

IMM Mobile App Design program courses  
 CSCI Mobile App Development program courses  
 Courses in both programs

| CORE KNOWLEDGE |                                |  | Voting Avg. |   |  |
|----------------|--------------------------------|--|-------------|---|--|
| <b>K1</b>      | Interface Design and Layout    |  |             | <b>Exposure- E</b>  | <b>Thorough- T</b>   |
|                | 1.1                            | Human computer interaction                               | 2.00        | IMM 1101 Mobile App Design I  | IMM 1110 Mobile App Design II<br>CSCI 1101 Computer Concepts and Apps  |
|                | 1.2                            | User interface (UI) design                               | 3.71        | IMM 1210 Mobile User Interfaces & Useability  | IMM 2010 Mobile User Interface   |
|                | 1.3                            | User experience (UX) design                              | 3.43        | IMM 1210 Mobile User Interfaces & Useability  | IMM 2010 Mobile User Interface   |
|                | 1.4                            | Usability and testing                                    | 3.14        | IMM 1101 Mobile App Design I  | IMM 2372 Adobe PhoneGap  |
|                | 1.5                            | Cross-browser knowledge                                  | 3.29        | IMM 1101 Mobile App Design I<br>IMM 1110 Mobile App Design II<br>CSCI 1145 HTML<br>CSCI 1650 Programming Fundamentals for iOS<br>CSCI 1660 Programming Fundamentals for Android | IMM 2372 Adobe PhoneGap<br>IMM 1140 Cascading Style Sheets<br>CSCI 2650 iOS Mobile Apps Development<br>CSCI 2660 Android Mobile Apps Development |
|                | 1.6                            | Constructing UI from design mocks for multiple platforms |             |   |  |
|                | 1.7                            | UI guidelines (per platform)                             | 3.86        |   | CSCI 2650 iOS Mobile Apps Development<br>CSCI 2660 Android Mobile Apps Development   |
|                | 1.8                            | Additional- Accessibility                                | 3.57        | IMM 1101 Mobile App Design I  | IMM 2010 Mobile User Interface   |
|                |                                | Project Mangement  |             |   | IMM 2110 Project Management with Assets  |
| <b>K2</b>      | Programming Principles         |  |             | <b>Exposure- E</b>  | <b>Thorough- T</b>   |
|                | 2.1                            | Fundamental data structures and data modeling            | 4.00        | CSCI 1103 Introduction to Programming Logic   | CSCI 2412 Web Database Development   |
|                | 2.2                            | Fundamental programming constructs                       | 4.00        |   | CSCI 1103 Introduction to Programming Logic<br>CSCI 2447 JavaScript Fundamentals   |
|                | 2.3                            | Object-oriented programming                              | 3.40        | CSCI 2447 JavaScript Fundamentals   | CSCI 1650 Programming Fundamentals for iOS<br>CSCI 1660 Programming Fundamentals for Android   |
|                | 2.4                            | Data structures fundamentals                             | 2.00        |   |  |
|                | 2.5                            | Software design process                                  | 2.00        | CSCI 1275 Business Analysis with Agile Development Frameworks   |  |
|                | 2.6                            | Software development process (agile/scrum)               | 3.50        |   | CSCI 1275 Business Analysis with Agile Development Frameworks  |
|                | 2.7                            | Software testing and validation                          | 3.67        |   | CSCI 2221 Agile Soft Dev and Testing   |
|                | 2.8                            | Continuous integration systems (ie. CircleCI, Jenkins)   | 3.83        |   |  |
|                | 2.9                            | Additional Added- GIT                                    | 4.00        | IMM 1140 Cascading Style Sheets<br>CSCI 1275 Business Analysis with Agile Development   | CSCI 2412 Web Database Development   |
| <b>K3</b>      | Experience with Core Languages |  |             | <b>Exposure- E</b>  | <b>Thorough- T</b>   |
|                | 3.1                            | Java and XML (Android)                                   | 3.43        | CSCI 1650 Programming Fundamentals for iOS  | CSCI 1660 Programming Fundamentals for Android<br>CSCI 2660 Android Mobile Apps Development  |
|                | 3.2                            | Swift and/or Objective C (iOS)                           | 3.57        |   | CSCI 1650 Programming Fundamentals for iOS<br>CSCI 2650 iOS Mobile Apps Development  |
|                | 3.3                            | HTML,CSS, Javascript (PhoneGap, Ionic, Xamarin)          | 2.43        |   | CSCI 2447 JavaScript Fundamentals<br>IMM 1140 Cascading Style Sheets<br>CSCI 1145 HTML   |
|                | 3.4                            | JSON (for API comm.)                                     | 4.00        | CSCI 2447 JavaScript Fundamentals   | IMM 2372 Adobe PhoneGap  |
|                | 3.5                            | Additional Added- Javascript                             | 3.57        |   | CSCI 2447 JavaScript Fundamentals  |

| K4 Service/API Knowledge |   |      | Exposure- E  | Thorough- T   |
|--------------------------|---|------|--|---|
| 4.1                      | Networking principles   | 3.00 | CSCI 1150 Networking Terminology<br>ITST 1101 Industrial Applications and Software           |   |
| 4.2                      | Client communication with RESTful API   | 4.00 | CSCI 1650 Programming Fundamentals for iOS<br>CSCI 1660 Programming Fundamentals for Android | CSCI 2650 iOS Mobile Apps Development<br>CSCI 2660 Android Mobile Apps Development  |
| 4.3                      | OAuth implementation  | 1.00 |  |   |
| 4.4                      | Basic security practices  | 3.83 |  |   |
| 4.5                      | Database/model design   | 2.00 |  | CSCI 1101 Computer Concepts and Apps<br>CSCI 1320 Database Fundamentals   |
| 4.6                      | Database management concepts  | 1.00 |  | CSCI 1101 Computer Concepts and Apps<br>CSCI 1320 Database Fundamentals   |
| 4.7                      | Database query languages  | 1.83 |  | CSCI 1101 Computer Concepts and Apps<br>CSCI 1320 Database Fundamentals   |
| 4.8                      | API architecture and implementation   | 1.67 |  |   |
| 4.9                      | Service security principles   | 1.83 |  |   |
|                          |   |      |  |   |
| K5 Advanced Topics       |   |      | Exposure- E  | Thorough- T   |
| 5.1                      | Mobile analytics  | 3.71 |  | IMM 2210 Mobile Analytics   |
| 5.2                      | Mobile app financial models (including advertising, freemium, in-app micro upgrades)  | 2.71 | IMM 1101 Mobile App Design I<br>IMM 1110 Mobile App Design II                                | CSCI 2999 CSCI Capstone/ IMM 2999 Mobile Capstone   |
| 5.3                      | Deployment process (for all platforms)  | 4.00 |  | CSCI 2650 iOS Mobile Apps Development<br>CSCI 2660 Android Mobile Apps Development<br>CSCI 2999 CSCI Capstone/ IMM 2999 Mobile Capstone |
| 5.4                      | Additional Added- IoT   | 3.00 |  |   |
| 5.5                      | Additional Added- Machine Learning  | 2.43 |  |   |
| 5.6                      | Additional Added- AR/VR   | 2.29 |  |   |
|                          |   |      |  |   |
| K6 Professional Growth   |   |      | Exposure- E  | Thorough- T   |
| 6.1                      | Portfolio with samples of completed mobile applications and best development projects | 4.00 |  | IMM 2710 Interactive Portfolio  |
| 6.2                      | Soft Skills/Employability Skills  |      |  | CSCI 2999 CSCI Capstone/ IMM 2999 Mobile Capstone   |
| 6.3                      | Additional  |      |  |   |
|                          |   |      |  |   |