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. Likewise, the location listed is not guaranteed as campus course offerings constantly change. 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.

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.

Please note: Course numbers and titles may change. If you notice such a change, please let the INI AAO know prior to enrolling in a course.

Information Security Courses

Spring

05-836 Usable Security and Privacy (PIT, 12 units)
14-735 Secure Coding (PIT & Broadcast to SV, 12 units)
14-761 Applied Information Assurance (PIT, 12 units)
14-782 Information Security Risk Management I (PIT, 6 units)
14-784 Information Security Risk Management II (PIT, 6 units)
14-788 Information Security Policy and Management (PIT, 6 units)
14-814 Wireless Network Security (SV & Broadcast to PIT, 12 units) (cross-listed 18-637)
14-819 Introduction to Software Reverse Engineering (PIT & Broadcast to SV, 12 units)
14-822 Host-Based Forensics (PIT & Broadcast to SV, 12 units)
14-828 Browser Security (PIT & Broadcast to SV, 12 units)
14-850 INSuRE Cybersecurity Research (SV & Broadcast to PIT, 12 units)
15-811 Verifying Complex Systems (PIT, 12 units)
18-632 Introduction to Hardware Security (PIT & Broadcast to SV, 12 units)
18-731 Network Security (PIT & Broadcast to SV, 12 units)
18-732 Secure Software Systems (PIT & Broadcast to SV, 12 units)
18-733 Applied Cryptography (PIT & Broadcast to SV, 12 units)
19-733 Cryptocurrencies, Blockchains and Applications (PIT, 12 units) (cross-listed 17-703)
94-806 Privacy in the Digital Age (PIT, 6 units)
95-883 Ethical Penetration Testing (PIT, 6 units)
Summer

95-883 Ethical Penetration Testing (PIT, 6 units)

Fall

14-761 Applied Information Assurance (PIT, 12 units)
14-809 Introduction to Cyber Intelligence (PIT, 12 units)
14-823 Network Forensics (PIT, 12 units)
14-829 Mobile and IoT Security (SV & Broadcast to PIT, 12 units) (cross-listed 18-638)
14-850 INSuRE Cybersecurity Research (SV & Broadcast to PIT, 12 units)
18-734 Foundations of Privacy (PIT & Broadcast to SV, 12 units) (cross-listed 17-731)
18-737 Special Topics in Computer Systems (SV, 12 units) (Fall 2019 only)
19-608 Privacy, Policy, Law and Technology (PIT, 12 units) (cross-listed 17-733 & 95-818)
94-806 Privacy in the Digital Age (PIT, 6 units)
95-883 Ethical Penetration Testing (PIT, 6 units)

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Mobility Courses

Spring

05-670 Digital Service Innovation (PIT, 12 units)
05-833 Gadgets, Sensors & Activity Recognition in HCI (PIT, 12 units)
05-872 Rapid Prototyping of Computer Systems (PIT, 12 units, cross-listed 05-540, 18-745, 18-540, 39-648)
08-735 Building User-focused Sensing Systems (PIT, 12 units)
14-642 Fundamentals of Embedded Systems (PIT, 12 units)
14-736 Distributed Systems: Techniques, Infrastructure and Services (PIT & Broadcast to SV, 12 units)
14-760 Advanced Real-World Data Networks (PIT & Broadcast to SV, 12 units)
14-841 Mobile & Pervasive Computing (SV, 12 units) (cross-listed 18-843)
15-619 Cloud Computing (PIT & Broadcast to SV, 12 units)
17-637 Web Application Development (PIT, 12 units)
15-640 Distributed Systems (PIT, 12 units)
15-719 Advanced Cloud Computing (PIT, 12 units) (cross-listed 18-709)
17-681 Java for Application Programmer (PIT, 6 units)
17-781 Mobile and IoT Computing Services (PIT, 12 units)
18-651 Networked Cyber-Physical Systems (PIT, 12 units)
18-744 Connected Embedded Systems Architecture (SV, 12 units)
18-748 Wireless Sensor Networks (PIT, 12 units)
18-759 Wireless Networks (PIT, 12 units)
18-845 Internet Services (PIT, 12 units)
49-780 Human Computer Interaction and User Experience (SV, 12 units)
49-788 Mobile Apps for the Internet of Things (SV, 12 units)

**Summer**

08-723 Mobile Application Development for iOS and Android (PIT, 6 units)
49-788 Mobile Apps for the Internet of Things (SV, 12 units)

**Fall**

05-670 Digital Service Innovation (PIT, 12 units)
05-863 Introduction to Human-Computer Interaction for Technology Executives (PIT, 6 units) (cross-listed 45-888)
05-833 Gadgets, Sensors & Activity Recognition in HCI (PIT, 12 units)
08-736 Pervasive and Ubiquitous Computing (PIT, 12 units)
14-642 Fundamentals of Embedded Systems (PIT, 12 units)
14-829 Mobile and IoT Security (SV & Broadcast to PIT, 12 units)(cross-listed 18-638)
14-840 Mobile Hardware for Software Engineers (SV, 12 units) (cross-listed 18-644)
14-848 Cloud Infrastructure: Design, Analysis and Implementation (PIT & Broadcast to SV, 12 units)
15-619 Cloud Computing (PIT & Broadcast to SV, 12 units)
14-841 Mobile & Pervasive Computing (SV, 12 units) (cross-listed 18-843)
15-624 Logical Foundations of Cyber-Physical Systems (PIT, 12 units)
15-640 Distributed Systems (PIT, 12 units)
16-722 Sensing and Sensors (PIT, 12 units)
17-637 Web Application Development (PIT, 12 units)
17-681 Java for Application Programmer (PIT, 6 units)
17-728 Machine Learning and Sensing (PIT, 12 units)
18-661 Introduction to Machine Learning for Engineers (SV & PIT, 12 units)
18-740 Modern Computer Architecture and Design (SV & PIT, 12 units)
18-747 Wireless Device Architecture (SV, 12 units)
18-749 Building Reliable Systems (PIT, 12 units)
18-847 Special Topics in Computer Systems (PIT & SV, 12 units) (Fall 2019 only)
49-780 Human Computer Interaction and User Experience (SV, 12 units)

**PIT: CMU Campus in Pittsburgh, PA**
**SV: CMU Campus in Silicon Valley, CA**

When enrolled in courses that are broadcasted students at both locations attend the classes synchronously.
# Version History

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

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