CT60A0203
Introduction to Programming: Python

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Learning objectives: This week

- Course guide in detail : objectives, course schedule, overview of learning activities, assessments and course grade calculations
- History of programming , programmable computers
- Python vs other computer programming languages
- To know the syntax of a Python program: The first Python program
- Installing Python IDLE code editor
- To become familiar with Python IDLE code editor

At the conclusion of this lecutre, students will be able to understand the course structure, how to start writing and running Python programs using Python IDLE code editor.

Check ”Welcome to CT60A203” tab in the Moodle contains **course guide pdf**”

On completion of this course

- be able to use standard Python
- be able to develop simple algorithms and implement them using the standard control structures.

- be able to use existing libraries and user defined functions when writing programs
- be able to write programs that promote code reuse.

- be able to write programs to handle standard data and text files for analysis
- be able to handle exceptions thrown and writing own exception classes.

- be able to develop python programs that can read and update CSV files, for data analytics-based tasks at basic level
- follow good coding guidelines and devise strategies to test the programs developed.

Course schedule: Learning activities

- Lecture sessions per week : 90 minutes [2 X 45 minutes]
- 14 lecture sessions
- Lecture attendance **is optional**.

- Tutorial sessions per week 1 X 90 – 120 minutes [14 weeks]
- Tutorial attendance **is mandatory**
- Receive points for attending tutorial sessions
- First 12 weeks X 10 points = 120 points [included for grade calculation].

- What are you supposed to do during tutorial/lab sessions?
  - Solving weekly assessment tasks, asking questions, discussing with peers and teacher(s) about topics studied, doing project work individually, preparing for quiz and more…

- **Overview of assessment tasks**

  - Weekly assignments, Quizzes, attendance and surveys worth 40%
  - Project work worth 30% and
  - Final exam worth 30% for course grade calculation

(i) **Weekly programming assignment : 60-70 tasks/exercises**

- Each week 5-6 exercises will be delivered via Moodle [12 Weeks]
- Submit solutions using CodeGrade linked at Moodle for automatic grading
- Multiple submission is allowed until the due date
- Total points: 800 [included for grade calculation]

(ii) Moodle Quizzes : in Weeks 3, 5, 7, 9 and 11: in total 5 quizzes

- Quizzes will be conducted at the end of lecture/ tutorial session* [10- 20 minutes]
- Students are allowed to retry the quiz to improve the Quiz scores
- Each quiz carries 100 points/marks
- 5 Quizzes X 100 = 500 points [included in the grade calculation]

- **Overview of assessment tasks: continued**

(iii) **Project Work (Individual work)**

- Will be released in Week 6-7 in Moodle
- This project work must be completed individually and submitted on or before Week 14 Friday via CodeGrade for evaluation
- It carries 100 points/marks [included in the grade calculation]
- The minimum *penalty for plagiarism is failure* for this assignment. It means of failure of course as well.

- (iv) **Final exam**
- It will be an Electronic Final exam
- Registration for E-final exam will be issued after Week 12 or before*
- It will be a 3-hour Exam
- It carries 100 points/marks [included for grade calculation]
- For E-final exam more details can be found at: https://uni.lut.fi/en/web/lut.fi-eng/electronic-exams

* will be notified later in detail

- **Assessment tasks: others**

(v) **Weekly surveys LUT course end survey**

- Weekly lecture after survey
- This will be conducted at the end of each lecture for over 12 weeks
- Attending this survey is optional but it awards points for answering
- 12 weeks X 10 points = 120 points [included for grade calculation]

- Tutorial attendance (as noted in slide 4)
- Tutorials will be conducted every week and attendance is compulsory
- Students receive points for tutorial attendance
- 12 weeks X 10 points = 120 points [included for grade calculation]

- LUT course end survey
- Will be conducted after Week 14* [*needs to be confirmed]
- Attending this survey is optional
- It carries 60 points [included for grade calculation]

Course grade calculation

- As noted, weekly assignments including Quizzes, attendance and surveys 40%
- Project work 30% and
- Final exam 30%

Assessment task	Points/marks	Weight
Weekly assignments i. Weekly programming assignment* ii. Biweekly Quizzes* iii. Tutorial attendance* + Weekly lecture survey + LUT course end survey	 800 500 120 + 120 + 60 = 300	 25% 10% 5% = 40%
Project work (individual)	100	30%
*Online Final exam**	100	30%
*** marked are hurdles**	**Total**	100%

To attain a pass in the course, students are required to pass both the continuous assessment and the final exam components. Each component should therefore be **viewed as a hurdle**.

Course grade calculation: continued

For example:

- To be eligible to sit for the final exam* and to proceed for course grade**
- Possible total score for Weekly programming exercises is 800
- Student should secure at least 400 points. That is 50% of weekly programming exercises scores.
- Possible total score for Quiz is 500*.
- Student should secure at least 250 points. That is 50% of Quiz scores.
- Possible total score for Project work is 100
- Student should secure at least 50 points (50% of Project work).
- Possible total score for Tutorial attendance is 120
- Student should secure at least 60 points (50% of tutorial attendance)

- Possible total score for final exam is 100**. Student should secure at least 50 points (50% of final exam scores)

Course grade calculation: continued**

**Grade calculation:

25% of weekly programming exercises + 10% of Quiz + 5% of surveys and tutorial attendance + 30% of project work + 30% of final exam

- The final mark is determined by totaling the weighted marks of each assessment component. If the weighed total is less than 50%, it will be the final numeric mark, and the final grade will be ZERO.

Scores / Points in %	Grade
0 to 49	0
50 to 59	1
60 to 69	2
70 to 79	3
80 to 92	4
93 to 100	5

- Example table for grade computation
- * marked are hurdles. That is, student must secure 50% at least in these assessment components for final course grade computation

Student ID	Weekly Programming exercises [800]*	Quiz [500]*	Project work [100]*	Tuotorial attendance [120]*	weekly survey [120]	LUT course survey [60]	Eligible for Final exam [Yes / No]	Final exam [100]*	Final marks	Course grade [0-5]
xy13	800	500	100	120	120	60	YES	100	100	5
xy456	600	450	60	60	0	60	YES	67	74	3
xy3234	450	250	50	70	60	0	YES	78	57	1
xy167	750	345	74	80	90	60	YES	50	84	4
X194	500	250	86	60	50	60	YES	75	64	2

Student ID	Weekly Programming exercises [800]*	Quiz [500]*	Project work [100]*	Tuotorial attendance [120]*	weekly survey [120]	LUT course survey [60]	Eligible for Final exam [Yes / No]	Final exam [100]*	Final marks	Course grade [0-5]
ab142	800	500	45	120	120	60	NO	N/A	N/A	0
ab826	600	450	60	40	0	60	NO	N/A	N/A	0
ab723	350	250	50	70	60	0	NO	N/A	N/A	0
ab891	750	200	74	80	90	60	NO	N/A	N/A	0
ab505	500	250	86	60	50	0	YES	45	N/A	0