## General Education Area

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester</th>
<th>Grade</th>
<th>Prerequisites/Notes</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td><strong>COMMUNICATION (9 hours)</strong></td>
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<tr>
<td>ENGL 1010</td>
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<td></td>
<td>Must earn a grade of C- or better</td>
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<td>ENGL 1020</td>
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<td>Must earn a grade of C- or better</td>
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<tr>
<td>COMM 2200</td>
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<tr>
<td><strong>HISTORY (6 hours)</strong> Choose two: HIST 2010, HIST 2020, HIST 2030</td>
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<td>HIST____</td>
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<td>HIST____</td>
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<tr>
<td><strong>HUMANITIES AND/OR FINE ARTS (9 hours)</strong> Choose one: ENGL 2020, 2030 or HUM 2610. Choose two with different prefixes: ANTH 2210, ART 1030, 1920, DANC 1000, HIST 1010, 1020, 1110, 1120, MUS 1030, PHIL 1030, THEA 1030</td>
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<tr>
<td><strong>MATHEMATICS (3 hours)</strong> Recommend MATH 1910 (4 credits)</td>
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<tr>
<td>MATH 1910</td>
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<td>See supporting coursework for prerequisites</td>
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<tr>
<td><strong>NATURAL SCIENCES</strong> Recommend CHEM 1110/1111 (4 cr.), and either PHYS 2010/2011 (4 cr.) or PHYS 2110/2111 (4 cr.)</td>
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<tr>
<td>CHEM 1110/1111</td>
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<td>High school chemistry</td>
<td>4</td>
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<td>PHYS____</td>
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<td>See below for prerequisites</td>
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**Total:** 41

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### Major Core (included in major GPA)

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester</th>
<th>Grade</th>
<th>Prerequisites/Notes</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physics Colloquium (Fall only)</strong></td>
<td>PHYS 1010</td>
<td></td>
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</table>
| **Introductory Physics I**  
PHYS 2010/2011 or PHYS 2110/2111  
(PHYS 2110/2111 is offered in the Fall only) | PHYS____ | PHYS____ | PHYS 2010/2011: MATH 1710 with minimum grade of C (2.0 GPA), MATH 1730, or MATH 1910  
PHYS 2110/2111: MATH 1910 with a minimum grade of C | 4 |
| **Introductory Physics II**  
PHYS 2020/2021 or PHYS 2120/2121  
(PHYS 2120/2121 is offered in the Spring only) | PHYS____ | PHYS____ | PHYS 2020/2021: PHYS 2011  
PHYS 2120/2121: PHYS 2111 and MATH 1920 with a minimum grade of C | 4 |
| **Modern Physics I**  
PHYS 3100 or PHYS 3070  
(Fall only) | PHYS____ | | PHYS 3100: PHYS 2021 or 2121  
PHYS 3070: PHYS 2021 or 2121 and MATH 1920 with a minimum grade of C | 3 |
| **Modern Physics II**  
PHYS 3110 or PHYS 3080  
(Spring only) | PHYS____ | | PHYS 3110 Prereq: PHYS 3100  
PHYS 3080 Prereq: PHYS 3070 or 3100 | 3 |
| **Modern Physics Lab** (Spring only) | PHYS 3111 | | PHYS 3100 (or PHYS 3070) | 1 |
| **Thermodynamics**  
PHYS 3610 or PHYS 3510 or Intermediate Physics PHYS 3400 | PHYS____ | | See online catalog for prerequisites; see department schedule for course offerings | 3 |
| **Physics Seminar** (Spring only) | PHYS 3800 | | PHYS 3110 or (PHYS 3070) | 1 |
| **Physics Practicum** | PHYS 3900 | | PHYS 3110 (or PHYS 3070) and consent of instructor | 1 |
| **Research** (PHYS or ASTR) | ____ 4850 | | Consent of instructor | 2 |
| **Senior Thesis** (PHYS or ASTR) | ____ 4900 | | PHYS 4850 or PHYS 4860 and consent of department chair | 2 |

**Total:** 25

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Revised 4.25.16

Major/concentration requirements are continued on the next page.
<table>
<thead>
<tr>
<th>Concentration (included in major GPA)</th>
<th>Course</th>
<th>Semester</th>
<th>Grade</th>
<th>Prerequisites/Notes</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>Theoretical Physics I</td>
<td>PHYS 3150 (Fall only)</td>
<td></td>
<td></td>
<td>PHYS 3150: PHYS 2021 or 2121 and MATH 1920 with a minimum grade of C MATH 3110: MATH 1920 MATH 3120: MATH 1920 with a minimum grade of C</td>
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<tr>
<td>or Calculus III</td>
<td>MATH 3110</td>
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<tr>
<td>or Differential Equations</td>
<td>MATH 3120</td>
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<tr>
<td>Computer Science I</td>
<td>CSCI 1170</td>
<td></td>
<td></td>
<td>MATH 1730 with a grade of C or better, Math ACT of 26 or better, or Calculus placement test score of 73 or better</td>
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<tr>
<td>Physics or Astronomy Upper Division</td>
<td></td>
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<td>See online catalog for prerequisites</td>
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<tr>
<td>(must total at least 5 hours)</td>
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<tr>
<td>Physics or Astronomy Upper Division</td>
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<td>See online catalog for prerequisites</td>
<td>3 or 4</td>
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<tr>
<td>Cognate Elective (must total at least 15 hours)</td>
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<td>See online catalog for prerequisites for all cognate electives</td>
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<td>Cognate Elective (list of cognate electives on next page)</td>
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<td>3 or 4</td>
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<td>52 hours in major GPA</td>
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<tr>
<th>Supporting (excluded from major GPA)</th>
<th>Course</th>
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<th>Grade</th>
<th>Prerequisites/Notes</th>
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<tbody>
<tr>
<td>Calculus I</td>
<td>MATH 1910</td>
<td></td>
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<td>MATH 1730 with a grade of C or better, Math ACT of 26 or better, or Calculus placement test score of 73 or better</td>
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<tr>
<td>Calculus II</td>
<td>MATH 1920</td>
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<td>MATH 1910 with a minimum grade of C</td>
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<tr>
<td>General Chemistry I</td>
<td>CHEM 1110/1111</td>
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<td>High school chemistry</td>
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<tr>
<td>General Chemistry II</td>
<td>CHEM 1120/1121</td>
<td></td>
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<td>CHEM 1110/1111 with a minimum grade of C-</td>
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Note: At least 18 credits of elective hours must be upper division (3000/4000 level).

<table>
<thead>
<tr>
<th>Minor (Minor is Optional)</th>
<th>Course</th>
<th>Semester</th>
<th>Grade</th>
<th>Notes</th>
<th>Credit Hours</th>
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<td>Total:</td>
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Signed:  
Minor Advisor (if applicable)  
Date

1. Degrees require a minimum of 120 semester hours (12 of the last 18 at MTSU) with a 2.0 GPA, a minimum of 42 upper-division hours (30 at MTSU) with a 2.0 GPA, and a minimum of 60 senior college hours.
2. Learning Support courses do not count toward the 120-hour requirement or cumulative degree GPA.
<table>
<thead>
<tr>
<th>Course</th>
<th>Name</th>
<th>Hours</th>
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<tbody>
<tr>
<td>PHYS 3000</td>
<td>Acoustics and Signal Analysis</td>
<td>3</td>
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<tr>
<td>PHYS 3150/3160</td>
<td>Topics and Methods of Theoretical Physics I / II</td>
<td>3</td>
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<tr>
<td>PHYS 3200</td>
<td>Scientific Modeling</td>
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<tr>
<td>PHYS 3300</td>
<td>Classical Mechanics</td>
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<tr>
<td>PHYS 3310/3350</td>
<td>Digital or Analog Electronics 3 or 4</td>
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<td>PHYS 3600</td>
<td>Radiation Oncology Physics</td>
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<td>PHYS 4310/4320</td>
<td>Electricity and Magnetism I / II</td>
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<tr>
<td>PHYS 4380/4390</td>
<td>Quantum Mechanics I / II</td>
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<td>ASTR 3400</td>
<td>Fundamentals of Astrophysics</td>
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<td>ASTR 3401</td>
<td>Experimental Astronomy</td>
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<td>INFS 2400</td>
<td>Web Development</td>
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<td>INFS 3100</td>
<td>Principles of Management Information Systems</td>
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<td>INFS 3200</td>
<td>Business Application Development</td>
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<td>INFS 3400</td>
<td>Object Oriented Programming with C#.NET</td>
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<td>INFS 4300</td>
<td>Security Assurance for Information Systems Audit</td>
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<tr>
<td>INFS 4790</td>
<td>Database Design and Development</td>
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<tr>
<td>CSCI 2170</td>
<td>Computer Science II</td>
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<td>CSCI 3037</td>
<td>Computer Languages: Visual Programming</td>
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<td>CSCI 3160</td>
<td>Introduction to Assembly Language</td>
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<td>CSCI 3180</td>
<td>Introduction to Numerical Analysis</td>
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<td>CSCI 3250</td>
<td>Operating Systems</td>
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<td>CSCI 4330</td>
<td>Parallel Processing Concepts</td>
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<tr>
<td>ET 1210</td>
<td>Introduction to Metals and Metallurgy</td>
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<tr>
<td>ET 2310</td>
<td>Computer-Assisted Drafting and Design I</td>
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<tr>
<td>ET 3210</td>
<td>Machine Tool Technology</td>
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<tr>
<td>ET 3360</td>
<td>Computer-Assisted Drafting and Design II</td>
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<td>ET 4440</td>
<td>Fire Safety</td>
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<tr>
<td>ET 4630</td>
<td>Local Area Networks</td>
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<td>Statistical Methods I</td>
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<td>QM 3620</td>
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<td>QM 4010</td>
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<td>International Business Communication</td>
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<td>STAT 3150</td>
<td>Mathematical Statistics I</td>
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<td>STAT 4190</td>
<td>Mathematical Statistics II</td>
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<td>ACSI/MATH 4140</td>
<td>Mathematical Foundations of Actuarial Science</td>
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<td>ACSI/MATH 4200</td>
<td>Introduction to Mathematics of Investment</td>
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<td>ACSI 4230</td>
<td>Mathematics of Compound Interest</td>
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<tr>
<td>ACTG 3000</td>
<td>Survey of Accounting for General Business</td>
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<tr>
<td>FIN 3000 or 3010</td>
<td>Principles of Financial Management or Business Finance</td>
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<tr>
<td>BLAW 3400 or 3430</td>
<td>Legal Environment of Business or Commercial Law</td>
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<td>MGMT 3610</td>
<td>Principles of Management</td>
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<td>MKTG 3820</td>
<td>Principles of Marketing</td>
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<td>MATH 2010</td>
<td>Elements of Linear Algebra</td>
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<td>MATH 2050</td>
<td>Probability and Statistics</td>
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<td>Differential Equations II</td>
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<td>Foundations of Higher Mathematics</td>
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Revised 4.25.16