INQ241
Mobile Apps
Syllabus

Instructor: Dr. Durell Bouchard
Office Hours: MWF: 12:00 PM - 1:00 PM, TTH: 1:10 PM - 2:10 PM
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Course Objectives

At the core of every smart phone is a computer that functions by manipulating bits, 0s and 1s. So, how can these diminutive computers allow users to play music, share photos, and play games by manipulating bits? In this course students will learn how data is represented with bits and how to manipulate the bits to create mobile apps for smart phones with the visual programming language App Inventor. Students will also examine the social and ethical consequences of a society where individuals carry a device that can collect, manipulate, and transmit personal information in the form of bits.

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

1. describe and apply methodologies of mathematics or computer science appropriate for the course's discipline and topic. In particular, students will be able to write computer programs, in the Python language, that will demonstrate an understanding of fundamental programming concepts (variables, conditionals, loops, functions).
2. write about course topics clearly and effectively.
3. communicate effectively about the course topic in an oral format.

Other Intended Outcomes: I hope that by working hard throughout the semester you will:

1. look forward to coming to class
2. think of programming assignments as fun puzzles
3. celebrate failure as an opportunity to learn
4. feel like there is no system too complicated for you to learn

Course Content

Prerequisites: There are no prerequisites for this course.

Texts: *How to Think Like a Computer Scientist: Learning with Python: Interactive Edition*, by Bradley Miller and David Ranum, Runestone Interactive.

EasyWriter, by Andrea A. Lunsford, Bedford/St. Martin's.

Project: The focus of the course is the development of your own app. This multi-week project is where you use your programming skills to create a program you are proud to show your friends and family.

Activities: In-class activities are an opportunity to practice the programming skills you have learned. Collaboratively learning to program is easier and more fun, so you are encouraged to work on activities with classmates. Completing these activities helps prepare you for project.

Quizzes, Tests, and Exams: Short quizzes will be given to make sure you understand the concepts and keep up with the course work. Quizzes will be at the beginning of class. No make-up quizzes will be given. In addition, there will be three tests and one comprehensive final exam.

Test	Date
Test 1	Monday, February 13
Test 2	Friday, March 17
Test 3	Friday, April 14
Final Exam	Saturday, April 29 (8:30 AM - 11:30 AM)

Co-curricular: The Department of Mathematics, Computer Science, and Physics is offering a series of lectures designed to engage the campus community in discussions of ongoing research, novel applications, and other issues that face these disciplines. You may submit to Inquire up to two papers reflecting on a talk you attend for extra credit.

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

Grade Weights

Category	Weight
Quizzes	15%
Activities	15%
Project	15%
Tests	36%
Final Exam	19%

Grade Scale

Grade	Range	Grade	Range
A	93-100	C	73-76
A-	90-92	C-	70-72
B+	87-89	D+	67-69
B	83-86	D	63-66
B-	80-82	D-	60-62
C+	77-79	F	0-59

Course Policies

Attendance Policy: If you have a temperature of 100.4 or higher or other COVID symptoms, don't come to class. Call Health Services IMMEDIATELY. Do not come to class or go to any public area on campus. For your absence to be excused, you must permit Health Services to notify me that you have consulted them about COVID symptoms. If Health Services informs you that you should isolate and not attend class for multiple days, tell me to make a plan to keep you current in the course. All absences caused by consultation with Health Services about coronavirus symptoms or isolation ordered by Health Services will be excused. Still, you will need to do the work and graded assignments even if we extend your deadline.

Class attendance is vital to your success in this course; the material covered during missed sessions is the responsibility of the student. Conversations in class illuminate the published class materials and are subject to evaluation on subsequent tests and quizzes. If you anticipate being unable to attend class, email me before class to be excused.

Make-up Policy: Everyone is expected to take tests and the exam at the scheduled time. If you have an excused absence, email me to arrange for a make-up. Unexcused absences will result in receiving no credit for missed tests and exams.

Late Policy: Unless otherwise specified, assignments are to be turned in before class start on the due date. If you anticipate being unable to meet a deadline, email me before the deadline to request an extension. Unexcused late work will receive no credit.

Academic Integrity: I expect everyone to follow the Academic Integrity policy detailed in the handbook Academic Integrity at Roanoke College. If you ever have questions about how these policies apply to our class, please contact me. The bottom line is that all work you submit for a grade must be solely your own unless explicitly stated as group work.

Electronic Devices: All cell phones must be silenced and stored out of sight during class. The use of any electronic device during a test or quiz is prohibited. Any use of such a device during a test or quiz will be considered a breach of academic integrity.

Subject Tutoring: Subject Tutoring, located on the lower level of Fintel Library (Room 5), is open 4-9 PM, Sunday-Thursday. Subject Tutors are highly trained, current students who offer free, one-on-one (and small group) tutorials in over 80 courses taught at Roanoke College, including: Business, Economics, Mathematics, INQ 240, Modern Languages, Lab Sciences, and Social Sciences. Check out all available subjects and schedule 30- or 60-minute appointments at <www.roanoke.edu/tutoring>. If you have a question, feel free to stop by, or contact us at subject_tutoring@roanoke.edu or 540-375-2590. See you soon!

Accessible Education Services: Accessible Education Services (AES) is located in the Goode-Pasfield Center for Learning and Teaching in Fintel Library. AES provides reasonable accommodations to students with documented disabilities. To register for services, students must

self-identify to AES, complete the registration process, and provide current documentation of a disability along with recommendations from the qualified specialist. Please contact Becky Harman, Assistant Director of Academic Services for Accessible Education, at 540-375-2247 or by email at aes@roanoke.edu to schedule an appointment. If you have registered with AES in the past and would like to receive academic accommodations for this semester, please contact Becky Harman at your earliest convenience to schedule an appointment and/or obtain your accommodation letter for the current semester.

Diversity: I consider this classroom to be a place where you will be treated with respect, and I welcome individuals of all ages, backgrounds, beliefs, ethnicities, genders, gender identities, gender expressions, national origins, religious affiliations, sexual orientations, ability – and other visible and nonvisible differences. All members of this class are expected to contribute to a respectful, welcoming, and inclusive environment for every other member of the class.

Preferred Name/Pronoun: I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester to make appropriate changes to my records.

Course Schedule

This course expects you to spend at least 12 hours of work each week inside and outside of class.

Week	Topic
1	Turtle
2	Expressions
3	Variables
4	For Loops
5	Graphics
6	Functions
7	Conditionals
Spring Break	
8	While Loops
9	Objects
10	Lists
11	GUIs
12	Project
13	Project