B.S. in Engineering Technology, Medical Informatics Technology

Medical Informatics is an interdisciplinary program which combines courses from Information Systems, Biology and Management. The program also provides a background in mathematics and science which is sufficient to allow students to go onto graduate school. It is the study of how health data is collected, stored and communicated, how data is used for administration and clinical decision making and how computers and telecommunications can be applied to support those processes.

The areas of study in Medical Informatics are: Medical Records, Tele-monitoring, Expert Systems, Security, CT-MRI & PET scan data analysis and storage and Medical Sensors. The full four-year curriculum for the program is shown below. Students who wish to enter the program as a transfer student are typically students with an A.S. degree Computer Science or Medical Informatics, and should have completed most or all of the courses, or their equivalents, in the first two years of the program as shown below. In the case of all students, both four-year and transfer, a minimum of 120 credits is required for graduation.

(120 credits minimum)

<table>
<thead>
<tr>
<th>Course First Year</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Semester</td>
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<td></td>
</tr>
<tr>
<td>R120 101</td>
<td>General Biology</td>
<td>4</td>
</tr>
<tr>
<td>MATH 138 or MATH 135</td>
<td>General Calculus I or Calculus for Business</td>
<td>3</td>
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<tr>
<td>CS 106 or CS 100</td>
<td>Roadmap to Computing for Engineers or Roadmap to Computing</td>
<td>3</td>
</tr>
<tr>
<td>IT 120</td>
<td>Introduction to Network Technology</td>
<td>3</td>
</tr>
<tr>
<td>HUM 101</td>
<td>English Composition: Writing, Speaking, Thinking I</td>
<td>3</td>
</tr>
<tr>
<td>ET 101</td>
<td>Introduction to Engineering Technology</td>
<td>0</td>
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<tr>
<td>FRSH SEM</td>
<td>Freshman Seminar</td>
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<td>Term Credits</td>
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</tr>
<tr>
<td>2nd Semester</td>
<td></td>
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</tr>
<tr>
<td>BME 111</td>
<td>Introduction to Physiology</td>
<td>3</td>
</tr>
<tr>
<td>CS 113 or CS 115</td>
<td>Introduction to Computer Science or Introduction to Computer Science in C++</td>
<td>3</td>
</tr>
<tr>
<td>HUM 102</td>
<td>English Composition: Writing, Speaking, Thinking II</td>
<td>3</td>
</tr>
<tr>
<td>EPS 202</td>
<td>Society, Technology, and the Environment</td>
<td>3</td>
</tr>
<tr>
<td>Technical Elective</td>
<td>1</td>
<td>3</td>
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<td>Term Credits</td>
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<tr>
<td>Second Year</td>
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<tr>
<td>1st Semester</td>
<td></td>
<td></td>
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<tr>
<td>CS 114 or CS 116</td>
<td>Introduction to Computer Science II or Introduction to Computer Science II in C++</td>
<td>3</td>
</tr>
<tr>
<td>IT 201</td>
<td>Information Design Techniques</td>
<td>3</td>
</tr>
<tr>
<td>IT 220</td>
<td>Wireless Networks</td>
<td>3</td>
</tr>
<tr>
<td>ENG 200</td>
<td>Communicating in Organizations</td>
<td>3</td>
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<td></td>
<td>Term Credits</td>
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<tr>
<td>2nd Semester</td>
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<td></td>
</tr>
<tr>
<td>IT 202</td>
<td>Internet Applications</td>
<td>3</td>
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<tr>
<td>Technical Elective</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>MATH 305 or MNET 315</td>
<td>Statistics for Technology or Industrial Statistics</td>
<td>3</td>
</tr>
<tr>
<td>R920 201 or R830 101</td>
<td>Intro Sociology I or Principles Of Psychology I</td>
<td>3</td>
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<tr>
<td>Select one of the following:</td>
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<tr>
<td>HUM 211</td>
<td>The Pre-Modern World</td>
<td></td>
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</table>
B.S. in Engineering Technology, Medical Informatics Technology

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>HUM 212</td>
<td>The Modern World</td>
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</tr>
<tr>
<td>HIST 213</td>
<td>The Twentieth-Century World</td>
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</table>

| Term Credits | 15 |

**Third Year**

**1st Semester**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CPT 325</td>
<td>Medical Informatics Technology</td>
<td>3</td>
</tr>
<tr>
<td>CPT 310</td>
<td>Computer Design Fundamentals for Computer Technology</td>
<td>3</td>
</tr>
<tr>
<td>CPT 330</td>
<td>Software Web Applications for Engineering Technology</td>
<td>3</td>
</tr>
<tr>
<td>ENG 352</td>
<td>Technical Writing</td>
<td>3</td>
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</table>

History and Humanities GER 300+ level (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-300-level) | 3 |

| Term Credits | 15 |

**2nd Semester**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPT 425</td>
<td>Medical Informatics Technology II</td>
<td>3</td>
</tr>
<tr>
<td>CPT 341</td>
<td>Visual Basic.NET for Engineering Technology</td>
<td>3</td>
</tr>
<tr>
<td>CPT 335</td>
<td>Networks Applications for Computer Technology</td>
<td>3</td>
</tr>
<tr>
<td>MIT 326</td>
<td>Electronic Medical Record Design</td>
<td>3</td>
</tr>
<tr>
<td>IT 230</td>
<td>Computer and Network Security</td>
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</tr>
</tbody>
</table>

| Term Credits | 15 |

**Fourth Year**

**1st Semester**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CPT 401</td>
<td>Senior Project</td>
<td>2</td>
</tr>
<tr>
<td>CS 331</td>
<td>Database System Design &amp; Mgmt</td>
<td>3</td>
</tr>
<tr>
<td>MIT 360</td>
<td>Introduction to Gerontology</td>
<td>3</td>
</tr>
<tr>
<td>IT 330</td>
<td>Computer Forensic</td>
<td>3</td>
</tr>
<tr>
<td>or IT 430</td>
<td>or Ethical Hacking for System Administrators</td>
<td>3</td>
</tr>
</tbody>
</table>

Technical Elective 3 | 3

| Term Credits | 14 |

**2nd Semester**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MIT 362</td>
<td>Geriatric Engineering I</td>
<td>3</td>
</tr>
<tr>
<td>Technical Elective 4</td>
<td>6</td>
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</tr>
<tr>
<td>CPT 373</td>
<td>Web App Development for Mobile</td>
<td>3</td>
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Humanities and Social Science Senior Seminar GER (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/hss-capstone) | 3 |

Technical Elective 5 | 3

| Term Credits | 18 |

| Total Credits | 120 |

**GER Electives**

Refer to the General Education Requirement section of this catalog for further information on GER electives.

**Technical Electives**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT 220</td>
<td>Wireless Networks</td>
<td>3</td>
</tr>
<tr>
<td>IT 330</td>
<td>Computer Forensic</td>
<td>3</td>
</tr>
<tr>
<td>IT 331</td>
<td>Privacy and Information Technology</td>
<td>3</td>
</tr>
<tr>
<td>IT 332</td>
<td>Digital Crime</td>
<td>3</td>
</tr>
<tr>
<td>IT 430</td>
<td>Ethical Hacking for System Administrators</td>
<td>3</td>
</tr>
<tr>
<td>CS 434</td>
<td>Advanced Database Systems</td>
<td>3</td>
</tr>
<tr>
<td>CS 608</td>
<td>Cryptography and Security</td>
<td>3</td>
</tr>
<tr>
<td>CS 639</td>
<td>Elec. Medical Records: Med Terminologies and Comp. Imp.</td>
<td>3</td>
</tr>
<tr>
<td>MIT 440</td>
<td>Clinical Internship</td>
<td>3</td>
</tr>
</tbody>
</table>
R120 102  General Biology  4
R120 142  Anatomy & Physiology  4

This curriculum represents the maximum number of credits per semester for which a student is advised to register. A full-time credit load is 12 credits. First-year students are placed in a curriculum that positions them for success which may result in additional time needed to complete curriculum requirements. Continuing students should consult with their academic advisor to determine the appropriate credit load.