

Syllabus
COSC-015-01 – Introduction to Computer Science using Ruby - Spring 2015
11:00 am - 12:15 pm Monday / Wednesday
ICC 117

Instructor: Willis Addison Woods, Ph.D.
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Office Hours: Daily hours will be entered on Blackboard calendar
(or by appointment)

TA: Giovanna Kimberly

Course Description:

The purpose of this course is to acquire a basic knowledge of what is Computer Science, using a non-mathematical approach geared to students of the Humanities and Social Sciences. Further, to acquire an understanding of the methods used to arrive at solutions of text related problems, games and other non-mathematical processes, using a subset of a novel programming language. The language selected, Ruby, represents the most modern breed of languages, and is gaining rapid recognition and heavy usage throughout the world.

Prerequisites:

None. No use of mathematics above the high school level is required, although the capability to analyze problems and synthesize solutions will be assumed.

Course Objectives:

- Acquire a basic knowledge of computer science
- Acquire an appreciation of algorithm development, algorithm analysis, computational complexity, and analysis of algorithm performance
- Learn the basic concepts of object oriented programming
- Learn programming concepts common to any development environment, including: control structures for selection, control structures for repetition, boolean (logical) operations, arithmetic operations, character and string processing, file input/output, and basic data structures
- Learn the basic techniques and algorithms used to search and sort text data
- Use the Ruby programming language to write computer programs that implement techniques and concepts listed above to solve problems

Required Text:

Computer Science Programming Basics in Ruby, by Ophir Frieder, Gideon Frieder, and David Grossman

Grading:

Exam1 (15%), Exam2 (20%), Exam3 (25%)

Project1 (15%), Project2 (15%)

Homework/Quizzes/Class Participation (10%)

All exams are cumulative, and cover all assigned reading, class discussions and homework.

Grading Scale:

<i>Grade</i>	<i>Range</i>
A	94 and up
A-	90-93
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	74-76
C-	70-73
D	61-69
F	60 and below

Submitting Assignments: Assignments will be posted on Blackboard. All electronic submission requirements (source code, reports, conclusions, etc.) must be posted to Blackboard prior to the due date and time. Source code should be text files with the appropriate extension. Other file formats will be specified in the project description if applicable, naming conventions will be specified in the project description.

Additionally, please note:

- Unless otherwise specified in the assignment document; all assignments are due before class begins on the due date.
- A 2.5% penalty will be deducted per quarter-hour for any assignment that is submitted late.
- No make-up exams or early exams will be provided.

- If you miss a pop quiz or in-class graded exercise, no make-up will be provided (see below for possible exceptions).
- In general requests for due date extensions will not be considered. If you have a personal or family emergency that affects your school work, I expect you to notify me immediately. Your notification to me must include contact information for your academic advisor. After discussing your emergency situation with your academic advisor and/or dean's office; I will determine if an accommodation is justified. If you have a medical issue or emergency notify me immediately. Once the medical situation is under control I will need a copy of a doctor's note explaining any missed class time or inability to work on assignments. At that time I will determine if an accommodation is justified. Your doctor's note must be acquired **prior to** the missed requirement and must **clearly and definitively state** that you were unable to complete academic duties during the time of the missed requirement.

Programming Environment: Ruby installed on a PC or Mac. You will also need a program capable to creating and editing text files.

Attendance and Expectations: Attendance is required. Not attending lectures will have an adverse effect on your class participation score and could result in missing a graded exercise. You will be responsible for everything covered in class even if it is not in the textbook. If you need to leave the classroom during a lecture feel free to do so as quietly as possible. Please turn off cell phones or set them to vibrate prior to the start of class. Food and drinks are not allowed in the classroom.

Academic Honesty: I am required to report any suspicion of academic dishonesty to the Honor Council.

Calculators may be used in all exams, although they may not be needed. Books and notes may not be used, with the following exceptions: In the first exam, you may prepare and use 2 sheets of 8½ by 11 inch paper. In the second exam you can use 4 sheets, and in the final exam you can use 6 sheets. You may write whatever you wish on these note sheets. No materials or calculators may be shared during the exams.

All homework assignments and individual projects must be the result your own effort. You may use outside resources such as research papers and books from the library but any solution techniques taken from outside sources must be properly documented. In the case of computer code submissions, these references should be cited in the program comments. Material from web sites should be cited with a url and adequate information to determine what was used from that site.

You are permitted to have conversations and interactions with other students concerning general programming techniques. This means the kind of discussions

one would reasonably expect to occur standing in front of a whiteboard. Such discussions are restricted to the features of the Ruby (or any other) programming language and the general use of those features. This **explicitly precludes** the detailed discussion of your program code or other assignment products. You are **strictly prohibited** from discussing the specific details of your project or homework solution. You are **strictly prohibited** from viewing or copying someone else's source code. You are **strictly prohibited** from allowing someone else to view or copy your source code. You may not email or otherwise provide to someone else the files associated with your programming project or other assignment documents. You may not submit someone else's file or files as your own.

Weekly Class Schedule: Provided separately. It is possible that inclement weather, such as a snow emergency; or some other event could shut down the Georgetown campus. If that happens our class will meet as scheduled using Blackboard Collaborate. I will schedule some "virtual office hours" using Blackboard. You are encouraged to connect to one of those sessions early in the semester to ensure that you can successfully join and participate in Blackboard collaborate. The morning a campus shutdown is announced is not a good time to start dealing with connection issues.

Course topics, administrative guidelines, and other specifics discussed in this syllabus are subject to change. Notice of any changes will be provided in class.