MIDDLE EAST TECHNICAL UNIVERSITY

Department of Business Administration

BUS 232 Information Systems and Programming

Spring 2021

Mondays 09:40 – 12:30 (TRNC time)

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TA: Will be announced later.

Purpose and Scope

This course extends the students' familiarity with computers, information technologies, and programming. The course will introduce Python as the programming language of choice, and aims at providing basic level programming skills. By providing those skills, the course is a good starting point for building of database applications, web applications and web services using the Python development platform. Another aspect of the course is building structural program solving skills, by developing algorithms that will help students in their future studies.

Prerequisite

There are no prerequisites for the course.

Text

There is no required text, however the following books will be helpful:

- Ceder, N. 2018. "The Quick Python Book. 3rd Ed." Manning. (Also available as DRM-free, paid e-book).
- Pilgrim, M. 2009. "Dive into Python 3." Apress. (Completely free e-book with CC-license)

Development Environment

Python is free software. Therefore there is no limitation on how to use it. There are many high quality development environments available for Python. They are usually multi-platform, that means they work the same on Windows, Mac or Linux.

Here are some popular environments.

- Thonny is popular amongst students because of its focus on beginner programmers. There is an in-context help feature which shows you your coding mistakes. -- https://thonny.org/
- Intellij Pycharm is a professional programmer's choice IDE, for which free student licenses can be obtained. -- https://thonny.org/
- Microsoft Visual Studio is another professional programmer's choice IDE, with the free to use Community Edition -- https://visualstudio.microsoft.com/vs/features/python/

Course Requirements and Grading:

Regarding attendance:

- In the face to face version of this course, attendance is required and is part of your grade because you are expected to attend lab sessions every week. Either missing more than three face to face sessions or failing to attend two tests will automatically result in failing the course. A make-up exam can be taken only if a valid medical report or similar reason is presented and approved by the department chair or secretary.
- In the online version, the attendance rule is relaxed, but attendance to courses is highly recommended. **This course builds up quickly.** Therefore missing a fre consecutive sessions will require many more hours than covered in course to self-study. Students are advised to attend the online sessions and ask questions.

Regarding tests:

- As this is an applied course, all types of tests are applied.
- In the face to face version, students are required to complete programming tasks in labs in short durations. Tests are usually offline or limited online.
- In the online version, there are two types of tests. In the first type the student is required to submit a program through Github. This is similar to a homework yet there is a strict time limit. In the second type the students is required to analyze a presented code segment and describe what the output could be or what the error is. This type is usually administered directly through ODTUCLASS.

The student is responsible for all material in the readings, homework, handouts, and class discussions.

Homework Assignments:

- There will be a homework assignment for almost every week (starting **first** week of classes but it is avery easy one).

- All homework assignments will be due for announced date.
- All homework assignments will be submitted through Github.
- Late submissions will not be accepted.

These assignments will be graded and will provide a starting point for in class assignments.

Team Projects:

- Students will form teams of 4-5 students and develop a simple program for a real-life scenario. This project will be counted as the third exam (i.e. final exam).
- Projects are expected to be a bit more advanced than individual homeworks. Use of files or web URLs for inputs, simple data processing tasks, use of external libraries will be common features in the projects.
- Team members are required to work as a team. There should be a division of labor.
- Not all team members may get the exact same points for the project.

Github:

- All students will create Github accounts if they do not already have one. Please choose appropriate user names and complete your profiles.
- They will follow the course Github repository -- https://github.com/boragungoren-portakalteknoloji/METU-BUS232-Spring-2021
- They will create one private repository called **BUS232-Spring-2021-Homeworks** and invite the instructor and any Tas to be announced later as contributors to this repository. So for

Use of Zoom:

- All classes will be conducted using Zoom. These sessions will be recorded and later made available through ODTUCLASS.
- During classes, students may be asked to share their screens if they want to show an error. So screen sharing back and forth, and discussing will be something common to ask.
- Apart from classes, office hours will be by appointment and again by Zoom. Students are **allowed** to record their office hour meetings.
- Teams will be conducting additional Zoom meetings with the instructor. These will be similar to office hours. Teams are **allowed** to record these meetings given that all team members consent to recording.

Regarding grading:

- In the face to face version three exams each worth **25** points, homeworks worth **15** points and attendance worth **10** points.
- In the online version, two exams worth **15** and **25** points each, homeworks worth **30** points, and a team project worth **30** points.

Letter grades will be given using **a power-series corrected curve.** This technique helps students who started with bad points, but got good points later in the course get slightly better letter grades than the usual catalog system. This does not change the letter grade of any other student, or does not change the ranking of students. Students who were better throughout the semester will still get the best letter grades.

The reason for the choice of this technique is because this course does not have compartments like individual chapters. If you succeed in later subjects, that means you must have learnt the earlier subjects well.

In past semesters, students who started skipping classes failed this course or got a very low letter grade. Otherwise it is a hard to fail course. Getting a high letter grade is also not easy, and requires hard work.

Weekly Outline

The following outline will be followed.

- Week 1 – Introduction
- Week 2 – Hello World App and getting Command Line Input
- Week 3 – More on variables and operations
- Week 4 – Branching
- **Week 5 – Test 1 will be administed in class hours.**
- Week 6 – Data Structures and Simple For Each Loop
- Week 7 – More on Data Structures and Advanced Looping
- Week 8 – Getting Input From Text Files
- Week 9 – Getting Input from Excel Files
- **Week 10 – Test 2 will be administered in class hours**
- Week 11 – The Concept of Networking and Getting A File From the Internet
- Week 12 – Connecting to Simple Databases
- Week 13 – Simple Examples of How to Use Statistics in Python
- Week 14 – Review and Discussion on How to Use Your Python Knowledge

From Week 2 onwards, **sample Python source code for the week** will be published beforehand through Github. Students are advised to work on the code for a while before attending class.

Rules of Academic Honesty

(Strictly Enforced)

The following standard rules are designed for face to face classes, but adjustments can be easily made for online delivery. All participants in the course are expected to follow the principles. Students can freely ask about how to interpret a rule in the online setting. For example showing a student ID may be replaced by having a camera feed during an exam.

Cheating: All university, faculty, and department principles on academic honesty will be strictly enforced. The usual consequence for academic dishonesty is failure in the course and additional disciplinary action. Examinations are individual and are to be completed without unauthorized outside assistance. Persons observed cheating during examinations will automatically receive a failing grade in the course. Homework assignments are individual, unless otherwise specified by the instructor, and are to be completed without unauthorized outside assistance as well. Persons observed cheating in their homework assignments will receive a score of zero for the portion of the semester grade that is allocated to such assignments. In addition to the consequences above, the instructor will initiate disciplinary action against the student(s) involved in academic dishonesty.

Plagiarism: The instructor assumes that students will do their own work. By placing their names (individual or team) on assignments, students are affirming that the contents are their original work. Ideas should be stated in the student's own wording. Violation of this provision will be considered as unethical behavior, subject to disciplinary action. If you have any doubt about the use of a specific material, see the instructor ahead of time.

Civility in the Classroom: Students are expected to assist in maintaining a classroom environment which is conducive to learning. In order to assure that all students have an opportunity to gain from time spent in class, students are prohibited from using cellular phones, eating or drinking in class, arriving late or leaving early without prior permission, or engaging in any other form of distraction. Inappropriate behavior in classroom shall result in, minimally, a request to leave class.

Examination Rules: Students must present a valid METU Student ID before they can be allowed into the examination rooms. Those students who cannot present this ID will not be allowed into the examination room under any circumstances. Cellular phones must be turned off and stowed away during the examinations. Students whose phones are observed to be turned on or not stowed away will receive a score of zero for the examination.