

## COURSE PROFILE

| Course Name                                     | Code  | Semester | Term | Theory+PS+Lab<br>(hour/week) | Local<br>Credits | ECTS |
|---|-------|----------|------|------------------------------|------------------|------|
| Mobile Application<br>Development Using<br>Java | IT485 | Fall     | 7    | 3 + 0 + 0                    | 3                | 6    |

|                      |      |
|----------------------|------|
| <b>Prerequisites</b> | None |
|----------------------|------|

|                                 |  |
|---------------------------------|--|
| <b>Course Language</b>          | English  |
| <b>Course Type</b>              | Elective   |
| <b>Course Lecturer</b>          | Assoc. Prof. Dr. Vedat Coskun  |
| <b>Course Assistant</b>         | Büsra Özdenizci  |
| <b>Course Objectives</b>        | This course aims to give the basics of mobile devices, mobile applications, why Java is a solid choice in this area, the components that Java provides.  |
| <b>Course Learning Outcomes</b> | Upon successful completion of the course, students will: <ul style="list-style-type: none"><li>• understand basics of mobile devices, and mobile application development</li><li>• master the important details of creating mobile applications</li><li>• master interfacing mobile applications with multiuser databases</li><li>• be familiar with user authentication and authorization techniques, and use them appropriately in the term project</li><li>• be able to create a term project after defining a topic, specifying the requirements, analysing, designing the model, implementing, preparing the related documents such as database design document, programmers manual, user manual etc., and presenting the project appropriately</li></ul> |
| <b>Course Content</b>           | Introduction to wireless technology, wireless devices and wireless application infrastructure, Java technology for use in mobile applications, MIDlets, configurations, profiles, smart card programming, graphical user interface (GUI) and graphics programming, events and event handling, developing screen and canvas based applications, games, database programming.  |

## COURSE CONTENT

| <b>Week</b> | <b>Subjects</b>   | <b>Related</b> |
|-------------|---|----------------|
| <b>1</b>    | Introduction to Wireless Technology, Devices and Applications |                |
| <b>2</b>    | Introduction to The Java 2 Micro Edition (J2ME)               |                |
| <b>3</b>    | KVM and Its Profiles and Configurations                       |                |
| <b>4</b>    | Overview Of Mobile And Wireless Networking Standards          |                |
| <b>5</b>    | Cross-Platform Code For Mobile Devices                        |                |
| <b>6</b>    | CDC and Foundation Profile                                    |                |
| <b>7</b>    | CDC and Foundation Profile                                    |                |
| <b>8</b>    | CLDC and MIDP Profile   |                |
| <b>9</b>    | Writing Smart Card Applications, Javacard                     |                |
| <b>10</b>   | Writing Smart Card Applications, Javacard                     |                |
| <b>11</b>   | JavaPhone API, Architecture And Programming Concepts          |                |
| <b>12</b>   | Integrating Mobile Devices And J2EE Servlet Web Applications  |                |
| <b>13</b>   | Graphical User Interface                                      |                |
| <b>14</b>   | Graphics Programming  |                |

|                               |  |
|-------------------------------|--|
| <b>Course Textbook</b>        | No obligatory text book  |
| <b>Recommended References</b> | <p>Joshua Marinacci, Building Mobile Applications with Java, O'Reilly Media</p> <p>Ronald Ashri, Danny Ayers, Steve Atkinson, Nadia Nashi, Richard Taylor, Chanoch Wiggers, Professional Java Mobile Programming, Wrox</p> |

| <b>Semester Requirements</b>               | <b>Number</b> | <b>Percentage of Grade</b> |
|--|---------------|----------------------------|
| Attendance/Participation                   |               |                            |
| Laboratory                                 |               |                            |
| Application                                |               |                            |
| Special Course Internship (Work Placement) |               |                            |
| Quizzes/Studio Critics                     |               |                            |
| Homework Assignments                       | 2             | 30                         |
| Presentation                               |               |                            |
| Project                                    | 1             | 60                         |
| Seminar/Workshop                           |               |                            |
| Midterms/Oral Exams                        |               |                            |
| Final/Resit Exam                           | 1             | 10                         |
| <b>Total</b>                               |               | 100                        |

|                                    |  |     |
|------------------------------------|--|-----|
| <b>PERCENTAGE OF SEMESTER WORK</b> |  | 90  |
| <b>PERCENTAGE OF FINAL WORK</b>    |  | 10  |
| <b>Total</b>                       |  | 100 |

|                        |                                     |   |
|------------------------|-------------------------------------|---|
| <b>Course Category</b> | Core Courses                        |   |
|                        | Major Area Courses                  | X |
|                        | Supportive Courses                  |   |
|                        | Media and Management Skills Courses |   |
|                        | Transferable Skill Courses          |   |

### COURSE'S CONTRIBUTION TO PROGRAM

| #        | Program Qualifications / Outcomes  | * Level of Contribution |   |   |   |   |
|----------|--|-------------------------|---|---|---|---|
|          |  | 1                       | 2 | 3 | 4 | 5 |
| <b>1</b> | A foundation in mathematics and basic sciences and ability to apply acquired knowledge as they relate to the study and practice of information technology  |                         |   | X |   |   |
| <b>2</b> | An ability to analyze a problem, identify and define the computing requirements appropriate to its solution, to understand, select and use appropriate technology, tools, standards, protocols, building blocks, and components to solve the problem   |                         |   |   |   | X |
| <b>3</b> | An ability to propose, analyze, design, develop, test and maintain an information technology system including software solutions, security model, computer and network infrastructure, information systems etc. to solve information technology problems   |                         |   |   |   | X |
| <b>4</b> | An ability to analyze local and global impact of computing on individuals, organizations and society; and the ability to apply information technology techniques, skills, and tools for regular computing practices as well as to improve effectiveness of current methodologies                             |                         |   |   |   | X |
| <b>5</b> | An ability to effectively communicate in oral and written media with all kinds of related audiences; and prepare documentation for this purpose as required  |                         |   | X |   |   |
| <b>6</b> | An understanding of professional, ethical, legal, and social issues and responsibilities of information technology profession  |                         | X |   |   |   |
| <b>7</b> | A taste and breadth of knowledge across several social topics outside the immediate requirements of the information technology profession, and the ability to work within heterogeneous teams to accomplish a common goal including people from the information technology area as well as other disciplines |                         |   | X |   |   |
| <b>8</b> | An ability to engage in life-long learning and professional development for personal improvement to follow contemporary information technology issues  |                         |   |   | X |   |

\*1 Lowest, 2 Low, 3 Average, 4 High, 5 Highest

**ECTS ALLOCATED BASED ON STUDENT WORKLOAD BY THE COURSE  
DESCRIPTION**

| <b>Activities</b>               | <b>Number</b> | <b>Duration</b>       | <b>Total Workload</b> |
|---------------------------------|---------------|-----------------------|-----------------------|
| Course Hours (Including Exams)  | 14            | 3                     | 42                    |
| Tutorials                       |               |                       |                       |
| Laboratory                      |               |                       |                       |
| Application                     |               |                       |                       |
| Special Course Internship (Work |               |                       |                       |
| Field Work                      |               |                       |                       |
| Study Hours Out of Class        | 14            | 4                     | 56                    |
| Presentations / Seminar         | 1             | 1                     | 1                     |
| Project                         |               |                       |                       |
| Preparatory reading             | 14            | 4                     | 56                    |
| Homework Assignments            | 2             | 3                     | 6                     |
| Quizzes                         |               |                       |                       |
| Midterm Exams                   |               |                       |                       |
| Final / Resit Exam              |               |                       |                       |
|                                 |               | <b>Total Workload</b> | <b>161</b>            |

### COURSE CATEGORY

| ISCED GENERAL AREA CODES | GENERAL AREAS                        | ISCED BASIC AREA CODES | BASIC EDUCATIONAL AREAS                   |     |
|--------------------------|--------------------------------------|------------------------|---|-----|
| 1                        | Education                            | 14                     | Teacher Training and Educational Sciences | 0   |
| 2                        | Humanities and Art                   | 21                     | Art                                       | 0   |
| 2                        | Humanities and Art                   | 22                     | Humanities                                | 0   |
| 3                        | Social Sciences, Management and Law  | 31                     | Social and Behavioural Sciences           | 0   |
| 3                        | Social Sciences, Management and Law  | 32                     | Journalism and Informatics                | 0   |
| 3                        | Social Sciences, Management and Law  | 38                     | Law                                       | 0   |
| 4                        | Science                              | 42                     | Life Sciences                             | 0   |
| 4                        | Science                              | 44                     | Natural Sciences                          | 0   |
| 4                        | Science                              | 46                     | Mathematics and Statistics                | 0   |
| 4                        | Science                              | 48                     | Computer                                  | 100 |
| 5                        | Engineering, Manufacturing and Civil | 52                     | Engineering                               | 0   |
| 5                        | Engineering, Manufacturing and Civil | 54                     | Manufacturing and Processing              | 0   |
| 5                        | Engineering, Manufacturing and Civil | 58                     | Architecture and Structure                | 0   |
| 6                        | Agriculture                          | 62                     | Agriculture, Forestry, Livestock, Fishery | 0   |
| 6                        | Agriculture                          | 64                     | Veterinary                                | 0   |
| 7                        | Medicine and Welfare                 | 72                     | Medical                                   | 0   |
| 7                        | Medicine and Welfare                 | 76                     | Social Services                           | 0   |
| 8                        | Service                              | 81                     | Personal Services                         | 0   |
| 8                        | Service                              | 84                     | Transport Services                        | 0   |
| 8                        | Service                              | 85                     | Environment Protection                    | 0   |
| 8                        | Service                              | 86                     | Security Services                         | 0   |