

Syllabus for HIMT 345

Prerequisites

None

Instructor Contact Information

A detailed description of your instructor and their contact information is located in the **Meet the Instructor & Introductions** discussion.

Course Description

Fundamental concepts of programming using a contemporary data analysis language. Topics include variables, conditional execution, functions and methods, iteration, strings, files, and data structures. Applications will be taken from the Healthcare Information Systems.

Course Objectives

- Learn the structures utilized in programming languages for decision-making and repeated operations.
- Understand the need for differing types of data and the ramifications emerging from that need.
- Realize and experience the value of the re-use of code, from both efficiency of operation and of maintenance points of view.
- Make use of programming strategies to answer data inquiries posed by healthcare professionals.

HIM Curriculum Competencies

None

Course Materials

Required Textbook

- [*Python for Informatics: Exploring Information*](#). Version 2.7.3. Charles Severance.

Course Activities and Assessments

Activities include textbook readings and video presentations. To assess your understanding of the materials, the following types of assessments will be used:

- Quizzes (in Canvas; immediate scoring)
- Self-review exercises (not submitted for evaluation)
- Lab assignments (programming in Python)
- Final Exam

Examinations

There will be a comprehensive final examination.

An early or makeup final exam will not be given unless there are extraordinary circumstances, as determined by the instructor. You **must** contact the instructor **before** the examination in order to be considered. Failing to do so will result in receiving a zero for that grade component.

Course Outline

These are the units of the course:

- Module 1: Introduction and Preparation for using PyCharm
- Module 2: Introduction to Programming
- Module 3: Introduction to Python
- Module 4: Conditional Execution
- Module 5: Using Functions in Python
- Module 6: Using Iterations in Python
- Module 7: Using Strings in Python
- Module 8: Using Files in Python
- Module 9: Using Lists in Python
- Module 10: Using Dictionaries in Python
- Module 11: Using Tuples in Python
- Module 12: Application #1 – Extracting Patient Information from a Data File
- Module 13: Application #2 – Querying Patient Data File
- Module 14: Application #3 – Reflection on Applications and Posing a Data Analysis Question
- Module 15: Final Exam

Course Policies

The Announcements area will be used as a means of communication. Please check it on a regular basis to keep current. The syllabus, schedule, and assignments are all subject to change. Any changes or need for additional information affecting the course as a whole will be communicated here.

All work is due at 11:59 pm CST unless otherwise noted. Legitimate emergencies do occur and may prevent the completion of course work by the designated time. Please inform your instructor as soon as possible when emergency situations occur and indicate your plans for completing the work. Extension of the completion time will be considered on an individual basis.

Grading

Your final grade will be based on your performance in the following activities:

Quizzes	30%
Homework Assignments	50%

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Final Exam (comprehensive) 20%

Total 100%

Grading Scale

90–100% A

80–89% B

70–79% C

60–69% D

0–59% F