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 23, 2018

Spring

05-836 Usable Security and Privacy (12 units)
14-735 Secure Coding (12 units) (PGH to CMU-SV)
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) (CMU-SV to PGH)
14-819 Introduction to Software Reverse Engineering (12 units) (PGH to CMU-SV)
14-822 Host-Based Forensics (12 units) (PGH to CMU-SV)
14-828 Browser Security (12 units) - as of 1/25/17 (PGH to CMU-SV)
14-850 InSURE Cybersecurity Research (12 units) (added 9/14/16) (CMU-SV to PGH)
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)
95-883 Ethical Penetration Testing (6 units) (added 8/23/18)

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) (PGH to CMU-SV)
14-829 Mobile and IoT Security (SV, 12 units) (cross-listed 18-638) (CMU-SV to PGH)
14-850 InSURE Cybersecurity Research (12 units) (added 9/14/16) (CMU-SV to PGH)
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)
95-883 Ethical Penetration Testing (6 units) (added 8/23/18)
Mobility Courses

Last updated: August 23, 2018

Spring

05-833 Gadgets, Sensors & Activity Recognition in HCI (12 units)
05-670 Digital Service Innovation (12 units) (added 8/23/18)
05-872 Rapid Prototyping of Computer Systems (12 units, cross-listed 05-540, 18-745, 18-540, 39-648)
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)
14-736 Distributed Systems: Techniques, Infrastructure and Services (12 units) (added 8/23/18) (PGH to CMU-SV)
14-841 Mobile & Pervasive Computing (12 units) (cross-listed 18-843, 15-821)
15-619 Cloud Computing (12 units)
17-637 Web Application Development (12 units)
15-640 Distributed Systems
15-719 Advanced Cloud Computing (added 8/7/2017)
17-619 Introduction to Real-Time Software and Systems (12 units)
17-681 Java for Application Programmer (6 units)
18-549 Embedded Systems Design (12 units)
18-647 Connected Embedded Systems Architecture (added 8/7/17)
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)
49-780 Human Computer Interaction and User Experience (12 units) (added 8/23/18)
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)

Fall

05-863 Introduction to Human-Computer Interaction for Technology Executives (6 units) (added 1/22/15) (cross-listed 08-763, 45-888)
08-736 Pervasive and Ubiquitous Computing (12 units) (added 8/23/18)
14-642 Fundamentals of Embedded Systems (12 units)(cross-listed 18-349) (added 9/14/16)
14-829 Mobile and IoT Security (SV, 12 units)(cross-listed 18-638) (CMU-SV to PGH)
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 Cloud Infrastructure: Design, Analysis and Implementation (12 units) (added 8/23/18) (PGH to CMU-SV)
15-619 Cloud Computing (12 units)
14-841 Mobile & Pervasive Computing (12 units) (cross-listed 18-843, 15-821)
15-640 Distributed Systems  
16-623 Designing Computer Vision Apps (12 units)  
17-637 Web Application Development (12 units)  
17-681 Java for Application Programmer (6 units)  
18-697 Statistical Learning and Discovery (12 units) (added 9/14/16)  
18-747 Wireless Device Architecture (added 8/30/17)  
18-749 Building Reliable Systems (12 units) (added 9/14/16)  
49-780 Human Computer Interaction and User Experience (12 units) (added 8/23/18)

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

PGH to CMU-SV: This course is taught at the CMU Main Campus in Pittsburgh and broadcasted to the CMU-SV Campus. Students enrolled in the CMU-SV Campus section attend class synchronously.

CMU-SV to PGH: This course is taught at the CMU-SV Campus and broadcasted to CMU Main Campus in Pittsburgh. Students enrolled in the CMU Main Campus in Pittsburgh section attend class synchronously.

VERSION TABLE

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

<table>
<thead>
<tr>
<th>VERSION</th>
<th>ADDED/ REMOVED</th>
<th>COURSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date posted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.0 7-9-14</td>
<td>ADDED</td>
<td>17-653, 18-654, 18-655, 94-808, 05-872, 15-619, 05-863</td>
</tr>
<tr>
<td>2.0 1-22-15</td>
<td>ADDED</td>
<td>05-863</td>
</tr>
<tr>
<td>3.0 4-28-15</td>
<td>ADDED</td>
<td>14-809, 14-837, 14-837, 49-772, 15-637</td>
</tr>
<tr>
<td>4.0 4-30-15</td>
<td>ADDED</td>
<td>49-752, 49-760</td>
</tr>
<tr>
<td>5.0 2-10-16</td>
<td>ADDED</td>
<td>49-804</td>
</tr>
<tr>
<td>6.0 9-14-16</td>
<td>ADDED</td>
<td>14-850, 14-642, 15-619, 18-749, 16-623, 18-697, 08-671, 49-767</td>
</tr>
</tbody>
</table>
| | REMOVED | MSIT-IS: 19-635  
| | | MSIT-MOB: 08-600 |
| 7.0 1-23-17 | ADDED | 05-760 |
| 8.0 1-25-17 | ADDED | 14-828, 49-788 |
| 9.0 8-7-17 | ADDED | 15-811,18-632, 08-735, 15-719, 18-647, 18-658, 49-763 |
| 10.0 8-30-17 | ADDED | 18-747 |
| | REMOVED | MSIT-IS: 14-817, 14-846, 14-847  
| | | MSIT-MOB: 14-839, 14-837, 14-836, 05-899, 96-811 |
| 11.0 8-23-18 | ADDED | • MSIT-MOB: 49-780, 14-736, 08-736, 14-848, 05-670  
| | | • MSIT-IS: 95-883 |