Introduction to Programming Syllabus

This course will introduce the beginning programmer to programming structure and design, creating a solid foundation for all types of programming. The emphasis will be on procedural programming and control structures, although exercises will be in Java for Clinical Informatics and Health Information Management students and in Python for Bioinformatics & Computational Biology students. This course is self-paced. You may begin it at any time and proceed at any pace as long as you complete the lessons in order.

***In order to enroll in BMI 540 or BMI 565 in the Fall term of any year, you should plan on completing all modules and the final examination by September 1 of that year. This course is designed to take 10 weeks plus time for the final exam, so please plan accordingly.***

***If you have an alternative deadline for completing the course, please inform the instructor when you begin the course.***

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Required Textbooks:


Clinical Informatics and Health Information Management Students:

Bioinformatics & Computational Biology Students:

Note: There are older editions of both of these textbooks, so be sure to get the right editions.

Grading:
The evaluation consists of:

70% - Assignments (10 assignments worth 7% each of the total grade)
30% - Final Examination
The final grade is Pass/Fail and a grade of 70% or more is required for a Pass.

Assignments are returned within two weeks of submission.

Computing requirements:
In order to write and run Java or Python programs, the student will be required to have a computer with the Java development environment or Python available. Instructions will be given in the first module. Use of the Eclipse IDE (for Java) or LiClipse IDE (for Python) is highly recommended. In addition, a drawing program will be required: MS Word is suitable although MS Visio makes flowchart diagramming much easier. Google Docs also works well. Some students have also successfully used the programs such as Dia or SmartDraw.

Goals:
- Learn to represent programming logic in pseudocode and flowcharts.
- Learn to write, compile and test simple Java programs, including class clients and user-defined classes.
• Learn to select test data for programs
• Understand correct naming and declaration of variables and constants.
• Become proficient in structured programming and conversant about object-oriented programming.
• Understand the advantages of and methods for modularization of programs.
• Learn to use boolean expressions in if-then structures for making decisions.
• Learn to use looping structures and how to end loops.
• Learn to use arrays including multidimensional arrays and practice using them in sorting algorithms.

Modules:
This course consists of 10 modules. Each module contains:

• assigned readings from the textbooks (for Farrell's 8th and Smith's 8rd editions, the first 10 chapters of each are read in order, one chapter per module)
• lectures available for viewing along with a handout and audio file
• programming files
• a homework assignment

A final examination will be made available once you have completed the 10th assignment.

Professional Conduct Policy:
While discussion between students and use of external resources are important learning tools, all homework assignments and the exam are expected to be the work of the enrolled student only. Any violation will result in zero points for that homework assignment or exam. Students enrolled the certificate, BMI, or MS program should review the professional conduct policy of the Graduate Studies Program, which can be found on the enrolled student website at http://www.ohsu.edu/ohsuedu/academic/som/dmice/students.cfm

Student Access
OHSU is committed to providing equal access to qualified students with disabilities. Student Access determines and facilitates reasonable accommodations, including academic adjustments and auxiliary aids, for students with documented disabilities. A qualified student with a disability is a person who meets the academic and technical standards requisite to admission or participation in a particular program of study. As defined by the Americans with Disability Act (ADA), a person with a disability has a physical or mental impairment that substantially limits one or more major life activities of the individual. This may include, but is not limited to, physical conditions, chronic health issues, sensory impairments, mental health conditions, learning disabilities and ADHD. Student Access works with students with disabilities from all of OHSU’s educational programs and at each campus.

Each school has an assigned Program Accommodation Liaison (PAL), who acts as an “in-house” resource for students and faculty concerning access issues for students with disabilities. The PAL works in collaboration with Student Access to implement recommended accommodations for students with disabilities.

It is recommended that you contact Student Access to consult about possible accommodations if you a) received disability accommodations in the past, b) begin experiencing academic difficulties, and/or c) are given a new diagnosis from your healthcare provider.

Learn more about Student Access:
Phone: 503 494-0082
Email: studentaccess@ohsu.edu
Website: www.ohsu.edu/student-access

Use Of Sakai
This course will have an online component, which can be accessed through Sakai, OHSU’s online course management system. For any technical questions or if you need help logging in, please contact the Sakai Help Desk.

Hours: Sakai Help Desk is available Mon – Fri, 8 am – 10 pm and weekends and holidays 12 pm – 5 pm
Contact Information:
(Toll-free) 877-972-5249
(Web) http://atech.ohsu.edu/help
(Email) sakai@ohsu.edu

DMICE Communication Policy
1. If the syllabus directs the student to contact the TA before contacting the instructor, the student should do so. Otherwise, the student should contact the instructor and allow 2 business days (not including weekends) for a response.
2. If the student does not receive a response from the instructor within 2 business days, s/he should contact the TA (if there is one). When contacting the TA s/he should cc the instructor and Diane Doctor at doctord@ohsu.edu.
3. If a student does not receive a response from the TA within 1 business day (not including weekends), s/he should contact Diane Doctor at doctord@ohsu.edu and cc the instructor and the TA.
4. If Diane does not reply within 1 business day (not including weekends), the student should contact Andrea Ilg at ilgan@ohsu.edu.
5. Students having difficulties with Sakai should contact the Sakai Help Desk at sakai@ohsu.edu or at (877) 972-5249. Sakai help is available M-F from 8am to 10-pm and weekends from Noon to 5pm. Do not contact the instructor.