

Chatham University Course Syllabus

GENERAL INFORMATION

Course Title: Introduction to Programming

Course Number: CMP 202

Semester/Year: Fall 2017

Classroom: Buhl Hall:BU236

Class Time: MWF 1:00-1:50

Instructor: Stephanie Rosenthal, PhD

Contact Information: s.rosenthal@chatham.edu

Office Hours: Falk 116C, time TBD

COURSE INFORMATION

Course Description:

An introduction to programming using C++ for students with no previous computer programming experience. Includes introduction to algorithms and object-oriented programming techniques.

Student Learning Outcomes:

Program Level Student Learning Outcomes

Graduates of bachelor's-level programs in business will be able to demonstrate that they possess academic skills, professional attributes and broad-based and in-depth knowledge of business concepts and functions. This course fulfills the following Student Learning Outcome(s) for undergraduate business majors:

- Analyze situations and solve problems in business settings and make appropriate business decisions.
- Advanced knowledge in the major field of Management Information Systems

This course fulfills the following Program Level Student Learning Outcomes for undergraduate applied data science majors:

- Create effective solutions to computing challenges in analytical projects.
- Critically analyze problems and identify analytical solutions.

Specific learning outcomes for this course include:

- Create algorithms and corresponding computer code given desired specifications
- Assess and predict the outcome of running code segments
- Analyze tradeoffs between different algorithms or code segments
- Debug code segments to improve their outcomes

Required Texts and Materials:

None. All materials will be provided on the course website.

Course Requirements:

This course includes 4 programming assignments of increasing difficulty, one programming project, a midterm, and a final exam.

Programming Assignments

All programs must be the students' own work (See Course Policies), and must be submitted on time with the student's email and assignment number as the file name. For example, if Stephanie Rosenthal's email is **s.rosenthal@chatham.edu**, her assignments will be named s.rosenthal-1.py, s.rosenthal-2.py, etc. If multiple

files are required, they should be zipped (archived) as s.rosenthal-1.zip. Any deviation from this naming scheme will result in a 0 for the assignment. All code must also be commented and include readable variable names for easy evaluation by the instructor. Because we will be going over the answers to the assignments in class, all assignments should be submitted on their **due date by 11:59PM**. A 0 will be given for any assignment not submitted by this deadline.

Programming Project

Students can choose a programming project of their choice or have one assigned to them. These projects are expected to be between 100-200 lines of code. Students are required to write a proposal describing the goals of their program and algorithms they will include. Proposals should be grammar and spelling checked before submission and may require a meeting with the instructor to clarify, modify, or discuss the project. A mid-point write-up indicating progress, challenges, and next steps as well as a code submission is required three weeks later as well as a meeting with the instructor. The last week of the semester, the final code is due along with a presentation describing final algorithms and challenges. Please use the course website for instructions on how to submit these milestones. As with the assignments, all project milestones should be submitted on their **due date by 11:59PM**. A 0 will be given for any milestone not submitted by this deadline.

The grades will be based on the assignment and project as follows:

- Assignment 1: 5%
- Assignment 2: 10%
- Assignment 3: 10%
- Assignment 4: 10%
- Midterm Exam: 10%
- Project Proposal: 10%
- Project Mid-Point: 10%
- Final Project code: 15%
- Final Project Presentation: 10%
- Final Exam: 10%

Course Policies:

Attendance and/or participation:

Every student enrolled at Chatham accepts the responsibility to attend all required class meetings. To obtain the fullest benefit from their courses, students must participate fully. This implies attending regularly, engaging in course activity, completing work on time, and making up work missed because of an emergency absence. **It is the student's responsibility to let the course instructor know within the drop-add period if he or she will have to miss class for religious reasons, athletics, or other.**

Attendance will be recorded on a sign-in sheet available at the room entrance. You are not permitted to sign-in for other students. Leaving early constitutes an absence unless I am advised of this necessity at least 24 hours in advance. If you miss a class, it is up to you to get the notes for that day from a classmate. **Six unexcused absences will result in a failure in the course.**

Code Help, and Collaboration Requirements

Unless otherwise specified, all assignments should be completed individually. In other words, it is okay to collaborate in studying the course material, but the "writing on the page" or the "code in the file", as examples, should be your own thought product. **We strongly discourage using the Internet to look for answers. Similarly, help from classmates is encouraged but the helper should not show their code or answers when helping someone else (only the help requester should show their code to their classmate(s)).** Paper and pencil and/or whiteboards are the recommended collaborative study and help tools to prevent any possibility of copying working code.

If portions of your individual assignments have been significantly influenced by someone else, you should prominently give them credit for their contribution. Proper attribution is critically important -- and is an absolute defense against charges of Academic Dishonesty, Cheating, or Plagiarism.

Grades will be assigned as follows:

94-100% = A

90-93% = A-

- 87-89% = B+
- 83-86% = B
- 80-82% = B-
- 77-79% = C+
- 73-76% = C
- 70-72% = C-
- 67-69% = D+
- 63-66% = D
- 60-62% = D-
- Below 60% = F

* See Chatham catalog for Grade Point Values

Midterm Grades

As a check on progress, mid-term grades will be posted after completion of the Mid-Term Exam. Mid-term grades will be based principally on performance on the Mid-Term Exam as well as on completion of assignments and class participation and attendance to that point in the course. The last date to withdraw from the course is Wednesday, November 8th.

Missed Exams/Assignments

Only absences that are excused by an appropriate authority qualify as excused. If you must miss a class, please obtain the notes for that day from a classmate and check the class website for updates. Exams must be taken on the scheduled day. There is no provision for makeup tests other than for extreme emergency situations that must be documented by an appropriate authority.

Laptops and cell/smart phones

Use of electronics for note taking or other functions directly related to class activities is permitted when appropriate. **Note: some days, laptops will be required for in-class programming assignments.** Unrelated online/electronic activity that interferes with your and/or others' ability to pay attention in class is not permitted. Failure to abide by this policy will result in dismissal from the class and an unexcused absence.

Behavior

Common courtesy is expected. Every student is expected to come to class prepared to learn and participate in a meaningful way. Under no circumstances is a student's behavior to detract from the learning environment of others in the class. (Disruptive behavior may result in the student's dismissal from the course.)

Course Calendar/Schedule:

The instructor reserves the right to change the daily topics and/or assignment deadlines. Those changes will be made available on the course website.

M – Monday, W – Wednesday, F - Friday

	Day	Date	Topic	Assignments
1	M	8/28	Introduction	
2	W	8/30	Data Types, Abstraction	
3	F	9/1	Intro to Terminal and Python Shell Bring Computer to Class	Assignment 1 out
4	M	9/4	Labor Day (no class)	
5	W	9/6	Variables, Conditionals, Booleans	
6	F	9/8	Python Files, Input, Output Bring Computer to Class	Assignment 1 due Assignment 2 out
7	M	9/11	Main Functions, Scope	
8	W	9/13	Loops	
9	F	9/15	Command Line Input Bring Computer to Class	Assignment 2 due Assignment 3 out

10	M	9/18	File IO	
11	W	9/20	Data structures: Arrays, Dictionaries	
12	F	9/22	No class	
13	M	9/25	Data Structures: Trees, Linked Lists	
14	W	9/27	Search (arrays, strings, binary) Bring Computer to Class	
15	F	9/29	Prepare for Midterm	Assignment 3 due Assignment 4 out
16	M	10/2	Big-O Notation	
17	W	10/4	Midterm	
18	F	10/6	Go Over Midterm Answers	
19	M	10/9	Long Weekend (no class)	
20	W	10/11	Sorting Day 1	
21	F	10/13	Sorting Day 2 Bring Computer to Class	Assignment 4 Due Project out
22	M	10/16	More Data Structures	
23	W	10/18	Recursion	
24	F	10/20	File Compression Bring Computer to Class	
25	M	10/23	The Internet	
26	W	10/25	Graphs	
27	F	10/27	Meet about project proposals	Project Proposal Due
28	M	10/30	Web Programming	
29	W	11/1	Events, User Input, UI Design	
30	F	11/3	Python UI Bring Computer To Class	
31	M	11/6	Parallel Programming	
32	W	11/8	Parallel Programming	
33	F	11/10	Graph Traversal Bring Computer To Class	
34	M	11/13	Integer Overflow and Other Issues	
35	W	11/15	How a Computer Interprets Code	
36	F	11/17	Meet about project progress	Mid-Point Write-Up Due
37	M	11/20	Work in class Bring Computer To Class	
38	W	11/22	Thanksgiving (no class)	
39	F	11/24	Thanksgiving (no class)	
40	M	11/27	Computer Hardware	
41	W	11/29	Data Science and Machine Learning	
42	F	12/1	Review for Final	
43	M	12/4	Presentation Day 1	
44	W	12/6	Presentation Day 2	
45	F	12/8	Presentation Day 3	Final Code and Write-Up Due
		TBD	Final Exam	

Important Dates:

- Add/Drop Ends Tuesday Sept. 5th
- Last Day to Withdraw Wednesday Nov. 8th
- Rosh Hashanah Sept. 21st-22nd
- Yom Kippur Sept. 30th

Plan to attend the Monthly B&E Department Career-Themed Networking Mixers:

- Tuesday September 26th 5:00-6:30 PM at Kresge Atrium in Buhl Hall “Accounting” Networking Mixer [RSVP](#)
- Wednesday October 18th 1:30-2:30 PM at the Gate House “B&E Dept. Advisory Board & Students Reception and Meet New Faculty Member, Dr. Stephanie Rosenthal” Contact BED@Chatham.edu to RSVP
- Thursday November 9th 5:00-6:30 PM at Mellon Board Room “International Business and Meet New Instructor Ed Burton” [RSVP](#)
- Friday & Saturday December 1st-2nd at Eden Hall Campus “Intercollegiate Project Management Quiz Bowl” Contact BED@Chatham.edu to RSVP

POLICY STATEMENTS

Chatham University Honor Code:

Chatham University students pledge to maintain the Honor Code, which states in part: "Honor is that principle by which we at Chatham form our code of living, working, and studying together. The standards of honor at Chatham require that all students act with intellectual independence, personal integrity, honesty in all relationships, and consideration for the rights and well being of others."

Information about the Honor Code is available in the [Student Handbook](#).

Cheating and Plagiarism:

Cheating is defined as the attempt, successful or not, to give or obtain aid and/or information by illicit means in meeting any academic requirements, including examinations. Plagiarism is defined as the use, without proper acknowledgement, of the ideas, phrases, sentences, or larger units of discourse from another writer or speaker.

Turnitin.com and FERPA

In all classes, faculty must notify students if the Turnitin service may be used. Student papers are protected by the Family Educational Rights and Privacy Act as they are educational records that contain personally identifiable information. If faculty submits a paper or an excerpt from a paper on behalf of a student for evaluation by Turnitin, an alias must be used instead of the student's name and faculty will ensure that any identifiable personal information is removed before submission.

Disability Statement:

Chatham University is committed to providing an environment that ensures that no individual is discriminated against on the basis of her/his disability. Students with disabilities, as defined under the Americans with Disabilities Act of 1990 (ADA) and who need special academic accommodations, should notify the assistant dean of the PACE Center as soon as possible. The PACE Center will work with students and the course instructor to coordinate and monitor the provision of reasonable academic accommodations.

Non-Registered Students Policy:

In accordance with University policy, only officially registered students may attend this class and all other classes offered at the University after the drop/add period. Please confer with your academic advisor if you need assistance with the registration process or you need additional information.

Minimum Grade Requirements:

Graduate students must earn a grade of B- or above in all courses. Undergraduates must earn a grade of C- or above in all courses completed after spring 2011 used to fulfill major or minor requirements. Please refer to the University catalog or individual program manuals for additional information.

MINIMUM TECHNOLOGY REQUIREMENTS:

Internet Access	Broadband cable or DSL with a minimum connection speed of 768kbit is recommended; slower connections may not provide optimal course experience and performance
Operating System	Microsoft Windows 7 or higher (PC) Mac OS X 10.6 or higher (MAC) Current students may purchase Operating System upgrades from the Chatham Helpdesk
Processor Type	2.0 GHz or higher
System Memory	4GB RAM or higher
Monitor	1024x768 or higher screen resolution
Software	Microsoft Office 2013 or higher (PC) Microsoft Office 2011 or higher (MAC) All students will be provided with Microsoft Office 365 Current students may purchase Microsoft Office from the Chatham Helpdesk
Web Browser	Mozilla Firefox (Recommended for Moodle), or Google Chrome Incognito (Recommended for myPortal); other browsers such as Internet Explorer, Opera and Apple Safari are not recommended
Storage	500GB of hard drive or greater
Audio	Computer speakers and headphones
Visual	Web Camera
E-mail	Chatham University e-mail account (Microsoft Office 365)
Web Conferencing	Courses using web conferencing for online meetings require the following: <ul style="list-style-type: none"> • For audio: headphones and microphone • For video: web camera
Plug-ins	Course content may include file types that require special plug-in software, which are typically available as free downloads (ex: Real Player, Java, QuickTime, Silverlight, Adobe Reader and Adobe Flash)
Mobile Devices	Some resources are available via smartphones and tablets. Please note: Mobile devices will not be able to complete all course requirements. Students will still need regular access to a computer.
On Campus Resources	Current students have access to the following resources: 24 Hour Computer Lab – JKM Library 106 Computer Lab – JKM Library 101 Computer Lab – Buhl 236 (no printer) Computer Lab – Coolidge 42 Computer/CAD Lab – Eastside 209 Chatham IT Helpdesk – Woodland 100, Eastside 219, Eden Hall Lodge Library
Off Campus Resources	Current students have access to the following resources: Atomic Learning (http://www.atomiclearning.com/) Chatham IT (http://www.chatham.edu/its) Chatham IT Helpdesk (http://services.chatham.edu)
Current Technologies	For the most up-to-date technology, please visit Chatham IT (http://www.chatham.edu/its)