Bachelor of Science in Design
Department of Technology Systems

The purpose of our Design program is to prepare graduates for careers as design technologists—architectural and mechanical.

As a design technologist, you may work independently, or you may work as a member of a design team, or you may supervise a design team or manage a design project. Your academic preparation in design focuses on contemporary design practices found in the various engineering disciplines as well as in architecture. Extensive use of technology, including the Internet, is stressed. Opportunities to gain real-life, hands-on experiences are plentiful. These opportunities include but are not limited to part-time and temporary jobs and paying and non-paying co-op or internship positions.

We expect each graduate to possess knowledge and to demonstrate skills in applying design and drafting concepts and nationally recognized standards and practices to the solution of a broad and varied range of design problems.

Professional opportunities upon graduation are most commonly found among the various engineering disciplines and in the field of architecture. Accordingly, two program options are available.

The Architectural Technology Concentration prepares graduates for careers in architectural and engineering firms, site development, building construction, and related fields. Graduates develop plans, specifications, construction drawings and related architectural and construction documentation.

The Mechanical Technology Concentration prepares graduates for careers in application of machine and mechanical system principles to the development of automated systems and equipment. Graduates often work as a part of an engineering team engaged in the design and development phases of a wide variety of projects involving all aspects of mechanical systems.

Professional opportunities upon graduation are most commonly found among the various engineering disciplines and in the field of architecture. The following professional titles are representative of the positions our graduates hold: Designer/CAD Operator, Lecturer, Production Assistant, Designer III, Sales Representative, Site Manager/Network Analyst, Facilitator, Business Manager, Design Drafter, Project Engineer, Teacher, Project Scheduler, Engineer Assistant, Surveyor, CAD Operator, Truss Designer, CNC programmer/draftsperson, Project Coordinator, Technician, CAD Draftsman, Sourcing Specialist, Senior Engineer, Design Engineer, Instructor, Project Scheduler, Foreman Estimator, Architectural Designer.

Our BS in Design degree is accredited by the Association of Technology, Management, and Applied Engineering (ATMAE). For more information on the Design program, please visit our website at www.ecu.edu/tsys. For more information about ECU admission, tuition, financial aid, housing, and campus tours, please visit ECU’s website at www.ecu.edu.

Contact us:
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Program Website: www.ecu.edu/tsys

Required Coursework (126 semester hours)

Design Core:
- Engineering Graphics I with Lab
- Computer-Aided Design and Drafting with Lab
- Engineering Graphics II with Lab
- Descriptive Geometry with Lab
- Materials and Processes Technology with Lab
- Statics and Strength of Materials
- Industrial Technology Applications of Computer Systems
- Electricity/Electronics Fundamentals with Lab
- Thermal and Fluid Systems with Lab
- Electromechanical Systems with Lab
- Introduction to Statistical Process Control
- Technical Writing
- Industrial Safety
- Technology Project Management
- Cost and Capital Project Analysis
- Industrial Supervision
- Quality Assurance Concepts

Concentrations – choose one:

Architectural Technology Concentration:
- Architectural Drafting with Lab
- Architectural Design and Drafting with Lab
- Sustainable Design with Lab
- Fundamentals of GIS
- Introduction to Planning Techniques
- Urban Form and Design
- Environmental Biology with lab
- Environmental Geology*

Mechanical Technology Concentration:
- Rapid Prototyping with Lab
- Jig and Fixture Design with Lab
- Geometric Dimensioning & Tolerancing with Lab
- Intro to Computer Numerical Control (CNC) with Lab
- Robotics in Computer Integrated Manufacturing with Lab
- Plant Layout and Materials Handling
- General Chemistry with lab
- General Physics II with lab*

General Education and Cognates:

English (6 hours)
- Composition I
- Composition II

Science (8 hours)
- General Physics I
- General Physics II
- *See concentration requirements

Social Science (12 hours)
- Principles of Microeconomics
- Introductory Psychology
- Personnel and Industrial Psych
- Social Science Elective

Humanities & Fine Arts (10 hours)
- Humanities & Fine Arts to total 10 hrs

Math (3 hrs)—Also, see Cognates
- College Algebra
- Cognates (5 hours)
- Health & Exercise (3 hours)
- Applied Trigonometry
- Electives (5 hours)

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