The BS in Design exists to prepare graduates for careers in architectural and mechanical design technology. Our graduates work independently, work as members of design teams, and supervise design teams and manage design projects.

The two concentrations—Architectural Technology and Mechanical Technology—provide a broad array of hands-on design experiences. These experiences build upon a practical foundation of core courses whose titles appear to the right under the heading Design Core. The Design Core also prepares graduates for opportunities in supervision and management. Upon completion of their academic preparation in design, all graduates will have passed the Association of Technology, Management, and Applied Engineering Certified Technology Manager exam. All the design courses are supported by state of the art applications including AutoCAD, Inventor, Solid Works, Revit and CATIA.

During the course of their academic preparation, Architectural Technology students will have also competed in the ADDA annual design drafter contest, the United States Green Building Council of North Carolina's Natural Talent Design Competition, will have presented at East Carolina University's Research and Creative Achievement Week, and will be American Design Drafting Association certified architectural drafters.

During the course of their academic preparation, Mechanical Technology students will have competed in the ADDA annual design drafter contest and will have presented at East Carolina University's Research and Creative Achievement Week.

The BS in Design has been a leader in rapid prototyping. Also known as 3D printing or additive manufacturing, it has been a program requirement for over a decade. The program has invested in more than ten 3D printing machines; as a result all Mechanical Technology graduates possess rapid prototyping skill upon graduation. The investment in 3D printers has also facilitated faculty collaborations with students in undergraduate research and innovation projects, students winning design awards, and students collaborating with faculty in research publications.

**Contact us:**
Program Coordinator: Robert A. Chin, (SciTech 207)
E-mail: chinr@ecu.edu
Phone: (252) 328-9648
Academic Advisor: David Bucci, (Rawl Annex 2)
E-mail: buccid@ecu.edu
Phone: (252) 328-9301
Program Website: www.ecu.edu/techsystems

**Bachelor of Science in Design**
Department of Technology Systems

**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
- General Education and Cognates

**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:**

<table>
<thead>
<tr>
<th>English (6 hours)</th>
<th>Humanities &amp; Fine Arts (10 hours)</th>
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<tbody>
<tr>
<td>Composition I</td>
<td>Business or Professional Ethics</td>
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<tr>
<td>Composition II</td>
<td>Fine Arts elective</td>
</tr>
<tr>
<td><strong>Science (8 hours)</strong></td>
<td>Humanities/Fine Arts to total 10 hours</td>
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<tr>
<td>General Physics I</td>
<td>Health &amp; Exercise (2/1 hours)</td>
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<tr>
<td>*See conc. requirements</td>
<td>Math (3 hours)—Also see Cognates</td>
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<tr>
<td>Social Science (12 hours)</td>
<td>College Algebra</td>
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<tr>
<td>Principles of Microeconomics</td>
<td>Cognates (5 hours)</td>
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<tr>
<td>Introductory Psychology</td>
<td>Legal Environment of Business</td>
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<tr>
<td>Personnel and Indus. Psy</td>
<td>Applied Trigonometry</td>
</tr>
<tr>
<td>Social Science Elective</td>
<td>Electives (5 hours)</td>
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