|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  | **ECTS Course Description Form** |
|  |  | **PART I (Senate Approval)** |
|  | **Offering School**  |  | **Engineering** |
|  | **Offering Department** |  | **Computer Engineering** |
|  | **Program(s) Offered to** |  **Computer Engineering** |  |  |
|  |  |  |  |
|  |  |  |  |
|  | **Course Code**  |  | **CS 101** |
|  | **Course Name** |  | **Introduction to Programming I** |
|  | **Language of Instruction** |  | **English** |
|  | **Type of Course** |  | *Compulsory* |
|  | **Level of Course** |  | **Undergraduate** |
|  | **Hours per Week** | **Lecture: 3** | **Laboratory:2** | **Recitation:**  | **Practical:**  | **Studio:** |  | **Other:** |
|  | **ECTS Credit** |  | **6** |
|  | **Grading Mode** |  | **Letter Grade** |
|  | **Pre-requisites** |  | **-** |
|  | **Co-requisites** |  | **-** |
|  | **Registration Restriction** |  | *-* |
|  | **Educational Objective** |  | These main objectives of this course are:1. to introduce students to the fundamentals of computer programming such as variables, conditionals, functions.
2. to enable students to write and run Python programs to solve small tasks.
 |
|  | **Course Description** |  | This course covers basic programming concepts such as variables, data types, iteration, functions, lists, dictionaries and file I/O. |
|  | **Learning Outcomes**  | *L01: understand the basic terminology used in computer programming**L02: write, run and debug programs in Python language.* *L03: use different data types such as integer, string, floating point in a computer program* *L04: design programs involving decision structures, loops and functions* *L05: create and manipulate lists, tuples and dictionaries**L06: read from / write to files* |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  | **PART II (Faculty Board Approval)** |
|  | **Basic Outcomes (University-wide)** | **No.** | **Program Outcomes** | **LO1** | **LO2** | **LO3** | **LO4** | **LO5** | **LO6** |
|  | **PO1** | **Ability** to communicate effectively and write and present a report in Turkish and English.  | *3* |  *1* | *0* | *0* |  **0** | **0** |
|  | **PO2** | **Ability** to work individually, and in intra-disciplinary and multi-disciplinary teams. | **1** | **3** | **1** | **1** | **1** | **1** |
|  | **PO3** | **Recognition** of the need for life-long learning and **ability** to access information, follow developments in science and technology, and continually reinvent oneself. | **1** | **2** | **2** | **2** | **2** | **2** |
|  | **PO4** | **Knowledge** of project management, risk management, innovation and change management, entrepreneurship, and sustainable development. | **0** | **0** | **0** | **0** | **0** | **0** |
|  | **PO5** | **Awareness** of sectors and **ability** to prepare a business plan. | **0** | **0** | **0** | **0** | **0** | **0** |
|  | **PO6** | **Understanding** of professional and ethical responsibility and **demonstrating** ethical behaviour. | **0** | **0** | **0** | **0** | **0** | **0** |
|  | **Faculty/Program Specific Outcomes** | **PO7** | **Ability** to define complex engineeringproblems, develop models andimplement solutions for theseproblems | **1** | **2** | **2** | **2** | **2** | **2** |
|  | **PO8** | **Ability** to conduct lab experiments by usingcomputers and the ability of collecting, analysing and interpreting data.  | **0** | **1** | **1** | **1** | **1** | **1** |
|  | **PO9** | **Ability** to apply the knowledge ofmathematics, science and engineeringprinciples to solve problems in computerengineering. | **1** | **2** | **2** | **2** | **2** | **2** |
|  | **PO10** | An **understanding** of current contemporaryissues and impact of engineering solutionsin legal and ethical levels | **0** | **0** | **0** | **0** | **0** | **0** |
|  | **PO11** | **Ability** to understand and apply discretemathematics concepts. | **0** | **0** | **0** | **1** | **0** | **0** |
|  | **PO12** | **Ability** to use modern engineeringtechniques, tools and informationtechnologies and develop softwareequipment and software. | **2** | **2** | **2** | **2** | **2** | **2** |
|  | **PO13** | **Ability** to analyse, design and manage thehardware/software computer systemrequirements with limited resources andconditions by modern engineeringprinciples. | **0** | **1** | **1** | **1** | **1** | **0** |
|  | **PART III ( Department Board Approval)** |
| **Course Subjects, Contribution of Course Subjects to Learning Outcomes, and Methods for Assessing Learning of Course Subjects** | **Subjects** | **Week** |  | **LO1** | **LO2** | **LO3** | **LO4** | **LO5** | **L06** |  |
| **S1** | 1 | Introduction | A1/2 |  |  |  |  |  |
| **S2** | 2 | Variables, Values, Data Types | A1/2 | A3/4 | A1/23/4 | A1/23/4 |  |  |
| **S3** | 3 | Type Conversion, Operators | A1/2 | A3/4 | A1/2/3/4 |  |  |  |
| **S4** | 4 | Conditional Statements | A1/2 | A3/4 |  | A1/2/3/4 |  |  |
| **S5** | 5-6 | Loops | A1/2 | A3/4 |  | A1/2/3/4 |  |  |
| **S6** | 7-8 | Functions | A1/2 | A3/4 |  | A1/2/3/4 |  |  |
| **S7** | 9 | Strings | A1/2 | A3/4 | A1/2/3/4 |  |  |  |
| **S8** | 10, 11 | Lists and Tuples | A1/2 | A3/4 |  |  | A1/2/3/4 |  |
| **S9** | 12, | Dictionaries | A1/2 | A3/4 |  |  | A1/2/3/4 |  |
| **S10** | 13,14 | File Input / Output | A1/2 | A3/4 |  |  |  | A1/2/3/4 |
| **Assessment Methods, Weight in Course Grade, Implementation and Make-Up Rules**  | **No.** | **Type** | **Weight** | **Implementation Rule** |  | **Make-Up Rule** |
| **A1** | **Exam** |  *55* | *There is one midterm and one final exam for the course. Exam dates will be shown on the tentative schedule and it can be changed according to the course schedule.* |  | If a student misses an exam and provides an acceptable legitimate document, a make-up exam will be provided. |
| **A2** | **Quiz** | *5* |  |  |  |
| **A3** | **Homework** | *25* | *There are 5 homework. Each student must work alone.*  |  |  There is no make-up. |
| **A4** | **Lab** | *10* | *Short programming exercises are solved with the guidance of teaching assistants. Students who miss 3 or more labs get 0 from the lab grade.*  |  |  There is no make-up. |
| **A5** | **Attendance/ Interaction** | 5 | *Attendance will be taken during the lectures.* |  | There is no make-up. |
| **A6** | **Report** |  | - |  |  |
| **A7** | **Presentation** |  | - |  | - |
| **A8** | **Class/Lab./****Field Work** |  | - |  | - |
| **A9** | **Other** |  |  |  |  |
| **TOTAL** |  | **100%** |
| **Evidence of Achievement of Learning Outcomes** |  | Students will demonstrate learning outcomes through midterm exam, homework assignments, participation in class, lab work and the final exam. Every topic is tested with at least one exam or homework question. In order to pass, a student needs to accumulate certain percentage of points and this percentage is determined by the class mean. |
| **Method for Determining Letter Grade** |  | Weighted average will be calculated based on the table below (there can be changes depending on the performance of the students)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Activities** | Attendance | Quizzes | Lab activities | Homework | MidtermExam | Final Exam  |
| **Quantity** | - | 5 | 10 | 5 | - | 1 |
| **Effects on Grading, %)** | 5 | 5 | 10 | 25 | 25 | 30 |

Letter grades are tentatively determined using the table below. Here “-x” means (average-3-x) and “+x” means (average+3+x), and each denotes the minimum points necessary for the corresponding letter grade.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Total points | +25 | +20 | +15 | +10 | +5 | Avg ±3 | -5 | -10 | -15 | -20 |
| Letter Grade | A | A- | B+ | B | B- | C+ | C | C- | D+ | D |

 |
| **Teaching Methods, Student Work Load** | **No** | **Method** | **Explanation** |  | **Hours** |
|  | ***Time applied by instructor*** |
| **1** | **Lecture** | Lecturing with slides as well as utilizing white board.  |  |  3\*14 |
| **2** | **Interactive Lecture** |  |  |  |
| **3** | **Recitation** |  |  |  |
| **4** | **Laboratory** | Small programs are written with the guidance of teaching assistants. |  | 2\*10 |
| **5** | **Practical** |  |  |  |
| **6** | **Field Work** |  |  |  |
|  | ***Time expected to be allocated by student*** |
| **7** | **Project** |  |  |  |
| **8** | **Homework** | Programming assignments to practice the concepts taught in class. |  |  60 |
| **9** | **Pre-class Learning of Course Material**  | Read new material from the book before the class. Also, practice programming before the labs. |  | 28 |
| **10** | **Review of Course Material** | Review of the subjects before the exam |  | 26 |
| **11** | **Studio** |  |  |  |
| **12** | **Office Hour** | One office hour per week is allocated for students’ questions |  | 14 |
| **TOTAL** |  |  *180* |
|  | **IV. PART** |
| **Instructor** | **Name** |  | Hilal Kazan |
| **E-mail** |  | Hilal.kazan@antalya.edu.tr |
| **Phone Number** |  | *0242 245 0271* |
| **Office Number** |  | *A1-29* |
| **Office Hours** |  | *TBA* |
| **Course Materials** | **Mandatory** |  | *-* |
| **Recommended** |  | *Practical Programming: An Introduction to Computer Science Using Python 3, Second Edition, Pragmatic Bookshelf, 2013.* |
| **Other** | **Scholastic Honesty** |  | Violations of scholastic honesty include, but are not limited to cheating, plagiarizing, fabricating information or citations, facilitating acts of dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students. Any for of scholastic dishonesty is a serious academic violation and will result in a disciplinary action. |
| **Students with Disabilities** |  | Reasonable accommodations will be made for students with verifiable disabilities. |
| **Safety Issues**  |  | The course does not require any special safety precautions. |
| **Flexibility** |  | Circumstances may arise during the course that prevents the instructor from fulfilling each and every component of this syllabus; therefore, the syllabus is subject to change.  Students will be notified prior to any changes.  |

|  |  |
| --- | --- |
|  |  |

|  |
| --- |
|  |