and FN 231 have a prerequisite of AC 103 or permission.
3. AC 221 has a prerequisite of IT 101 and AC 103, or permission.
4. IT 150 has a prerequisite of IT 101.

MANAGEMENT TECHNOLOGY

ADMINISTRATIVE ASSISTANT TECHNOLOGY
MEDICAL TRANSCRIPTION - CERTIFICATE

Program Description:
The increasing healthcare demands of today's society have created the need for highly skilled medical transcriptionists who possess the knowledge and skills necessary to succeed in this demanding profession. The One-Year Certificate Program in Medical Transcription provides a strong foundation in anatomy/physiology, medical terminology, pharmacology, human diseases, laboratory and surgical procedures, preparation of medical documents, and medical transcription.

This intensive program utilizes authentic physician dictation to prepare students to transcribe a wide variety of dictation subjects including Cardiology, Dermatology, Endocrinology, Gastroenterology, Neurology, Obstetrics and Gynecology, Urology, Ophthalmology, Pulmonary Medicine, Orthopedics, Otorhinolaryngology, Hematology/Oncology/Immunology, Pathology, and Radiology. The student progresses from entry-level to hospital style dictation.

Upon completion of the One-Year Certificate Program in Medical Transcription, the graduate will be able to demonstrate knowledge that is specific to the medical transcription field and gain real-life experience through placement in a medical transcription internship.

Career Outlook:
Job opportunities will be good. Employment of medical transcriptionists is projected to grow faster than the average for all occupations through 2012. Demand for medical transcription services will be spurred by a growing and aging population. Older age groups receive proportionately greater numbers of medical tests, treatments, and procedures that require documentation. A high level of demand for transcription services also will be sustained by the continued need for electronic documentation that can be easily shared among providers, third-party payers, regulators, and consumers. Growing numbers of medical transcriptionists will be needed to amend patients' records, edit for grammar, and identify discrepancies in medical records. With experience, a transcriptionist may work from home (free lance or employed for an organization).

Salary Forecast:
Wage-and-salary medical transcriptionists had median hourly earnings of $14.40 in May 2006. The middle 50 percent earned between $12.17 and $17.06. The lowest 10 percent earned less than $10.22, and the highest 10 percent earned more than $20.15. Median hourly earnings in the industries employing the largest numbers of medical transcriptionists were:

Medical and diagnostic Laboratories	$15.68/hour
General medical and surgical hospitals	$14.62/hour
Business support services	$14.34/hour
Outpatient care centers	$14.31/hour
Offices of physicians'	$14.00/hour

Compensation methods for medical transcriptionists vary. Some are paid based on the number of hours they work or on the number of lines they transcribe. Others receive a base pay per hour with incentives for extra production. Employees of transcription services and independent contractors almost always receive production-based pay. Independent contractors earn more than do transcriptionists who work for others, but independent contractors have higher expenses than their corporate counterparts, receive no benefits, and may face higher risk of termination than do wage-and-salary transcriptionists.

Information obtained from Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2008-09 Edition, Secretaries and Administrative Assistants, on the Internet at http://www.bls.gov/oco/ocos151.htm (Visited January 18, 2008)

Program Admission Requirements:
Successful completion of entrance exams in grammar, spelling, and punctuation is required. A minimum keyboarding speed of 45 wpm is required. Applicants should possess basic word processing skills. Arrangements for exams may be made through the Advising Center at 696-3262.

MANAGEMENT TECHNOLOGY

ADMINISTRATIVE ASSISTANT TECHNOLOGY
MEDICAL TRANSCRIPTION
MAJOR CODE – CM50

FIRST YEAR[1]	
First Semester[2]	**Second Semester[3]**
AAT 220 Anatomy & Physiology for Transcription. . .3	AAT 224 Adv. Laboratory Medicine for Transcription. .1
AAT 221 Medical Terminology for Transcription. . . 3	AAT 225 Human Diseases for Transcription. 3
AAT 222 Pharmacology for Transcription. 3	AAT 226 Surgical Procedures for Transcription . . . 1
AAT 223 Beg. Laboratory Medicine Transcription. . .1	AAT 245 Pathology Transcription. 2
AAT 224 Beginning Medical Transcription. 8	AAT 246 Radiology Transcription 2
	AAT 247 Gastroenterology Transcription 2
	AAT 248 Cardiology Transcription 2
	AAT 249 Orthopedics Transcription 2
	AAT 250 Medical Transcription Internship 1
TOTAL CREDITS. 18	**TOTAL CREDITS. 16**
HOURS REQUIRED FOR GRADUATION: 34	

Employment Opportunities:
- Physicians' offices
- Hospitals
- Medical schools
- Acute care facilities
- Physical therapy facilities
- Rehabilitation facilities
- Nursing homes
- Clinics
- Transcription companies
- Independent contractors
- Business support services
- Work from home

Contact Information:
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1. To be admitted to the program, students must take a series of entrance exams verifying above-average grammar, spelling, and punctuation skills; basic word processing skills; and a minimum keyboarding speed of 45 wpm. Students who have completed the one-year Medical Transcription certificate program may apply all of the 34 credit hours to the two-year Associate of Applied Science, Administrative Assistant Technology - Medical Transcription degree program.
2. First semester AAT courses have prerequisites of admission to the program and instructor permission. Please see an advisor for further information on program admission requirements.
3. Second semester AAT courses have prerequisites of successful completion (C or better) of first semester courses and instructor permission.

TECHNICAL STUDIES

AGRICULTURAL SCIENCE - CERTIFICATE

Program Description:
The Technical Studies Degree is designed to meet three major needs:

(1) To provide for cooperatively sponsored educational opportunities leading to the Associate in Applied Science degree and/or One-Year Certificate for students in quality education and training programs;
(2) To increase the abilities of employees to use technology effectively and responsibly;
(3) To assist those employed in the workforce to understand that education is a life-long process.

Marshall Community & Technical College delivers educational programs in a variety of occupational fields to businesses and industries having an immediate need for such programs.

Components of the program include the following: general education, classroom instruction in a technical core and in the occupational area, and possible on-the-job training.

Technical Studies students must meet all normal admission and performance standards. Credits earned through either the approved apprenticeship programs or through industry-based education and training programs will not be added to the student's collegiate transcript until the student has completed twelve program credit hours from Marshall Community & Technical College and has obtained at least a 2.00 GPA.

The student who graduates with the One-Year Certificate Degree in Technical Studies will possess:

- Computer software skills
- Relevant essential math skills
- Written and oral communication skills

Career Outlook:
Advancement of agricultural workers depends on motivation and experience. Farm workers who work hard and quickly, have good communication skills, and take an interest in the business may advance to crew leader or other supervisory positions. Some agricultural workers may aspire to become farm, ranch, and other agricultural managers, or farmers or ranchers themselves. In addition, their knowledge of raising and harvesting produce may provide an excellent background for becoming purchasing agents and buyers of farm products. Knowledge of working a farm as a business can help agricultural workers become farm and home management advisors. Those who earn a college degree in agricultural science could become agricultural and food scientists.

Salary Forecast:
Median hourly earnings in May 2004 for each of the occupations found in this statement are as follows:

Agricultural inspectors	$14.92
Animal breeders	$13.55
Agricultural workers, all other	$10.15
Agricultural equipment operators	$8.88
Farmworkers, farm, and ranch animal	$8.31
Graders and sorters, agricultural products	$7.90
Farmworkers and laborers, crop, nursery, and greenhouse	$7.70

TECHNICAL STUDIES

AGRICULTURAL SCIENCE
MAJOR CODE - CT10 • CONCENTRATION CODE - CT13

FIRST YEAR[1]	
COMPONENT I - General Education[1] ENL 111 Written Communication . . . . .3 IT 101 Fundamental of Computers[1] (EDGE). . . 3 MAT 150 Applied Professional Mathematics[2]. . . . .3 MG 101 Introduction to Business[1] (EDGE). . . . .3 SS Interpersonal Relations/Social Science. . .3 **TOTAL CREDITS. .15**	**Common Core Courses** Agricultural and Natural Resources I (EDGE) Agricultural and Natural Resources II (EDGE) **Agriscience & Agricult. Production Systems Focus:** Agriscience 11 (EDGE) Agriscience 12 (EDGE)
COMPONENT II - **Technical/Occupational Specialty[4]** **(20 CREDIT HOURS)** **Note: Core and Option Courses Required**	**Agricultural Mechanics Option:** Agricultural Mechanics I (EDGE) Agricultural Mechanics II (EDGE) **Animal Science Focus:** Animal Processing (EDGE) Food Science and Processing (EDGE) **Plant Systems Focus:** Greenhouse Technology (EDGE) Horticulture (EDGE)
HOURS REQUIRED FOR GRADUATION: 35	

Employment Opportunities:
- Nurseries
- Farms
- Feed & seed stores
- Butcher shops
- Forestry

Vocational Site Partnership:
In addition, Marshall Community & Technical College (MCTC) offers a One-Year Certificate Program and an Associate of Applied Science in Technical Studies in conjunction with its Vocational Site Partnerships in Cabell, Mason, Putnam, and Wayne counties through EDGE.

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Sumeeta Patnaik • MCTC, Room 115
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1. Students must complete a minimum of 3 credit hours with Marshall Community & Technical College to establish academic residency.
2. Six total Quantitative Skills/Laboratory Science/Experience credits are required. At least one college-level mathematics course must be selected from: MAT 115, MAT 145, or MAT 150. Students may complete the six-credit requirement with a second college-level mathematics course or select from the following: SCI 101, SCI 120 or SCI 201.MAT 145 may be substituted for MAT 150.
3. Select from SS 201, SS 210, or SS 215.

TECHNICAL STUDIES

CERTIFIED CODING SPECIALIST - CERTIFICATE

Program Description:
The Certified Coding Specialist (CCS) serves as a qualified technician in analyzing and classifying medical data. Using universally recognized coding systems (ICD-9-CM and CPT-4), the CCS assigns codes to diagnoses, injuries and procedures found in the records of patients. The codes are then reported to insurance companies or government agencies for payment/reimbursement of patients' health expenses, medical statistics and research.

This program will enable the student to become familiar with the coding systems, medical terminology and medical background of anatomy and diseases which will give the student a basis on which to build. Students will also have the opportunity to complete a directed practice of 120 hours in a healthcare setting. This course will prepare students to sit for the CCS exam administered by the American Health Information Association. Please refer to their Website at www.ahima.org for further qualifications for taking the national certification test for the CCS.

Career Outlook:
Job prospects should be very good. Employment of medical records technicians is expected to grow much faster than the average for all occupations through 2012, due to rapid growth in the number of medical tests, treatments, and procedures that will be increasingly scrutinized by third-party payers, regulators, courts, and consumers.

Salary Forecast:
Median annual earnings of medical records technicians were $25,590 in 2004. The middle 50 percent earned between $20,650 and $32,990. The lowest 10 percent earned less than $17,720, and the highest 10 percent earned more than $41,760. Median annual earnings in the industries employing the largest numbers of medical records and health information technicians in 2004 were as follows:

General medical and surgical hospitals	$26,640
Nursing care facilities	$26,330
Outpatient care centers	$23,870
Physicians' offices	$22,130

Program Admission Requirements:
1. Admission to Marshall Community & Technical College
2. Application to program

Career Description:
Certified Coding Specialists are professionals skilled in classifying medical data from patient records, generally in the hospital setting. These coding practitioners review patients' records and assign numeric codes for each diagnosis and procedure. To perform this task, they must possess expertise in the ICD-9-CM coding system and the surgery section within the CPT coding system. In addition, the CCS is knowledgeable of medical terminology, disease processes, and pharmacology.

Hospitals or medical providers report coded data to insurance companies or the government, in the case of Medicare and Medicaid recipients, for reimbursement of their expenses. Researchers and public health officials also use coded medical data to monitor patterns and explore new interventions. Coding accuracy is thus highly important to healthcare organizations because of its impact on revenues and describing health outcomes. Accordingly, the CCS credential demonstrates tested data quality and integrity skills in a coding practitioner. The CCS certification exam assesses mastery or proficiency in coding rather than entry-level skills.

Individuals may also contact the American Health Information Association at (312)787-2672 or www.ahima.org

TECHNICAL STUDIES

CERTIFIED CODING SPECIALIST
MAJOR CODE - CC20

FIRST YEAR[1]	
First Semester	**Second Semester**
AH 151 Medical Terminology (EDGE) 3	AH 205 Principles of Disease[2] 4
ENL 111 Written Communication 3	AH 216 Basic Pharmacology[3] 3
HIT 203 Introduction to Coding 4	HIT 204 Advanced Coding Concepts[4]. 4
BIOL 257 Intro to Anatomy & Physiology[1] (EDGE). . .3	MAT 150 Applied Professional Mathematics[5]. 3
TOTAL CREDITS. .13	**TOTAL CREDITS. 14**
Third Semester (Summer)	
HIT 215 Directed Practice 2	
HIT 220 Coding for CCS Exam 3	
TOTAL CREDITS. .5	
HOURS REQUIRED FOR GRADUATION: 32	

Employment Opportunities:
- Acute care facilities
- Ambulatory care facilities
- Rehabilitation centers
- Physicians' offices
- State and local health departments
- Insurance companies
- Professional billing companies

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
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1. Students who plan to ladder into the A.A.S. in Health Information Program would take BIOL 260 in place of BIOL 257.
2. AH 205 has a prerequisite of BIOL 257.
3. AH 216 has a prerequisite of HIT 151.
4. HIT 204 has a prerequisite of HIT 203.
5. IT 101 may be substituted for MAT 150.

INFORMATION TECHNOLOGY

CISCO CERTIFIED NETWORK ASSOCIATE (CCNA) - CERTIFICATE

Program Description:
The Cisco Networking Academy at Marshall Community & Technical College offers Cisco Certified Network Associate (CCNA) training that prepares individuals to install, configure, and operate LAN, WAN, and dial access services for small networks (100 nodes or fewer). Concepts laboratory exercises focus on IP, Ethernet-based LANs, Frame Relay and Serial WANs, and interior routing protocols such as RIP and IGRP. The Cisco Networking Academy Program is a comprehensive-learning program that provides students with the IT skills essential in a global economy. The Networking Academy delivers Web-based content, online assessment, student performance tracking, hands-on labs, instructor support, and preparation for the CCNA industry-standard certification.

Career Outlook:
The U.S. Department of Labor states that Network Systems and Data Communications Analysts will see an increase in employment growth of 91.4% between 2002 and 2012. The computer systems design and related services industry is expected to be one of the top ten fastest growing industries in the U.S. economy, projected to add more than 600,000 jobs through 2012. Professionals and specialists will see the best prospects for employment because they have the higher level skills necessary to stay abreast of rapid changes in technology.

(http://bls.gov/oco/cg/cgs033.htm)

Salary Forecast:
In a 2006-2007 Salary Survey conducted by (http://tcpmag.com/salarysurveys/), CCNA's reported average annual salaries of $47,070 for individuals with at least three years of experience. The U.S. Department of Labor listed the Huntington, WV - Ashland, KY Metropolitan Area average annual wage for Network Systems and Data Communications Analysts at $43,410

(http://stats.bls.gov/oes/current/oes_26580.htm#b15-0000).

INFORMATION TECHNOLOGY

CISCO CERTIFIED NETWORK ASSOCIATE (CCNA)
MAJOR CODE - CI30 • CONCENTRATION CODE - CI31

FIRST YEAR[1]	
First Semester	**Second Semester**
ENL 111 Written Communication 3	COM 112 Oral Communication 3
IT 131 Introduction to Networking[1] (EDGE) 4	IT 225 Fundamentals of Wireless LANs[4] 4
IT 141 Networking Systems II[2] (EDGE) 4	IT 231 Networking Systems III[5] (EDGE). 4
IT 150 Application to Spreadsheets[3] (EDGE). . .3	IT 241 Networking Systems IV[6] (EDGE). 4
IT 270 Computer Repair (EDGE). 3	IT 276 Computer Maintenance[7] (EDGE). 3
TOTAL CREDITS. 17	**TOTAL CREDITS. 18**
HOURS REQUIRED FOR GRADUATION: 35	

Employment Opportunities:
The U.S. Department of Labor states that Network Systems and Data Communications Analysts design and evaluate network systems, such as LANs, WANs, and the Internet. Professionals employed in Network Systems and Data Communications careers perform network modeling, analysis and planning and may deal with the interfacing of computer and communications equipment (http://bls.gov/oco/cg/cgs033.htm).

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Dr. Randall Jones • Corbly Hall, Room 314
Phone: 304-696-3059 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: jonesr@marshall.edu

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1. Students are expected to have basic knowledge of computers including operating systems such as Windows 2003 or XP and Microsoft Office 2003 or XP before entering this program. The student must register for IT 101 during his or her first semester or successfully pass a challenge exam for IT 101.
2. IT 141 has a prerequisite or co-requisite of IT 131.
3. Student may substitute IT 120, Operating Systems I, for IT 150.
4. IT 225 has a prerequisite of IT 141 or Cisco Semester 2 with minimum grade of 78%.
5. IT 231 has a prerequisite of IT 141 or Cisco Semester 2 with minimum grade of 78% and a co-requisite of IT 241.
6. IT 241 has a prerequisite or co-requisite of IT 231.
7. IT 276 has a prerequisite of IT 270.

HOSPITALITY MANAGEMENT

CULINARY ARTS - CERTIFICATE

Program Description:
The hospitality and foodservice industry is a large, diverse field that provides challenging and exciting career opportunities for people from all walks of life. The possibilities for satisfying careers are almost limitless, and the rewards and satisfactions provided by the industry far exceed those of many other fields of work.

While the different segments of the hospitality and tourism industry have their own unique characteristics, they all share the same mission and heritage–serving the guest or customer. The segments of hospitality and tourism are fine dining, catering, hotel and motel food service, casual family restaurants, chef-owned bistros, quick-service dining, national chains, national parks, resorts, casinos, stadiums, theme parks, cruise lines, and on-site foodservice operations such as hospital, collegiate, and company cafeterias. They all possess a common future as one of the most dynamic employment and career fields available. The Culinary Arts Certificate prepares individuals for entry-level chef positions. Students will study the fundamentals of classical and contemporary cuisine, sanitation, nutrition, purchasing, cost control, kitchen management, and restaurant procedures. A range of different cuisines are taught from basic levels, to intermediate, to advanced. The curriculum is designed for the entry-level student with no previous work experience or formal training in the profession, as well as for industry professionals seeking to raise their skills.

Career Outlook:
Job openings for chefs, cooks, and food preparation workers are expected to be plentiful through 2012. Competition for jobs in the top kitchens of higher-end restaurants should be keen. While job growth will create new positions, the overwhelming majority of job openings will stem from the need to replace workers who leave this large occupational group. Minimal education and training requirements, combined with a large number of part-time positions, make employment as chefs, cooks, and food preparation workers attractive to people seeking first-time or short-term employment, a source of additional income, or a flexible schedule.

Salary Forecast:
In recent years, the public has had an increased interest in food and this has brought a lot of attention to some talented and stylish chefs. Pay for chefs and cooks depend on the location and the type of restaurant. The pay for workers who are beginning is from minimum wage to $10.75 per hour. Pay can reach $23,000 and upwards, surpassing $100,000 per year.

Program Admission Requirements:
The college adheres to an open admissions policy meaning applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

Career Description:
Chefs, cooks, and food preparation workers prepare, season, and cook a wide range of foods—from soups, snacks, and salads, to entrees, side dishes, and desserts—in a variety of restaurants and other food services establishments. Chefs and cooks create recipes, menus, and prepare meals, while food preparation workers peel and cut vegetables, trim meat, prepare poultry, and perform other duties such as keeping work areas clean and monitoring temperatures of ovens and stovetops.

HOSPITALITY MANAGEMENT

CULINARY ARTS - CERTIFICATE
MAJOR CODE – CH30 • CONCENTRATION CODE – CH31

FIRST YEAR[1]	
First Semester	**Second Semester**
CA 110 Mise en Place 3	CA 112 Garde Manger[3] 3
CA 120 A la Carte Dining Room Service I[2] (EDGE) . 3	CA 116 Introduction to Breads and Doughs[3] 3
CA 135 International Cuisine[3] 3	CA 235 Menu Planning 3
CA 200 Culinary Sanitation and Safety[2] (EDGE). . .3	CA 260 Culinary Selection and Procurement. . . .3
ENL 111 Written Communication. 3	CA 270 Managing Culinary[4] 3
IT 101 Fundamentals of Computers (EDGE). . . .3	CA 275 Cost Control and Revenue Management[4] . .3
TOTAL CREDITS. 18	**TOTAL CREDITS. 18**
HOURS REQUIRED FOR GRADUATION: 36	

Employment Opportunities:
- Restaurants
- Kitchen supervisor
- Sous chef
- Garde manger
- A la carte chef
- Restaurant manager chef
- Private clubs
- Catering operations
- Cruise lines
- Other commercial operations
- Lodging services
- Travel-related services

Tech Prep Affiliation:
The Hospitality Management program is aligned with the West Virginia Tech Prep Business cluster. This career track provides the opportunity for students to acquire college credit while attending high school.

For high school students interested in foodservice careers and coming from applicable programs offering ProStart© curriculum, the program will provide for a seamless transition from ProStart through the completion of the Culinary Arts Certificate.

Students who complete the high school ProStart© program and pass the ProStart© examination with a score of 75% or higher will receive 6 credit hours toward the Culinary Arts Certificate. This will leave 30 credit hours to complete the certificate requirement of 36 credit hours.

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Phone: 304-696-5230 or 1-866-N-ROLLED (1-866-676-5533)

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1. The One-Year Certificate in Culinary Arts will allow the student to transfer 36 academic credits into the A.A.S. degree in Culinary Management.
2. Students who complete the High School ProStart program and pass the ProStart examination with a score of 75% or higher will receive college credit for CA 120, CA 200, and a three-hour elective course. Documentation of the test results must be provided before the student receives credit.
3. CA 112, CA 116, and CA 135 have a prerequisite of CA 110. CA 110 runs the first eight weeks of the semester and CA 135 runs the second eight weeks of the semester.
4. CA 275 has a prerequisite of IT 101.

HEALTH OCCUPATIONS

DENTAL LABORATORY TECHNOLOGY - CERTIFICATE

Program Description:
One year of training at the Putnam Career and Technical Center (PCTC) and thirty-one hours credit at Marshall Community & Technical College will result in an Associate in Applied Science degree in Dental Laboratory Technology. Students will follow the Putnam County school calendar while completing the Dental Laboratory Technology courses, and attend the PCTC every day from 8:30 a.m.-3:00 p.m. during the technical portion of the program.

Career Outlook:
Employment should increase slowly, as the public's improving dental health requires fewer dentures but more bridges and crowns. However, the employment is favorable because employers have difficulty filling training positions. The employment outlook is very good if the employees are willing to relocate.

Salary Forecast:
Median hourly earnings of dental laboratory technicians were $14.93 in May 2004. The middle 50 percent earned between $11.18 and $19.71 an hour. The lowest 10 percent earned less than $8.86, and the highest 10 percent earned more than $25.48 an hour. Median hourly earnings of dental laboratory technicians in May 2004 were $15.95 in offices of dentists and $14.40 in medical equipment and supplies manufacturing.

Dental technicians in large laboratories tend to specialize in a few procedures and, therefore, tend to be paid a lower wage than those employed in small laboratories that perform a variety of tasks.

Program Admission Requirements:
The college adheres to an open admissions policy which means applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis

Career Description:
Dental Laboratory Technicians make and repair dental appliances such as dentures, crowns, and braces. Specializations are available in various aspects of the work prescribed by dentists and orthodontists: Crown and Bridge Technicians, Metal Dental Technicians, Partial Denture Technicians, Dental Ceramists and Orthodontic Technicians. Most dental laboratory technicians work in commercial dental laboratories employing 2 to 20 people. Employment opportunities are available in private dental offices, dental schools, hospitals, and companies that manufacture dental prosthetic materials.

HEALTH OCCUPATIONS

DENTAL LABORATORY TECHNOLOGY
MAJOR CODE – CD20

FIRST YEAR[1]	
First Semester[2] DLT 101 Intro to Dental Technology[3] (EDGE). . . . . .6 (1st 9 weeks) DLT 104 Complete Dentures (EDGE) . . . . .9 (2nd 9 weeks) **TOTAL CREDITS. 15**	**Second Semester** DLT 108 Partial Dentures (EDGE) . . . . .9 (1st 9 weeks) DLT 112 Inlays/Crowns/Bridges/Ceramics(EDGE).10 (2nd 9 weeks) DLT 116 Clinical Experience[4] (EDGE) . . . . .1 (2nd 9 weeks) **TOTAL CREDITS. 20**
In addition to the Dental Laboratory Technology curriculum, the following General Education requirements must be met: ENL 111 Written Communication . . . . .3 IT 101 Fundamentals of Computers (EDGE) . . .3 MG 101 Introduction to Business (EDGE) . . . . . .3 SCI 120 Basics in Physical Science . . . . .4 **TOTAL CREDITS. 13**	
HOURS REQUIRED FOR GRADUATION: 48	

Employment Opportunities:
- Dental labs
- Private dental offices
- Dental schools
- Dental labs that manufacture prosthetic materials

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Jean Chappell • Cabell Hall, Room 209
Phone: 304-696-4645 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: jean.chappell@marshall.edu
or
Jesse Smith • Putnam County Technical Center • Phone: 304-586-3494 ext. 213

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1. Dental Laboratory Technology courses are delivered at Putnam County Technical Center at Eleanor.
2. All first semester Dental Laboratory Technology courses must be completed with a "C" or better before student can register for second semester coursework.
3. DLT 101 has a prerequisite of admission to the Dental Laboratory Technology Program.
4. DLT 116 has a prerequisite of DLT 101, DLT 104, DLT 108 and co-requisite of DLT 112.

TECHNICAL STUDIES

GRAPHIC DESIGN/GRAPHIC COMMUNICATION - CERTIFICATE

Program Description:
The Technical Studies Degree is designed to meet three major needs:

(1) To provide for cooperatively sponsored educational opportunities leading to the Associate in Applied Science degree and/or One-Year certificate for students in quality education and training programs;
(2) To increase the abilities of employees to use technology effectively and responsibly;
(3) To assist those employed in the workforce to understand that education is a lifelong process.

Marshall Community & Technical College delivers educational programs in a variety of occupational fields to businesses and industries having an immediate need for such programs.

Components of the program include the following: general education, classroom instruction in a technical core and in the occupational area, and possible on-the-job training.

Technical Studies students must meet all normal admission and performance standards. Credits earned through either the approved apprenticeship programs or through industry-based education and training programs will not be added to the student's collegiate transcript until the student has completed twelve program credit hours from Marshall Community & Technical College and has obtained at least a 2.00 GPA. The student who graduates with the Associate in Applied Science Degree in Technical Studies will possess:

- Supervisory skills
- Computer software skills
- Relevant essential math skills
- Written and oral communication skills

Program Admission Requirements:
The college adheres to an open admission policy which means applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

TECHNICAL STUDIES

GRAPHIC DESIGN/GRAPHIC COMMUNICATION
MAJOR CODE – CT10 • CONCENTRATION CODE CT14

FIRST YEAR	
COMPONENT I - General Education[1] ENL 111 Written Communication (EDGE). . . . . . . .3 MAT 150 Applied Professional Mathematics[2] . . . . .3 **TOTAL CREDITS. 6**	**COMPONENT II -** **Technical/Occupational Specialty** **Note: Core and Focus Courses Required** **Common Core Courses** Fundamentals of Graphic Design and Production **TOTAL CREDITS. 2**
Graphic Design Focus: Basic Illustration (EDGE) Ilustration (EDGE) Graphic Design (EDGE) **or** **Graphic Communcation Focus:** Basic Darkroom Procedures (EDGE) Image Assembly and Platemaking (EDGE) Offset Press and Bindery Operations (EDGE)	**COMPONENT III -** **Technical/Occupational Specialty** Maximum of 960 contact hours of on-the-job training is required for the Technical Studies Certificate. A letter from the employer verifying the total number of contact hours experienced on the job by the student will be placed on the college record. This credit will be recorded immediately prior to awarding the certificate. **TOTAL CREDITS. 6**
HOURS REQUIRED FOR GRADUATION: 32	

Employment Opportunities:
- Print shops

Vocational Site Partnerships:
In addition, Marshall Community & Technical College (MCTC) offers a One-Year Certificate Program and an Associate of Applied Science in Technical Studies in conjunction with its Vocational Site Partnerships at Technical Centers in Cabell, Mason, Putnam and Wayne counties through EDGE.

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Sumeeta Patnaik • MCTC, Room 115
Phone: 304-696-3024 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: patnaik1@marshall.edu

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1. Students must complete a minimum of 3 credit hours with Marsall Community & Technical College to establish academic residency.
2. MAT 145 may be substituted for MAT 150.
3. Verification of completion of CTE classes with a score of 74% or better on the final exam must be forwarded to West Virginia Community and Technical College System in Charleston, by course instructor.

TECHNICAL STUDIES

MACHINIST TECHNOLOGY - CERTIFICATE

Program Description:
The Machinist Technology Program at the Robert C. Byrd Institute for Advanced Flexible Manufacturing (RCBI) is an industry-driven, hands-on program that prepares individuals to meet the rigorous demands of the manufacturing sector. An element of the RCBI program enables students to earn a certificate degree in Technical Studies by completing additional course work through Marshall Community & Technical College.

Participants in the Machinist Technology Program receive technical skills training to work in industrial machining. Course work includes manual machine operation and technical support, introductory CNC (computer-numerical-control) machine operation and technical support, oral communications and organizational skills, mathematics for machinists, and safety issues.

Working closely with an 11-member industry-based advisory board, RCBI designed the program's core technical components so they meet the manufacturing sector's needs.

Comprehensive full- and part-time programs are available, thus enabling current workforce members to improve their technical skills and develop professionally while helping their employers become more competitive.

Career Outlook:
Despite projected slower-than-average employment growth, job opportunities for machinists should continue to be excellent. The number of workers obtaining the skills and knowledge necessary to fill machinist jobs is expected to be less than the number of job openings arising each year from employment growth and from the need to replace experienced machinists who transfer to other occupations or retire.

Salary Forecast:
Median hourly earnings of machinists were $16.33 in 2004. The middle 50 percent earned between $12.84 and $20.33. The lowest 10 percent earned less than $10.08, while the top 10 percent earned more than $24.34. Median hourly earnings in the manufacturing industries employing the largest number of machinists in 2004 were:

Metalworking machinery manufacturing	$17.06
Machine shops; turned product; and screw, nut, and bolt manufacturing	$15.87
Motor vehicle parts manufacturing	$17.46
Employment services	$11.09

Program Admission Requirements:
The Machinist Technology Program has admission and candidacy requirements in addition to the Marshall Community & Technical College admission guidelines.

Tech Prep Affiliation:
The Machinist Technology Program is aligned with the West Virginia Tech Prep Engineering/Technical Cluster.

MACHINIST TECHNOLOGY

MAJOR CODE – CT10 • CONCENTRATION CODE – CT

FIRST YEAR	
First Semester (Fall) RCBI[1,3]	**Second Semester**
MAT 135 Math for Machinist Technology (EDGE). .6	COM 112 Oral Communication 3
MT 105 Industrial Safety (EDGE). 2	MT 215 Metalworking Theory & Application[2]. 12
MT 121 Intro to Machinery[2] (EDGE). 4	MT 223 Advanced Technical Specialization. 6
MT 205 Precision Measurement (EDGE). 3	
TOTAL CREDITS. 15	**TOTAL CREDITS. 21**
HOURS REQUIRED FOR GRADUATION: 36	

Employment Opportunities:

Entry-level positions for which graduates will compete include:
- Manual machinist
- CNC machinist
- Industrial sales representative
- Auto plant employee
- Machine shop employee
- Fabricator

Earn a Degree and Graduate Early (EDGE):

This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:

Ed Black, Instructor
304-781-1690 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: eblack@rcbi.org

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1. RCBI Machinist Courses will be completed as a block at RCBI sties in Huntington, WV and Bridgeport, WV.
2. MIT 121 and MT 215 have a prerequisite of instructor permission.
3. Course work may be applied toward AAS in Technical Studies: Machinist Technology.

TECHNICAL STUDIES

MARITIME TRAINING - CERTIFICATE

Program Description:
The Maritime Training in Technical Studies program provides training to career-oriented individuals interested in obtaining a One-Year certificate in inland marine-related subjects. Individuals typically start out as deckhands and can progress to positions of greater responsibility based upon experience and meeting U.S. Coast Guard regulated licensing requirements. Deckhands are responsible for rigging barges, maintaining barges once underway, and performing routine maintenance on towboats and barges.

Career Outlook:
The job outlook is expected to remain competitive for jobs in water transportation occupations. Increased river traffic (expected to grow 1.1% per year along the Ohio River through the year 2060) plus an aging workforce will provide opportunities for employment to both entry-level and tenured workers.

Salary Forecast:
The following annual pay and benefits information was provided by the inland marine industry:

Master	$90,000
Pilot	$70,000
Mate	$36,000
Engineer	$45,000
Tankerman	$41,000
Deckhand	$25,000

Salaries may vary depending on location, experience, and amount of education. Workers can also expect to receive varying amounts of production and safety bonuses and cost-share medical benefits. The annual pay and benefits vary by company. Please note that inland marine workers typically work only 8 months out of the year.

Career Description:
The maritime worker is responsible for movement of huge amounts of cargo, as well as passengers, within the nation. The barge and towing industry provides:

- Extended time-off to its workers. When working, they are usually on duty for 6-hour periods, 24 hours a day, for up to 21 days. After each completed work schedule on board a towboat, workers have several days off at a stretch totaling as much as 6 months of time off annually;
- The flexibility to live where they want. Towboat crews often live several hundred miles from the waterways where they work. This flexibility means workers can live near their family and friends and still be able to meet the boat when it is time to head back to work;
- The opportunity for a stable, well-paid career with unlimited potential to move up to positions of greater responsibility in a dynamic industry and drug-free environment.

Maritime workers operate and maintain tugboats, dredges, excursion vessels and various waterborne craft on the Great Lakes, rivers and canals, and other waterways in harbors. After 18 months of actual deckhand experience, individuals can attend U.S. Coast Guard-approved license training that leads to a license as a Master of Towing Vessels.

MARITIME TRAINING
MAJOR CODE – CT10 • CONCENTRATION CODE – CT11

FIRST YEAR[1]	
COMPONENT I - General Education[2]	**COMPONENT II - Technical Core**
ENL 111 Written Communication[3]. 3	ENL 235 Leadership Development Studies[4] 3
IT 101 Fundamentals of Computers (EDGE). . . .3	EC 102 Basic Economics. 3
MAT 150 Applied Professional Mathematics. 3	EME 105 First on Scene. 3
SS 201 Human Relations 3	MG 101 Introduction to Business (EDGE). 3
TOTAL CREDITS. 12	MT 105 Industrial Safety 2
	Deckhand Training[1] 3
	Fire Training School[5] 1
	TOTAL CREDITS. 13

COMPONENT III - Technical Occupational Specialty
Maximum of 960 contact hours of on-the-job training (OJT) can be earned for the Technical Studies One-Year Certificate. A letter from the employer verifying the total number of contact hours experienced on the job by the student will be placed on the college record. This credit will be recorded immediately prior to awarding the certificate.
TOTAL CREDITS. 6

HOURS REQUIRED FOR GRADUATION: 31

Employment Opportunities:
- Deckhand
- Tankerman
- Engineer
- Mate
- Pilot
- Master

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Steven Brown • Cabell Hall, Room 110
Phone: 304-696-3366 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: brown175@marshall.edu

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1. Must provide a certificate of completion of Deckhand Training Class or present a letter from employer confirming six (6) months employment as a deckhand.
2. Students must complete a minimum of 3 credit hours with Marshall Community & Technical College to establish academic residency.
3. Fulfills MCTC General Education and State Communication Skills requirement for Technical Studies One-Year certificate.
4. ENL 235 has a perquisite of ENL 111 or COM 111.
5. Must provide a certificate of completion of MCTC Fire Training School or provide proof of equivalency.

HEALTH OCCUPATIONS

CLINICAL ASSISTANT - CERTIFICATE

Program Description:
Clinical Assistants (CA) are multi-skilled clinical laboratory professionals competent to perform waived and low-to-moderate complexity laboratory testing. As a critical component of the health care team, the clinical laboratory is responsible for approximately 90% of the information physician's use to detect, diagnose, and treat medical conditions and infectious disease. Typically, Clinical Assistants work under the supervision of a Medical Laboratory Technician or Medical Technologist.

The multi-faceted role of the Clinical Assistant includes collection of blood and non-blood specimens, preparation of blood and body fluid specimens for laboratory analysis, as well as laboratory testing in the areas of chemistry, hematology, microbiology, urinalysis, immunology, and blood product screening/component processing. Clinical Assistants perform laboratory testing using low-to-moderately complex automated instruments for specimen analysis, and routinely use Laboratory Information Systems for ordering tests and result documentation. The Clinical Assistant is capable of comparing laboratory test results to normal reference ranges, as well as recognizing abnormal laboratory test results and their relationship to common disease states. Strict adherence to safe laboratory practice and infection control policies is an essential element of this profession. A successful Clinical Assistant must be detail-oriented, possess excellent customer service skills, and be capable of prioritizing tasks in a manner to maintain workflow and productivity.

The A.A.S. Clinical Assistant Degree includes a total of 63 credit hours, of which 24 credit hours focus specifically on the field of laboratory medicine. Successful completion of the CA Program will include a clinical internship at an affiliated health-care facility. Many states require licensure in order to perform laboratory testing. The West Virginia Office of Laboratory Services (WVOLS) currently requires licensure of all laboratorians performing moderate-complexity laboratory testing. Upon completion of the Clinical Assistant Program, graduates will be eligible for WV state licensure as a Clinical Laboratory Practitioner-Point of Care Technician, with appropriate documentation as required by WVOLS.

Career Outlook:
Opportunities for job placement in the field of laboratory medicine are excellent. At present, the number of jobs currently available exceeds the number of qualified applicants. With steady population growth and implementation of new laboratory tests, employment is expected to grow faster than the average for all other occupations through the year 2014. With the rapid growth of point of care testing, employment opportunities in physician's offices and other ambulatory health care facilities will dramatically increase over the next five to ten years.

Salary Forecast:
Clinical Assistants working in a hospital setting earn an average of $12-15/hour with full healthcare benefits, retirement, and possible tuition and relocation reimbursement. For those working in phlebotomy positions, the 2003 median hourly wages were as follows: hospitals=$11.13/hour; physician office laboratories or private clinics=$10.50/hour.

(Information obtained from the Occupational Outlook Handbook 2006-2007)

Program Admission Requirements:
1. Completion of Clinical Assistant Program Admission Packet, including official transcripts.
2. Applicants must be able to meet technical standards as listed in the Program Admission Packet.
3. Applicants must complete all general education and prerequisite courses with a grade of "C" or better, and must have a cumulative GPA of 2.5 or higher.
4. Proof of medical insurance coverage is required for internship.
5. Prior to internship, students must submit proof of Tuberculosis testing and Hepatitis B vaccination, or sign a waiver refusing vaccination.
6. Some clinical facilities may require random drug screen testing or background checks prior to acceptance into internship.
7. The CA program is a limited enrollment program. Program admission for the upcoming fall semester will be granted beginning in May.
8. Admission packets may be obtained from the Allied Health Division Office, Cabell Hall 314 after February 1st.

CLINICAL ASSISTANT
MAJOR CODE – CH60

FIRST YEAR[1]	
First Semester	**Second Semester**
AH 151 Medical Terminology (EDGE). 3	AH 207 Infection Control for Health Professionals[2]. .4
BIOL 257 Intro to Anatomy & Physiology. 3	CLA 203 Specimen Collection and Processing[4]. . . . 4
MAT 145 Applications in Algebra[1]. 3	CLA 206 Intro to Physician Office Lab[6]. 2
CLA 201 Laboratory Safety, Ethics , and Law. . . .2	CLA 299 Clinical Assistant/POCT Internship[7]. 4
CLA 202 Laboratory Calculations[3]. 2	
CLA 204 Intro to Point of Care Testing[4]. 4	
CLA 205 Intro to Automated Instrumentation[5]. 2	
TOTAL CREDITS. 19	**TOTAL CREDITS. 14**
HOURS REQUIRED FOR GRADUATION: 33	

Employment Opportunities:
- Hospitals
- Health Care Clinics
- Physician's Office laboratories
- Blood Donation/Collection Centers
- Reference Laboratories
- Medical Research Laboratories

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Pam Meadows, MT (ASCP) • Cabell Hall, Room 302
Phone: 304-696-3749 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: meadow63@marshall.edu

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1. MAT 145 has a prerequisite of ACT 19, MAT 097, or PLAC 100.
2. AH 207 has a prerequisite of AH 151.
3. CLA 202 has a prerequisite of MAT 145.
4. CLA 203 has a prerequisite of SCI 257 or SCI 260.
5. CLA 205 has a prerequisite of SCI 257, SCI 260, or SCI 265.
6. CLA 206 has a prerequisite of SCI 257, SCI 260, or SCI 265.
7. CLA 299 requires completion of all previous CLA coursework with a minimum grade of "C", admission to CA/POCT Program, and permission of program coordinator.

* In order to graduate from the A.A.S. CA Program, students must maintain a minimum grade of "C" or better in all CLA courses. Should a student receive a "D" or "F" in any of the CLA courses, they will be allowed to repeat the course one time before dismissal from the program.
** The cost of tuberculosis testing, vaccinations, and background checks are the responsibility of the student.
*** Students are responsible for room and board, as well as transportation during clinical internship

INFORMATION TECHNOLOGY

MICROSOFT CERTIFIED SYSTEMS ENGINEER (MCSE) - CERTIFICATE

Program Description:
As a leading Microsoft IT Academy, Marshall Community & Technical College offers the Microsoft Certified Systems Engineer One-Year Certificate option in order to help prepare students for the Microsoft Certified Systems Engineer (MCSE) Certification examinations. The curriculum and course materials are designed by Microsoft, and the College's instructors are Microsoft Certified Trainers (MCT) with industry experience who takes a personal interest in mentoring students through every step of the certification process.

Career Outlook:
• The U.S. Department of Labor-Bureau of Labor Statistics states that computer-related jobs (IT) hold numerous positions within the Top 20 Fastest Growing Occupations in the country. Additionally, IT jobs are reported to have the highest earning of any of the occupations in the list.
• Computer occupations are expected to be some of the fastest growing in the U.S. economy and will account for 5 out of the 20 fastest growing occupations through 2015. Employment growth will be driven by the increasing reliance of businesses on information technology and the continuing importance of maintaining system and network security. In addition to high-growth rates, computer and healthcare occupations combined will add more than 1.5 million new jobs. High-growth rates among computer occupations reflect projected rapid growth in the computer and data processing industries.
• Management, scientific and technical consulting services will grow very rapidly, by 55.4%, spurred by the increased use of new technology and the growing complexity of business.

Salary Forecast:
Although salaries vary a great deal, reflecting differences in skill, experience, and amount of education, the salaries for the job titles in the following table reflect HR reported data as of January 2007 for Huntington, West Virginia.

Job Title	10th Percentile	Median	90th Percentile
LAN Support I	$34,609	$44,683	$54,757
LAN Support II	$40,527	$52,630	$64,733
LAN Support III	$49,715	$66,789	$83,863
Network Administrator I	$34,026	$43,828	$53,630
Network Administrator II	$41,639	$53,351	$65,063
Network Administrator III	$47,609	$62,872	$78,134
Network Administrator IV	$54,694	$71,227	$87,760
Network Administrator V	$64,276	$81,494	$98,711
Network Engineer I	$37,706	$54,617	$71,528
Network Engineer II	$48,212	$63,034	$77,855
Network Engineer III	$58,073	$75,374	$92,655
Network Security Systems Manager	$44,231	$79,047	$113,862

Career Description:
The Microsoft Certified Systems Engineer (MCSE) credential is the premier certification for Information Technology professionals who analyze business requirements and design and implement the infrastructure for business solutions, based on the Microsoft Windows platform and Microsoft Enterprise Server software. It is one of the most widely recognized and sought after technical certifications in the industry–demonstrating to employers, clients, and colleagues that an individual has achieved expertise in the area of Information Technology.

INFORMATION TECHNOLOGY

MICROSOFT CERTIFIED SYSTEMS ENGINEER (MCSE)
MAJOR CODE – CM60

FIRST YEAR[1]	
First Semester[2]	**Second Semester**
IT 150 Applications to Spreadsheets (EDGE). . .3	ENL 111 Written Communication 3
IT 210 Networking Administrations[3,8]. 3	IT 219 Networking Administration V[5,6] 3
IT 211 Networking Administrations II[3]. 3	IT 222 Networking Administration VI[5,6]. 3
IT 216 Networking Administrations III[3]. 3	IT 223 Networking Administration VII[5,6]. 3
IT 217 Networking Administrations IV[3]. 3	IT 276 Computer Maintenance[4,7] (EDGE). 3
IT 270 Computer Repair[4] (EDGE). 3	MAT 145 Applications in Algebra. 3
TOTAL CREDITS. 18	**TOTAL CREDITS. 18**
HOURS REQUIRED FOR GRADUATION: 36	

Employment Opportunities:
- Network administrator
- Network engineer
- Systems support technician
- Network designer
- Network security systems designer

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Scott Nicholas • Corbly Hall, Room 328
Phone: 304-696-3020 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: scott.nicholas@marshall.edu

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1. The one-year certificate in the Microsoft Certified Systems Engineer will allow the student to apply 36 academic credits toward the Information Technology A.A.S. degree in Network Administration
2. Students are expected to have basic knowledge of computers including operating systems such as Windows XP or 2003 and Microsoft Office XP or 2003 before entering this program. The student must register for IT 101 during his or her first semester or successfully pass a challenge exam for IT 101.
3. Networking Administration classes IT 210, IT 211, IT 216 and IT 217 must be taken concurrently. These classes cannot be taken individually.
4. IT 270 and IT 276 prepare students for A+ Certification tests.
5. Networking Administration classes IT 219, IT 222 and IT 223 must be taken concurrently. These classes cannot be taken individually.
6. IT 219, IT 222, and IT 223 have a prerequisite of IT 217.
7. IT 276 has a prerequisite of IT 270.
8. IT 210 has a prerequisite of IT 270 and IT 276 or permission.

HEALTH OCCUPATIONS

PARAMEDIC SCIENCE - CERTIFICATE

Program Description:
The Emergency Medical Technician-Paramedic (EMT-Paramedic) is a specialist in the pre-hospital care of the sick and injured. This person bridges the gap between the emergency room physician and the critical patient in the out-of-hospital setting. Paramedics provide emergency medical treatment and stabilization, rescue of persons entrapped in life-threatening situations, transportation of critical patients to specialized treatment facilities, support and assistance to fire and law enforcement agencies, and public education and safety training to target populations.

The student completing an Associate in Applied Science Paramedic Degree will complete in addition to the Paramedic "Fast Track" courses, general education courses that will better prepare the student to enter the workforce and progress to competitive job markets and management positions.

The student completing the One-Year Certificate Program in Paramedic Science will have completed an intense 12-month long program of 49 credit hours. This program is designed for individuals involved in both career and volunteer aspects of the Emergency Medical Services realm. The program consists of classroom lectures, practical labs and approximately 400 hours of clinical internships, as well as EMS courses specifically designed for EMS professionals. Students will be eligible to sit for the National Registry of Emergency Medical Technicians Paramedic Examination after the successful completion of the Paramedic Science Program only if the student has maintained a letter grade of "C" or higher in all Paramedic Science courses and earned credit "CR" for all Paramedic Clinical courses. Students must have earned a letter grade of "C" or better in all PAR or EME courses and a "CR" in clinical courses to be eligible for registration in following semester EME or PAR courses.

Career Outlook:
Employment of emergency medical technicians and paramedics is expected to grow faster than the average for all occupations through 2012. Population growth and urbanization will increase the demand for full-time paid EMTs and Paramedics rather than for volunteers. In addition, a large segment of the population—the aging baby boomers—will further spur demand for EMT services as they become more likely to have medical emergencies. There will still be demand for part-time, volunteer EMTs and paramedics in rural areas and smaller metropolitan areas. In addition to those arising from job growth, openings will occur because of replacement needs.

Salary Forecast:
Earnings of EMTs and paramedics depend on the employment setting and geographic location as well as the individual's training and experience. Median annual earnings of EMTs and paramedics were $27,070 in May 2006. The middle 50 percent earned between $21,290 and $35,210. The lowest 10 percent earned less than $17,300, and the highest 10 percent earned more than $45,280. Median annual earnings in the industries employing the largest numbers of EMTs and paramedics in May 2006 were:

Local government	$32,140
General medical and surgical hospitals	$30,400
Other ambulatory health care services	$26,790

Program Admission Requirements:
- Current CPR Certification
- Current Emergency Medical Technician – Basic Certification

PARAMEDIC SCIENCE
MAJOR CODE – CP40

FIRST YEAR[5,6]	
First Semester[1,2,3]	**Second Semester**
EME 130 Introduction to EMS Systems. 3	PAR 220 Cardiovascular Emergencies 4
PAR 210 Patient Assessment & Airways. 2	PAR 221 OB/GY/Neonatal/Pediatric Emergencies . . 2
PAR 211 Principles of Trauma Management. 2	PAR 230 Pre-Hospital Care Considerations. 2
PAR 212 Pre-Hospital Pharmacology. 2	PAR 231 Medical Emergencies 4
PAR 241 Advanced Paramedic Skill Lab I. 3	PAR 242 Advanced Paramedic Skills Lab II. 3
PAR 251 Paramedic Clinical I[4]. 3	PAR 252 Paramedic Clinical II[4]. 3
BIOL 260 Applied Human Anatomy. 4	
TOTAL CREDITS. .19	**TOTAL CREDITS. .18**
Third Semester	
PAR 125 Rescue Operations. 3	
IT 101 Fundamentals of Computers (EDGE). . . .3	
PAR 243 Advanced Paramedic Skills Lab III. 3	
PAR 253 Paramedic Clinical III[4]. 3	
TOTAL CREDITS. .12	
HOURS REQUIRED FOR GRADUATION: 49	

Employment Opportunities:
- Hospitals
- Emergency medical service providers
- Private corporations
- Governmental agencies
- Aero-medical flight services
- Industry

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Edward Bays • Cabell Hall, Room 207
Phone: 304-696-207 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: bays@marshall.edu

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1. Students must be EMT-B certified and maintain EMT-B certification as prerequisite for admission to and continuation in the program. See program advisor for information on application to the Paramedic Science AAS Program.
2. Students move through paramedic coursework in sequence, beginning with the First Semester (Fall) coursework.
3. Students must receive a letter grade of "C" or higher in "PAR" courses to be eligible to graduate from the program.
4. Clinical Grades will be given on a Credit/Non-Credit basis. Students must earn a credit grade in all "PAR" clinical courses to be eligible to graduate from the program.
5. Students who at anytime during the program earn a letter grade below "C" in "PAR" courses, or receive a non-credit in "PAR" clinical courses will be dismissed from the program.
6. Students who are dismissed from the program may reapply the next time the program begins.

OCCUPATIONAL DEVELOPMENT

POLICE SCIENCE - CERTIFICATE

Program Description:
The Police Science Degree is offered in cooperation with the West Virginia State Police and is located at the State Police Academy in Institute, West Virginia. This program is not designed for regular full-time or part-time students. Admission to this program is restricted to those accepted into the West Virginia State Police Cadet training corps. The State Police Academy currently serves the state of West Virginia as the only law enforcement training facility that has been approved by the Governor's Committee on Crime, Delinquency, and Correction to provide mandatory entry-level police training.

- The prospective student must be 21 years of age and meet the requirements of the State Police Academy.
- State police personnel complete a 30-week residential program in which all degree coursework, with the exception of the internship,is completed.
- A field internship must be completed during the employee's probationary employment period before the degree is awarded.

Career Outlook:
The opportunity for public service through law enforcement work is attractive to many because the job is challenging and involves much personal responsibility. Furthermore, law enforcement officers in many agencies may retire with a pension after 25 or 30 years of service, allowing them to pursue a second career while still in their 40s or 50s. Because of relatively attractive salaries and benefits, the number of qualified candidates exceeds the number of job openings in Federal law enforcement agencies and in most state police departments—resulting in increased hiring standards and selectivity by employers. Competition should remain keen for higher paying jobs with state and federal agencies and police departments in more affluent areas. Opportunities will be better in local and special police departments, especially in departments that offer relatively low salaries, or in urban communities where the crime rate is relatively high. Applicants with college training in police science, military police experience, or both should have the best opportunities.

Salary Forecast:
West Virginia State Police Officers are set by rank and time in service. The current salary ranges are below:

Rank	Minimum	Maximum
Trooper	$28,122	$46,494
Senior Trooper	$38,482	$46,882
Trooper First Class	$39,070	$47,470
Corporal	$39,658	$48,058
Sergeant	$43,834	$52,234
First Sergeant	$45,922	$54,322
2nd Lieutenant	$48,010	$56,410
1st Lieutenant	$50,098	$58,498
Captain	$52,186	$60,586
Major	$54,274	$62,674
Lieutenant Colonel	$56,362	$64,762

Program Admission Requirements:
The college adheres to an open admissions policy which means applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis

OCCUPATIONAL DEVELOPMENT

POLICE SCIENCE
MAJOR CODE – CP60

FIRST YEAR	
First Semester[1,2]	**Second Semester**
ENL 111 Written Communication. 3	MAT 139 Mathematics for Police 5
PST 111 Law Enforcement Orientation. 3	IT 101 Fund. of Computer Technology (EDGE). . . 3
PST 221 Fundamentals of Criminal Law. 3	PST 242 Police Community Relations. 3
PST 233 Fundamentals of Criminal. 3	PST 244 Introduction to Criminalistics 4
PST 239 Criminal Evidence and Procedure. 3	PST 248 Traffic Administration & Enforcement. 3
TOTAL CREDITS. 15	**TOTAL CREDITS. 18**
HOURS REQUIRED FOR GRADUATION: 33	

Employment Opportunities:
- West Virginia State Police
- Federal Bureau of Investigation
- Federal Marshal

Contact Information:
Steven Brown • Cabell Hall, Room 110
Phone: 304-696-3366 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: brown175@marshall.edu

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1. Student must be accepted as a Cadet at West Virginia State Police Academy for program enrollment. Contact Personnel Director of West Virginia State Police at (304) 746-2117 or local State Police   Detachment for program application information.
2. Course work may be applied toward A.A.S. in Police Science

PUBLIC LIBRARY TECHNOLOGY - CERTIFICATE

Program Description:
In conjunction with the West Virginia Library Commission and the Marshall University Libraries, a 33 credit-hour certificate program is now available. The Public Library Technology program consists of six library courses and five general studies courses. All courses for this program will be available on-line. Through this program, students can obtain a certificate that enables them to be competitive in the public library market in West Virginia. Upon completion of the certificate program, the student will be half-way through completing an Associate in Applied Science degree.

Career Outlook:
Currently, there are over 170 public libraries in West Virginia; many are staffed by individuals who do not possess an Associate's or Bachelor's degree. According to the West Virginia Occupational Projections, annually there are 18 new openings and 34 replacement openings for library assistants, and 7 new openings and 16 replacement openings for library technicians. The Public Library Technology certificate will offer critical training for individuals currently employed in the field. Monica Brooks, Associate Dean of the Marshall University Libraries, stated "Encouraging the library employees all over the state to further their education is one of our many goals. We also want to build a better workforce and provide educational offerings that are convenient and applicable to their daily work duties. Additionally, we may even entice some non-library folks to get into a wonderful career that has many opportunities for personal and professional growth." Phyllis White-Sellards, Library Technical Assistant II, in the Marshall University Drinko Library said, "Some of these classes will be beneficial to our positions here at Marshall. They can help us keep current with changing technology and library trends."

Salary Forecast:
Median annual earnings of library technicians in May 2004 were $24,940. The middle 50 percent earned between $18,640 and $32,600. The lowest 10 percent earned less than $14,760, and the highest 10 percent earned more than $40,730. Salaries of library technicians in the Federal Government averaged $39,647 in 2005. Median annual earnings in the industries employing the largest numbers of library technicians in May 2004 were as follows:

Colleges, universities, and professional schools	$28,940
Local government	$23,560
Other information services	$22,550
Elementary and secondary schools	$22,510

Program Admission Requirements:
The college adheres to an open admissions policy which means applicants with a high school diploma or a GED are eligible for admission. Applicants with neither a high school diploma nor a GED may be admitted on a conditional basis.

PUBLIC LIBRARY TECHNOLOGY
MAJOR CODE – CL20

FIRST YEAR	
First Semester[1]	**Second Semester**
ENL 111 Written Communication. 3	COM 112 Oral Communications 3
IT 101 Fundamentals of Computers (EDGE). . . .3	PLT 210 Public Library Cataloging. 3
MAT 115 Business Mathematics. 3	PLT 250 Public Library Technology. 3
PLT 220 Public Library	PST 260 Public Library Adult Services 3
Children's and Young Adult Services. . . .3	SS 201 Human Relations. 3
PST 230 Public Library Reference. 3	
PLT 240 Public Library	
Organization and Administration. 3	
TOTAL CREDITS. 18	**TOTAL CREDITS. 15**
HOURS REQUIRED FOR GRADUATION: 33	

Employment Opportunities:
- Library assistants
- Library technicians

Earn a Degree and Graduate Early (EDGE):
This program provides students the opportunity to receive credit for their high school EDGE courses.

Contact Information:
Dr. Monica Brooks • Drinko Library, Room 304
Phone: 304-696-6613 or 1-866-N-ROLLED (1-866-676-5533) • E-mail: brooks@marshall.edu

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1. The complete PLT certificate may be obtained online.

Course Descriptions▶

Academic Skills Center (ASC)

Accounting (AC)

Administrative Asst. Technology (AAT)

Agriculture & Natural Resources (ANR)

Allied Health (AH)

American Sign Language (ASL)

Biological Sciences (BIOL)

Communication (COM)

Community & Technical College (COL)

Computer-Aided Design (CAD)

Culinary Arts (CA)

Dental Laboratory Technology (DLT)

Economics (EC)

Education (EDUC)

Electronics Technology (ELT)

Emergency Medical Technology (EME)

English (ENL)

Finance and Banking (FN)

Health Information Technology (HIT)

Hospitality Management (HM)

Humanities (HMN)

Industrial Supervision & Mgmt. (ISM)

Information Technology (IT)

Inland Waterways (IW)

Interior Design (ID)

Kentucky Virtual University (KYV)

Legal Assistant (LAS)

Machinist Technology (MT)

Management (MG)

Manufacturing Engineering Tech (MFE)

Marketing (MK)

Massage Therapy (MAS)

Mathematics (MAT)

Medical Assisting (MA)

Mining Information Tech. (MIT)

Occupational Development (OD)

Painting and Allied Trades (PAT)

Paramedic Science (PAR)

Physical Therapist Asst. (PTA)

Police Science Tech. (PST)

Public Library Technology (PLT)

Radiographic Science (RS)

Reading (REA)

Science (SCI)

Social Science (SS)

Technical Studies (TS)

Technical Training for Adults (TTA)

COURSE DESCRIPTIONS

PR = Prerequisite (must have this course before taking listed course)
CR = Co requisite (may take this course at the same time as the listed course)
CR/NC = Credit/No Credit

ACADEMIC SKILLS CENTER (ASC)

ASC 080 - Pre-Algebra. 1 Credit

ASC 099 - Academic Skills Center. 1 Credit (CR/NC). This course is designed to allow students to work with teachers, computers, and videos to build academic skills and refresh existing skills.

ACCOUNTING (AC)

AC 103 - Introduction to Accounting. 3 Credits. This course will provide an introduction to basic accounting concepts and generally accepted accounting principles. It will include a focus on the accounting cycle and accounting terms.

AC 108 - Accounting for Business. 3 Credits. To provide students with a basic knowledge of accounting terms, concepts and procedures. Students will study procedures related to payroll, bank reconciliation, accounts payable, and accounts receivable. (Offered Spring Semester only)

AC 201 - Financial Accounting I. 3 Credits. Study of accounting practices and procedures in accordance with generally accepted accounting principles and concepts. The technical bookkeeping procedures of analyzing, recording and reporting accounting information are presented from an external perspective. (PR: AC 103 or permission) (Offered Spring Semester only)

AC 202 -Financial Accounting II. 3 Credits. A continuation of Financial Accounting I, AC 202 is a study of accounting principles and procedures relating to capital budgeting and cost systems of corporations and partnerships from an external perspective. (PR: AC 201 or AC 108)

AC 210 - Managerial Accounting. 3 Credits. Presentation and application of the concepts and procedures of managerial accounting to enhance critical thinking and analytical skills. The course focuses on the use of accounting information to make internal managerial decisions. (PR: AC 201 or AC 108 or AC 103) (Offered Fall Semester only)

AC 221 - Computerized Accounting I. 3 Credits. Application of the small business computer and existing accounting software programs to the solution of accounting problems. Emphasis on extension of previously learned accounting principles. (PR: IT 101 or IT 101E and AC 103; IT 101 or IT101E and AC 108; or IT 101 or IT 101E and AC 201; or Permission)

AC 222 - Computerized Accounting II. 3 Credits. Application of accounting principles and procedures utilizing current accounting soft-

ware. This course in computerized accounting offers in-depth analysis and practical application of the accounting procedures related to payroll, accounts receivable, accounts payable and inventory. (PR: IT 101 or IT 101E and AC 103; IT 101 or IT101E or AC 108; and IT 101 or IT 101E and AC 201; or Permission)

AC 234 - Taxation I. 3 Credits. Study of federal income tax law as applied to income, deductions, expenses and tax credits relating to an individual and small business. Emphasis is placed on application of the tax law through preparation of the proper schedules and forms of a federal income tax return. (PR: AC 201, AC 103, AC 108; or ACC 215) (Offered Spring Semester only)

AC 235 - Federal Taxation II. 3 Credits. A study of federal income tax rules and laws to determine income, expenses, gains and losses for business entities. Forms of business organizations, C corporations, S corporations, partnerships and limited liability companies and other taxable entities are examined to ascertain the appropriate forms to file as established by the Internal Revenue Service. (PR: AC 234)

ADMINISTRATIVE ASSISTANT TECHNOLOGY (AAT)

AAT 095 - Self-Paced Basic Keyboarding. 2 Credits (CR/NC) Development of fundamental keyboarding techniques, rapid and accurate keyboarding skills. Student must key a minimum of 35 wpm with no more than 5 errors to pass this course.

AAT 104 - Records Management. 3 Credits. Fundamental principles of records management including the creation, storage, retrieval, deletion, filing, and organization of information in a records management system. Applicable database management software will be introduced.

AAT 105 – Computerized Database Management. 3 Credits. Use of database management software to create and maintain databases.

AAT 114 - Keyboarding II. 3 Credits. Emphasis is on the development of keying speed and accuracy. Further emphasis is placed on the designing, preparing, and keying of more complex two-page manuscripts, business forms, and other types of business correspondence. (PR: AAT 136 or Permission and student must demonstrate a minimum of 35 wpm with five or fewer errors before he/she can enroll in AAT 114))

AAT 136 - Comprehensive Word Processing. 3 Credits. Provides hands-on training in the use of word processing software.

AAT 160 - Introduction to Presentation Software. 3 Credits. Students will learn and apply presentation concepts and practices to create presentations using computer software. (Offered Spring Semester only)

AAT 220- Anatomy and Physiology for Transcription. 3 Credits. An introduction to structure and function of the human body, by body system and on the cellular level.

AAT 221 - Medical Terminology for Transcription. 3 Credits. An introduction to prefixes, suffixes, root words, combining forms, Latin and Greek forms, spelling, and pronunciation, with emphasis on building a working medical vocabulary based on body systems.

AAT 222 - Pharmacology for Transcription. 3 Credits. An introduction to the principles of pharmacology and a comprehensive study of drug action, routes of administration, classes of drug by body system, as well as antibiotics, antiviral drugs, IV fluids, blood products, anesthetics, emergency drugs, vaccines, and immunizations. (PR: Permission)

AAT 223 - Beginning Laboratory Medicine for Transcription. 1 Credit. A comprehensive study of laboratory and pathology tests and procedures by body system, Part I. (PR: Permission)

AAT 224 - Advanced Laboratory Medicine for Transcription. 1 Credit. A comprehensive study of laboratory and pathology tests and procedures by body system, Part II. (PR: Permission)

AAT 225 - Human Diseases for Transcription. 3 Credits. A comprehensive study of disease processes, organized by body system. (PR: Permission)

AAT 226 - Surgical Procedures for Transcription. 1 Credit. A comprehensive study of surgical techniques, instruments, and operative procedures. (PR: Permission)

AAT 242 - Legal Terminology and Transcription. 3 Credits. Provides training in legal terminology and transcription. (PR: AAT 114 and AAT 136) (Offered Fall Semester only)

AAT 244 - Beginning Medical Transcription. 8 Credits. Transcription of authentic physician-dictated reports organized by body systems with emphasis on development of accuracy and medical knowledge for transcription of letters, chart notes, history and physical examination reports, consultations, emergency room reports, and discharge summaries. Use of reference materials and other resources, techniques for proofing and editing, discussion of professional issues in medical transcription, and review of grammar and punctuation are integrated in the content. (PR: Permission)

AAT 245 - Pathology Transcription. 2 Credits. Transcription of authentic physician-dictated reports related to pathology with emphasis on development of accuracy and medical knowledge for transcription of autopsies, gross descriptions, and microscopic descriptions. Use of reference materials and other resources, techniques for proofing and editing, and review of grammar and punctuation are integrated in the content (PR: Permission)

AAT 246 - Radiology Transcription. 2 Credits. Transcription of authentic physician-dictated reports related to radiology with emphasis on development of accuracy and medical knowledge for transcription of soft tissue and bone x-rays, contrast material and interventional radiology, nuclear medicine, ultrasound, computerized tomography, and magnetic resonance imaging. Use of reference materials and other resources, techniques for proofing and editing, and review of grammar and punctuation are integrated in the content. (PR: Permission)

AAT 247 - Gastroenterology Transcription. 2 Credits. Transcription of authentic physician-dictated reports related to gastroenterology with emphasis on development of accuracy and medical knowledge for transcription of admission notes, emergency room notes, history and physical examinations, consultations, operative reports, and discharge summaries. Use of reference materials and other resources, techniques for proofing and editing, and review of grammar and punctuation are integrated in the content. (PR: Permission)

AAT 248 - Cardiology Transcription. 2 Credits. Transcription of authentic physician-dictated reports related to cardiology with emphasis on development of accuracy and medical knowledge for transcription of admission notes, emergency room notes, admitting history and physical examinations, consultations, operative reports, DC cardioversions, electrocardiograms, thallium treadmill exercise stress tests, echocardiograms, echo Doppler studies, electrophysiological studies, cardiac catheterization, and discharge summaries. Use of reference materials and other resources, techniques for proofing and editing, and review of grammar and punctuation are integrated in the content. (PR: Permission)

AAT 249 - Orthopedics Transcription. 2 Credits. Transcription of authentic physician-dictated reports related to orthopedics with emphasis on development of accuracy and medical knowledge for transcription of history and physical examinations, hospital progress notes, consultations, operative reports, and discharge summaries. Use of reference materials and other resources, techniques for proofing and editing, and review of grammar and punctuation are integrated in the content. (PR: Permission)

AAT 250 - Medical Transcription Internship. 1 Credit. The student is placed in a facility where medical transcription is performed (hospital, clinic, physician's office, transcription company, or a combination of these sites). The student transcribes under the supervision of the site's medical transcription administrator. (PR: Permission)

AAT 253 - Medical Transcription. 3 Credits. Preparation of medical documents dictated on electronic media. (PR: AAT 136 and AH 151)

AAT 255 - Desktop Publishing. 3 Credits. Study of desktop publishing concepts and techniques, and application of basic principles of design and layout using desktop publishing software. (PR: IT 101 or IT 101E) (Offered Fall Semester only)

AAT 261 - Integrated Document Formatting. 3 Credits. Production of integrated documents with an emphasis on formatting, proofreading, and editing techniques and practices.(PR: AAT 114 and AAT 237) (Offered Spring Semester only)

AAT 265 - Administrative Office Procedures. 3 Credits. This course focuses on promoting an understanding of office procedures, providing information on business principles, and promoting a high standard of ethics applicable to any business environment. Students are required to use e-mail, Internet, make a presentation, design their resume, and complete other office simulations. (PR: AAT 136) (Offered Fall Semester only)

AAT 280-287 - Special Topics. 1 to 4 Credits. Study of content not normally covered in other courses. (PR: Enrollment with permission of program coordinator or course instructor.)

AAT 290 – Internship. 3 Credits (CR/NC). Supervised on-the-job training for Administrative Assistant Technology students. Student must successfully complete 200 hours of appropriate office experience. (PR: Complete 45 credit hours toward AAT degree, or permission) (Offered Spring Semester only)

AGRICULTURE AND NATURAL RESOURCES (ANR)

ANR 101 - Agriculture and Natural Resources I. 5 credits. This area of study is designed to provide students with core skills and competencies needed for pursuing advanced careers in agriculture and natural resources. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts. This course is only offered at vocational partnership sites

ANR 102 - Agriculture and Natural Resources II. 5 credits. This area of study is designed to provide students with core skills and competencies needed for pursuing advanced careers in agriculture and natural resources. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts. This course is only offered at vocational partnership sites.

ALLIED HEALTH (AH)

AH 151 - Medical Terminology. 3 Credits. Introduction to basic techniques of medical word building principles and to the language used within health care systems.

AH 205 - Principles of Disease. 4 Credits. The nature, cause, diagnosis, and treatment of diseases. (PR: SCI 257 or BSC 227)

AH 207 – Infection Control for Health Professionals. 4 Credits. This course will provide the learner with an overview and understanding of the fundamentals of communicable diseases. Students will be presented with information on the microbiology of contagious pathogens, disease transmission, and infection control measures to prevent or stop the spread of communicable diseases. Emphasis will be placed on the pathogens that are likely to be encountered in new or re-emerging infectious diseases. (PR: AH 151)

AH 216 - Basic Pharmacology. 3 Credits. An introduction to the study of drugs, including mechanisms of actions, therapeutic effects, and their role in treating disease. (PR: AH 151)

AH 217 - Personal Fitness Trainer. 4 Credits. This course is designed to prepare and qualify students to work as personal trainers. The course bridges the gap between exercise science related course work and the practical application skills of personal training. The students will learn how to properly screen and evaluate clients for safe participation in an exercise program; design and implement exercise prescriptions for multiple populations and successful goal attainment; and successfully sell and manage personal trainer services. Information on eligibility for a Personal Training Certification is provided.

AH 220 - Basic Nutrition. 3 Credits. Introduction to nutrition, stressing characteristics of nutrients and their food sources. Examines digestion, absorption and metabolism of nutrients. Covers individualized diet analysis and current interest topics such as weight management and some disease therapies. (Offered Spring Semester only)

AH 226 - Respiratory Therapy Pharmacology. 3 Credits. Study of general principles of respiratory pharmacology, including drug types, drug groups, methods of administration, dosage, effects, indication, contraindication, and regulations. (PR: Admission to Respiratory Therapy Program and AH 151) (Offered Fall Semester only)

AH 280-281 - Special Topics. 1 to 4 Credits. Study of content not normally covered in other courses. (PR: Enrollment with permission of program coordinator or course instructor)

AMERICAN SIGN LANGUAGE (ASL)

ASL 101 – Elementary American Sign Language I. 3 credits. This course takes a functional-notational approach to learning American Sign Language (ASL), a language used by Deaf people in North America. Materials on basic conversational aspects in ASL will be introduced, such as introducing oneself, exchanging personal information, talking about surroundings, where you live, and your family and various activities. Students will acquire skills in receptive and expressive language functions in interactive contexts, in getting attention, negotiating a signing environment, and exchanging, confirming and correcting information, using appropriate phonological, lexical, syntactical, semantical, and pragmatic aspects of American Sign Language.

ASL 102 – Elementary American Sign Language II . 3 credits. This course is a continuation of ASL I. Materials on basic conversational aspects in ASL will be introduced, such as giving directions, describing others, making requests, talking about family and occupations, attributing qualities to others, and talking about routines. Students will acquire skills in receptive and expressive language functions in interactive contexts, in not only getting attention, negotiating a signing environment, and exchanging, confirming and correcting information, but also expressing degrees of uncertainty, and asking for clarification and repetition, using appropriate phonological, lexical syntactical, and pragmatic aspects of American Sign Language.

ASL 103 – American Deaf Community. 3 Credits – This course provides an overview of concepts and studies on deafness, deaf people, the deaf community in America, and current issues facing the deaf community.

ASL 104 – American Deaf Culture. 3 Credits. This course provides an overview of concepts and studies on American Deaf culture, and current issues facing the American Deaf culture.

ASL 105 – Deaf and ASL Art and Literature. 3 Credits. Students in this course will study and apply literary analysis and criticism to literary and artistic works on deafness by individuals who are deaf. Topics on the meaning of deafness, presentations and representations of deafness, American Sign Language, and deaf people in society are explored through literary approaches. Through examination and application of literary theories, students will develop and appreciation of the complexities of meanings that deaf individuals develop during the course of experiencing, living and identifying with, and reflecting on deafness. This class uses all discussion format, with students analyzing literary and artistic works and developing ideas.

ASL 201 – Intermediate Sign Language I. 3 Credits. This course is a continuation of ASL II. It covers topics on locating things around the house; complaining, making suggestions and requests, and provides a cumulative review of the units studies.

ASL 202 – Intermediate Sign Language II. 3 Credits. The course is a continuation of ASL III. It covers topics on times of employment, work, relationships, personal job experiences, job market, and deaf employment.

ASL 203 – American Deaf Community History. 3 Credits. This course provides a historical overview of deaf community history in America from the seventeenth to the twenty-first centuries.

ASL 204 - Recourses for the Deaf Community. 3 Credits. This course provides an overview of resources concerning the American Deaf community.

ASL 205 - Deaf People in American History. 3 Credits. This course provides an overview of deaf people in American history from the eighteenth to the twenty-first centuries.

ASL 206 – Applied Issues Concerning the Deaf Community. 3 Credits. This course provides an overview of research issues concerning the American deaf community and its history, American Deaf culture and its history, and American Sign Language and its history.

BIOLOGICAL SCIENCES (BIOL)

BIOL 210 – Introduction to Clinical Microbiology. 3 Credits. An introduction to the role of microorganisms in the disease process. (PR: MAT 145; MAT 145E; MAT 150 or MAT 150E)

BIOL 257 - Introduction to Anatomy & Physiology. 3 Credits. This course is designed to build the student's understanding of the most basic body structures, how these structures function, dysfunction of the structures, common disease, testing and terminology. This course, using a systems approach, will provide the student with the basic understanding of anatomical structure and function/dysfunction.

BIOL 260 - Applied Human Anatomy. 4 Credits. This course is designed for the student to acquire a basic working knowledge of the functional structure of the human body. It is designed for students in pursuit of professional health programs such as nursing, med tech, dietetics, cardiac rehab, and physical therapy assistant.

BIOL 265 - Applied Human Physiology. 4 Credits. This course is designed to introduce the student to the function of the various physiological systems in humans and have the student perform lab exercises to demonstrate these concepts.

CLINICAL ASSISTANT (CLA)

CLA 201 – Laboratory Safety, Ethics, and Law. 2 Credits . In this course, students will be introduced to laboratory safety practices, medical law as it relates to the laboratory field, as well as healthcare ethics. The student will be presented with information on appropriate laboratory techniques, the standard operating practices of the clinical laboratory, along with federal, state and local safety regulations. During the second half of the course, the student will be introduced to contemporary ethical issues in the healthcare field. They will be presented with information regarding types of laws governing healthcare facilities, issues of confidentiality and consent, and professional liability. At the conclusion f the course, the student will have developed professional ethics and morals, strong communication skills and the ability to effectively manage conflict resolution. (Offered Fall Semester only)

CLA 202 – Laboratory Calculations. 2 Credits. In this course, the student will be introduced to mathematical calculations routinely encountered in hospital and physician's office laboratories. The student will be presented with information specific to clinical laboratory science. By the end of this course, the student will be competent to perform basic laboratory calculations commonly used in the areas of Clinical Chemistry, Hematology, Urinalysis, Immunology and Microbiology. The student will also gain an understanding of the principle of clinical instrument calibration, as well as statistical calculations used for quality control procedures, quality assurance, and analytical method comparison used in the clinical laboratory. (PR: MAT 145 Offered Fall Semester only)

CLA 203 - Specimen Collection and Processing. 4 Credits. This course offers the student an overview and introduction to specimen collection, the concept of pre-analytical variable, and methods of specimen processing and transport commonly used in the Clinical Laboratory environment. Students will gain knowledge of body systems, common disorders associated with each system, and diagnostic tests routinely used for treatment and diagnosis. During this course, the student will develop specimen collection techniques including venipuncture and capillary skin

puncture, as well as collection of non-blood specimens such as urine and bacterial cultures. At the conclusion of this course, the student will be able to identify specimen requirements for common laboratory tests and list tests that require special collection and/or transport procedures. (PR: SCI 257 or SCI 260 Offered Spring Semester only)

CLA 204 - Introduction to Point of Care Testing. 4 Credits. This course introduces students to point-of-care testing. CLIA waived, and selective CLIA moderate-complexity laboratory testing commonly encountered in ambulatory health care settings. Students will be presented with both fundamental and advanced concepts of Urinalysis, Hematology, Chemistry, Coagulation, Immunology, Immunohematology and Microbiology testing. At the conclusion of this course, the student will be able to apply those concepts to successfully perform laboratory procedures. (Offered Fall Semester only)

CLA 205 – Introduction to Automated Instrumentation. 2 Credits. This course offers an introduction to the usage of CLIA waived and low-complexity laboratory instruments. Students will gain an understanding of common methodologies, techniques, and principles of laboratory testing and instrumentation. During this course students will perform and interpret instrument calibration and quality control, as well as demonstrate general maintenance and trouble-shooting procedures. Upon completion of this course, students will be proficient in the general operation of waived and low-complexity analyzers, result validation, and documentation. (PR: SCI 257 for Certificate Degree OR PR: SCI 260 and SCI 265) (Offered Fall Semester only)

CLA 206 – Introduction to Physician Office Laboratory. 2 Credits. During this course, students will be introduced to a simulated physician's office laboratory setting. Students will also be introduced to Laboratory Information systems. Upon completion of this course, students will be competent to perform selective moderate-complexity laboratory procedures commonly used in physician's offices and small hospitals. (PR: SCI 257 for Certificate Degree OR SCI 260 and SCI 265) (Offered Spring Semester only)

CLA 299 – Clinical Assistant/POCT Internship. 4 Credits. This course is designed to reinforce the concepts and skills attained in CLA 201-206. Students will complete a clinical internship under the supervision of licensed medical laboratory technicians and medical technologists. Successful completion of this internship requires mastery of skills at the clinical assistant level for all areas of the laboratory including, phlebotomy, donor room facilities, specimen processing, urinalysis, hematology, immunology, chemistry, and microbiology. (PR: Completion of all previous LCA coursework with a minimum grade of "C", admission to CA/POCT Program, and permission of program coordinator.) (Offered Spring Semester only)

COMMUNICATION (COM)

COM 096 - Conversational Grammar. 3 Credits (CR/NC). A self-help course for students who need to improve oral grammatical skills. Emphasis is on improving spoken grammar to adhere to the principles of Standard American English. (PR: Completion with passing grade of one college English course or permission)

COM 112 - Oral Communication. 3 Credits. This course provides instruction and experience in preparation and delivery of presentations in public settings and group discussions. Emphasis is placed on research, preparation, delivery, and evaluation of informative, persuasive, and special occasion public speaking. Upon completion, students will be able to design and deliver well-organized presentations and participate in group discussions with appropriate audiovisual support.

COM 235 - Leadership Development Studies. 3 Credits. A course that provides students the opportunity to explore the concept of leadership while developing and improving leadership skills. Integrated humanities readings, experiential exercises, films and contemporary readings are used. (PR: ENG 101 , ENL 101 or ENL 111)

COM 280-283 - Special Topics. 1 to 4 Credits. Study of content not normally covered in other courses. (PR: Enrollment with permission of division director or course instructor.)

COMMUNITY & TECHNICAL COLLEGE (COL)

COL 101 - New Student Seminar – CTC. 1 Credit (CR/NC). CTC 101 is designed as an introduction to college life and is intended for freshman and new transfer students. The course provides students with an opportunity to adjust to the academic and social environment of college under the guidance of a faculty/staff mentor and in the presence of a small group of peers.

COL 110 - Math Study Strategies. 1 Credit. (CR/NC) Evaluation of math strengths and weaknesses and learning style evaluation. Time management, note taking skills, test anxiety, and other needed study strategies as they apply to match courses.

COL 138 - Academic Skills Review. 3 Credits. Academic preparation to help students improve study methods, time management methods, textbook reading skills, listening and note taking procedures, and test taking skills.

COL 280-285 – Special Topics. 1-6 Credits. This course will consist of study of content not normally covered in other courses. (PR: Permission)

COMPUTER AIDED DESIGN (CAD)
(Classes are taught at Cabell County Career Technology Center)

CAD 111 – Computer-Aided Drafting for Interior Design. 3 Credits. Introductory computer drafting using CAD incorporating fundamental drafting components, file management, floor plans, elevations, and 3-D model.

CAD 211 – Advanced Computer Aided Interior Design. 3 Credits. Advanced computer 3-D drawings in perspective and elevations. (PR: CAD 111)

CULINARY ARTS (CA)

CA 105 – Fabrication and Knife Skills. 3 Credits. This course covers the principles of basic knife skills and the techniques for the production and fabrication of meats, game, poultry and seafood in the culinary industry to the standards present in the field. Students will learn recipe conversions and proper measuring skills in both standard U.S. measurements and metric measurements.

CA 110 - Mise en Place. 3 Credits. This introductory course covers the principles of food service operations, basic sauces, stocks, salads, and sandwiches and other food preparation techniques and procedures. Students will apply knowledge of rules and laws referencing sanitation and safety regulations. Proper equipment and knife handling principles will be demonstrated.

CA 111 – Mise en Place II. 3 Credits. This course is a continuation of the principles covered in CA 110. (PR: CA 110)

CA 112 - Garde Manger. 3 Credits. The focus of this course is to develop skills in providing a variety of cold food products. Students will also learn to prepare appropriate buffet presentations, including decorative pieces.

CA 116 - Introduction to Breads and Doughs. 3 Credits. An introduction to the fundamentals of baking science in the preparation of a variety of products. Use and care of equipment normally found in the bake shop or baking area. (PR: CA 110)

CA 120 – A la Carte Dining Room Service I. 3 Credits. Dining room service will involve the basic understanding of traditional service styles used in dining room operations. The course focuses on service organization, American service, French services, and quick service as it pertains to restaurant operations.

CA 135 - International Cuisine. 3 Credits. This course will explore various international cuisines along with special features of geography, climate, and culture that influence regional cooking. (PR: CA 110)

CA 137 – Trends in the Hospitality Industry. 3 Credits. This course provides an examination of issues and topics affecting the hospitality industry. Current and future trends in the industry will be discussed. Possible topics include but are not limited to technological advancement, gaming and casinos, interest marketing and industry globalization.

CA 200 - Culinary Sanitation and Safety. 3 Credits. This course focuses on the sanitation aspects of the food service industry. Additional subject matter will include establishing the food safety system, keeping food safe in storage, facilities and sanitary equipment, accident prevention, crisis management, and dealing with sanitation regulations and standards.

CA 205 - A la Carte Dining Room Service II. 3 Credits. This course covers advance dining room procedures. Students are exposed to advanced table service techniques, table side preparation and the importance of guest satisfaction. (PR:CA 110 and CA 120)

CA 224 – Intermediate Cooking and Artistry. 3 Credits. This course covers the principles of intermediate food preparation and identification as well as manufacturing of products. Students will learn presentation skills and menu development (PR: CA 110 and CA 111)

CA 225 - Advanced Cooking and Artistry. 3 Credits. This course will focus on the more advanced techniques of culinary arts and menu planning for chefs or restaurant owners. Students will become familiar with the advanced techniques of food selection, storage, menu planning, preparation and service. This course will introduce the students to the requirements necessary to successfully compete in culinary competition. American Culinary Federation culinary standards will be discussed and practiced for product development.. (PR: CA 110)

CA 235 - Menu Planning. 3 Credits. This course focuses on the principles of menu planning, lay-out, and development for a variety of facilities and services. It also provides a foundation in costing, marketing, and merchandising a menu.

CA 245 - Culinary Nutrition. 3 Credits. This course is an introduction to nutrition using dietary recommendations, food guides, food labels and Food Guide Pyramid to plan menus. Complex carbohydrates, lipids (fats and oils), protein, vitamins, water and minerals will be reviewed. Development of nutritional menus and recipes, marketing healthy menu options, light beverages and foods for the beverage operation, nutrition and health, weight management and exercise, and nutrition over the life span, from pregnancy to the infant, child, adolescent and older adult will be studied.

CA 255 - Advanced Pastries. 3 Credits. This course will focus on advanced baking and pastry techniques. Emphasis will be placed on wedding cakes, individual pastries, plated desserts, frozen desserts, light desserts, charlottes, Bavarian creams, mousses, soufflés, modernist desserts, chocolate artistry, sugar works, and marzipan figures. (PR: CA 110)

CA 257 – Mixology. 4 Credits (CR/NC). This course orients the student to the basics of a bar and bar equipment used in the industry. This includes bar set-up, bar equipment, glassware, condiments used, standard bar terms, standard mixing methods, and bar management. Industry standards will be explained (glassware, garnishing, and service) with an emphasis on sanitation and responsible alcohol service. (PR: CA 101)

CA 260 - Culinary Selection and Procurement. 3 Credits. An overview of the purchasing function, ordering, receiving, and storing purchases will be the emphasis of this hospitality course. Emphasis will be placed on how to purchase produce, eggs, poultry, fish and meat, dairy products, beverages, equipment and other non food items.

CA 269 - Soups, Stocks and Sauces. 3 Credits. This course covers the principles of basic soups, stocks and sauces and their preparations, techniques, and procedures. Students will apply knowledge of rules and laws referencing sanitation and safety regulations. (PR: CA 200)

CA 270 - Managing Culinary Operations. 3 Credits. This course will consider restaurant operations, the menu, cost control, and financial matters. It will explore legal issues specific to restaurant staff, customer service, laws and regulations, and sanitation.

CA 275 - Cost Control and Revenue Management. 3 Credits. An overview of financial management in food service. This course will explore food and beverage cost control, managing production, labor and expense cost control, analyzing financial data, managing security, and using computers in cost control. (PR: IT 101)

DENTAL LABORATORY TECHNOLOGY (DLT)
(Classes are taught at Putnam County Technical Center in Eleanor, WV)

DLT 101 - Introduction to Dental Technology. 6 Credits. Introduces students to various dental materials and provides hands-on experience in the construction of basic dental appliances. Safety hazards in the lab are discussed and prevention of accidents stressed. (PR: Admission to Program) (Offered Fall Semester only)

DLT 104 - Complete Dentures. 9 Credits. Students will be introduced to oral landmasks, muscles, bones, tissues, and procedures involved with dental appliances that are substitutes for all lost natural teeth and associated structures of the upper and lower arches. (Offered Fall Semester only)

DLT 108 - Partial Dentures. 9 Credits. Students will build upon previously learned dental laboratory skills to survey and design the framework for partial dentures. (Offered Spring Semester only)

DLT 112 - Inlays/Crowns/Bridges/Ceramics. 10 Credits. Students will learn advanced dental laboratory skills including pouring stone dyes and working casts, determining margins and define the dyes, demonstrating knowledge of tooth morphology. (Offered Spring Semester only)

DLT 116 - Clinical Experience. 1 Credit. The clinical consists of 10 days of on the job training in one commercial dental laboratory location. In the lab they will work in several different departments and jobs to enhance their clinical experience. Students will utilize skills learned in the classroom while completing their clinical training. (PR: DLT 101, DLT 104, DLT 108, and DLT 112) (Offered Spring Semester only)

ECONOMICS (EC)

EC 102 - Basic Economics. 3 Credits. An introduction to basic microeconomic and macroeconomic concepts and institutions, key economic relationships and terms.

EDUCATION (EDUC)

EDUC 105 – Computer Instruction Technology in the Classroom. 3 Credits. This is a course in skill development using computer-generated media. An emphasis will be placed on computer skills and their application to young children and the early childhood classroom. This course will also explore administrative technology and assistive technology in the early childhood classroom. This course will be taught utilizing 3 components. (PR: IT 101)

EDUC 120 – Foundations of Early Childhood. 3 Credits. This is an introductory course of the history, philosophy, and theoretical foundations of early childhood programs with specific attention to current programs serving children prior to school entry. Concepts for providing developmentally appropriate practices are introduced. Observation hours in an early childhood classroom outside of classroom instruction will be required. (PR: COM 095, ENG 095 or placement in 100 level COM, ENL)

EDUC 204 - Parenting. 3 Credits. This course exams parenting from a socio-cultural and developmental perspective using a systems model. This course is in no way meant to be manual for child rearing, but a study of parenting. (PR: EDUC 120 and ENL 111)

EDUC 225 – Development of Young Children. 3 Credits. This course examines the physical, emotional, cognitive and intellectual development of young children. This course will examine relationships with parents and peers and growth in self-direction with a primary focus on young children birth through five years of age. Observation and participation in an early childhood classroom required. (PR: EDUC 204; CR: EDUC 270)

EDUC 261 – The Exceptional Child. 3 Credits. This is an introductory course of children who differ from the average child in mental, physical, and emotional characteristics. The purpose of this class is to provide educators with an overview of children with exceptional needs, focusing on historical, legal and mult-cultural issues, high-incidence disabilities and giftedness: including characteristics and adaptations of educational procedures. (PR: EDUC 225)

EDUC 270 – Level I Clinical Experience. 0 credit (CR/NC). A clinical experience for Early Childhood Education majors. This field experience will provide opportunities for observations and participation with young children under the supervision of qualified professionals. Students must successfully complete the field experience to pass the course. (CR: EDUC 225 or SS 215 for ACDS students)

EDUC 280 – 284. Special Topics. 1 to 4 Credits. Study of content not normally covered in other courses. (PR Enrollment with permission of program coordinator or course instructor)

EDUC 299 – Capstone. 3 credits (CR/NC). This course involves the application of coursework, theories, and practice. Places the student in a practicum based experience where classroom instruction applies to real experiences in the field. (PR: Permission)

ELECTRONICS TECHNOLOGY (ELT)

ELT 110 - Basic Electronics. 3 Credits. Course focuses on fundamental concepts of electronics. Designed for the first-time student of the principles and applications of electricity and electronics. (Classes offered at Cabell County Career Technology Center – Fall Semester only)

ELT 111 - Direct Current Circuit Analysis. 4 Credits. Direct current circuits, electrical and magnetic phenomena, utilization of circuital theorems for the solution of circuits and networks, conductors, insulators and magnetic materials. (CR: ELT 111L and MAT 145)

ELT 111L - Direct Current Electronics Lab. 2 Credits. The focus of the course is to develop knowledge and skills relevant to the concepts of electronics. The principles and applications of Direct Current Theory in electricity and electronics are studied. (CR: ELT111)

ELT 121 - Alternating Current Circuit Analysis. 4 Credits. Course focuses on alternating current circuits and includes peak average and effective values, capacitors, indicators and transformers, reactance, impedance, resonance and filters. (PR: ELT 111 and CR: ELT 121L) (Offered Spring Semester only)

ELT 121L - Alternating Current Electronics Lab. 2 Credits. Focus of course is to develop knowledge and skills relevant to the concepts of electronics. The principles and applications of AC Circuit Theory in electricity and electronics are studied. (CR: ELT 121)

ELT 131 - Analog Circuits. 5 Credits. The study of semiconductor devices and circuits to include thyristors, FET's and linear ICS. (PR: ELT 121 and CR: ELT 131L)

ELT 131L - Analog Circuits Lab. 1 Credit. Focus of course is to develop knowledge and skills relevant to the concepts of electronics. The principles and applications of Analog Circuit Theory in electricity and electronics are studied. (CR: ELT 131)

ELT 209 - Basic Networking. 3 Credits. This course is designed to give the student a basic understanding in maintaining, upgrading and troubleshooting LANs and WANs. (PR: Permission)

ELT 210 - Basic Motors. 3 Credits. This course is designed to give the student a basic understanding of AC and DC motor operation and the circuits control motor function. (PR: ELT 121 and ELT121L or Permission)

ELT 211 - Combinational Logic Circuits. 5 Credits. Analysis of combinational digital devices, circuits, and systems through the study of logic waveforms, numbering, systems, gates, Boolean Algebra and Karnaugh maps with emphasis on troubleshooting. (PR: ELT 131 and MAT 215; CR: ELT211L) (Offered Spring Semester only)

ELT 211L - Combinational Logic Circuits Lab. 2 Credits. Focus of course is to develop knowledge and skills relevant to the concepts of electronics. The principles and applications of Logic Circuit Theory in electricity and electronics are studied. (CR: ELT 211)

ELT 221 - Sequential Logic Circuits. 4 Credits. Analysis of sequential digital devices, circuits, and systems through the study of waveforms, timing diagrams, state tables, truth tables, and Karnaugh maps as a foundation for microprocessor system study. (PR: ELT 211 and CR: ELT 221L)

ELT 221L - Sequential Logic Circuits Lab. 2 Credits. Focus of course is to develop knowledge and skills relevant to the concepts of electronics. The principles and applications of sequential logic circuit theory in electricity and electronics are studied. (CR: ELT 221)

ELT 222 - Introduction to Microprocessors. 4 Credits. A combination of classroom and lab experience designed to teach the student how to work with microprocessors as they apply to consumer, industrial, and business equipment.(PR: ELT 211)

ELT 223 - Biomedical Instrumentation. 3 Credits. This course is designed to help prepare the student to address biomedical instrumentation, calibration and measurement by blending electrical fundamentals with the unique demands of the patient care and laboratory environment. Students will experience hands-on training with various patient care monitors and sensors as well as many types of diagnostic, therapeutic and clinical laboratory equipment. (PR: ELT 211 and ELT 211L)

ELT 280-283 - Special Topics. 1 to 4 Credits. Study of content not normally covered in other courses. (PR: Enrollment with permission of division director or course instructor.)

ELT 299 - Electronic Technology Internship. 3 Credits (CR/NC). The student works in a supervised work situation for a specific period for practical work experience. (PR: Permission)

EMERGENCY MEDICAL TECHNOLOGY (EME)

EME 105 - First on Scene. 3 Credits. This course is designed to teach the student to manage a medical emergency until other EMS personnel arrive. An emphasis is placed on victim/patient stabilization using supplies available to the layperson.

EME 109 - Emergency Medical Technician. 6 Credits. A course designed to teach the student to assess and manage medical/trauma emergencies in the pre-hospital setting. Following completion students will be eligible to take the National Registry for EMT. This course follows the guidelines set forth by the Department of Transportation and the West Virginia Office of Emergency Medical Services. e(CR: EME 109L)

EME 109L - Emergency Medical Technician Lab. 1 Credit. A course designed to develop competency in practical skills covered in the Emergency Medical Technician class. This course follows the guidelines set forth by the Department of Transportation and the West Virginia Office of Emergency Medical Services. (CR: EME 109)

EME 280- 283 - Special Topics. 1 to 4 Credits. Study of content not normally covered in other courses. (PR: Enrollment with permission of program coordinator or course instructor)

ENGLISH (ENL)

ENL 095 - Developmental Writing. 3 or 5 Credits (CR/NC).This course combines a review of grammar skills and introduction to the written essay. Prepares students for ENL 101 or ENG 101. Graduation requirement is increased by three hours for students who complete this course.

ENL 111 - Written Communication. 3 Credits. This course provides instruction and experience in preparation and delivery of written communication in workplace and personal settings. Emphasis is placed on the writing process including production of unified, coherent, well-developed essays, letters and memos using standard written English. (PR: COM 095; ENL 095; ACT 18 or PLAC 101)

ENL 115 – Written Communication II. 3 Credits. This is a research-based writing course designed to help the student develop advanced skills in composition, editing, and critical thinking needed for other college courses and professional careers. (PR: COM 111; ENL 111 or ENG 101, ENL 101)

ENL 231 - Technical Report Writing. 3 Credits. A course designed to prepare students to write technical reports. Emphasis is on good writing principles and the use of supplementary illustrations as they apply to technical reports. (PR: COM 111; ENL 111 or ENG 101 or permission ENL 101)

ENL 240 - Literature of America Popular Culture*. 3 Credits. Survey course exploring the social and cultural issues arising from popular culture in America. (PR: ENG 115; ENL 111; ENL 115; ENC 102) **Approved for multicultural designation with Marshall University.*

FINANCE AND BANKING (FN)

FN 141 - Real Estate Principles and Practices. 3 Credits. General introduction to real estate as a business and as a profession. Designed to acquaint the student with the wide range of subjects and terminology necessary to the practice of real estate. This introductory course in fundamentals includes the nature of real estate and ownership, principles and concepts of title transfer, title insurance, real estate marketing, financing, leasing, taxation, insurance development, appraising, and state license law. Approved as a prerequisite for licensure examination as a salesperson by the West Virginia Real Estate Commission and the Ohio Real Estate Commission.

FN 151 - Principles of Bank Operations. 3 Credits. Fundamentals of bank functions presented in a descriptive fashion so that the beginning banker may acquire a broad perspective of the banking operation so as to prepare for career advancement in the banking industry. (Offered Fall Semester only)

FN 163 - Trust Functions and Services. 3 Credits. Provides a complete picture of the services rendered by institutions engaged in trust business. Gives an introduction to the services and duties involved in trust operations and is intended for all banking majors. Offers a clear distinction between business and legal aspects of trust functions. (PR: FN 151)

FN 231 - Business Finance. 3 Credits. This course will focus on the methods of financial analysis. Emphasis is given to the time value of money, evaluation of financial statements, international issues, the stock market, investing, and consumer credit issues. (PR: AC 103; AC 108; AC 201; or ACC 215) (Offered Spring Semester only)

FN 248 - Real Estate Law. 3 Credits. Study of the principles of law governing interests in real estate including acquisition, encumbrance, transfer rights and obligations of parties, and state and federal regulations thereof. This course is approved as a prerequisite for licensure examination as a salesperson by the West Virginia Real Estate Commission.

FN 250 - Computer Applications to Banking. 3 Credits. Study of software programs applicable to current banking systems. (PR: IT 101 or IT 101E)

FN 251 - Consumer Lending. 3 Credits. This course provides an overview of consumer credit and an in-depth look at consumer credit products and services, the consumer lending process and consumer credit administration. (PR: FN 151)

FN 252 - Law and Banking. 3 Credits. Introduction to rules of American law that underlie banking. Topics include jurisprudence, the court system and civil procedure, contracts, quasi-contracts, property, torts and crimes, agencies, partnerships, corporations, sales of personal property, commercial papers, bank deposits and collections, documents of title, and secured transactions. Emphasis is on the Uniform Commercial Code. (PR: FN 151) (Offered Fall Semester only)

FN 254 - Bank Investments. 3 Credits. Describes the primary reserve needs of commercial banks. Sources of reserves and their random and cyclic fluctuations are analyzed in relation to their influence on investment policy. Included is a study of yield changes as they affect a bank's long-term holdings. (PR: FN 151)

FN 258 - Home Mortgage Lending. 3 Credits. Designed for mortgage loan offices from the viewpoint of developing a sound mortgage portfolio. Overview of the mortgage market, acquisition of a mortgage portfolio, mortgage plans and procedures, mortgage loan processing and servicing, and obligations of the mortgage loan offices in portfolio management are covered. (PR: FN 151)

FN 259 - Commercial Lending. 3 Credits. This course provides a conceptual framework for the study of commercial lending. It focuses on the organization of this business, its contribution to bank profitability and the commercial lending process. (PR: FN 151)

FN 264 - Analyzing Financial Statements. 3 Credits. Acquaints student with basic considerations in statement analysis, details of financial statements, basic ratios, analysis of internal comparison, analysis by external comparison, consolidated statements, budgets and projections. (PR: AC 108 and FN 151)

HEALTH INFORMATION TECHNOLOGY (HIT)

HIT 201 - Health Information Technology I. 3 Credits. Introduction to the health information and medical assistant profession. Emphasis on health record design, content, and analysis. (PR: Admission to HIT or MA program and CR: HIT 201L) (Offered Fall Semester only)

HIT 201L - Health Information Technology I. Lab. 1 Credit. Lab setting with emphasis on health record design, content, analysis, release and completion. (PR: Admission to HIT or MA program and CR: HIT 201)

HIT 202 - Health Information Technology II. 3 Credits. Continuation of HIT 201 with emphasis on management of health record departments, record completion, record retention, and release of information. Includes study of indexes and registers. (PR: HIT 201 and HIT 201L and CR: HIT 202L) (Offered Spring Semester only)

HIT 202L - Health Information Technology II Lab. 1 Credit. Lab setting with emphasis on management of health record departments, record completion, record retention and release of information. Includes use of indexes and registers. (PR: HIT 201 and HIT 201L and CR: HIT 202)

HIT 203 - Basic ICD-9-CM Coding. 4 Credits. Introduction to various classification systems with an in-depth study of ICD-9-CM coding principles and techniques. Review of coding practices under the Medicare payment system. (PR: Admission to HIT Program or Permission)

HIT 204 - Advanced Coding Concepts. 4 Credits. Continuation of HIT 203 with emphasis on inpatient coding and CPT coding using patient records. Includes sequencing, DRG determination, and optimization techniques. (PR: HIT 203) (Offered Spring Semester only)

HIT 206 - Hospital Rates & Percentages. 2 Credits. An in-depth study of various hospital rates and percentages including bed occupancy rates, census, death rates, and infection rates. Includes data presentation and display methods. Also includes healthcare services and statistical terms. (Offered Fall Semester only)

HIT 208 - Quality Improvement in Healthcare. 2 Credits. Provides student with skills necessary to evaluate the quality of care and potential for liability in various healthcare settings. Emphasis on evaluating healthcare in light of accrediting and licensing requirements. (Offered Spring Semester only)

HIT 210 - Computerized Health Information System. 2 Credits. Evaluation of hardware and software components of computers for health information systems. Emphasis on computerized health records, record linkage, data sharing and methods of controlling accuracy and security. (Offered Fall Semester only)

HIT 212 - Health Information Tech Seminar. 2 Credits. Students learn methods of preparing resumes and interviewing techniques. Provides a comprehensive review for the RHIT examination. (PR: HIT 201, 201L, 202, 202L, 203, 204, 206, 208, 210)

HIT 214 - Directed Practice I. 1 Credit. Places the student in a health care facility providing the opportunity for the practical application of classroom knowledge and skills. (CR: HIT 201) (Offered Fall Semester only)

HIT 215 - Directed Practice II. 2 Credits. Places the student in a health care facility providing the opportunity for the practical application of classroom knowledge and skills. Continuation of Directed Practice I. (PR: HIT 214 and CR: HIT 202) (Offered Spring Semester only)

HIT 217 - Coding for Certified Coding Specialist. 3 Credits. Review for Certified Coding Specialist examination.

HIT 218 - Directed Practice III. 2 Credits. Places the student in a healthcare facility providing the opportunity for the practical application of classroom knowledge and skills. Continuation of Directed Practice II. (PR: HIT 203 and 204)

HIT 220 – Coding for CCS Exam. 3 Credits. This class is a review and preparation for students taking the Certified Coding Specialist Exam through the American Health Information Management Association. (PR: Completion of CCS courses)

HIT 280 –283 - Special Topics. 1-4 Credits. Study of content not normally covered in other courses. (PR: Enrollment with permission of program coordinator of course instructor.)

HOSPITALITY MANAGEMENT (HM)

HM 101 – Travel, Tourism, & Hospitality Industry. 3 Credits. This course discusses career opportunities in various hospitality segments including hotels, restaurants and tourism operations. The importance of the different hospitality segments and how they are interrelated and interdependent will be emphasized.

HM 145 – Hotel Front Office. 3 Credits. This course presents a systematic approach to hotel front office procedures by detailing the flow of business. This course examines the various elements of effective front office management and covers in detail the procedures and duties of the manager, desk agent, night auditor, reservations, credit and cash handling. Interdepartmental roles are also discussed.

HM 155 – Hospitality Information Systems. 3 Credits. This course examines the use of information systems and e-commerce in the hospitality industry. A diverse sampling of industry examples will illustrate the influence of technology on management and customer service.

HM 210 - Human Resources & Diversity Management. 3 Credits. An introduction to hospitality human resources providing an overview of hospitality operations and supervision. The food service manager's role in human resources, recruiting and hiring food service employees, training and developing employees, and special challenges in food service management are explored.

HM 220 - Managing Catering Operations. 3 Credits. This course will consider the essential aspects of catering operations in the food service industry. It will include an overview of banquets and catering, food service and menu development, menu design, using computers, and marketing in catering management. (PR: MG 101 or MG 101E)

HM 222 – Rooms Division Management. 3 Credits. This course will focus on the rooms division of a hotel, including housekeeping, engineering, concierge and front office. All aspects of these departments will be emphasized in this course.

HM 230 - Facilities Operations Management. 3 Credits. An overview of project planning, food service design and maintenance, work area organization and layout, facilities engineering, and interior design and layout of the culinary establishment. (PR: MG 101 or MG 101E)

HM 240 - Introduction to Vineyards and Breweries. 3 Credits. This course introduces the history of alcoholic beverages, why beverages were created, and how they spread across cultures and socioeconomic lines. The earliest and the latest versions of fermentation, aging, brewing, and rectification will be discussed. The course also introduces wine making, major wine names and regions, proper wine service and accessories, wine storage guidelines, types of beers, beer making basics and the importance of ingredients, types of distilled spirits and how they are made.

HM 250 - Managing Hospitality Marketing. 3 Credits. This course reviews marketing concepts as they apply to the hospitality industry. It will explore market research, market analysis, selling, pricing and the development of marketing plans.

HM 285 - Legal Aspects of Hospitality Management. 3 Credits. An overview of hospitality law, operations and civil rights, and food service and hotel operators' liability. Considers maintaining security, legal employment, contracts, property rights, forms of hospitality business and the courts system and working with lawyers.

HM 299 - Internship/Apprenticeship. 3 to 6 Credits (CR/NC). Places the student in a work situation in order to gain practical work experience prior to seeking permanent employment. Correlates classroom instruction with real-world experience. (PR: Permission)

HUMANITIES (HMN)

HMN-235 - Leadership Development Studies. 3 Credits. This course provides students the opportunity to explore the concept of leadership while developing and improving leadership skills. Integrated humanities readings, experiential exercises, films and contemporary readings are used. (PR: COM 111 or ENL 101, ENG 101)

HMN 280-289 – Humanities Special Topics. 1 to 6 Credits. Study of content not normally covered in other courses. (PR: Enrollment with permission of division associate dean or course instructor)

INDUSTRIAL SUPERVISION AND MANAGEMENT (ISM)

ISM 133 - Principles of Supervision & Management. 3 Credits. Fundamental principles of administrative, staff, and operating management with organizational structures, operative procedures, and systems emphasized. Includes responsibilities, duties, and relationships of supervisors and leaders. (Offered Spring Semester only)

INFORMATION TECHNOLOGY (IT)

IT 099 - Self-Paced Developmental Computer Technology. 3 Credits (CR/NC). This course will be a self-paced class designed for students who have little computer experience. The course will cover the basic concepts of computer hardware and software. Once the student gains confidence and experience, he/she will be able to develop a PowerPoint presentation demonstrating basic computer concepts. The class will have exercises in word processing, spreadsheets, electronic presentations, electronic mail and the Internet.

IT 101 - Fundamentals of Computers. 3 Credits. An introduction to computers and the fundamentals of operating systems and software programs. Provides hands-on experience with computer applications including word processing, spreadsheets, electronic mail, and the Internet.

IT 107 - Fundamentals of the Internet. 3 Credits. This course deals with fundamentals of the Internet. Topics considered include electronic mail, sending and receiving data across networks, and navigating the Internet. Also included are topics on business and research on the Internet.

IT 115 - Introduction to BASIC. 3 Credits. Use of the computer to teach the Visual BASIC language from a problem-oriented approach. Emphasis on the professional way to design and write programs with computers. (PR: IT 101)

IT 120 - Operating Systems I. 4 Credits. Introduction to multi-user, multi-tasking network operating systems. Focus on installation procedures, security issues, and troubleshooting. (PR: IT 101)

IT 131 - Introduction to Networking. 4 Credits. Introduction to Networking focuses on network terminology, protocols, and standards, Ethernet LAN technologies, introductory WAN technologies, TCP/IP addressing, cabling, and basic routing principles. (PR: IT 101 and CR: IT 141)

IT 141 - Networking Systems II. 4 Credits. This course is the second in a series of four designed to prepare the student to pass the CCNA exam. Content includes the review of semester 1 concepts, routing theory, router components, router start-up and set-up, router configuration, IOS, TCP/IP addressing and routing protocols. (PR: IT 131 or CR: IT 131)

IT 150 - Applications to Spreadsheets. 3 Credits. Application of current spreadsheet software to the solution of business problems. Emphasis on numerical analysis, forecasting, and business graphics. (PR: IT 101)

IT 160 – Geographic Information System Concepts. 3 Credits. This course introduces GIS application software and its uses. The course takes a hands-on approach to teaching how to create, edit, and manipulate georeferenced spacial and tabular data. It provides an introduction to geospatial concepts and tools for persons presenting data in maps, charts and reports. It introduces the student to the use of image processing and remote sensing technologies in his or her career fields.

IT 165 – Spatial Analysis & 3D Modeling. 3 Credits. This course will demonstrate how remote sensing and GIS integration within a database of imagery for multistage, multivariate sampling, and geobiophysical modeling, involving modeling systems and environmental development, may be used across the world wide web.

IT 171 – Introduction to Gaming I. 3 Credits. This course will introduce computer game theories, methods and practice. We will utilize Macromedia Flash to create web-based interactions and games at the beginner to intermediate level. Assigned readings and projects will cover various aspects of computer game production, thought and application.

IT 210 - Networking Administration I. 3 Credits. This is an introductory course designed to provide individuals who are new to Microsoft Windows 2003 with the knowledge necessary to understand and identify the tasks involved in supporting Windows 2003, with the focus on networking concepts and how they are implemented. (PR: IT 270 and IT 276 and CR: IT 211, IT 216, and IT 217)

IT 211 - Networking Administration II. 3 Credits. This course provides students with the knowledge and skills necessary to install and configure Microsoft Windows 2003 Professional on stand-alone computers and on-client computers that are part of a workgroup or a domain. In addition, this course provides the skills and knowledge necessary to install and configure Windows 2003 Server to create, file, print, and Terminal servers. (CR: IT 210, IT 216, and IT 217)

IT 212 - Publishing on the Internet. 3 Credits. This course will fa-

miliarize the student with issues related to publishing on the Internet. Topics covered include basic design skills, multimedia issues, and development of web pages. (PR: IT 107)

IT 213 – Web Graphics/Design. 3 Credits. Explores the use of a variety of tools and computer graphics techniques to produce professional graphic designs. Utilizes various hardware and software to create visually-pleasing and professional-looking graphics for web pages.

IT 215 - Advanced Programming. 3 Credits. This course provides advanced Visual BASIC programming concepts and skills applied to problem-solving situations. (PR: IT 115)

IT 216 - Networking Administration III. 3 Credits. This course provides students with the knowledge and skills necessary to implement, maintain and troubleshoot a Microsoft Windows Server network infrastructure. (CR: IT 210, IT 211, and IT 217)

IT 217 - Networking Administration IV. 3 Credits. This course provides students with the knowledge and skills necessary to install, configure and administer Microsoft Windows Active directory services. The course also focuses on implementing Group Policy and understanding the Group Policy task s required to centrally manage users and computers. (CR: IT 210, IT 211, and IT 216)

IT 219 - Networking Administration V. 3 Credits. This course provides students with the knowledge and skills necessary to design a Microsoft Windows 2003 directory services infrastructure in an enterprise network. Strategies are presented to assist the student in identifying the information technology needs of an organization and then designing an Active Directory structure that meets those needs. (PR: IT 217 and CR: IT 222, and IT 223)

IT 221 - Operating Systems II. 3 Credits. Focus of the course is to provide practical applications of specific system software in multi-tasking environments. Advance operating system concepts are presented from an application programmer's perspective. (PR: IT 120)

IT 222 - Networking Administration VI. 3 Credits. This course provides students with the information and skills needed to create a networking services infrastructure design that supports the required network applications. Each module provides a solution based on the needs of the organization. (PR: IT 217 and CR: IT 219 and IT 223)

IT 223 - Networking Administration VII. 3 Credits. This course provides students with the knowledge and skills necessary to select and design a strategy to migrate from Microsoft Windows NT Server 4.0 directory services infrastructure to a Microsoft Windows 2003 Active Directory service infrastructure by describing the planning processes and implications involved. (PR: IT 217 and CR: IT 219 and IT 222)

IT 224 - Fundamentals of Network Security. 3 Credits. This course provides the knowledge and skills necessary to identify network security threats and vulnerabilities, and to respond and recover from security incidents. (PR: IT 217 or MCSA certification)

IT 225 - Fundamentals of Wireless LANs. 4 Credits. This course focuses on the design, planning, implementation, operation and trouble-shooting of Wireless LANs. (PR: IT 141 or Cisco Semester 2 with minimum grade of 78%)

IT 226 - Network Security Solutions. 3 Credits. This course focuses on overall security processes including security policy design and management and security features enabled by routers. (PR: IT 241 or Cisco Semester 4 with minimum grade of 78%)

IT 227 – Network Security Firewalls. 3 Credits. Network Security Firewalls focuses on securing and monitoring a network with hardware-based firewalls. (PR: IT 241 or Cisco Semester 4 with minimum grade of 78%)

IT 230 - Network Communications. 3 Credits. Focus of course is to provide practical applications of specific system software in the administration, analysis, and modeling of Local Area Networks (LANs). (PR: IT 120)

IT 231 - Networking Systems III. 4 Credits. Networking Systems III focuses on LAN IP addressing including Variable Length Subnet Masking and configuring RIPv2, single-area OSPF, and EIGRP routing protocols, and Ethernet switching technologies including Virtual LANs (VLANs), the Spanning Tree Protocol (STP) and VLAN Trunking Protocol (VTP). (PR: IT 141 and CR: IT 241)

IT 240 - Internet Data Communications. 3 Credits. This course will concentrate on essential Internet protocols including TCP/IP, HTTP, and Mail Protocol. Service providers, security issues, and dial-up connectivity issues will be explored. This class prepares students for the Comp TIA I-net exam. (PR: IT 107)

IT 241 - Networking Systems IV. 4 Credits. Networking Systems IV focuses on LAN IP addressing and network management techniques and WAN PPP, ISDN, DDR, and Frame Relay connections and protocols. (PR or CR: IT 231)

IT 242 - Advanced Internet. 3 Credits. This course will investigate advanced Internet concepts and state-of-the-art technology in developing web pages. Emphasis will be on design, utilizing current industry standards. (PR: IT 212)

IT 250 - Applications to Databases. 3 Credits. Study of information retrieval and database software. (PR: IT 101)

IT 260 – Integration of GIS and RS Systems. 3 Credits. This course is designed to integrate Geographic Information System (GIS) and Remote Sensing (RS) concepts utilized with GIS and Image Processing software. Various software systems such as ER Mapper, IDRISI / Kilimanjaro, and ArcGIS will be used to illustrate systems integration in solving geospatial problems with technical solutions.

IT 266 – Image Web Server Development. 3 Credits. This course will demonstrate how remote sensing and GIS integration within a database of imagery for multistage, multivariate sampling, and geobiophysical modeling, involving modeling systems and environmental development, may be used across the world wide web.

IT 268 - CCNP 1 - Advanced Routing. 4 Credits. This course is designed to prepare the student to pass the Building Scalable Internetworks (BSCI) exam. Content includes advanced routing using Cisco equipment connected to LANS and WANS typically found at medium to large network sites. Upon completion, the student will be able to implement the appropriate IOS services required to build a scalable routed network. (PR: IT 241 or CCNA certification, and permission)

IT 269 - CCNP 2 - Remote Access. 4 Credits. This course is the second of four designed to prepare the student to pass the Building Cisco Remote Network Access (BCRNA) exam. Content includes WAN cabling, Asynchronous Connections with modems, PPP, Dial-up, ISDN, X.25, Frame Relay Access, network performance with queuing and compression, NAT, Access-control, and emerging remote access technologies. (PR: IT 241 or CCNA certification, and permission)

IT 270 - Computer Repair. 3 Credits. Basic electronic solid-state technology utilized in computers. Emphasis on techniques for isolation and replacement of faulty units. (PR: IT 101 or IT 101E)

IT 271 - Introduction to Gaming II. 3 Credits. This course is a follow-up course to Gaming 1. This course will continue computer game theories, methods and practices. We will utilize Macromedia Flash to create web-based interactions and games at the beginner to intermediate level. Assigned readings and projects will cover various aspects of computer game production, thought and application.

IT 272 - Introduction to 3-D Modular Programming. 3 Credits. This course is a follow-up course to Advanced Programming. This course will continue computer game theories, methods and practices. We will utilize 3-D Gaming Engines, OpenGL Game Programming, and Alice 3.0. These resources will be used to create 3-D games and game environments. Assigned readings and projects will cover various aspects of computer game production, thought and application.

IT 276 - Computer Maintenance. 3 Credits. Emphasis on expanding understanding of and techniques needed to upgrade, troubleshoot, and maintain computer systems and associated components. (PR: IT 270)

IT 278 - CCNP 3 - Multilayer Switching. 4 Credits. This course is to prepare the student to pass the Building Cisco Multilayer Switched Networks (BCMSN) exam. Content includes design criteria for multilayer switched networks, including the current Cisco recommendation for designing a campus network. The network is built from cabling connections to implementing VLANs, Spanning Tree, and routing. After the cable has been built, optimization of the network is made to ensure its availability. (PR: IT 241 or CCNA certification, and permission)

IT 279 - CCNP 4 - Network Troubleshooting. 4 Credits. This course is designed to prepare the student to pass the Cisco Internetwork Troubleshooting (CIT) exam. Content includes diagnosis and troubleshooting of WAN cabling, protocols, advanced routing configurations, switching, asynchronous connections with modems, PPP, Dialup, ISDN, X.25, and Frame Relay access, network performance with queuing and compression, NAT access control, and emerging network technologies. (PR: IT 268, IT 269, IT 278, and permission)

IT 280-283 - IT Special Topics. 1 to 4 Credits. Study of content not normally covered in other courses. (PR: Permission)

IT 284-289 - IT Special Topics. 1 to 4 Credits. Study of content not normally covered in other courses. (PR: Permission)

IT 299 - Information Technology Internship. 3 Credits. Places the student in a work situation in order to gain practical work experience prior to seeking permanent employment. Correlates classroom instruction with real-world experience. (PR: Permission)

INLAND WATERWAYS (IW)
(Classes are taught at Tri-State Fire Academy)

IW 101 – Steersman of Towing Vessels-Western Rivers. 6 Credits. This course is designed for experienced deckhands on the inland waterways who desire to obtain a license to pilot vessels on the Western Rivers. The 80-hour course includes training in deck general, safety, and environmental subjects, theoretical and practical inland navigation, and Rules of the Road. This course is approved by the U.S. Coast Guard.

IW 110 – Basic and Advanced Marine Firefighting. 6 Credits. This course is designed for maritime personnel who operates vessels of any size in any location. It is a U.S. Coast Guard prerequisite for licensing as a Marine Engineer, and for licensing as a Deck Officer of any vessel of 200 Gross Registered Tons or more. Topics covered include chemistry of fire, theory of firefighting, firefighting equipment, and personal safety. Both classroom and hands-on training are provided, including live fire exercises. Training is conducted in accordance with NPPA regulations. The course is approved by the U.S. Coast Guard and the International Maritime Organization.

INTERIOR DESIGN (ID)
(Classes are taught at Cabell County Career Technology Center)

ID 110 - Perspective Drawing Techniques. 3 Credits. This course explores freehand and perspective drawing techniques with an emphasis on accuracy, scale and presentation. It is appropriate for students who wish to increase their drawing skills. It begins with the fundamentals of drawing and works through more complicated drawings with a hands-on approach. (Offered Fall Semester only)

ID 111 - Interior Design Theory. 3 credits. Course will focus on professional practice including procedures for establishing a design business, business principles, communication skills, and professional ethics. Student will be introduced to the elements and principles of design that are related to the living environment and participate in discussions of the physiological effects that color has on the living space used in residential and commercial design.

ID 112 - Design Graphics. 3 credits. Study of space planning, furniture placement and traffic flow incorporating design concepts of creativity, space, and methodology into a physical space. Interpret architectural symbols, elevations, blue prints, and building codes for both. Executing design concepts of space planning with required specification for special needs and identifying safety considerations for universal design.

ID 115 - Visual Merchandising. 3 credits. The course will concentrate on integration of elements and principles of design to create effective and attractive displays. Students will be involved in model building and visual presentations to create the total image and selling package. Lighting will also be examined and how different types of lighting affect the interior environment. (PR: ID 111)

ID 120 - Advanced Perspective Drawing. 3 Credits. This course explores advanced freehand and perspective drawing techniques with an emphasis on accuracy, scale and presentation. This course is appropriate for students who wish to increase their drawing skill. It begins with the fundamentals of drawing from life and works through two-point perspective drawings in color. The Munsell Color model is studied and applied to perspective renderings. Project work outside the classroom is required, and all projects are developed to completion. (PR: ID 110) (Offered Spring Semester only)

ID 205 - Interior Design Architecture. 3 credits. Historical study of architectural styles and embellishments from prehistoric through 21st century. Emphasis on interior architecture, architects, designers, cultural backgrounds, and current trends in architecture.

ID 211 - Technical Drawing. 3 credits. This course will focus on human needs in the interior environment using methodology and problem solving techniques. Concentration will focus on floor plans, schematic drawings and elevations on graph paper, vellum and illustration board in pencil and ink and will apply knowledge of line-work, lettering, use of templates, and transfer letters and symbols. Good design principles in kitchen design will also be studied.

ID 212 - Interior Textile Material. 3 credits. Course will examine the origins, qualities, productions, regulations and uses of natural and manufactured fibers; their advantages and disadvantages, and their uses in both residential and commercial spaces.

ID 215 - Floral Design and Application. 3 credits. Exploration of the history of floral design, the use and effects of color and basic elements of design in floral arranging and interpretation of landscape plans. (PR: ID 111)

ID 220 - Window/Wall/Floor Treatments and Decorative Accessories. 3 credits. Course will concentrate on fundamentals in designing, measuring, calculating, fabricating, and installing soft and hard window treatments and appropriate textiles used. It will study the historical

background of wall coverings, measurements and estimations in wall coverings, paint, paneling, tile and drywall. Students will study the functional and decorative accessories for residential and commercial use. A chronological study of visual arts in architecture, sculptures, painting, and various media from pre-historic to modern times will be included. The course also covers the production, construction, and calculations and usages of soft and hard floor coverings in residential and commercial interiors. (PR: ID 212)

ID 225 - Furniture Construction/History. 3 credits. The study of wood types used in furniture construction, type and quality of furniture joints, methods and materials used in construction of upholstered furniture and a chronological study of furniture styles and their appropriate textiles from ancient time to present.(PR: ID 212)

ID 280-287 - Special Topics. 1-6 credits. Study of content not normally covered in other courses. Enrollment with permission of program coordinator or course instructor.

ID 299 – Internship. 3 Credits. 90 hours' training in the industry identifying requirements needed for the various careers in the interior design field. (PR: Must complete minimum 48 credit hours in Interior Design program)

KENTUCKY VIRTUAL UNIVERSITY (KYV)

KYV 280-285 – Special Topics. 1 to 4 Credits. Online courses offered through an agreement between Community and Technical College System of West Virginia and Kentucky Virtual University.

LEGAL ASSISTANT (LAS)

LAS 101 - General Law I. 3 Credits. This course is designed to teach the art of legal reasoning and analysis. Course content includes the meaning and function of law, how laws are created and enforced, the state and federal court systems, an overview of civil law and procedures, and jurisdiction.

LAS 102 - General Law II. 3 Credits. Continuation of General Law I, with emphasis on the general areas of law, designed to give an overview of substantive areas of law. Areas covered include: contracts, property law, forms of business, estates and the probate process, family law, criminal law and criminal procedure. (PR: LAS 101)

LAS 103 - Legal Assisting. 3 Credits. Study of the various roles played by paralegals in the legal system and the skills required to work as a paralegal in several major areas of law. Also covered are legal ethics, interviewing and investigation skills, litigation skills, trial preparation and employment information.

LAS 110 - Business Organization & Governmental Regulations. 3 Credits. Procedural information on such topics as corporations, partnerships, agencies, business trusts and other business vehicles. Survey of the fundamental principles of law applicable to each area, including the law of bankruptcy. (PR: LAS 101 or permission)

LAS 209 - Administrative Agency Advocacy. 3 Credits. Techniques of legal interviewing and details of case preparation and presentation before state and federal governmental agencies that allow non-lawyer advocacy. (PR: LAS 102 and LAS 103) (Offered Spring Semester only)

LAS 211 - Legal Research and Writing I. 3 Credits. Basic legal research sources and methods. Techniques of legal analysis with emphasis on specific cases, issues, and research. Students will be introduced to legal writing and use of a law library. (PR: LAS 102) (Offered Fall Semester only)

LAS 212 - Legal Research and Writing II. 3 Credits. Intermediate legal research methods, analysis and writing methods. Court rules and introduction to new research methods. (PR: LAS 211) (Offered Spring Semester only)

LAS 213 - Computer Applications to the Law Office. 3 Credits. Overview of software applications to the law office including calendar, docket control, litigation support, billing, timekeeping, pleadings preparation, legal research, and other applications. (PR: AAT 136) (Offered Fall Semester only)

LAS 225 - Bankruptcy Law. 3 Credits. Overview of the substantive law of bankruptcy. Students will become familiar with bankruptcy procedures and gain hands-on experience with bankruptcy tasks. (PR: LAS 102 or permission)

LAS 231 - Estate Planning and Probate Administration. 3 Credits. Overview of the transferring of assets (including trusts, wills and gifts) and a review of typical documents. Includes administration of decedents' estates, including probate procedure, federal and state death and income taxes, and fiduciary (administrators) accounting and responsibilities. (PR: LAS 102 or permission)

LAS 235 - Civil Litigation. 3 Credits. Overview of civil case preparation before trial: including examination of various procedures to be completed and documents to be filed, working up trial documents for counsel's assistance. (PR: LAS 102) (Offered Fall Semester only)

LAS 240 - Criminal Litigation. 3 Credits. Overview of criminal case preparation before trial: including examination of various procedures to be completed and documents to be filed, working up trial documents for counsel's assistance. (PR: LAS 102) (Offered Spring Semester only)

LAS 244 - Law of Domestic Relations. 3 Credits. Prepares the student to undertake tasks associated with the laws of domestic relations: including preparation of documents of complaint, answer and summons; pleas; research reports; conclusions of law; and judgment orders. (PR: LAS 102 or permission) (Offered Fall Semester only)

LAS 248 - Medical Law. 3 Credits. Introduction to the basic concepts of tort liability of physicians, surgeons and health professionals and vicarious liability of hospitals. (PR: LAS 101 or permission)

LAS 250 - Employment Law. 3 Credits. The study of the law in the workplace as it applies to the regulation of employment, employer-employee relationship, Title VII of Civil Rights Act of 1964, affirmative action, testing evaluations, privacy, ERISA, workers compensation and the Fair Labor Standards Act.(PR: LAS 101 for Legal Assistant students; MG 233 for management tech students or permission) (Offered Spring Semester only)

LAS 260 - Legal Nurse Consulting. 3 Credits. To provide nurses with the legal background and skills to provide consulting services (medical records/treatment review) to attorneys, workers' compensation offices, vocational rehabilitation, Social Security Administration, insurance companies, HMO's and various state or federal agencies. Also, structure of the West Virginia judicial system and ethics (as they apply to nurse paralegals and lawyers) and life care plans. (PR: Permission)

LAS 280- 283 - Special Topics. 1-4 Credits. Study of content not normally covered in other courses. (PR: Enrollment with permission of program coordinator or course instructor.)

LAS 290 – Internship. 1-6 Credits (CR/NC). Places student in work situation for a specific period for work experience prior to employment. Correlates classroom instruction with experience. (PR: Permission)

MACHINIST TECHNOLOGY (MT)
(Classes are taught at Robert C. Byrd Institute for Advanced Flexible Manufacturing)

MT 105 – Industrial Safety. 2 Credits. An introductory course designed to develop safe workplace practices and to become familiar with OSHA standards. Students will be required to demonstrate safe handling of work materials, operation of machines and tooling, and storage and disposal of hazardous materials.

MT 121 – Introduction to Machinery. 4 Credits. A hands-on laboratory experience to acquaint students with machinery and the industrial environment. In this course the application of skills and knowledge of machine tool processes are stressed. (PR: Permission)

MT 200 – Blueprint Reading. 3 Credits. Students will develop the ability to read standard and GDT orthographic blueprints as required in a machine shop.

MT 205 – Precision Measurement. 3 Credits. Students learn to identify select and use measuring instruments used in machining.

MT 215 – Metalworking Theory & Application. 12 Credits. Students will become skilled in the use of machines and processes utilized in metalworking. They will develop a basic knowledge of CNC machining and programming, and the calculation of speeds and feeds.

MT 223 – Advanced Technical Specialization. 6 Credits. The application of skills and knowledge used in turning, milling, and drilling operations with emphasis on specific types of machining. (PR: MT 215)

MT 233 – NIMS Credentialing. 6 Credits. This course will acquaint students with the National Institute for Metalworking Skills (NIMS) and prepare them for the national credentialing examination. Student will be credentialed in at least 3 areas recognized by the Institute before they are graduated from the Machinist Technology program. (PR: Permission)

MT 289 – Internship for Machinist. 6 Credits. The student, work supervisor, and instructor will develop a training plan to ensure that activities are applicable to the student's career goals. Completion of this internship will require the student to perform machinist-type duties. The experience will be monitored by the instructor. (PR: Permission)

MANAGEMENT (MG)

MG 101 - Introduction to Business. 3 Credits. Study of the nature of business activities and problems regarding ownership, organization, management and control. Course content is designed to emphasize business vocabulary and explore personal characteristics and training most desirable for various areas of specialization in business.

MG 105 - Introduction to Workplace Training. 3 Credits. This course will provide an overview of the skills required in training groups and individuals in the workplace. How to promote a positive training climate and a needs analysis will also be discussed. (Offered Spring Semester only)

MG 181 – Retailing. 3 Credits. Introduction to retailing with managerial and supervisory insights. Includes topics of franchising, location and layout, organization, sales, and customer services. (Offered Fall Semester only)

MG 202 - Business Organization & Management. 3 Credits. Designed to develop an understanding of management concepts through the study of planning, organizing, leadership and control functions. (PR: MG 101 or MG 101E)

MG 203 - Managing Call Center Teams. 3 Credits. Provides skills on how to build effective work teams within the call center environment. (PR: SS 201 or MG 202) (Offered Spring Semester only)

MG 205 - Call Center Environment/Technology. 3 Credits. This course covers call center technology equipment and systems. Students will learn telecommunications terminology, theory, infrastructure and troubleshooting techniques. Students will explore telecommunications technology that supports web-enabled multimedia call centers in the information age. (PR: IT 101 or IT 101E) (Offered Fall Semester only)

MG 207 - Managing Call Center Data. 3 Credits. Focus on how to collect, interpret and manage data that is generated in a call center environment. Students will learn how to define and interpret data from efficiency, productivity, attendance and log-in reports. Forecasting and budgeting techniques will also be discussed. (PR: MAT 210) (Offered Fall Semester only)

MG 209 - Occupational Safety. 3 Credits. This course will provide students with a basic understanding of the nature of occupational safety, accident prevention and loss reduction. Topics to be discussed include accident causation, strategies for minimizing injuries and losses, sources of assistance in resolving safety problems, and Occupational Safety and Health Act (OSHA) standards, policies, and procedures. (Offered Spring Semester only)

MG 226 - Commercial Papers & Transactions. 3 Credits. Focus on various business forms and laws governing businesses and business transactions. Students learn to analyze business transactions such as those dealing with sales, insurance, real estate, bankruptcy, and financial statements, with emphasis on commercial documents. (Offered Spring Semester only)

MG 233 - Personnel Management. 3 Credits. Designed to acquaint the student with principles of managing personnel in business. Personnel recruitment, selection, and evaluation; job analysis and evaluation; employee retention; wage and salary administration; and labor relations and legislation are studied. (PR: MG 101; MG 101E; or Permission) (Offered Spring Semester only)

MG 240 – Business Ethics. 3 Credits. The purpose of this course is to provide students with a framework for effective decision making when they face ethical issues in business. (PR: COM 111 or permission)

MG 253 - Bank Management. 3 Credits. Covers new trends that have emerged in the philosophy and practice of management. The study and application of the principles outlined provide new and experienced banks with a working knowledge of bank management. The case study technique is utilized as an effective management learning technique. (PR: FN 151)

MG 280-287 - Special Topics. 1-4 Credits. Study of content not normally covered in other courses. (PR: Enrollment with permission of division director or course instructor.)

MG 296 - Integrated Business Strategies. 3 Credits. A capstone course in which students work in teams, using their skills and knowledge to develop and implement simulated business strategies. (PR: Students must have completed at least 45 credit hours in their program) (Offered Spring Semester only)

MG 299 - Cooperative Work Experience. 1-9 Credits (CR/NC). Supervised on-the-job training for business students. (PR: Permission)

MANUFACTURING ENGINEERING TECHNOLOGY (MFE)

MFE 120 - Introduction to Manual Machining. 4 Credits. This course introduces the student to fundamental manufacturing and machining concepts and skills. Students will learn and take part in precision measurement using calipers, micrometers, and height gauges. Students will plan and execute the machining processes and select correct tooling for manufactured parts for an engine lathe and knee mill. A solid

balance of lecture and hands-on in the shop manual machining experience prepares the student for advanced coursework. (PR: MAT 145 or Permission) (Offered Fall Semester only)

MFE 220 - Computer Aided Design I. 4 Credits. This course provides students with a solid foundation in reading and creating engineering drawings (blueprints) to recognized ANSI standards. Drawing standards multi-view, section and auxiliary views, dimensioning, and GD&T will be at the heart of blueprint reading. The student will learn 2D computer aided design techniques to produce engineering drawings of manufactured components to the ANSI standard. This course introduces students to 3D solid modeling software and design. (PR: Permission) (Offered Fall Semester only)

MARKETING (MK)

MK 130 – Fundamentals of Marketing. 3 Credits. Study of the marketing process as it relates to the problems and policies of business enterprises. Attention is given to the role and significance of middlemen, evaluation of consumer needs, price determination, promotional and sales strategies and governmental regulations.

MK 210 – Customer Service. 3 Credits. A study of how to deliver excellent customer service. Students will learn how to maintain control over troublesome internal and external customer situations, methods for reducing negative stress, the importance of ethics in the work environment, and techniques for motivating employees to provide excellent customer service. (PR: COM 111 or ENG 111) (Offered Spring Semester only)

MK 255 – Bank Public Relations and Marketing. 3 Credits. Study of the basis of public relations, both internal and external, and seeks to explain the why, what and some of the how of public relations and marketing. (PR: FN 151)

MK 279 – Advertising and Sales Promotion. 3 Credits. This course covers advertising and promotion methods and procedures. Includes techniques of planning, budgeting, evaluation, and selection of media; steps in producing an advertisement; as well as methods of determining what, how, and when to promote. (Offered Spring Semester only)

MASSAGE THERAPY (MAS)
(Classes are taught at Mountain State School of Massage in Charleston)

MAS 205 – Anatomy and Physiology for Massage Therapy. 11 Credits. This course provides a general study of the normal structure and function of the human body, with emphasis being placed on the skeletal and muscular systems, the interrelationship of the organs, and the ability of the human body to adapt to the environment. Physiological effects of massage therapy will be highlighted in this course.

MAS 210 – Orientation, Awareness Skills, Business and Research. 4 Credits. This course provides the future massage therapist with a variety of skills needed to have a successful career. The focus of the class is to present information on effective communication, professionalism, ethics, business strategies and methods of locating research literature.

MAS 215 – Bodywork I. 6 Credits. Bodywork I introduces the student to various types of massage and therapeutic modalities. This course emphasizes Swedish massage, Seated Chair Massage and Hydrotherapy. Proper techniques, body mechanics and situational circumstances with which to utilize the techniques are the focus of this class.

MAS 220 – Bodywork II. 5 Credits. This course affords the student a deeper understanding of theories, therapies, and bodywork modalities pertaining to the profession of massage. The class focuses on Bodywork Theory, Deep Tissue Therapies and Neuromuscular Therapy, providing the student with a balanced knowledge base and preparing the student for taking the National Certification Examination for therapeutic Massage.

MAS 225 – Pathology for Massage Therapy. 5 Credits. Pathology is the study of the structural and functional changes of an organism due to disease. Students learn to become familiar with common pathological diseases that massage therapists encounter, potential challenges associated with these illnesses and understand that it is not the responsibility of the massage therapist to diagnose these various conditions.

MAS 230 – Kinesiology for Massage Therapy. 5 Credits. This course integrates the massage therapy student's basic knowledge of human anatomy and physiology with the study of the muscles that coordinate movement and posture in the human body. Biomechanical principles of the muscles and joints are also covered.

MAS 235 – Student Clinic-Integrative Massage. 3 to 4 Credits. This course provides the student an opportunity to work with patients in a supervised environment. Interpreting patient medical information, developing treatment plans, practicing proper communication skills and utilizing the various techniques learned. The class offers the opportunity to build the confidence level and professionalism of the student.

MATHEMATICS (MAT)

MAT 080 - Introduction to PreAlgebra. 2 Credits (CR/NC). Introduction to PreAlgebra is a self-paced course designed to improve students' skills in number concepts, whole numbers, decimals, fractions, application problems, ratios, percents, area, and volume. This will be accomplished through mastery learning aided by computer software appropriate to the course.

MAT 085 - Elementary Algebra. 3 Credits (CR/NC). This course is designed to improve students' skills in algebraic expressions, integers, fractions, decimals, real numbers, linear equations, graphing on the coordinate plane, ratio, and proportion. Emphasis will be placed on skill

mastery in preparation for future math courses. (PR: MAT 080, MAT 093, ACT 12-15, PLAC 085 and CR: ASC 099 1 credit hour)

MAT 095 - Fundamental Mathematical Concepts. 3 Credits (CR/NC). A course designed to prepare students for non-algebraic 100 level math courses. Topics include fractions, decimals, percents, order of operations, linear equations, quadratic equations, graphing, using formulas, geometry applications, exponents, multiplication rules, exponent rules, set operations, and basic probability. This course is a prerequisite for those students intending to take MAT 115 or MAT 150. (PR: MAT 085, MAT 096, ACT 16, or PLAC 097 and CR: ASC 099 1 credit hour)

MAT 097 - Intermediate Algebra. 3 Credits (CR/NC). A course designed to improve students' skills in: first-degree equations and inequalities, polynomials, rational expressions, exponents, radicals, quadratic equations, linear equations in two variables, systems of linear equations and functions. Emphasis will be placed on skill mastery in preparation for future math courses. (PR: MAT 085, MAT 096, ACT 16, or PLAC 097 and CR: ASC 099 1 credit hour)

MAT 098 - Developmental Geometry. 3 Credits (CR/NC). A basic presentation of geometry including constructions, measurement, lines, logic, angles, polygons, solids, right triangles and trigonometry, area, and volume. Students will be able to interpret geometry algebraically, numerically, and verbally. Graduation requirement is increased three hours for students who complete this course.

MAT 115 - Business Mathematics. 3 Credits. Mathematical operations applied to negotiate instruments, payroll, discounts, interest, merchandising, commissions and other business topics. Calculators will be used in making computations. (PR: MAT 097; MAT 097E; ACT 19 or PLAC 100)

MAT 135 - Mathematics for Machinist Technology. 6 Credits. Designed to develop understanding of mathematical concepts required of skilled employees in the machine trade and related occupations. (PR: Permission)

MAT 139 - Math for Police Science. 5 Credits. A course designed to improve the police officer's basic math and algebra skills including applications for accident reconstruction. (PR: Permission)

MAT 145 - Applications in Algebra. 3 Credits. Algebraic applications needed by technicians including equation solving, inequalities, functions, quadratic equations, systems, logarithmic functions, graphing and statistics. (PR: ACT 19; MAT 097; or PLAC 100)

MAT 146 - Applications in Trigonometry. 3 Credits. This course content covers applications of trigonometric functions, graphs, and identities, solutions of right and oblique triangles, vectors, inverse trigonometric functions and complex numbers. (PR: MAT 145)

MAT 150 - Applied Professional Mathematics. 3 Credits. Content consists of marketplace mathematics, introductory statistics, the math-

ematics of sets, prediction, mathematical relationships, optimization, geometry, graph theory and introductory logic. (PR: ACT 19; MAT 097; MAT 097E or PLAC 100)

MAT 155 – Mathematics for Electronic Technology. 3 Credits. This course is intended for those students who intend to pursue a degree in the electronics field. It is designed to provide a practical working knowledge in the areas of arithmetic, measure, algebra, geometry, and trigonometry that will enhance problem solving.

MAT 205 - Technical Calculus. 3 Credits. Contents of this course cover determinants, theory of equations, applications of differential calculus, and applications of integral calculus. (PR: MAT 146 or MAT 146E)

MAT 210 - Statistics for Business and Industry. 3 Credits. An introduction to basic statistical concepts and applications. Content includes the nature of statistics and data; data descriptions and representations, basic probability, random sampling, distributions, non-parametric methods, time series and quality control. (PR: MAT 115; MAT 115E MAT 145; MAT 145E; MAT 150 or MAT 150E)

MAT 215 - Applied Discrete Mathematics. 3 Credits. This course is an introduction to logic, set theory, number theory, combinatorics, and Boolean algebra. The course will provide foundation for students majoring in computer science courses and electronics. (PR: MAT 135; MAT 145 or MAT 145E)

MAT 280-282 - Special Topics. 1-4 Credits. Study of content not normally covered in other courses. (PR: Enrollment with permission of program coordinator or course instructor)

MAT 283 - Special Topics. 1-4 Credits. Study of content not normally covered in other courses. (PR: Enrollment with permission of program coordinator or course instructor)

MEDICAL ASSISTING (MA)

MA 201 – Medical Assisting Techniques I. 3 Credits. Introduction to clinical skills performed in medical offices with emphasis on asepsis, health history, physical examinations, and assessment, vital signs, and infection control, common diseases, conditions and selected clinical skills will be emphasized. (PR: Admission to program) (Offered Fall Semester only)

MA 202 - Medical Assisting Techniques II. 4 Credits. Advanced level of physical assessment, medical history, surgical procedures, common diseases, conditions and selected clinical skills will be emphasized. (PR: MA 201) (Offered Spring Semester only)

MA 203 - Medical Lab Techniques. 3 Credits. This course covers the necessary OSHA regulations governing safety and CLIA regulations for laboratory testing. It will cover the fundamentals of laboratory procedures in a clinical laboratory or physician's office setting. (Offered Spring Semester only)

MA 204 - Physician's Office Medical Coding. 3 Credits. Introductory course in the CPT-4 and ICD-9-CM coding systems as they relate to the physician office and outpatient environments. (Offered Fall Semester only)

MA 205 - Medical Office Claims Procedures. 3 Credits. Utilize coding systems as they apply to claims submission and accurate reimbursement from Medicaid, Medicare and third party payers. (Offered Spring Semester only)

MA 207 - Medical Office Internship. 3 Credits (CR/NC). Supervised learning experience in Medical Assisting designed to provide students with an opportunity to obtain technical experience under the supervision of competent practitioners. (PR: MA 201, 202, 203, 204, 205)

MA 280 – Special Topics. 1-4 Credits. Study of content not normally covered in other courses. (PR: Enrollment with permission of program coordinator or course instructor)

MINING INFORMATION TECHNOLOGY (MIT)

MIT – Electrical Safety for Coal Miners. 2 Credits. (CR/NC) This introductory course teaches coal inspection personnel with limited or no electrical experience to be able to properly inspect electrical components of coal mining machinery. Students will learn practical methods and techniques to be used in identifying electrical hazards and teach the appropriate enforcement actions to be taken to prevent accidents.

MIT 226 – Mine Blasting Safety. 1 Credit (CR/NC). This course in intended to provide students with the most recent blasting techniques, trends and developments used in the mining industry. In this course, students will learn how to apply their knowledge of blasting techniques to help advise mining operations in safety procedures.

OCCUPATIONAL DEVELOPMENT (OD)

OD 100 - Introduction to Occupational Development. 1 to 3 Credits. An introduction to the occupational field and responsibilities of the professional in the field. Provide a foundation for employment and further coursework in the chosen field.

OD 104 - Specialized Occupational Training. 1 to 3 Credits. Instruction for occupational leaders of curriculum needed in the occupation for self improvement or for teaching to fellow employees in the field. This curriculum will vary with the needs of the students. Some classes covered are OSHA 500, OSHA 501, Air Monitoring, Metal and Non-metal Mining, and others.

OD 105 - OSHA 500. 2 to 3 Credits (CR/NC). A course for persons in the construction industry who are interested in developing safety and health programs in the private sector. Using OSHA standards as a guide, special emphasis is placed on becoming knowledgeable about the most hazardous areas of industry. (PR: Permission)

OD 106 - OSHA 501. 2 to 3 Credits (CR/NC). Designed for private sector personnel from all types of industries, this course presents detailed information on how the provisions of the Occupational Safety and Health (OSH) Act may be implemented in the workplace. (PR: Permission)

OD 107 - Lead Abatement. 2 Credits (CR/NC). This course is to train the trainer to teach what regulations are required to have a safe and healthy job site while working with the hazards of lead. The instructor will be preparing students for state certification examinations as well as fulfill training requirements as dictated by EPA Title X, and state legislative requirements. Students are also aided in completing the job at hand as well as satisfying various agencies and parties in the supervisor's world. (PR: Permission)

OD 108 - First Aid/CPR/AED Instructor. 2 Credits (CR/NC). The purpose is to train instructor candidates to teach American Red Cross First Aid/CPR/AED Program courses and modules. (PR: Permission)

OD 109 – Scaffolding. 2 Credits (CR/NC). Introduces students to the four hazard classifications related to scaffolding. Teaches students to associate the classifications with actual injury statistics from OSHA and the BLS. Includes the identification of various scaffold components. (PR: Permission)

OD 110 - Confined Space. 2 Credits (CR/NC). Teaches major legal requirements of OSHA's permit-required confined space standard to ensure that members of the building and construction trades understand what it is to work safely in confined spaces. (PR: Permission)

OD 111 - Science Air Monitoring. 2 Credits (CR/NC). Focus on air monitoring of common occupational health hazards in the painting industry. The course includes maintenance and calibration of air monitoring equipment, record keeping, quality control instruments, calibration and other engineering controls. (PR: Permission)

OD 112 – Blueprints, Codes and Specifications. 2 to 8 Credits (CR/NC). Upon successful completion of this course, the student will be able to locate and identify engineered specifications within a set of plans; locate and identify engineered scaled and unscaled drawings; order and manage construction materials from a set of plans; increase creditability and communication between the job foreman and job-site engineers; identify National Building Codes pertaining to their trade. Available to students through partnerships with Department of Labor approved apprenticeship programs.

OD 120 – On-the-job Training. 1 to 12 Credits. This course consists of paid or unpaid OJT, internship, or practicum performed in a business, industry, trade, or technical career setting within the student's occupational area. The on-the-job training component is converted to credit hours at a ratio of 200:1 with a maximum of 2,400 contact hours allowable. A statement of the total number of contact hours experienced through on-the-job training will be verified by an employer or union official and will be placed on the college record. This credit will be recorded immediately prior to graduation from college. (PR: Must major in Occupational Development degree programs)

PAINTING AND ALLIED TRADES (PAT)

PAT 120 - Introduction to Painting. 3 Credits. This class will orient individuals to the painting profession. The topics to be covered include painting materials, tools, equipment and terminology. An overview of the characteristics of light and color will also be provided.

PAT 121-Techniques of Painting. 4 Credits. This covers surface preparation, selection and characteristics of materials, and standards and specifications related to abrasive blasting, H20 blasting, and painting. Special emphasis will be placed on characteristics of normal and abnormal surface deterioration and thermal spraying for metal substrates.

PAT 122- Introduction to Wallcovering. 3 Credits. This course covers the basic principles of wall covering. Students will learn how to prepare a surface for wallcovering and how to apply wallcovering. Tools and materials of the wallcovering trade will also be discussed.

PAT 130 - Introduction to Industrial Painting. 4 Credits. This class will orient individuals to the industrial painting profession. Topics to be covered include coating materials, tools, equipment and terminology. The differences between industrial painting and commercial painting will be identified and described.

PAT 131 - Surface Preparation. 4 Credits. This course covers the tools, materials and methods used for cleaning and preparing surfaces using solvents, hand tools and power tools. Content in this course is based on the methods and procedures specified by SSPC and NACE.

PAT 132 - Materials for Industrial Painting. 3 Credits. This course covers the basic components and film forming processes of paints and coatings. The different systems and functions of paints and coatings are described. The criteria for selecting a coating system based on surface environment and preparation requirements are outlined.

PAT 133 - Techniques of Spraying. 3 Credits. This course covers the fundamentals of spray painting with a detailed discussion of the most common spray painting systems: electrostatic, turbine, airless, conventional, air, HVLP, and turbine. Student also will learn the potential hazards involved with spray equipment and how to use spray equipment safely.

PAT 134 - Safety Measures for Industrial Painting. 3 Credits. This course covers the dangers related to working with lead and the procedures for safe exposure and abatement. In particular, this course will cover what lead is, where it can be found, its health effects, its hazards, worker and community rights related to lead, abatement methods, cleanup, disposal, and laws, regulations, and standards.

PAT 140 - Introduction to Glazing. 3 Credits. This course is designed to provide an introduction to glazing and the tools of the trade. Students will learn fundamentals of the glazing industry including the different purposes windows serve in a building's design, trade terminology, symbols, and trade tools and materials. Students will learn the management of glass cutting projects.

PAT 141 - Sealant Theory & Application. 4 Credits. This course is designed to provide an introduction to sealants used in the glazing trade. Students will learn sealant terminology, selection, forms, and their proper and most effective use for a given project. The basic principles regarding joint design and measurements as well as the proper substrate preparation techniques will be discussed. Additionally, students will learn the basics of structural glazing including its methods, applications and safety factors.

PAT 142 - Basic Glass Fabrication. 3 Credits. This course is designed to build basic skills and knowledge necessary for fabricating glass including mirrors, spandrel glass, architectural panels and Ribbon Window Systems. Students will also learn the purpose and techniques for anodizing aluminum surfaces that often surround glass installations.

PAT 143 - Math & Blueprint Reading for Glaziers. 3 Credits. This course will build upon the students' basic mathematics, trigonometry, and measurement skills and knowledge by accurately using math when reading blueprints. Reading blueprints, measuring, layout, fabrication and other functions specific to the glazing trade require accurate calculations and measurements for the success of any glazing job. Reading blueprints and tape rules or taking other measurements accurately will lead to properly cut glass or aluminum and will contribute to a timely and successful job.

PAT 150 - Introduction to Sign and Display. 4 Credits. The display installers' profession is part of one of the fastest growing industries in the country. Convention Centers are expanding and improving facilities to attract more clientele while support service industries such as hotels, restaurants and entertainment industries provide numerous job opportunities around trade show locations. Display workers assemble and build large and small exhibits in the shops as well as install and dismantle them at the show locations. This course is intended to provide the display installer with basic skills in organization, tools of the trade and safe and efficient work practices. The apprentice installer will learn the various jobs available or expected of him, identify and describe commonly used tools, use proper terminology and describe the steps involved in planning, installing and dismantling a trade show.

PAT 151 - Tools of the Sign and Display Trade. 4 Credits. Tradesmen in the sign industry need an infinite number of tools to bring the signs we see to life. A wide variety of signs constructed to be displayed in many different settings requires the skills and knowledge to install the signs using tools that may be specific to each sign and job. Participants in this course will work with many stretch, tape and seam carpet and the show the proper techniques for dismantling the setup pieces. Also discussed will be the responsibilities of the lead person for storing deco equipment and keeping track of the equipment being used during the show.

PAT 152 - Methods of Layout for Sign and Display. 4 Credits. Signs are meant to convey messages or to get someone from point A to point B. The composition of the sign, or the sign layout, determines whether a sign is pleasing to the eye or completely ignored. There are six interdependent components of a good sign. Each component needs the other five for a layout to succeed. Upon completion of this course, the participants should be able to create a sign that incorporates the six components of a good layout and conveys the intended message while meeting the clients' needs.

PAT 153 - Techniques of Sign and Display. 4 Credits. This course will introduce the participant to the process of applying vinyl designs to a variety of substrates. Vinyl designs can be used for advertising and displaying information and can be applied on vehicles, windows, doors, wood or metal. Participants will learn the types of vinyl that can be used in given situations, the use of application tools, and the ability to identify and complete any preparations to various substrates prior to applying the vinyl. The sign and display apprentice will be taught how to inspect the applied vinyl for wrinkles, bubbles, adhesion, etc. and the resolution for any imperfections found. Cleanup procedures, personal protective equipment and safety precautions and the procedures for proper disposal of scrap metals will also be discussed to give the participants a foundation in the basics of applications.

PAT 160 - Methods of Tradeshow Floor Layout. 4 Credits. The first job at a show site is to transfer the floor plan to the floor of the faculty. This must be accomplished before the equipment can be unloaded. In this course, the participant will learn to read and interpret the floor plan and Its symbols that show how the floor space is to be divided Into a basic framework desired by the association organizing the show. They will move into using a scale ruler to transfer dimensions on the floor plan to the show floor and marking the floor with appropriate symbols. The installer will also be given the opportunity to demonstrate methods used to compensate for deviations between the floor plan and the actual floor. Other factors concerning the floor's condition and limitations will also be discussed to give the participant a solid foundation of skills and knowledge to properly layout a trade show floor.

PAT 161 - Methods of Booth Preparation and Installation. 4 Credits. The focus of this course will be pre-planning and preparation of exhibit installation and dismantle. Participants in this course will gain hands-on experience using the basic procedures to efficiently and safely erect and dismantle the three general categories of display booths. The installer will be expected to demonstrate the standards of conduct for the display installer while they will also demonstrate the use and identification of safety equipment and cleaners for specific jobs. Booth installation and dismantling covers a variety of tasks that require specific technical expertise. The participant in this course will describe the general systems assembled by display installers with specific descriptions and tips for working with them. The learning experience will include three general types of displays used in trade shows: portable booths, component systems, and custom or construction systems.

PAT 162 - Techniques of Tradeshow Carpet Installation. 4 Credits. Using the proper tools and equipment for installing carpet at a trade show can make the difference between acceptable and unacceptable results. Having the proper tools and using them correctly will make the job easier, require less installation time and standardize every installa-

tion. The participant will be exposed to a myriad of skills and knowledge that will help him perform the job proficiently. Topics to be discussed include tools and equipment, carpet, booth carpet and aisle carpet installation procedures as well as the identification and practice of safety with respect to using tools, cutting, transporting and ergonomics when installing carpets.

PAT 170 - Introduction to Floor Covering. 3 Credits. This course will provide the participant with a solid introduction to the Floor Covering Trade. Participants will explore the rewards and benefits of working in the Floor Covering trade. Additionally, participants will be introduced to the many different types of materials from which they and their customers can choose when laying a new floor or replacing an old floor. Participants will learn to describe and determine which floor covering materials are appropriate for the job at hand and how the job can be accomplished safely and efficiently.

PAT 171 - Sketching for Floor Coverers. 3 Credits. A satisfactory installation of carpet begins with accurate measurements. The purpose of measuring a room or a house is to compile all of the basic information pertaining to the installation dimensions and layout of the room(s), unusual features and special considerations. In this course, participants will learn to describe and demonstrate various drawings and sketches using both tools and freehand techniques. The participants will apply all newly learned skills to draw and sketch sections of storefront installation as well as a complex storefront.

PAT 172 - Procedures for Floor Covering Prep. 3 Credits. Prior to installing carpet, the floor must be properly prepared to ensure a satisfactory job. This course describes the procedure for preparing concrete and other masonry surfaces to receive resilient floor coverings. Additionally, participants in this course will learn the requirements for preparing a wood surface for covering. Similar to the preparation for concrete work, the wood surface must be dry, clean, and level. The methods by which the wood surfaces are prepared are more complex because of the many wood surfaces with which the installer must work.

PAT 173 - Introduction to Carpet Installation. 3 Credits. In this course, participants will learn the history of the carpet industry in North America. Participants will learn that identifying the various types of carpet construction is essential to the installer and the installation process since each type determines which technique will be used for installation. Additionally, this course will provide a foundation of the tools and materials used when installing carpet.

PAT 174 - Techniques of Floor Covering I. 3 Credits. This course will discuss the installation procedures and considerations for woven carpets and vinyl back carpet or carpet tiles. The participants will also learn techniques for installing stair carpet from which the basic principles can be applied to other installations of carpet on varying styles and dimensions of stairs.

PAT 175 - Techniques of Floor Covering II. 3 Credits. This course will provide the Floor Coverer with a working knowledge of the appro-

priate procedures for preparing and installing laminate flooring, sheet goods, and resilient floor tile. Participants will be exposed to the types of surfaces on which the above mentioned types of flooring can be applied. Additionally, this course will discuss the importance of planning the layout, preparing the room and choosing specialty tools and other equipment needed to properly and efficiently install laminate flooring, sheet goods, and resilient floor tile.

PAT 180 - Confined Space. 3 Credits. In this course, students will study OSHA's Permit-Required Confined Spaces standard (29 cfr 1910.146). The term "confined space" will be defined and the potential hazards involved in permit-required confined spaces and safe entry procedures will be discussed.

PAT 181 - Hazardous Materials. 4 Credits. This course covers the dangers related to working with hazardous materials and the procedures for safe exposure and abatement. In particular, this course will cover what lead and asbestos are, where they can be found, their health effects, their hazards, worker and community rights related to these hazardous materials, abatement methods, cleanup, disposal, and laws, regulations, and standards.

PAT 183 - Elevated platforms. 4 Credits. The main objective of this course is to prevent workplace injuries and fatalities related to falls. This course covers the potential hazards related to working on raised or unstable platforms. The types of tools and equipment for elevating oneself and one's work materials are identified. Selection, inspection, setup, safe techniques and proper maintenance of equipment are discussed.

PAT 184 - Respiratory Protection. 3 Credits. This course covers OSHA's requirements for respiratory protection in 29 cfr 1910.134. The primary objective of this course is to reduce workers' exposure to airborne contaminants. This course will cover how the human respiratory system works, respiratory hazards, the purpose of respiratory protection, different types of respirators and their purposes, and the appropriate use, inspection, cleaning and storage of respirators.

PAT 187 - Techniques for First Aid Instruction. 3 Credits. This course is designed to provide basic safety awareness and practices for workers within all trade areas. Students will gain useful exposure and knowledge to basic safety practices including but not limited to First Aid/cpr, First Aid/aed (Automatic External Defibrillator), respiratory protection, fall protection and safety protocol when using power tools.

PAT 220 - Techniques and Applications of Spray Painting. 4 Credits. This course covers the fundamentals of spray painting with a detailed discussion of the most common spray painting systems: electrostatic, turbine, airless, conventional, air, and hvlp. Students will also learn the potential hazards involved with spray equipment and how to use spray equipment safely:

PAT 221 - Techniques of Wall covering. 4 Credits. This course covers the advanced techniques of wall covering. Specialized decorative techniques such as glazing, antiquing, wood graining, marbleizing, texturing, gilding, stenciling, and stipple finishing will be discussed.

PAT 230 - Testing and Quality Control. 3 Credits. This course covers quality control and quality assurance. Students will learn how to recognize failures of paint coatings, causes of failures and their remedies. Students will also learn to conduct a quality control inspection and the standards that apply to the various tasks performed during the inspection process.

PAT 231 Advanced Safety Measures For Industrial Painting. 4 Credits. This course covers the potential hazards of working with toxic and flammable materials and the related use of personal protective equipment. Additionally, this course covers the potential hazards related to working on raised or unstable platforms. The types of tools and equipment for elevating oneself and one's work materials are identified. Selection, inspection, setup, safe techniques and proper maintenance of equipment are discussed.

PAT 240 - Advanced Fabrication. 3 Credits. This course is designed to provide the Glazier with the skills and knowledge to fabricate glass and mirror, install door hardware, and create material lists, and cutting and optimizing schedules. This course will also discuss door hardware including locks and bolts. Fabrication techniques will include edging, removing scratches, drilling and cut outs. Students will also put into practice their blueprint reading skills to accurately determine materials for the job and common practices for cutting and optimizing schedules.

PAT 241 – Installation Layout and Building Control. 4 Credits. This course is designed to introduce the Glazier to Curtain wall installation methods, practices and testing standards. Students will also learn the basics of aluminum entrances, storefront installations, Ribbon Window Installations and the use of transits, levers, and lasers. All aspects of installation and layout will be discussed as well as building control basics.

PAT 242 - Welding Techniques. 3 Credits. This course is designed to teach the principles of welding, flame cutting, and brazing with emphasis on mastering basic welding techniques.

PAT 243 - Specialties in the Glazing Trade. 3 Credits. This course is designed to enhance the basic skills of a Glazier in performing specialty work. Specialized glazing work may include aquarium and shower door installation, auto glass work, glass shelving, Herculites, stained glass and clear story. Glaziers will learn techniques and procedures as well as safety regulations and safe handling of all materials and installations.

PAT 250 - Techniques of Vehicle Signage. 4 Credits. Remember why we letter vehicles. Signs are meant to convey messages or to get someone from point A to point B. So, why are some vehicle graphics pleasing to the eye and some completely ignored? The answer lies in the composition of the graphics, or the layout. This course will introduce the participant to the appropriate procedures to vehicle signage. The participant will be exposed to the six components of a good layout that conveys the intended message while meeting the clients' needs.

PAT 260 - Steward's Training. 4 Credits. A steward is a union member elected or appointed as the union representative in dealings with management on the job site. There must always be a steward on every job. This short course on stewarding will better prepare the participant for the task of being a trade show steward. Some of the topics covered are generic in nature; others are trade show specific. Participants will summarize and discuss the affect or influence on union activities by The Labor Management Relations Act (NLRA). You will learn the roles and responsibilities of a steward to effectively perform the job and to abide by the governing laws, whether as a trade show steward or on a regular job site.

PAT 261 – Techniques of Freight Handling for Tradeshows. 4 Credits. This course is designed to introduce the participant to "Freight handling," which is the term commonly used to refer to the delivery process of display materials to and from the booth spaces. "Freight handling" also encompasses the removal, storage and return of the empty crates and other packaging materials. Additionally, the participant will be exposed to an array of products specific to "Freight handling" from the unusual, such as a small submarine, to the standard 10' booth packed in a wooden crate are loaded and unloaded over time, for which a number of methods are used. From manual lifting and loading by hand to the use of mechanical devices, such as pallet jacks, j-bars, hand trucks, pallet pullers, dollies, forklifts and truck mounted cranes.

PAT 270 – Advanced Techniques of Floor Covering I. 3 Credits. Participants in this course will look at the use of coving to finish a sheet-goods installation. Coving not only enhances the floor's installation but also eliminates shar corners and crevices and makes cleaning easier. Finishing or trimming an installation will provide a smooth clean finish to the floor and a smooth transition at the wall. Participants will learn the importance of using underlays and perfectly bonding adhesives for a successful installation.

PAT 271 – Advanced Techniques of Floor Covering II. 3 Credits. In this course, participants will learn of the various materials by which safety flooring is made. They will also develop an understanding of the purpose of safety flooring and the process by which it is manufactured to withstand various underfoot traffic. Finally, some of the special jobs a floor covering installer may encounter are discussed in this course, including: coving with tile, insets, electrostatic discharge control (EDC) and heat seam welding.

PARAMEDIC SCIENCE (PAR)

PAR 125 – Rescue Operations. 3 Credits. A course designed to develop skills and general knowledge of rescue awareness and operations, hazardous materials, incidents, ambulance, operations, crime scene awareness and others.

PAR 130 – Introduction to EMS Systems. 3 Credits. This course is designed to educate and train the student in the Introduction to EMS Systems section of the Emergency Medical Technician-Paramedic curriculum according to the standards set forth by the national and state regulatory agencies. (Offered Fall Semester only)

PAR 210 - Patient Assessment & Airway Management. 2 Credits. A course designed to develop skills and knowledge essential to assessing a patient in the pre-hospital setting. Students will also learn advanced airway procedures and respiratory management. (Offered Fall Semester only)

PAR 211 - Principles of Trauma Management. 2 Credits. A course designed to develop skills and knowledge essential to assessing the trauma patient in the pre-hospital setting. The course focuses on both physical exam and initial treatment and management of the trauma patient, including spinal immobilization, splinting, hemorrhage control and advanced airway management. (Offered Fall Semester only)

PAR 212 - Pre-Hospital Pharmacology. 2 Credits. Focused on an integration of pathophysiological principles of pharmacology and assessment findings to formulate a pre-hospital impression and implement a pharmacological management plan for the benefit and improvement of the victim(s)/patient(s). (Offered Fall Semester only)

PAR 220 - Cardiovascular Emergencies. 4 Credits. A course focused on pre-hospital intervention and monitoring of patients with cardiovascular emergencies. The student will learn and practice ECG monitoring, interpretation, and various drug therapies. (Offered Spring Semester only)

PAR 221 - OB/GYN/Neonatal/Pediatric Emergencies. 2 Credits. A course focused on pre-hospital monitoring skills and interventions for obstetric, gynecological, pediatric and neonatal patients. The student will learn and practice skills needed to care for a pregnant patient, delivery of a baby, care for the newborn and common pediatric emergencies. (Offered Spring Semester only)

PAR 230 - Pre-Hospital Care Considerations. 2 Credits. A course focused on pre-hospital intervention and monitoring skills for patients with special considerations. Includes geriatric patients, victims of abuse and assault, patients with special challenges and acute intervention for chronic care patients. This course is also designed for the paramedic student to develop skills in Assessment-Based Management. (Offered Spring Semester only)

PAR 231 - Medical Emergencies. 4 Credits. Course focused on pre-hospital intervention and monitoring skills for patients with general medical emergencies. This would include patients with pulmonary, neurological, renal, toxicological, anaphylactic or environmental emergencies. (Offered Spring Semester only)

PAR 241 - Advanced Paramedic Skills Lab I. 3 Credits. This course is designed to provide lab skills practice related to the Paramedic courses PAR130, PAR 210, PAR 211 and PAR 212. This class is intended to be an interactive and hands-on learning experience. (Offered Fall Semester only)

PAR 242 - Advanced Paramedic Skills Lab II. 3 Credits. This course is designed to provide lab skills practice related to the Paramedic courses PAR 211 and PAR 212 of the Emergency Medical Technician - Paramedic curriculum. This class is intended to be an interactive and hands-on learning experience. (Offered Spring Semester only)

PAR 243 - Advanced Paramedic Skills Lab III. 3 Credits. This course is designed to provide lab skills practice related to the Paramedic courses PAR 125 of the Emergency Medical Technician - Paramedic curriculum. This class is intended to be an interactive and hands-on learning experience. Also, this class is structured as a review of subjects in the previous two semesters of the Paramedic Program and National Registry Test Preparation.

PAR 251 - Paramedic Clinical I. 3 Credits. A course designed for the beginning paramedic student to gain competency in pre-hospital intervention and monitoring skills under the supervision of clinical preceptors. (Offered Fall Semester only)

PAR 252 - Paramedic Clinical II. 3 Credits. A course designed for the advancing paramedic student to apply skills learned in the classroom to the clinical setting. All skills are performed under the supervision of a clinical preceptor. (Offered Spring Semester only)

PAR 253 - Paramedic Clinical III. 3 Credits. A course designed for the advancing paramedic student to apply skills learned in the classroom to the clinical setting. All skills are performed under the supervision of a clinical preceptor. (PR: Admission to program)

PAR 260 – Critical Care Transport. 5 Credits. A course designed for the EMT-Paramedic and Registered Nurse to obtain the knowledge and skills necessary to manage the critical patient during transfers between hospitals, specialty referral centers and extended care facilities. (PR: EMT or LRN and CR: PAR 261)

PAR 261 – Critical Care Transport Clinical. 1 Credit. A course designed for the EMT-Paramedic and Registered Nurse to gain clinical transport experience in specialized units such as Intensive Care, Pediatric Intensive Care, Neonatal Intensive Care, Critical Care Ambulances and Labor & Delivery. (PR: EMT or LRN and CR: PAR 260)

PHYSICAL THERAPY ASSISTANT (PTA)

PTA 100 - Introduction to Physical Therapy. 3 Credits. An orientation to physical therapy profession including historical background, philosophy, and function of the American Physical Therapy Association, professional ethics, documentation, legal responsibilities, and interpersonal relationships among health team are covered. Introductory techniques in positioning, range of motion, and vital signs are also covered. (PR: Admission to PTA program)

PTA 110 - Physical Therapy Modalities. 2 Credits. Basic treatment modalities and procedures in PT are introduced. These include therapeutic hot/cold techniques, massage and electrical stimulation. (PR: Admission to PTA program; CR: PTA 110 L) (Offered Fall Semester only)

PTA 110L - Physical Therapy Modalities Lab. 1 Credit. Basic treatment modalities and procedures in PT are introduced in a laboratory setting. These include therapeutic hot/cold massage and electrical simulation. (PR: Admission to PTA program and CR: PTA 110)

PTA 120 - Patient Care Skills. 2 Credits. Rationale and skills for patient therapeutic techniques, including transportation of patients, proper body mechanics, asceptic techniques, transfers and lifts, lower extremity orthotics, gait training with assistive devices, hydrotherapy and wound care. (PR: Admission to PTA Program and CR: PTA 120L) (Offered Fall Semester only)

PTA 120L - Patient Care Skills Lab. 1 Credit. Lab skills practice including transportation of patients, proper mechanics, asceptic techniques, transfers and lifts, lower extremity orthotics, gait training and assistive devises, hydrotherapy and wound care. (PR: Admission to PTA Program and CR: PTA 120) (Offered Fall Semester only)

PTA 130 - Functional Anatomy and Procedures. 3 Credits. Structure and function of the musculoskeletal system with an introduction of the evaluative techniques of palpation, goniometry, manual muscle testing and gait patterns. (PR: Admission to PTA program and CR: PTA 130L) (Offered Fall Semester only)

PTA 130L - Functional Anatomy and Procedures Lab. 1 Credit. Lab skills practice including evaluative techniques of palpation, goniometry, manual muscle testing and gait training. (PR: Admission to PTA program and CR: PTA 130)

PTA 140 - Neuroanatomy and Physiology. 3 Credits. Structure and function of the human nervous system and basic concepts of human physiology. (PR: Admission to PTA program) (Offered Fall Semester only)

PTA 150 - Clinical Practice I. 1 Credit (CR/NC). Observation and performance of basic physical therapy skills under the direct supervision of a licensed physical therapist or physical therapist assistant. (PR: Completion of PTA 100, 110, 110L, 120, 120L, 130, 130L with "C" or above) (Offered Fall Semester only)

PTA 160 - Clinical Practice II. 1 Credit (CR/NC). Continuation of clinical experience utilizing new skills under the direction of a licensed PT or PTA. (PR: Completion of PTA 150) (Offered Fall Semester only)

PTA 200 - Pathological Conditions. 3 Credits. Basic pathophysiology and reaction to disease and injury of commonly treated physical therapy conditions, including burns, neoplasm, hereditary and congenital conditions, blood, respiratory infections, skin, musculoskeletal and aging diseases. (PR: Completion of PTA 100, with grade of "C" or better) (Offered Spring Semester only)

PTA 220 - Orthopedic Rehabilitation. 3 Credits. Emphasizes therapeutic procedures utilized by physical therapist assistants for patients with orthopedic and soft tissue injury, degenerative disorders, nerve injuries, and orthotic needs for hand and foot disorders. (PR: Completion of PTA 100, 110, 110L, 130, and 130L with grade of "C" or better and CR: PTA 220L) (Offered Spring Semester only)

PTA 220L - Orthopedic Rehabilitation Lab. 3 Credits. Application of therapeutic procedures for patients in orthopedic and cardiopulmonary rehabilitation in a laboratory setting. . (PR: Completion of PTA 100, 110, 110L, 130, and 130L with grade of "C" or better and CR: PTA 220)(Offered Spring Semester only)

PTA 230 - Adult Rehabilitation. 3 Credits. Expands upon neurological principles to emphasize pathology and rehabilitation techniques for adult care. (PR: Completion of PTA , 100, 110, 110L, 130, and 130L courses with grade of "C" or better and CR: PTA 230L) (Offered Spring Semester only)

PTA 230L - Adult Rehabilitation Lab. 1 Credit. Lab skills practice to expand upon neurological principles to emphasize pathology and rehabilitation techniques for adult care. (PR: Competition of PTA 100, 120, 120L, and 140 courses with grade of "C" or better and CR: PTA 230) (Offered Spring Semester only)

PTA 240 - Peds and Spinal Cord Rehabilitation. 2 Credits. Introduction principles, neurological, pathology and rehabilitation techniques for pediatric and spinal cord injury rehabilitation. (PR: Completion of 100 level PTA courses with grade of "C" or better and CR: PTA 250L) (Offered Spring Semester only)

PTA 240L - Peds and Spinal Cord Rehabilitation Lab. 1 Credit. Lab skills practice to expand principles, neurological, pathology and rehabilitation techniques for pediatric and spinal cord injury rehabilitation. (PR: Competition of PTA 100, 120, 120L, and 140 courses with grade of "C" or better and CR: PTA 240) (Offered Spring Semester only)

PTA 250 - PTA Seminar. 1 Credit. Familiarizes students with alternative employment opportunities. Students learn methods of preparing resumes and interviewing techniques. (PR: Completion of all 100 level PTA courses with a grade of "C" or better) (Offered Spring Semester only)

PTA 260 - Clinical Practice III. 4 Credits. Continuation of clinical experience under the direction of a licensed PT or PTA. (PR: Completion of all previous 200 level coursework with a grade of "C" or better) (Offered Spring Semester only)

PTA 270 - Clinical Practice IV. 4 Credits. Final clinical experience under the direction of a licensed PT or PTA. (PR: Completion of PTA 260)

PTA 280 - 283 - Special Topics. 1 to 4 Credits. Study of content not normally covered in other courses. (PR: Enrollment with permission of program coordinator PST)

POLICE SCIENCE TECHNOLOGY
(Classes are taught at the West Virginia State Police Academy, Institute)

PST 111 - Law Enforcement Orientation. 3 Credits. Philosophy, history, and development of law enforcement in a democratic society. Introduces various law enforcement agencies and their organization and jurisdiction, reviews court processes, orients the student to a law enforcement career, and identifies and explores current trends in the field.

PST 113 - Police Defense Tactics. 2 Credits. Demonstration of methods of physical protection from persons armed with dangerous weapons and restraint of prisoners and mentally ill persons. Drills in a limited number of holds and come alongs and training in the use of baton and other special, disarmament, and defensive techniques. A practical application of the methods of self-protection.

PST 120 - Patrol Operations and Procedures. 3 Credits. Covers the duties, extent of authority, and responsibilities of a uniformed law enforcement officer. Patrol philosophy and practices are outlined, and field techniques and their practical application are presented.

PST 122 - Police Arsenal and Weapons. 3 Credits. Handling, care and use of firearms in police work. Lectures supplemented by an intensive range program in deliberate, point, and defense shooting.

PST 231 - Fundamentals of Criminal Law. 2 to 3 Credits. Study of the elements of law and proof in crimes of frequent concern in law enforcement. Rules of criminal liability; elements of specific, commonly violated laws; and development and application of local, state, and federal laws.

PST 233 - Fundamentals of Criminal Investigation. 3 Credits. Analysis of theory and techniques of an investigation, conduct at crime scenes, collection and preservation of physical evidence, and testing employed by the police science laboratory. Emphasizes fingerprints, ballistics, documents, serology, photography, crime scenes, and duties of a criminal investigator.

PST 235 - Police Organization and Administration. 3 Credits. Principles of organization and management of law enforcement agencies. Concepts of organizational behavior and an understanding of the departmental planning process. The role of and components involved in responsible planning and executing procedures related to personnel, equipment budget, records, communications, and management.

PST 237 - Police Role in Crime and Delinquency. 3 Credits. Study of the development and causes of criminal behavior, social deviancy, and crime. Criminological theories and the extent, variation, and patterns of crime. Crime prevention techniques and specific pathological problems related to enforcement. Individual personality differences and their relationships to crime as well as recognizing and handling emotionally and mentally disturbed persons.

PST 239 - Criminal Evidence and Procedure. 3 Credits. Study of the rules of evidence at the operational level in law enforcement and criminal procedure in such areas as arrest, force, search and seizure, collection of evidence, and discretion. Rules and types of evidence, constitutional law, and criminal procedure most often affecting police personnel.

PST 242 - Police-Community Relations. 3 Credits. General orientation to the concepts of police and community relations and the need to establish good working relations between the police and the public. Offers an understanding of the complex factors involved in human relations: the nature of prejudice and discrimination, its effects, the interactions of changing society, the requirements of individual rights, the maintenance of peace and order, and the changing police role.

PST 244 - Introduction to Criminalistics. 2-4 Credits. Scientific aspects of criminal investigation. The role of the crime laboratory in the law enforcement organization, the value of physical evidence, and the need for understanding scientific crime detection. Emphasis on recording the crime scene; collection, identification, preservation, and transportation of evidence; and techniques of examining physical evidence.

PST 246 - Police Records and Reports. 3 Credits. Comprehensive familiarization with types and functions of police records, the role of research in the planning process, and establishment and administration of a record bureau in enforcement agencies. Includes form records, analysis, and report writing; role and use of uniform crime reporting system forms; and essential data required. Review of electronic data processing and the computer as related to police planning and operation.

PST 248 - Traffic Administration and Enforcement. 2 to 3 Credits. History, development, and economics of the modern transportation system. Coping with traffic problems to include use of modern technology in accident investigation and reporting. Police responsibilities as they relate to traffic engineering, education, enforcement, and enactment.

PST 271 – Police Executive Command School. 6 Credits. Leadership skills and executive police agency processes discussed in great detail. Emphasis will be on the development of executive communications, dealing with the media, critical incident management, crime monitoring trends, case oversight, crisis management, budgeting in the public sector, and human resource issues. The leadership instruction will focus heavily on Situational Leadership Theory, the 7 Habits of Highly Effective Police Officers.

PST 280-283 - Special Topics. 1 to 4 Credits. Content not normally covered in other courses. (PR: Enrollment with permission of division director or course instructor.)

PST 290 - Law Enforcement Internship. 9 Credits. Placement with area law enforcement agencies is designed to blend classroom education with practical experience. Flexibility of designing individual programs for students is accomplished through the development of cooperative training agreements among the agency and the training station supervisor and the college. (PR: Permission)

PUBLIC LIBRARY TECHNOLOGY (PLT)

PLT 100 – Introduction to Public Libraries. 3 Credits. This course will focus on the basic structure, function, and operations of public libraries and information centers. Included will be overviews of patron types along with examining the materials, services, and technology available to meet the needs of each.

PLT 210 - Public Library Cataloging and Technical Services. 3 Credits. This course provides an introduction to the current practices in descriptive cataloging and subject analysis; introduction to cataloging practices, subject analysis theories and practices for all formats; introduction to the Sears List of Subject Hearings, Library of Congress Subject Headings and concepts in assigning Dewey Decimal and Library of Congress Classification numbers.

PLT 215 – Advanced Cataloging. 3 Credits. Provides intensive practice in the fundamentals of library cataloging and classification, serials control, and database maintenance. Instruction on reading, interpretation, and use of current standards and documentation of the creation of MARC records. Focuses on management, policy, organizational issues, and training related to the administration of technical services in public libraries. (PR: PLT 210)

PLT 220 - Public Library Children's and Young Adult Services. 3 Credits. This course addresses the selection and promotion of library materials that support programs in children's and young adult services. Issues of service, diversity, and a balance in acquiring and selecting materials will also be presented.

PLT 230 - Public Library Reference. 3 Credits. Study of basic reference sources for public libraries with emphasis on library materials evaluation, the reference interview, search strategies, and impact of new technology on libraries.

PLT 235 – Advanced Reference Skills. 3 Credits. This course will expose students to advanced research techniques and advanced online searching for specialized areas most heavily requested by public library patrons: government documents, business information (entrepreneur/investment), legal materials, career development, continuing education, and consumer health. (PR: 230, may be taken concurrently).

PLT 240 - Public Library Organization and Administration. 3 Credits. Course will focus on principles of administration and organization for public libraries, including planning, policy development, financial management, personnel management, and state and national library laws.

PLT 250 - Public Library Technology. 3 Credits. Introduction to the function, management, and issues of computer technology in libraries. Students learn skills in information storage and retrieval, how to plan/maintain library networks, how to find and troubleshoot telecommunications services and provide web resources accessible to individuals with disabilities.

PLT 255 – Collection Development for Public Libraries. 3 Credits. Explores the process of acquiring, maintaining, and weeding library materials. Includes collection development policies, community analysis, materials for special needs and interests, and materials in various formats.

PLT 260 - Public Library Adult Services. 3 Credits. Study of adult patron needs; how to anticipate and provide appropriate services to adult populations in the community. Services will include literacy programs and services to minorities, job seekers, and business community, and handicapped. Students will also learn the basic principles of programming for adults.

PLT 265 – Preservation of Library Materials. 3 Credits. This course introduces students to the preservation and conservation of library and archival collections; the physical nature of materials; causes of deterioration; techniques staff can employ for promoting longevity and restoration of materials in various formats; library disaster planning and recovery; issues regarding the preservation of digital information (electronic records and multimedia documents).

PLT 280 – Public Library Marketing. 3 Credits. This course will expose students to advanced marketing skills and implementation processes. Students will cover basic marketing strategies and create a workable marketing plan for a public library of their choosing.

PLT 299 – Public Library Technology: Capstone Experience. 3 Credits. This course will provide the capstone experience in which students will perform an internship in the field while developing and refining their general education portfolio. The portfolio will consist of samples of their work garnered from the field experience and each library course within the program. (PR: Instructor permission)

RADIOGRAPHIC SCIENCE (RS)

RS 201 - Fundamentals of Radiographic Science. 1 Credit. Content designed to provide an overview of the foundations in radiography and the practitioner's role in the health care delivery system. Principles, practices and policies of the health care organization(s) will be examined and discussed in addition to the professional responsibilities of the radiographer. (PR: Admission to Radiologic Technology Program and Instructor's Permission)

RS 202 - Patient Care. 1 Credit. Content designed to provide the basic concepts of patient care, including consideration for the physical and psychological needs of the patient and family. Routine and emergency patient care procedures will be described, as well as infection control procedures utilizing standard precautions. The role of the radiographer in patient education will be identified. (PR: Admission to Radiologic Technology Program and Instructor's Permission)

RS 203 - Ethics & Law. 1 Credit. Content designed to provide a fundamental background in ethics. The historical and philosophical basis of ethics, the elements of ethical behavior, and an introduction to legal

terminology, concepts and principles will be presented. The student will examine a variety of ethical issues and dilemmas found in clinical practice. Topics include misconduct, malpractice, legal and professional standards and the ASRT scope of practice. The importance of proper documentation and informed consent will be emphasized. (PR: Admission to Radiologic Technology Program and Instructor's Permission)

RS 204 - Radiographic Procedures I and Lab I. 4 Credits. Content designed to provide a knowledge base necessary to perform routine radiographic procedures along with the application to special studies. Consideration will be given to the production of images of optimal diagnostic quality. Laboratory experience will be used to complement the didactic portion of Radiologic Procedures I. (PR: Admission to Radiologic Technology Program and Instructor's Permission)

RS 205 - Clinical Practice I. 5 Credits. Students will accomplish mandatory competencies detailed in the procedures specific to Clinical Practice I. Clinical practice will be designed to provide students with experience in patient care and assessment, competent performance of radiologic imaging and total quality management ensuring the well-being of the patient preparatory to, during and following the radiologic procedure. (PR: Admission to Radiologic Technology Program and Instructor's Permission)

RS 206 – Radiobiology. 2 Credits. Content designed to provide an overview of the principles of the interaction of radiation with living systems. Radiation effects on molecules, cells, tissues and body as a whole are presented. Factors affecting biological response are presented, including acute and chronic effects of radiation.

RS 207 - Radiation Protection. 2 Credits. Content designed to present an overview of the principles of radiation protection including the responsibilities of the radiographer for patients, personnel and the public. Radiation health and safety requirements of federal and state regulatory agencies, accreditation agencies and health care organizations are incorporated.

RS 208 - Radiographic Procedures II and Lab II. 4 Credits. Content designed to provide a knowledge base necessary to perform special radiographic procedures along with the application to special studies. Consideration will be given to the production of images of optimal diagnostic quality. Laboratory experience will be used to complement the didactic portion of Radiologic Procedures II.

RS 209 - Radiographic Science Pharmacology. 2 Credits. Content designed to provide basic concepts of pharmacology. The theory and practice of basic techniques of venipuncture and the administration of diagnostic contrast agents and/or intravenous medications is included. The appropriate delivery of patient care during these procedures is emphasized.

RS 210 - Clinical Practice II. 7 Credits. Students will accomplish mandatory competencies detailed in the procedures specific to Clinical Practice II. Clinical practice will be designed to provide experience in provision of patient care and assessment, competent performance of radiologic imaging and total quality management. Levels of competency and outcomes measurement shall ensure the well-being of the patient preparatory to, during and following the radiologic procedure.

RS 211 - Radiation Production and Characteristics. 2 Credits. Content designed to establish a basic knowledge of atomic structure and terminology. Also presented are the nature and characteristics of radiation, x-ray production and the fundamentals of photon interactions with matter.

RS 212 - Imaging and Processing and Imaging Lab I. 4 Credits. Content designed to establish a knowledge base in factors that govern and influence the production and recording of radiologic images. Film and electronic imaging with related accessories will be emphasized. Class demonstrations/labs are used to demonstrate and reinforce application of theory of Imaging and Processing. Film and electronic imaging with related accessories will be emphasized.

RS 213 - Radiographic Pathology. 2 Credits. Content designed to introduce theories of disease causation and the pathophysiologic disorders that compromise health systems. Etiology, pathophysiologic responses, clinical manifestations, radiographic appearance and management of alterations in body systems will be presented.

RS 214 - Imaging Lab II. 1 Credit. Content designed to provide a basis for analyzing radiographic images specific to contrast media procedures, spine, skull & facial bones. Included are the importance of minimum imaging standards, discussion of a problem-solving technique for image evaluation and the factors that can affect image quality. Actual images will be included for analysis.

RS 215 - Clinical Practice III. 6 Credits. Clinical practice will be designed to provide experience in provision of patient care and assessment, competent performance of radiologic imaging and total quality management. Levels of competency and outcomes measurement shall ensure the well-being of the patient preparatory to, during and following the radiologic procedure. Students will accomplish mandatory competencies detailed in the procedures just specific to Clinical Practice III.

RS 216 - Computers In Radiologic Science. 1 Credit. Content designed to introduce knowledge in computing and information processing. Computer applications in the radiologic sciences related to image capture, display, storage and distribution are presented.

RS 217 - Imaging Equipment. 2 Credits. Content designed to establish a knowledge base in radiographic, fluoroscopic, mobile and tomographic equipment requirements and design. The content will also provide a basic knowledge of quality control.

RS 218 - Advanced Imaging Modality. 0 Credits. Introduction to advanced imaging modalities including computed tomography, MRI, ultrasound, nuclear medicine and radiation oncology.

RS 219 - Registry Review Seminar. 0 Credits. Seminar provides student with ARRT examination review.

RS 220 - Clinical Practice IV. 4 Credits. Students will accomplish mandatory competencies detailed in the procedures specific to Clinical Practice IV. Clinical practice will be designed to provide experience in provision of patient care and assessment, competent performance of radiologic imaging and total quality management. Levels of competency and outcomes measurement shall ensure the well-being of the patient preparatory to, during and following the radiologic procedure.

RS 221 - Human Diversity for Radiological Technology*. 3 Credits. Content designed to promote better understanding of patients, the patients' families and professional peers through comparison of diverse human populations based on their value system, cultural and ethnic influences, communication styles, socioeconomic influences, health risks and life stages. Content will include the study of factors that influence relationships with patients and professional peers.
Approved for multicultural designation with Marshall University.

READING (REA)

REA 098 - Reading Improvement. 3 Credits (CR/NC). This course is designed for students who do not meet the state standard in reading and are enrolled in a program leading to an associate degree. Emphasis in the course is on comprehension skills, study skills, and vocabulary development. The prerequisite for the course is the reading placement test. The graduation requirement is increased three hours for students who meet the requirements for this course.

REA 280-283 - Special Topics. 1 to 4 Credits. Study of content not normally covered in other courses. (PR: Enrollment with permission of program coordinator or course instructor)

SCIENCE (SCI)

SCI 090 - Developmental Physical Science. 3 Credits (CR/NC). A course for potential bachelor's degree students who do not meet science admissions requirements. Designed to give students experience and skills in physical science, emphasizing lab experiences. (PR: High school algebra; MAT 097 or MAT 097E)

SCI 101 - Unified Principles of Biology. 3 Credits. A consideration of how processes of life are related and how the principles of biology are important in the everyday life of man. Emphasis will center on current scientific issues that face human life.

SCI 110 - Introductory Physics. 4 Credits. This course is to introduce non-science majors to applications of physics in life, emphasizing conceptual understanding of basic principles in classical and modern physics that includes critical thinking and problem solving exercises. The problem solving exercises will not require memorization of formulas but rather the understanding and application of them. (PR: MAT 135; MAT 145 or MAT 145E)

SCI 120 - Basics in Physical Science. 4 Credits. An introduction for non-science majors to applications of physics, chemistry and astronomy in everyday life. This course will enhance the understanding of basic concepts through hands-on activities and/or experiments.

SCI 201 - Integrated Science: Health, Law and Environment. 4 Credits. An issue driven course where students will investigate health issues along with the law and environment impact related to the physics, chemistry, and biology associated with the issues. (PR: MAT 145; MAT 145E; MAT 150 or MAT 150E)

SCI 220 - Basic Chemistry. 3 Credits. An introduction to chemical properties, basic concepts and relationships. (PR: MAT 145; MAT 145E; MAT 150 or MAT 150E)

SI 280-283 - Special Topics. 1-4 Credits. Study of content not normally covered in other courses. (PR: Enrollment with permission of program coordinator or course instructor)

SOCIAL SCIENCE (SS)

SS 090 - Basic U.S. History Since 1865. 3 Credits (CR/NC). This course is a general survey of United States history from 1865 to present. Students will critically analyze the major developments and themes of that era and interpret historical evidence.

SS 201 - Human Relations. 3 Credits. A survey and interdisciplinary approach to the study of organizational behavior. The course is designed to acquaint students with concepts and/or principles of managing human behavior in an organizational setting.

SS 210 - Fundamentals of Sociology*. 3 Credits. A study of the development, organization and functioning of human society. Students will focus on the nature of social life, examine social differences and social inequality, examine social institutions and focus on social dynamics and social change.
Approved for multicultural designation with Marshall University.

SS 215 - Lifespan Psychology. 3 Credits. The study of human development and age-related changes in behavior, thinking, emotion and personality with a focus on observations and explanations that can be applied to as wide a range of human beings and in as many contests as possible.

SS 280-289 - Special Topics. 1 to 4 Credits. Study of content not normally covered in other courses. PR: Enrollment with permission of division director or course instructor)

TECHNICAL STUDIES (TS)

TS 101 - AAS Portfolio Development. (CR/NC). This course is designed to assist adult students with the development of a comprehensive portfolio documenting knowledge acquired through life/work experiences and other formal or informal learning experiences. (PR: Permission)

TS 102 – On-the-Job Training. 1 to 12 Credits. This course consists of paid or unpaid OJT, internship, or practicum performed in a business, industry, trade, or technical career setting within the student's occupational area. The on-the-job training component is converted to credit hour at a ratio of 160:1 with the maximum of 1920 contact hours allowable. A statement of the total number of contact hours experienced through on-the-job training will be verified by an employer or union official and will be placed on the college record. This credit will be recorded immediately prior to graduation from college. (PR: Must major in Technical Studies or Occupational Development degree programs)

TS 280-285 – Special Topics. 1 to 5 Credits. This course consists of special topics of course work that will develop skills that may be applied to a variety of occupations or that may be specific to an occupation. Typically courses are technical specialty courses specific to an occupational/technical area. Course include technical courses developed and delivered by the college, apprenticeship courses, or an approved course that can be included in a business or industry training program. (PR: Permission)
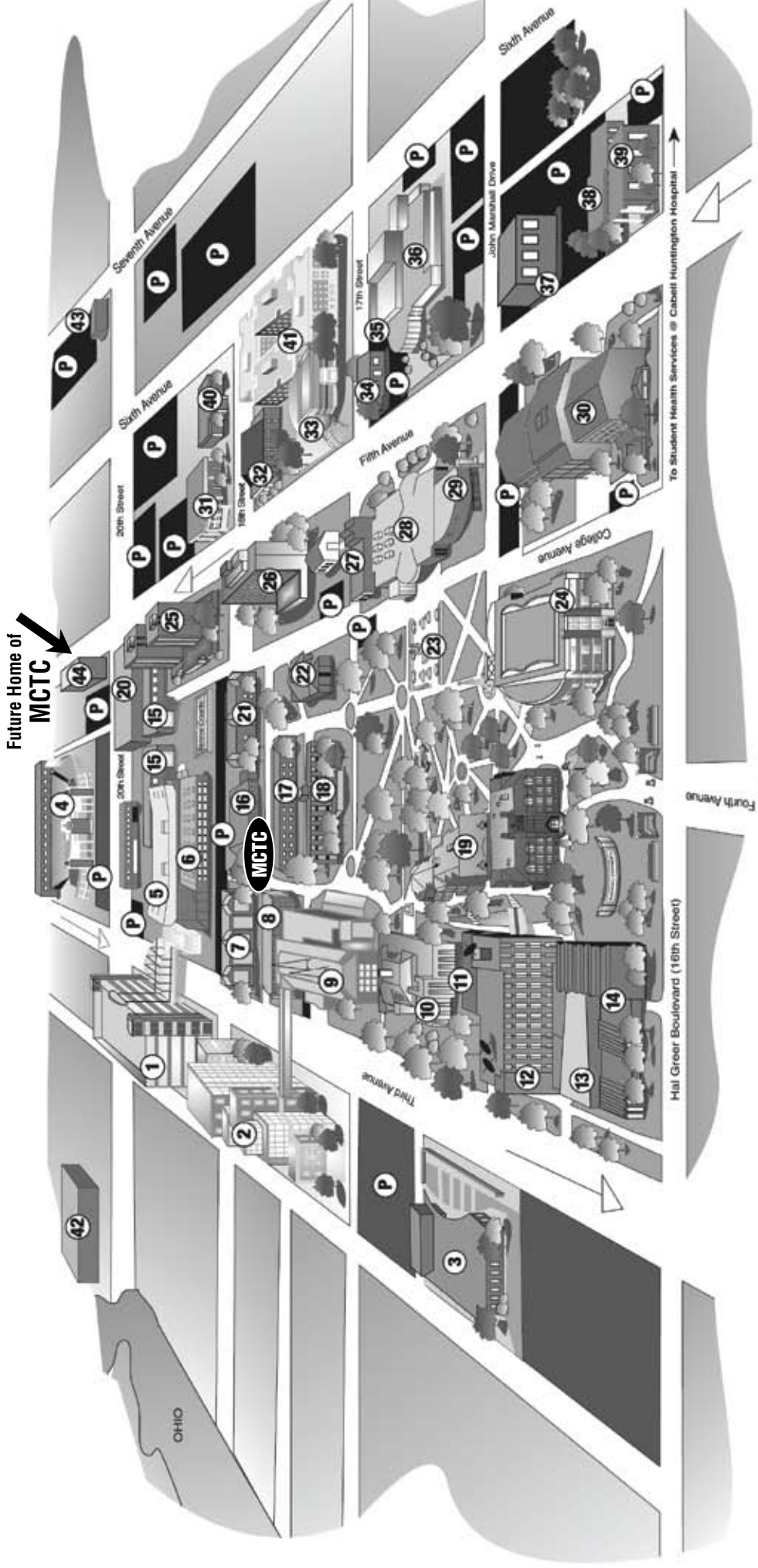
TECHNICAL TRAINING FOR ADULTS (TTA)

TTA 101 – Introduction to Teaching Techniques for Adults. 1 to 3 Credits. Introduction to instruction for Instructors and Coordinators of occupational training and apprenticeship. Included in this course are an introduction to computers, commission and interaction, planning, organizing and conducting training, and developing and using instructional aids.

TTA 102. – Teaching Techniques for Adults. 1 to 3 Credits. Instruction for year-two Instructors and Coordinators of occupational training and apprenticeship. Included in the course are intermediate computers, laboratory safety, testing and evaluation, and advanced instructional methods.

TTA 103 – Advanced Teaching Techniques for Adults. 1 to 3 Credits. Instruction for year-three Instructors and Coordinators of occupational training and apprenticeship. Included in the course are advanced use of computers, implementing the curriculum, and effective classroom m leadership.

Future Home of **MCTC**

MCTC

To Student Health Services @ Cabell Huntington Hospital →

to Robert C. Byrd Institute
1050 Fourth Avenue →

1. Parking Garage
2. Robert C. Byrd Biotechnology Science Building
3. Future Engineering Building
4. Joan C. Edwards Stadium
5. Henderson Center
6. **Gullickson Hall**
7. Laidley Hall
8. **Harris Hall**
9. **Science Building**
10. Morrow Library
11. Communications Building
12. **Smith Hall**
13. Birke Art Gallery
14. Smith Music Hall
15. Future Student Residence Halls
16. MCTC
17. Prichard Hall
18. Buskirk Hall
19. Old Main
20. Future Campus Recreation Center
21. **Hodges Hall**
22. **Jenkins Hall**
23. Memorial Fountain
24. **Drinko Library**
25. Twin Towers
26. Holderby Hall
27. Campus Christian Center
28. Memorial Student Center
29. Campus Bookstore
30. Corbly Hall
31. Welcome Center/Public Safety & Transportation
32. Erickson Alumni Center
33. Harless Dining Hall
34. Career Services Center
35. Jomie Jazz Center
36. Joan C. Edwards Performing Arts Center
37. Future Erickson Alumni Center
38. Marshall Newman Center
39. Future Recruitment & Welcome Center
40. Myers Hall
41. Marshall Commons Residence Halls
42. Art Warehouse
43. Cabell Hall
44. Future Marshall Community & Technical College

MCTC Buildings are listed in BOLD