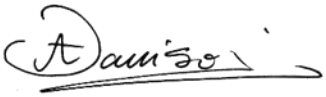
Approved by Chair:



Dec 15, 2021

Signature

COURSE SECTION INFORMATION

Open-Source Development

Teacher's Name : Reza Dibaj, Hesam Akbari, Laily Ajellu

Email: Reza.Dibaj@GeorgeBrown.ca
Hesam.Akbari@georgebrown.ca
Laily.Ajellu@georgebrown.ca

Out of Class Assistance

Course Code COMP2152
Course Section all
Academic Year 2021-2022
Term Winter 2022

All academic inquiries will be replied to within three business days.

LIST OF TEXTBOOKS AND OTHER TEACHING AIDS:

Recommended:

1. Murach's Python Programming (2nd Edition), by Michael Urban and Joel Murach
   ISBN 978-1-943872-74-9

Recommended Resources:

1. https://www.python.org/

Course Delivery Mode

- **Lectures:** All sessions except mid-term and final exams will be online.
- **Labs:** All sessions will be in-person, and students must attend all the classes on campus.

Any variation to the above note will be posted on the blackboard in advance.

Detailed Evaluation System

Assessment Tool:	Description:	Outcome(s) assessed:	EES assessed:	Date / Week:	% of Final Grade:
Quiz 8 x 1.5 %	The best eight quizzes will count.	1-9	1,2,3,4,5,10,11	1-13	12
Lab Exercises 8 x 1%	The best eight lab exercises will count.	1-9	2,4,5,6,7,10,11	2-12	8
Assignments 2 x 10	Individual assignments	1-9	2,4,5,6,7,10,11	TBD	20
Term Project	Group project	1-9	2,4,5,6,7,10,11	Week 14	10
Mid Term Exam	Multiple choice questions	1-9	1,2,4,5,6,7,8,9, 10,11	Week 7	20
Final Exam	Multiple choice questions	1-9	1,2,4,5,6,7,8,9, 10,11	Week 15	30
TOTAL:					**100%**

Course Outcomes

1. Summarize the python methodology
2. Exemplify the python coding standards
3. Produce a program using python basic data structures
4. Generate content to standard output and files
5. Produce scripts that receive input from console, files, database, and other APIs/libraries
6. Demonstrate the process of structuring the data using lists, dictionaries, sets and tuples.
7. Explain, organize, and execute the creation functions for reusability
8. Implement the Object-oriented Programming concepts in Python.
9. Implement built-in libraries to manipulate operating systems of various platforms

Learning Schedule / Topical Outline (subject to change with notification)

TOPICAL OUTLINE:

Week	Topic / Task	Outcomes	Content / Activities	Resources
1	1	1,4	- **Introduction to Python** - Zen of Python - PEP - How to use IDLE to develop programs - How to use PyCharm to develop programs - **Coding 101 in Python** - Basic coding skills - Test and debug a program - How to use five of the Python functions Package and namespace	1,2,5
2	2	1,2,4,6	- **Coding Basics**	5,6

			- How to work with data types and variables - How to work with numeric data - **How to work with lists and tuples** - Basic skills for working with lists - How to work with a list of lists How to work with tuples	
3	3	2,3,5	- **How to code control statements** - How to code Boolean expressions - How to code the selection structure How to use the iteration structure	3,4
4	4	3,4,5	- **How to work with string** - Accessing Strings - Basic Operations - String slices - Function and Methods - **How to work with dictionaries** - Introduction - Accessing values in dictionaries - Working with dictionaries - Dictionary properties & functions	2,10,12

5	5	5,6,7	- **How to work with recursion and algorithms**
			  - How recursion works in Python
			  - How to use recursion to add a range of numbers
			- **How to define and use functions and modules**
			- How to define and use functions
			- How to create and use modules
				4,13

6	6	5,6,7	- **How to work with file I/O** - Folder manipulation - An introduction to file I/O - How to use text files - How to use CSV files - How to use binary files	7
7	**Mid-Term Exam**			
8	*INTERSESSION WEEK*			
9	7		- **System Applications** - The sys module - The os module - The platform module - The subprocess module - Forking and piping - The socket module - **Exceptions** - How to handle a single exception - How to handle multiple exceptions Standard error - **Unit Test**	8 & Lecture Notes
10	8		- **How to use Python to work with a database** - How to connect to a SQLite database - How to execute SELECT statements	19

			- How to get the rows in a result set - How to execute INSERT, UPDATE, and DELETE statements - How to test the database code How to handle database exceptions	
11	9		- **How to define and use your own classes** - An introduction to classes and objects - How to define a class - How to work with object composition - How to work with encapsulation	14
12	10		- **How to work with inheritance** - How to define a sub-class - Polymorphism - How to work with object composition - How to work with encapsulation **How to override object methods** - Special methods Inheritance & special methods	8,15
13	10		- **Python AI and Machine learning**	Lecture Notes
14	11		- **A quick overview on Python and Web programming: Flask and Django** - **REST APIs**	Lecture Notes
15	**Final Exam**			

Please note: this schedule may change as resources and circumstances require.

For information on withdrawing from this course without academic penalty, please refer to the College Academic Calendar:
http://www.georgebrown.ca/Admin/Registr/PSCal.aspx