Bachelor of Science in Design

Department of Technology Systems

The BS in Design prepares graduates to function as design professionals, members of design teams, and design team leaders. Concentrations in architectural technology and mechanical technology are offered to satisfy the career goals of our students. Program graduates will possess related knowledge and technical, problem solving, and interpersonal skills upon completion of their graduation requirements. In addition to placement as design professionals, BS in Design graduates are also pursuing careers as applied engineers and architects.

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 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.

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 pursuit of a Master of Architecture has also become an option.

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: Assembly Support Engineer, Designer/CAD Operator, Production Assistant, Designer III, Business Manager, Design Drafter, Project Engineer, Project Scheduler, Engineer Assistant, CAD Operator, Truss Designer, CNC programmer/draftsperson, Project Coordinator, Technician, CAD Draftsman, Senior Engineer, Systems Engineer III, Design Engineer, Electrical Design Engineer, Project Scheduler, Foreman Estimator, Architectural Designer.

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

Required Coursework (120 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 or 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 Physics II with lab

General Education and Cognates:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>English (6 hours)</td>
<td>Humanities &amp; Fine Arts (9 hours)</td>
</tr>
<tr>
<td>Composition I</td>
<td>Business or Professional Ethics</td>
</tr>
<tr>
<td>Composition II</td>
<td>Fine Arts elective</td>
</tr>
<tr>
<td>Science (8 hours)</td>
<td>Humanities/Fine Arts to total 9 hours</td>
</tr>
<tr>
<td>General Physics I</td>
<td>Health &amp; Exercise (2, 1 hours)</td>
</tr>
<tr>
<td>*See concentration requirements</td>
<td>Math (5 hours)</td>
</tr>
<tr>
<td>Social Science (9 hours)</td>
<td>College Algebra</td>
</tr>
<tr>
<td>Principles of Microeconomics</td>
<td>Applied Trigonometry</td>
</tr>
<tr>
<td>Introductory Psychology</td>
<td>Legal Environment of Business (3 hrs)</td>
</tr>
<tr>
<td>Personnel and Industrial Psyc</td>
<td>Electives (5 hours)</td>
</tr>
</tbody>
</table>

Any General Ed Elective (3 hours)

Contact us:

Program Coordinator: Robert A. Chin, (SciTec 207)
E-mail: chinr@ecu.edu
Phone: (252) 328-9648
Academic Advisor: David Bucci, (Rawl Annex 2)
E-mail: buccid@ecu.edu
Program Website: www.ecu.edu/DESN

2018-21 catalog 6/10/2020 at