# PHYSICS, BACHELOR OF SCIENCE AND MATERIALS SCIENCE, MASTER OF SCIENCE - FIVE-YEAR DUAL DEGREE

## Summary of Graduation Requirements

<table>
<thead>
<tr>
<th>Subject Area</th>
<th>Credits</th>
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<tbody>
<tr>
<td>General Education Core</td>
<td>40</td>
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<tr>
<td>Major Requirements</td>
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<tr>
<td>Electives</td>
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<td>Other Requirements</td>
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<tr>
<td><strong>Total Credit Hours</strong></td>
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## Curriculum

<table>
<thead>
<tr>
<th>Course</th>
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<th>Credits</th>
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<tbody>
<tr>
<td><strong>First Year</strong></td>
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</tr>
<tr>
<td>CSC 169</td>
<td>Introduction to Computer Science</td>
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</tr>
<tr>
<td>ENG 101</td>
<td>College English I</td>
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</tr>
<tr>
<td>ENG 102</td>
<td>College English II</td>
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</tr>
<tr>
<td>HED 100</td>
<td>Personal and Community Health</td>
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</tr>
<tr>
<td>MTH 184</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MTH 251</td>
<td>Calculus II</td>
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<tr>
<td>PED 100</td>
<td>Fundamentals of Fitness for Life</td>
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<tr>
<td>PHY 160</td>
<td>University Physics I</td>
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<tr>
<td>PHY 160L</td>
<td>University Physics Laboratory I</td>
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<tr>
<td>PHY 161</td>
<td>University Physics II</td>
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<tr>
<td>PHY 161L</td>
<td>University Physics Laboratory II</td>
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<tr>
<td>SEM 101</td>
<td>Spartan Seminar 101</td>
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</tr>
<tr>
<td>&amp; SEM 102</td>
<td>and Spartan Seminar 102</td>
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<td>SEM 201</td>
<td>Spartan Seminar 201</td>
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<td>CHM 221L</td>
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<tr>
<td>CHM 222</td>
<td>General Chemistry II</td>
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<td>CHM 222L</td>
<td>General Chemistry II Laboratory</td>
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<tr>
<td>EEN 301</td>
<td>Electronic Devices,Engineering Electronics I</td>
<td>3</td>
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<tr>
<td>ENG 203</td>
<td>Advanced Communication Skills</td>
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<tr>
<td>XXX XXX</td>
<td>Cultural Perspectives (Humanities)</td>
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<tr>
<td>ENG 383</td>
<td>or MUS 234</td>
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<tr>
<td>MTH 252</td>
<td>Calculus III</td>
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<tr>
<td>MTH 372</td>
<td>Differential Equations</td>
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<tr>
<td>PHY 241</td>
<td>Physics Seminar</td>
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<tr>
<td>PHY 260</td>
<td>University Physics III</td>
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<td>PHY 350</td>
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<tr>
<td><strong>Summer</strong></td>
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<tr>
<td>PHY 397</td>
<td>Introduction to Research (to fulfill Elective Requirement)</td>
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<td><strong>Credits</strong></td>
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<td><strong>Third Year</strong></td>
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<tr>
<td>PHY 356</td>
<td>Heat and Thermodynamics</td>
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<tr>
<td>PHY 365</td>
<td>Physical Mechanics</td>
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<tr>
<td>PHY 366</td>
<td>Physical Mechanics</td>
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<td>PHY 375</td>
<td>Electricity and Magnetism I</td>
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<tr>
<td>PHY 380</td>
<td>Quantum Mechanics I</td>
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<tr>
<td>PHY 399</td>
<td>Advanced Laboratory</td>
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<tr>
<td>ENG 285</td>
<td>Public Speaking</td>
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<td>XXX XXX</td>
<td>Social Science Elective from the Core</td>
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<td><strong>Select one Cultural Perspectives (Social Sciences) of the following:</strong></td>
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<tr>
<td>HIS 335</td>
<td>African-American History</td>
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<tr>
<td>HIS 336</td>
<td>African-American History Since 1865</td>
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<td>HIS 371</td>
<td>Modern African History &amp; Cultures 1600-PRESENT</td>
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<td>HIS 320</td>
<td>Independent Latin America</td>
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<td>XXX XXX</td>
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<td><strong>Select two of the following Restricted Math Electives:</strong></td>
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<td>MTH 300</td>
<td>Linear Algebra</td>
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<tr>
<td>MTH 373</td>
<td>Advanced Vector Calculus</td>
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<tr>
<td>MTH 474</td>
<td>Complex Variables</td>
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<tr>
<td>PHY 345</td>
<td>Mathematical Methods Physical Sciences I</td>
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<tr>
<td>PHY 445</td>
<td>Mathematical Methods for Physical Sciences II</td>
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<td><strong>Fourth Year</strong></td>
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<tr>
<td>CHM 545</td>
<td>Mathematical Method</td>
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<tr>
<td>MSE 530</td>
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<tr>
<td>MSE 533</td>
<td>Polymers/Composites</td>
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<tr>
<td>PHY 468</td>
<td>Optics</td>
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<td>PHY 475</td>
<td>Electricity and Magnetism II</td>
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<td>PHY 480</td>
<td>Quantum Mechanics II</td>
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<tr>
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<tr>
<td>PHY 499</td>
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<td>MATS 697</td>
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<td>CHM 573</td>
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<tr>
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<tr>
<td>CHM 633</td>
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<td>Course</td>
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<td>MATS 710</td>
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<tr>
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<td>Electricity and Magnetism</td>
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<tr>
<td><strong>Credits</strong></td>
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<td><strong>27</strong></td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
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