# Syllabus / Course Outline Template

| **Course Name:  – Programming 1** | | |
| --- | --- | --- |
| **Course Code: COMP102** | **Course Type: Major** | **Course Credits: 4(3+1)** |
| **Class Timings: TR 8:00AM-9:15AM** <br> **Lab Timings: M 14:00 - 16:50** | **Section: A** | **Student Meeting Hours/ Office Hours: TR 11am-1pm** |

**Instructor Name: Umber Nisar**

**Instructor Contact Details**
Email: umbernisar@fccollege.edu.pk
Office Hours (face to face and/ or online): MWF 10AM-12PM
Guidelines for contacting instructor: Please email.

**Lab Engineer Name and Contact Details:**
Name:                           Email:
Other:                                     Office Hours:
Guidelines for contacting LE: Email

**TA Name and Contact Details:**
Name: Amir                      Email:
Other:                                     Office Hours:
Guidelines for contacting TA/s: Email

**Course Description**:
Pre-requisites if any: No
Mode of Instruction (Asynchronous/Synchronous): Both

**Main Mode of Instruction: Google classroom, Moodle**
**Technology Requirements**: Active email id should be registered on empower, active moodle accounts.
**Technology Etiquettes:** Attendance of live sessions with fc email id. Allow 24 hours for replying to e-mails.
**Considerations for Students with Limited Internet/Technology Access:** Course content will be uploaded on moodle or google classroom.

**Course Objectives or [Student Learning Outcomes](SLOs) (SLOs)**
This course covers basic skills of programming, using Python Language, including elementary data types (numeric types, strings, lists, dictionaries and files), control flow, functions, and objects.

# Course Content, Learning Material & Activities Schedule

| Week no | Contents | Activities |
|---|---|---|
| 1 | **Lecture 1: Course introduction, Python introduction, arithmetic operators and their precedence.**<br>**Lecture 2: Computer memory, syntax and semantic errors, assignments, expression, value, primitive expressions, evaluation of expressions, python objects concept, variables, constants, data types.**<br>**Lab 0: Practice python mathematical expressions, variables, assignment statements** | |
| 2 | **Lecture 3: input, output, strings, string operations and methods, string concatenation, string slicing**<br>**Lab 1: Worked on obtaining user data and working with strings** | **Lab submission** |
| 3 | **Lecture 4: Functions, functions abstraction,  writing good functions, environments, frames**<br>**Lab 2: Practiced Functions** | **Lab submission, Assignment 1 submission, Quiz 1** |
| 4 | **Lecture 5: if, elseif, else, nested ifs, relational operators, Boolean operators, Boolean variables, discussion of solutions of previous assessments.**<br>**Lab 3: Working with Conditions** | **Lab submission** |
| 5 | **Lecture 6: event controlled loops, for loop, for vs while loop, range function, nested loops**<br>**Lab 4: Working with Loops** | **Lab submission, Assignment 2 submission, Quiz 2** |
| 6 | **Lecture 7: Nested Loops, Common loop algorithms, analyzing strings (revision)**<br>**Lab 5: Working with Nested Loops and Common Loop Algorithms** | **Lab submission** |
| 7 | **Lecture 8: Local and Global variables and their scopes.**<br>**Lab 6: Working with variable scope and environment diagrams** | **Lab submission, Assignment 3 submission, Quiz 3** |
| 8 | **Revision and Mid** | |
| 9 | **Lecture 9: Lists (basic properties, accessing list elements, difference between lists and strings, traversing a list, list references, creating a list, slicing a list, adding elements to a list, difference between append and extend, searching an element in the list, removing items from a list)**<br>**Lab 7: Working with lists.** | **Lab submission** |
| 10 | **Lecture 10: Dictionaries (creating dictionaries, accessing dictionary values, adding and modifying items, removing items, traversing a dictionary)**<br>**Lab 8: Working with dictionaries.** | **Lab submission, Quiz 4, Assignment 4 submission** |
| 11 | **Lab 9: File Handling**<br>**Lecture 11: Recursive Functions** | **Lab submission** |

| 12 | **Lab 10: Working with recursive functions**<br>**Recursive Functions Practice**<br>**Lab 11: Working with recursive functions** | **Lab submission, Assignment 5 submission, quiz 5** |
|---|---|---|
| 13 | **Lecture 12: Tuple, Lambda Operator/Functions**<br>**Lab 12: Working with Tuple, Lambda Operator/Functions** | **Lab submission** |
| 14 | **Lecture 13: Lambda Operator/Functions, Map Reduce, Filter**<br>**Lab 13: Lambda Operator/Functions, Map Reduce, Filter** | **Lab submission, Quiz 6, Assignment 6 submission** |
| 15 | **Revision** | |

## Textbooks, Materials, Supplies, and other Resources

Python Programming by John Zelle 2009
Python Crash Course by Eric Matthes 2016
Python For Everyone By Horstmann
Dive into Python by Mark Pilgrim
Composing Programs, http://composingprograms.com/

## Course Assessment:

| Assignments/Project | 20 % |
|---|---|
| Labs | 15 % |
| Quizzes | 15 % |
| Mid | 20 % |
| Final | 30 % |
| **Total** | **100.00%** |

## NOTE:
- All assignments are due before 11:59 p.m. on the due date. Students can be called to appear for viva at random as and when needed to determine their knowledge gained
- There will be NO retake for the quiz, assignments, labs unless previous accommodations have been made with the course instructor.
- Students are advised to attend all lectures but 85% attendance is compulsory. It is entirely the students' responsibility to recover any information or announcements presented in lectures from which they were absent.
- All work that you submit in this course must be your own.
- Unauthorized group efforts are considered academic dishonesty.
- You may discuss labs and assignments in a general way with others, but you may not consult anyone else's written work. You are guilty of academic dishonesty if:

- You examine another's solution to an assignment/Quiz/Project/exam
- You allow another student to examine your solution to an assignment/Quiz/Project/ Lab Work or any exam
- You fail to take reasonable care to prevent another student from examining your solution and that student does examine your solution.

In case of unauthorized group efforts, academic dishonesty/fraud, cheating and plagiarism following policy is applicable (All cases of breach of Academic Integrity will be reported to Vice Rectors office/AIC)
This course has ZERO TOLERANCE POLICY on any academic Integrity breach
- For Mid, Final, Assignments, Quizzes.
Cheating or violation of academic integrity in any exam/project will cause F grade in course

**Grading Legend**
Below is the grading legend of FCCU (published in all catalogues and available on the FCCU website) as approved by the Academic Council.

| Grade | Point Value | Numerical Value | Meaning |
|-------|-------------|-----------------|---------|
| A | 4.00 | 93-100 | Superior |
| A- | 3.70 | 90-92 | |
| B+ | 3.30 | 87-89 | Good |
| B | 3.00 | 83-86 | |
| B- | 2.70 | 80-82 | |
| C+ | 2.30 | 77-79 | Satisfactory |
| C | 2.00 | 73-76 | |
| C- | 1.70 | 70-72 | |
| D+ | 1.30 | 67-69 | Passing |
| D | 1.00 | 60-66 | |
| F | 0.00 | 59 or below | Failing |