Leonard C. Nelson College of Engineering and Sciences

General Information
The mission of the Leonard C. Nelson College of Engineering and Sciences of the West Virginia University Institute of Technology closely reflects the mission of the Institution. The programs in the College of Engineering and Sciences address the professional engineering and science needs of industry, government, and business and prepare their graduate to be citizens of the state, national, and global communities. The programs provide for a student-centered education that balances career preparation with an understanding and appreciation of the traditional humanities and sciences. The programs strive to prepare tomorrow's engineers and scientists with a broad education necessary to effectively communicate technical concepts to a wide audience and to place technical solutions in a societal context. In addition, the College of Engineering and Sciences gives qualified students the opportunity to gain valuable experience practicing the fundamentals of engineering and science through the Co-Op program, as well as through the placement of students in intern positions.

DEPARTMENT OF BIOLOGY

Biology
MINOR CODE - UT02

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 111</td>
<td>General Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 112</td>
<td>General Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL Electives (must include at least 9 credit hours of upper division courses)</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Total Hours</td>
<td></td>
<td>24</td>
</tr>
</tbody>
</table>

DEPARTMENT OF COMPUTER SCIENCE AND INFORMATION SYSTEMS

Computer Science
MINOR CODE - UT24

Student must earn a grade of C or better for each of the courses counted towards the minor.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 121</td>
<td>Computer Science 1</td>
<td>4</td>
</tr>
<tr>
<td>CS 122</td>
<td>Computer Science 2</td>
<td>4</td>
</tr>
<tr>
<td>Complete the requirements for one of the following tracks:</td>
<td>8-9</td>
<td></td>
</tr>
</tbody>
</table>

Programming Track

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 201</td>
<td>Data Structures</td>
<td></td>
</tr>
<tr>
<td>CS 222</td>
<td>Intro Software Engineering</td>
<td></td>
</tr>
<tr>
<td>CS 310</td>
<td>Principles of Programming Languages</td>
<td></td>
</tr>
</tbody>
</table>

Systems Track

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 231</td>
<td>Introduction to Computer Organization</td>
<td></td>
</tr>
<tr>
<td>CS 265</td>
<td>C Programming</td>
<td></td>
</tr>
<tr>
<td>CS 350</td>
<td>Computer System Concepts</td>
<td></td>
</tr>
<tr>
<td>Select two of the following courses:</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>CS 321</td>
<td>Introduction to Networking</td>
<td></td>
</tr>
<tr>
<td>CS 324</td>
<td>Database Management</td>
<td></td>
</tr>
<tr>
<td>CS 410</td>
<td>Compiler Construction</td>
<td></td>
</tr>
<tr>
<td>CS 450</td>
<td>Operating Systems Structure</td>
<td></td>
</tr>
<tr>
<td>CS 465</td>
<td>Cybersecurity Principles and Practice</td>
<td></td>
</tr>
<tr>
<td>CS 472</td>
<td>Artificial Intelligence</td>
<td></td>
</tr>
<tr>
<td>Total Hours</td>
<td></td>
<td>22-23</td>
</tr>
</tbody>
</table>
# DEPARTMENT OF MATHEMATICS

## Mathematics

**MINOR CODE - UT14**

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Hours</th>
</tr>
</thead>
</table>
| MATH 155  
Calculus 1                  | 4     |
| MATH 156  
Calculus 2                  | 4     |
| MATH 251  
Multivariable Calculus     | 4     |
| MATH 261  
Elementary Differential Equations | 4   |
| MATH 441  
Applied Linear Algebra   | 3     |

Select two of the following courses:

| MATH 283  
Concepts of Mathematics 2 | 6     |
| MATH 300+ or 400+ Level Courses (excluding MATH 315) | 6 |

**Total Hours** 25

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# DEPARTMENT OF PHYSICAL SCIENCES

## Chemistry

**MINOR CODE - UT04**

A minimum overall GPA of 2.0 is required for this minor.

A minimum grade of D- is required for the courses in this minor.

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Hours</th>
</tr>
</thead>
</table>
| CHEM 115  
& 115L  
Fundamentals of Chemistry  
and Fundamentals of Chemistry 1 - Laboratory | 4     |
| CHEM 116  
& 116L  
Fundamentals of Chemistry  
and Fundamentals of Chemistry 2 - Laboratory | 4     |
| CHEM 233  
& CHEM 235  
Organic Chemistry  
and Organic Chemistry Laboratory | 4     |
| CHEM 234  
& CHEM 236  
Organic Chemistry  
and Organic Chemistry Laboratory | 4     |

Select two of the following courses:

| CHEM 215  
& 215L  
Introductory Analytical Chemistry  
and Introductory Analytical Chemistry Laboratory | 8     |
| CHEM 310  
& CHEM 313  
Instrumental Analysis  
and Instrumental Analysis Laboratory | 8     |
| CHEM 346  
& CHEM 347  
Physical Chemistry  
and Physical Chemistry Laboratory | 8     |
| CHEM 348  
& CHEM 349  
Physical Chemistry  
and Physical Chemistry Laboratory | 8     |

Any CHEM course(s) at the 300-level or higher

**Total Hours** 24

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## Accreditation

Computer Science within the Leonard C. Nelson College of Engineering and Sciences has specialized accreditation through the Computing Accreditation Committee (CAC) of ABET.

The following programs within the Leonard C. Nelson College of Engineering and Sciences have specialized accreditation through the Engineering Accreditation Commission (EAC) of ABET.

- Chemical Engineering
- Civil Engineering
- Computer Engineering
- Electrical Engineering
- Mechanical Engineering
The following programs within the Leonard C. Nelson College of Engineering and Sciences have specialized accreditation through the Engineering Technology Accreditation Commission (ETAC) of ABET.