MSIT Degree-specific Core Courses

This list provides MSIT degree specific core courses that have been approved by the department.

_The INI cannot guarantee that courses will be offered each semester or in a specific semester as advertised below. Students must refer to the 'Schedule of Classes' to determine course availability. In addition, the INI cannot guarantee that a student will be offered a seat in a specific course. These apply to courses at the INI as well as other departments at Carnegie Mellon._

Note: Students should always register under the INI course number (14-XXX) if a course is cross-listed with other departments. The numbers for cross-listed courses are provided to the right of the course titles below.

**Information Security Courses**

_Last updated: August 30, 2017_

**Spring**

- 05-836 Usable Security and Privacy (12 units)
- 14-735 Secure Coding (12 units)
- 14-761 Applied Information Assurance (12 units)
- 14-782 Information Security Risk Management I (6 units)
- 14-784 Information Security Risk Management II (6 units)
- 14-788 Information Security Policy and Management (6 units)
- 14-814 Wireless Network Security (SV, 12 units) (cross-listed 18-637)
- 14-819 Introduction to Software Reverse Engineering (12 units)
- 14-822 Host-Based Forensics (12 units)
- 14-828 Browser Security (12 units)- as of 1/25/17
- 14-850 InSURE Cybersecurity Research(12 units) (added 9/14/16)
- 15-811 Verifying Complex Systems (added 8/7/17)
- 18-632 Introduction to Hardware Security (added 8/7/17)
- 18-731 Network Security (12 units)
- 18-732 Secure Software Systems (12 units)
- 18-733 Applied Cryptography (12 units)

**Fall**

- 14-761 Applied Information Assurance (12 units)
- 14-809 Introduction to Cyber Intelligence (12 units) (added 4/28/15)
- 14-823 Network Forensics (12 units)
- 14-829 Mobile Security (SV, 12 units) (cross-listed 18-638)
- 14-850 INSuRE Cybersecurity Research (12 units) (added 9/14/16)
- 18-734 Foundations of Privacy (12 units) (cross-listed 08-604)
- 19-608 Privacy, Policy, Law and Technology (12 units) (cross-listed 08-733, 08-533 & 95-818)
- 94-806 Privacy in the Digital Age (6 units)
Mobility Courses

Last updated: August 30, 2017

Spring

05-833 Gadgets, Sensors & Activity Recognition in HCI (12 units)
05-872 Rapid Prototyping of Computer Systems (12 units, cross-listed 05-540, 18-745, 18-540, 39-648)
05-760 Mobile Systems Innovation (12 units) (updated 1/23/2017)
08-671 Java for Application Programmer (6 units)
08-723 Mobile Application Development for iOS and Android (6 units) (not offered every year)
08-735 Building User-focused Sensing Systems (added 8/7/17)
08-766 Mobile & IoT Computing Services (6 units)(cross-listed 08-781, 45-887)
08-769 Mobile & IoT Computing Services Project (3 units)*
08-781 Mobile & IoT Computing Services (9 units)(cross-listed 08-766, 45-887)
14-642 Fundamentals of Embedded Systems (12 units)(cross-listed 18-349) (added 9/14/16)
14-841 Mobile & Pervasive Computing (12 units) (cross-listed 18-843, 15-821)
15-619 Cloud Computing (12 units)
15-637 Web Application Development (12 units) (Please note: this course will be listed under 17-637: Web Application Development starting Spring 2018 semester)
15-640 Distributed Systems
15-719 Advanced Cloud Computing (added 8/7/2017)
17-619 Introduction to Real-Time Software and Systems (12 units)
18-549 Embedded Systems Design (12 units)
18-647 Connected Embedded Systems Architecture (added 8/7/17)
18-747 Wireless Device Architecture (added 8/30/17)
18-748 Wireless Sensor Networks (12 units)
18-759 Wireless Networks (12 units)(cross-listed 04-644)
18-842 Distributed Systems (12 units)
18-845 Internet Services (12 units)
49-788 Mobile Apps for the Internet of Things (12 units)- as of 1/25/17

Summer

08-723 Mobile Application Development for iOS and Android (6 units)
14-837 Java Smart Phone Development (12 units, cross-listed 18-641) (course number updated 4/28/15)

Fall

05-863 Introduction to Human-Computer Interaction for Technology Executives (6 units) (added 1/22/15) (cross-listed 08-763, 45-888)
08-671 Java for Application Programmer (6 units) (added 9/14/16)
14-642 Fundamentals of Embedded Systems (12 units)(cross-listed 18-349) (added 9/14/16)
14-829 Mobile Security (SV, 12 units)(cross-listed 18-638)
14-837 Java Smart Phone Development (12 units, cross-listed 18-641) (course number updated 4/28/15)
14-840 Mobile Hardware for Software Engineers (SV, 12 units) (cross-listed 18-644)
14-848 Special Topics: Cloud Computing Infrastructure and Applications (12 units)
15-619 Cloud Computing (12 units)
14-841 Mobile & Pervasive Computing (12 units) (cross-listed 18-843, 15-821)
15-637 Web Application Development (12 units) *(Please note: this course will be listed under 17-637: Web Application Development starting Spring 2018 semester)*
15-640 Distributed Systems
16-623 Designing Computer Vision Apps (12 units) (added 9/14/16)
18-697 Statistical Learning and Discovery (12 units) (added 9/14/16)
18-749 Building Reliable Systems (12 units) (added 9/14/16)

*These two 3-unit courses are taken in conjunction with 08-781: Mobile & Pervasive Computing Services (9 units)

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Software Management Courses

Last updated: August 7, 2017

Spring

05-872 Rapid Prototyping of Computer Systems (12 units, cross-listed 05-540, 18-745, 18-540, 39-648) (added 7/9/14)
05-760 Mobile Systems Innovation (12 units) (updated 1/23/2017)
08-769 Mobile & IoT Computing Services Project (3 units)*
08-781 Mobile & IoT Computing Services (9 units) (cross-listed 08-766, 45-887)
15-619 Cloud Computing (12 units)* (added 7/9/14)
15-637 Web Application Development (12 units) *(Please note: this course will be listed under 17-637: Web Application Development starting Spring 2018 semester)*
17-638 Systems Architecture for Managers (6 units)* (cross-listed 45-989)
17-639 Management of Software Development for Technology Executives (6 units)* (cross-listed 45-988)
17-655 Architectures for Software Systems (12 units)* (cross-listed 17-755)
18-652 Foundations of Software Engineering (SV, 12 units)
18-654 Software Verification, Validation & Testing (added 7/9/14) (course number change 4/27/15)
18-655 Service Oriented Computing (12 units) (added 7/9/14) (course number change 4/29/15)
49-763 The Business of Software (added 8/7/17)
49-771 Process & Project Management (12 unit mini) (course number change 4/27/15)
49-804 The Leadership Challenge (6 units) (added 2/10/16)
90-722 Management Science I: Optimization & Multicriteria Methods (6 units)
94-808 Management Consulting (12 units) (added 7/9/14)
95-774 Business Process Modeling (6 units)

Summer

17-653 Managing Software Development (12 units)* (added 7/9/14)
18-654 Software Verification, Validation & Testing (added 7/9/14) (course number change 4/27/15)
49-766 Agile Marketing for High Tech Innovation (12 units) (course number change 11/09/15)
49-767: Organizational Behavior for High Tech Knowledge Industry (added 9/14/16) (12 units)
49-772 Managing Software Professionals (12 unit mini) (course number change 4/27/15)
49-783 Intro to Cloud Computing (12 units)* (added 7/9/14) (course number change 4/29/15)

**Fall**

05-863 Intro to Human-Computer Interaction for Tech Executives (added 7/9/14)(cross-listed 08-763, 45-888)
15-619 Cloud Computing (12 units)* (added 7/9/14)
15-637 Web Application Development (12 units) (added 4/28/15)
17-652 Methods: Deciding What to Design (12 units)(cross-listed 17-752)
17-653 Managing Software Development (12 units)* (added 7/9/14)
18-652 Foundations of Software Engineering (SV, 12 units)
18-654 Software Verification, Validation & Testing (added 7/9/14) (course number change 4/27/15)
18-655 Service Oriented Computing (12 units) (added 7/9/14) (course number change 4/29/15)
18-658 Software Requirements and Interaction Design (added 8/7/17)
49-752 Product Definition & Validation (12 units) (added 4/30/15)
49-760 Foundations of Software Management (12 units) (added 4/30/15)
49-771 Elements of Software Management (12 unit mini) (course number change 4/27/15)
49-770 Metrics for Software Managers (12 unit mini) (course number change 4/27/15)
49-772 Managing Software Professionals (SV, 12 units) (added 4/28/15)
91-800 Organizational Management (6 units)
94-808 Management Consulting (12 units) (added 7/9/14)
95-774 Business Process Modeling (6 units)

**VERSION TABLE**

*Notates dates courses were added or removed from the list.

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| | • MSIT-MOB: 08-600 |
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