Engineering Design Technology AAS

Career & Technical Division

Program Description:

The objective of this degree is to provide individuals entry-level job skills required in several related professions, including engineering technicians, product design technicians (including state-of the art products for medicine, structures, etc.), printers, Computer-Aided Design (CAD) technical specialists, computer modeling specialists, simulation specialists, graphic designers and digital artists. Particular engineering fields include Manufacturing, Mining, Civil, Biomedical, and Marine Engineering. CADD specialists have broad-based skills applicable to the architectural, engineering, design, entertainment, and medical fields. Graduates will have skills essential to architects, engineers, designers, manufacturers, realtors, bankers, printers, creators of computer and graphic simulations, and all digital art applications.

Students in this program will learn 2D and 3D CAD, 3D modeling, rendering, and animation for art, films, and television, product development, engineering process and control, including reverse engineering and prototype development, design processes, organizational design, and business development. Students will have the opportunity to become certified in AutoCAD and Inventor. For students considering a bachelor's degree in engineering, the offering of Statics, Mechanics of Materials, Calculus, and Physics allows students to take these courses in a community college environment.

New manufacturing, engineering, medical, and visual effect processes require the skills students will obtain using state-of-the-art computer programs and prototyping equipment. Students will have access to the most up-to-date Autodesk computer programs, including AutoCAD, Inventor, 3ds Max, Revit, and Maya, as well as the latest prototyping equipment, including a digital printer. Three-dimensional printing is no longer just a prototyping technique, but is now the latest manufacturing process. This process is expected to eventually replace all other manufacturing processes, and the Engineering Design Technology Program trains students in all aspects of this technique. An integrated curriculum, including classes on design and entrepreneurship, allows each graduating class the opportunity to identify, develop and create a prototype for a new product, from conception to construction.

The Engineering Design Technology Program incorporates coordination with a broad-based advisory board of local business representatives, and is designed to prepare graduates with state-of-the-art skills required in the rapidly changing manufacturing, engineering, design, health and visual effects fields. Upon completion of the Engineering Design Technology Associate in Applied Science Degree, the graduate will be able to:

- Create 2D representations of objects,
- Create 3D representations of objects, and produce realistic representations of these objects through state-of-the-art rendering and animation techniques,
- Work in a group to conceptualize, design, and check the viability of a new product, and create a prototype of that product,
- Reverse engineer and create a prototype of an existing object,
- Check the efficiency of various engineering processes,
- Create photorealistic representations of any object, including 3D architectural designs, and
- Create a new business in WV.

Contact Information:

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Our mission is to prepare students for careers, civic responsibility and life-long learning.

Engineering Design Technology – Major Code CE50				
Name:			**ID Number 942-**	
CAPS SCORES:	MATH:	ENGLISH:	READ:	**DOE:**
COL 101 Faculty:				
Educational Counselor:				
Faculty Advisor:				

COURSE	REQUIREMENTS	SEM	HRS	GR	SUBSTITUTE/REPEAT CRS	SEM	CR
ENL 111	Written Communication[1]		3				
MAT 145	Applications in Algebra[2]		3				
MFE 116	Manufacturing Processes		3				
MFE 220	Computer Aided Design I		4				
COM112	Oral Communication[3]		3				
MAT 205	Calculus[4]		3				
MFE 230	Computer Aided Design II		4				
MFE 248	Statistical Process & Control		3				
MFE 255	Rapid Prototyping Techniques		3				
MFE 240	Statics[6]		3				
MFE 258	Intro to Visual Digitalization		4				
MFE 262	Engineering Design		4				
SCI 110	Introductory Physics[6]		4				
MFE 103	Entrepreneurship in MFE		3				
MFE 245	Mechanics of Materials		3				
MFE 253	3D Scanning for Reverse Engineering		3				
MFE 290	Manufacturing Capstone		3				
SOCI 210	Fundamentals of Sociology		3				

DEVELOPMENTAL COURSES REQUIRED

COURSE	REQUIREMENTS	SEM	HRS	GR	SUBSTITUTE/REPEAT CRS	SEM	CR

	REQUIRED HOURS FOR GRADUATION: 60

1. ENL 111 has a prerequisite of placement in 100-level English, and placement in 100-level reading.
2. MAT 145 has a prerequisite of placement in 100-level math.
3. COM 112 and SS 201 has a prerequisite of placement in 100-level reading.
4. MAT 205 has a prerequisite of MAT 146.
5. MFE 240 has a prerequisite of MAT 205.
6. SCI 110 has a prerequisite of MAT 125, MAT 135 or MAT 145.

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