APPLIED INFORMATION TECHNOLOGY M.S.

Degree: Master of Science
https://www.towson.edu/fcsm/departments/emergingtech/academics/applied/

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Applied Information Technology is the study, design, development, implementation and support of computer-based information systems to address real-world problems. This program provides graduate-level education in IT for students preparing to enter the high-tech work force and those already in the work force who need to update and enhance their skills. We offer courses in areas such as systems development, IT project management, Internet application development, and IT and business analysis. Post-baccalaureate certificates in Internet application development, information security and assurance, information systems management, networking technologies, software engineering and database management systems are integrated with the M.S. degree program.

Admission Requirements

- A baccalaureate degree from a regionally accredited college or university**
- A minimum undergraduate GPA of 3.00 for full admission and 2.75 for conditional admission
- Minimum TOEFL score of 550 (where applicable)

These programs are intended for students who have a bachelor’s degree in information technology, computer science, computer information systems or a related field who will enter the program for advanced studies; students who have a bachelor’s degree in a field not listed above who are already employed in the IT field and are seeking additional academic studies for professional growth or career advancement; and students who have a bachelor’s degree in disciplines other than IT who are seeking preparation for careers in this field.

Non-immigrant International Students

Program Enrollment: F-1 and J-1 students are required to be enrolled full-time. The majority of their classes must be in-person and on campus. See the list of programs that satisfy these requirements (https://www.towson.edu/academics/graduate/admissions/international/programs-complying-j1-f1-regulations.html), and contact the International Student and Scholars Office (https://www.towson.edu/academics/international/isso) with questions.

Admission Procedures: See additional information regarding Graduate Admission policies (https://www.towson.edu/academics/graduate/admissions/policies.html) and International Graduate Application (https://www.towson.edu/academics/graduate/admissions/international) online.

**See Exceptions to Policy in Graduate Admissions (https://www.towson.edu/academics/graduate/admissions/policies.html).

Degree Requirements

- Completion of any assigned preparatory courses. (Credit from preparatory courses do not count toward the M.S. degree.)
- Completion of 33 graduate units as follows:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>AIT 600</td>
<td>INFORMATION TECHNOLOGY INFRASTRUCTURE</td>
<td>15</td>
</tr>
<tr>
<td>AIT 610</td>
<td>SYSTEMS DEVELOPMENT PROCESS</td>
<td></td>
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<tr>
<td>AIT 650</td>
<td>COMPUTER &amp; NETWORK FORENSICS AND INCIDENT RESPONSE</td>
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<tr>
<td>AIT 660</td>
<td>MOBILE DEVICE FORENSICS</td>
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<tr>
<td>AIT 745</td>
<td>CASE STUDIES IN COMPUTER FORENSICS</td>
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Computer Forensics

Database Management Systems

AIT 600 | INFORMATION TECHNOLOGY INFRASTRUCTURE |
AIT 610 | SYSTEMS DEVELOPMENT PROCESS |
AIT 632 | DATABASE MANAGEMENT SYSTEMS |
AIT 732 | ADVANCED DATABASE MANAGEMENT SYSTEMS |
AIT 735 | CASE STUDIES IN DATABASE MANAGEMENT SYSTEMS |

Health Information Technology

HCMN 535 | HEALTH INFORMATION AND QUALITY MANAGEMENT |
or HLTH 633 | HEALTH CARE SYSTEMS |

Information Security and Assurance

AIT 600 | INFORMATION TECHNOLOGY INFRASTRUCTURE |
AIT 610 | SYSTEMS DEVELOPMENT PROCESS |
AIT 612 | INFORMATION SYSTEMS VULNERABILITY AND RISK ANALYSIS |
AIT 614 | NETWORK SECURITY |
AIT 710 | CASE STUDIES IN INFORMATION SECURITY |

Information Systems Management

AIT 730 | CASE STUDIES IN INFORMATION SYSTEMS |

Internet Application Development

AIT 600 | INFORMATION TECHNOLOGY INFRASTRUCTURE |
AIT 616  FUNDAMENTALS OF WEB TECHNOLOGIES AND DEVELOPMENT  
AIT 610  SYSTEMS DEVELOPMENT PROCESS  
AIT 618  CLIENT/SERVER-SIDE PROGRAMMING ON THE WEB  
AIT 715  CASE STUDIES IN INTERNET APPLICATIONS  

Networking Technologies  
AIT 600  INFORMATION TECHNOLOGY INFRASTRUCTURE  
AIT 610  SYSTEMS DEVELOPMENT PROCESS  
AIT 620  BUSINESS DATA COMMUNICATIONS  
AIT 622  NETWORKS ARCHITECTURE AND PROTOCOLS  
AIT 720  CASE STUDIES IN NETWORKING TECHNOLOGY  

Software Engineering  
AIT 600  INFORMATION TECHNOLOGY INFRASTRUCTURE  
AIT 624  SOFTWARE ENGINEERING FUNDAMENTALS  
AIT 725  CASE STUDIES IN SOFTWARE ENGINEERING  
Select at least two of the following courses:  
AIT 641  SOFTWARE REQUIREMENTS ENGINEERING  
AIT 642  SOFTWARE TESTING AND MAINTENANCE  
AIT 643  ENTERPRISE ARCHITECTURE  

Electives  
Students must complete six graduate-level elective courses. A 18 maximum of two elective courses may be in any of the following disciplines: accounting, computer science, human resource development, management, mathematics and technical writing. Those who want to take elective courses from a discipline other than AIT must get the AIT program director's approval before enrolling in the course. At least four of the elective courses must be graduate-level AIT courses from the following list:  
AIT 612  INFORMATION SYSTEMS VULNERABILITY AND RISK ANALYSIS  
AIT 613  INTRODUCTION TO SOFTWARE SECURITY  
AIT 614  NETWORK SECURITY  
AIT 616  FUNDAMENTALS OF WEB TECHNOLOGIES AND DEVELOPMENT  
AIT 618  CLIENT/SERVER-SIDE PROGRAMMING ON THE WEB  
AIT 620  BUSINESS DATA COMMUNICATIONS  
AIT 622  NETWORKS ARCHITECTURE AND PROTOCOLS  
AIT 624  SOFTWARE ENGINEERING FUNDAMENTALS  
AIT 628  INFORMATION TECHNOLOGY AND BUSINESS STRATEGY  
AIT 630  INFORMATION TECHNOLOGY PROJECT MANAGEMENT  
AIT 632  DATABASE MANAGEMENT SYSTEMS  
AIT 641  SOFTWARE REQUIREMENTS ENGINEERING  
AIT 642  SOFTWARE TESTING AND MAINTENANCE  
AIT 643  ENTERPRISE ARCHITECTURE  
AIT 645  HEALTHCARE DATA ANALYTICS  
AIT 650  COMPUTER & NETWORK FORENSICS AND INCIDENT RESPONSE  
AIT 652  ETHICS, LAW AND POLICY IN CYBERSPACE  
AIT 655  MANAGING INFORMATION SECURITY  
AIT 660  MOBILE DEVICE FORENSICS  

AIT 670  SPECIAL TOPICS IN APPLIED INFORMATION TECHNOLOGY  
AIT 695  INDEPENDENT STUDY IN APPLIED INFORMATION TECHNOLOGY  
AIT 697  GRADUATE INTERNSHIP  
AIT 732  ADVANCED DATABASE MANAGEMENT SYSTEMS  

Total Units 33  
1. Understand the information technology infrastructure and its place/value in today's business.  
2. Work effectively in teams and communicate effectively, both orally and in writing.  
3. Use their proficiency in at least one of the following IT-related concentrations to solve a variety of problems:  
   • Database Management Systems  
   • Information Security and Assurance  
   • Information Systems Management  
   • Internet Application Development  
   • Networking Technologies  
   • Software Engineering  
4. Prepare, present and develop proposals and solutions for today's governmental and industrial needs.