

INQ 241A Digital Media

Fall 2015

Instructor: Mr. Scotty Smith

Office Hours: M-Th 6:00 PM - 7:00 PM, or by appointment

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Course Objectives

Digital pictures, digital music, web pages, and other information stored in a computer are all just bits (0s and 1s) as far as the computer is concerned. Your computer has the ability to process these bits for the display of informative graphics, mind boggling animations, and music. However, your computer can also doctor photos and sounds with the intent to mislead. In this course students will learn how the information we observe everyday (pictures, sounds, words, numbers) is represented in bits, and how to write computer programs (in the programming language Python) that process the bits. Emphasis will be on processing pictures and sound. Students will examine the social and ethical consequences of this easy manipulation of bits.

Intended Learning Outcomes: At the end of the course the successful student will be able to

1. Students will be able to describe and apply methodologies of mathematics or computer science appropriate for the course's discipline and topic. In particular, the student will be able to
 1. represent various data types (numbers, text, pictures, and sounds) in various positional bases, and
 2. write computer programs in the python programming language, which will demonstrate an understanding of fundamental programming concepts (variables, conditionals, loops, functions, objects).
2. write about course topics clearly and effectively.
3. Students will be able to communicate effectively about the course topic in an oral format.

Course Content

Required Texts:

- ***Introduction to Computing and Programming in Python: A Multimedia Approach***, 4th Edition, By Mark Guzdial and Barbara Ericson, Pearson, 2015
- ***A Writer's Reference (7th or 8th Editions) with Writing in the Disciplines (Roanoke College Edition)***, by Diana Hacker, Bedford/St. Martin's

Additional Readings will be taken from several different sources, including:

- "Seeing is not Believing" by Hany Farid, IEEE Spectrum , v. 46, no. 8 (August 2009), pages 44 - 51.
- "DRM and privacy" by Julie E. Cohen, Commun. ACM 46, 4 (April 2003), 46-49.
- **Science, Discover, Nature**, and others, dealing with digital photographs and digital Music.

Assignments: There will be multiple programming assignments that will be given throughout the semester. These assignments are designed for the students to showcase their knowledge of the course materials. These assignments will be worked on in pairs, which you will chose when the assignment is given.

Essay: In addition to the assignments, students are required to write an essay. This essay will link the algorithms and programs written in the class to ethical and societal impacts of manipulation of media. More information will be provided later in the semester.

Activities: Every class will contain a few programming activities. These activities are designed to give the student the opportunity to practice new techniques before the assignments. Unless otherwise stated, all activities must be completed in class and turned in before leaving. No late work will be accepted for in class activities.

Tests, and Exams: Three tests and a cumulative final exam will be given.

Test Dates:	Test #1	Thursday, Sept. 24 th
	Test #2	Thursday, Oct. 15 th
	Test #3	Thursday, Nov. 12 th
	INQ241A Final Exam	Thursday, Dec. 17 (8:30 AM - 11:30 AM)

MCSP Conversations: The Department of Mathematics, Computer Science, and Physics (MCSP) is offering a series of discussions that appeal to a broad range of interests related to these fields of study. These co-curricular sessions will engage the community to think about ongoing research, novel applications, and other issues that face our disciplines. You are invited to attend all of these events but **participation in at least 1 is mandatory**. Within one week of attending an event you must submit a one page paper reflecting on (not just summarizing!) the discussion. If you do not turn the paper in within the one week time frame you may not count that event as one you attended. The MCSP discussions are generally scheduled for Wednesdays at 5:30 or Tuesday or Thursday at 7:00. A schedule will be provided soon and will be posted on the course web page. Please discuss scheduling conflicts with the instructor ASAP.

Grading: Course grades are assigned based on the following weights and scale:

Grade Weights:	activities	8%	tests	30%	final exam	30%		
	assignments	20%	essay	10%	co-curricular	2%		
Grade Scale:	93-100	A	83-86	B	73-76	C	63-66	D
	90-92	A-	80-82	B-	70-72	C-	60-62	D-
	87-89	B+	77-79	C+	67-69	D+	below 60	F

Course Policies

Academic Integrity: It is accepted that you have read and understood the standards for academic integrity at Roanoke College. All tests, quizzes, and exams are to be the work of the individual student. Assignments will be done in pairs. However, you should not discuss specifics about the assignment across pairs. You are encouraged to get help from the instructor if you need help with any aspect of the course including programs and assignments. Student assistants, tutors, and classmates may help you understand course concepts but may not show you how to do any particular aspect of an assignment. Students may discuss lab work and help each other out but in all cases the work you turn in must be your own. Copying someone else's work or turning in someone else's work is NEVER allowed. Using someone else's work or ideas as your own is plagiarism and an academic integrity offense. Examples of academic integrity violations include copying a program or part of a program (even one line) from someone else, writing code for someone else, telling someone else how to solve a problem or having someone tell you how to solve a problem. Discussion among students about programming projects should be limited to general concepts, not specific aspects of how to complete the work.

Computer Use Policies: All students must abide by the Computer Use policies of Roanoke College. Failure to do so will result in involuntary withdrawal from the course.

Attendance Policy: Class attendance is vital to your success in this course; **material covered during missed sessions is the responsibility of the student.** Conversations held in class illuminate the published class materials and are subject to evaluation on subsequent tests and quizzes. Moreover, quizzes and in-class assignments are not available for make-up.

Late Assignments: Unless otherwise specified, assignments are to be turned in before the start of class on the due date. If you anticipate being unable to meet a deadline, talk to me at least 24 hours before the deadline. In extenuating circumstances we may be able to make special arrangements. Please note that this must be discussed -- just sending an email does not automatically grant you extra time. **If you have not been granted extra time ten percent per calendar day (24 hours) will be deducted for late work (including weekends and holidays); work more than 2 days late will receive no credit.** Electronic "glitches" do not waive your responsibility to submit your work in a timely manner.

Make-up Policy: Everyone is expected to take tests, quizzes, and the exam at the scheduled time. Make-ups will be given only for legitimate, documented absences that the instructor has been notified of ahead of time. Make-up tests, if given, may be oral. There will be no make-up quizzes.

Electronic Devices: All cell phones must be muted prior to entering the classroom. The use of any unauthorized electronic device during a test or quiz is prohibited. This includes cell phone and any other non-educational devices. Any use of such a device during a test or quiz will be considered a breach of academic integrity.

Writing Center: The Writing Center @ Roanoke College, located on the Lower Level of Fintel Library, offers writing tutorials focused on written and oral communication for students working on writing assignments/projects in any field. Writers at all levels of competence may visit the Writing Center at any point in their process, from brainstorming to drafting to editing, to talk with trained peer tutors in informal, one-on-one sessions. The Writing Center is open Sunday through Thursday from 4 to 9 pm. Simply stop in, or schedule an appointment by going to www.roanoke.edu/writingcenter (<http://www.roanoke.edu/writingcenter>), where our schedule of writing workshops and creative writing playshops is also posted. Questions? Email writingcenter@roanoke.edu or call 375-4949.

The Office of Disability Support Services: located in the Goode-Pasfield Center for Learning and Teaching in Fintel Library, provides reasonable accommodations to students with identified disabilities. Reasonable accommodations are provided based on the diagnosed disability and the recommendations of the professional evaluator. In order to be considered for disability services, students must identify themselves to the Office of Disability Support Services. Students requesting accommodations are required to provide specific current documentation of their disabilities. Please contact Rick Robers, M.A., Coordinator of Disability Support Services, at 540-375-2247 or e-mail robers@roanoke.edu.

If you are on record with the College's Office of Disability Support Services as having academic or physical needs requiring accommodations, please schedule an appointment with Mr. Robers as soon as possible. You need to discuss your accommodations with him before they can be implemented. Also, please note that arrangements for extended time on exams, testing, and quizzes in a distraction- reduced environment must be made at least one week before every exam.

Tentative Schedule:

Please note that the following schedule is tentative, and thus subject to change. Students in this class should expect to spend 12 total hours combined inside the class and outside of the class.

Week 1	Course introductions	Guzdial Chapter 1
Week 2	Introduction to Programming & Turtle	Guzdial Chapter 2 & Additional Turtle Readings
Week 3	Programming Continuation: Loops and Control Structures. Assignment 1 Given	Guzdial Chapter 3
Week 4	Programming Continuation: More on Text. Test #1. Assignment 1 Due.	Guzdial Chapters 1-3
Week 5	Images	Guzdial Chapter 4
Week 6	Images Continued. Assignment 2 Given.	Guzdial Chapter 5
Week 7	Images Finale. Assignment 2 Due.	Guzdial Chapter 6
Week 8	Brief Web Interlude and Test #2	Guzdial Chapters 4 - 6, Guzdial Chapter 10
Week 9	Sound and Music.	Guzdial Chapter 7
Week 10	Sound and Music. Assignment 3 Given.	Guzdial Chapter 8 - 9
Week 11	Movies. Assignment 3 Due.	Guzdial Chapter 14
Week 12	Movie Finale & Test #3. Assignment 4 Given.	Guzdial Chapter 14
Week 13	Assignment 4 Due and Presentations	None