| Course Description | |
|---|---|
| Course Code | YS 434 |
| Course Name | MOBILE SECURITY |
| Prerequisite Courses | |
| Language of the Course | The English |
| Course Coordinator | |
| Instructor(s) | |
| Course Assistants | |
| The aim of the course | This course is designed to address this growing threat to mobile devices, networks and services delivered over the mobile infrastructure. |
| Course Content | We explore the unique challenges facing mobile security while comparing and contrasting it with what we've learnt from computer and network security. This course provides a good conceptual overview of the security principles incorporated in the design of several generations of mobile networks, from GSM (2G), UMTS (3G) up until LTE (4G). We also explore platform security models of the popular mobile device platforms including IOS, Android and the Windows Phone. This course also covers the security of mobile services, such as VoIP, text messaging, WAP and mobile HTML. |

| Weekly Course Content | |
|---|---|
| Week 1 | Introduction to Mobile Security |
| Week 2 | Building Blocks – Basic security and cryptographic techniques |
| Week 3 | Security of GSM Networks |
| Week 4 | Security of UMTS Networks |
| Week 5 | LTE Security |
| Week 6 | WiFi and Bluetooth Security |
| Week 7 | SIM/UICC Security, Mobile Malware and App Security |
| Week 8 | Midterm exam. |
| Week 9 | Android Security Model |
| Week 10 | IOS Security Model |
| Week 11 | Security Model of the Windows Phone |
| Week12 | SMS/MMS, Mobile Geolocation and Mobile Web Security. |
| Week 13 | Security of Mobile VoIP Communications |
| Week 14 | Emerging Trends in Mobile Security |
| Week 15 | Final exam. |

| Course Learning Outcomes | |
|---|---|
| 1 | |
| 2 | |
| 3 | |
| 4 | |

| Contribution of the Course to Program Qualifications | | Contribution Level |
|---|---|---|
| 01 | The student will have the ability to apply analytical approach, mathematics and science knowledge in software and engineering issues. | 4 |
| 02 | The student will have the ability to identify, define, formulate and solve a problem in software and computer systems. | 5 |
| 03 | The student will have gains scientific research skills in software and engineering problems, has the ability to design a system, part or process. | 4 |
| 04 | The student will have the ability to use the design capability, techniques and tools required for engineering applications. | 2 |
| 05 | The student will have the ability to design, implement and interpret experimental work and software projects by analyzing the results. | 4 |
| 06 | The student will have the ability to work between disciplines and teamwork. | 5 |
| 07 | The student will have the ability to work in international environments and adapt to different cultures. | 4 |
| 08 | The student will have verbal and written communication skills in Turkish and English. | 5 |
| 09 | The student will have the awareness of the necessity of lifelong learning and the ability to realize it. | 3 |
| 10 | The student will gain knowledge of legal issues with the awareness of professional and ethical responsibility. | 3 |
| 11 | The student will have managerial skills (leadership, organization, time and risk management, quality awareness, efficiency, etc.). | 5 |
| 12 | The student will have the ability to participate in social activities, to acquire regular sports habits and to use time in the best way. | 5 |
| 13 | The student will have the ability to find unusual ways and produce projects. | 3 |
| 14 | The student will have professional self-confidence, being an entrepreneur and taking initiative. | 3 |
| 15 | It is sensitive about the problems of the age and looks after the national interests. | 4 |

| ECTS WORKLOAD | | | |
|---|---|---|---|
| | **Number** | **Duration (hours)** | **Number*Duration** |
| Face to face education | 14 | 2 | 28 |
| Out-of-class study time (pre-study, reinforcement) | 14 | 1 | 14 |
| Homeworks | 5 | 2 | 10 |
| Presentation / Seminar preparation | 0 | 0 | 0 |
| Quizzes | 0 | 0 | 0 |
| Preparation for midterm exams | 1 | 10 | 10 |
| midterm exams | 1 | 2 | 2 |
| Project (Semester assignment) | 0 | 0 | 0 |
| Lab | 0 | 0 | 0 |
| field work | 0 | 0 | 0 |
| Preparation for the final exam | 1 | 12 | 12 |
| Semester final exam | 1 | 2 | 2 |
| Research | 5 | 2 | 10 |
| **TOTAL WORKLOAD** | | | **88** |
| **ECTS** | | | **3** |

| Evaluation | | |
|---|---|---|
| SEMESTER EVALUATION | **Number** | **Contribution Percentage** |
| Midterm | 1 | 65 |
| Quiz | 0 | 0 |
| Homework | 5 | 35 |
| **SEMESTER TOTAL** | | **100** |
| Contribution rate of mid-term evaluations to success | | 40 |
| Contribution rate of the final exam to success | | 60 |
| **GRAND TOTAL** | | **100** |

| **RESOURCES** | |
|---|---|
| Textbook | |
| Helpful Resources | |