

CSCI310: Advanced Programming using Ruby and Rails

1.	Course Prefix and number	CSCI 310
2.	Number of semester hours	2 An undergraduate student should expect to spend on this course a minimum of two hours outside the classroom for every hour in the classroom. The outside hours may vary depending on the number credit hours or type of course. More details are available from the faculty member or department office and in CMU's <i>Curriculum Policies and Procedures Manual</i> .
3.	Pre-requisites	CSCI 110 or CSCI 111 or programming experience with high level language.
4.	Location of classroom and time course meets	WS 120 5:00-6:40 Tuesday, Thursday
5.	Intstructor Web Page	Daniel Carroll dan AT coloradomesa DOT edu
6.	Office Hours	LHH 235, TH: 4:00PM - 5:00PM, MWF: 11:30AM - 12:30PM
7.	Course Description	To learn and explore the Ruby programming language and its core libraries, as well as use the Rails 4 framework and, time permitting, a brief look at some of the technologies that the Rails Framework builds upon or are commonly used with it, like source code management, SQL, HTML, CSS, and javascript.
8.	General Education Objectives	This is not a general education class.
9.	Textbook and Materials	Recommended, but not required. Programming Ruby 1.9 & 2.0. Pragmatic Bookshelf, 2013, by Dave Thomas. ISBN:

		978-1-93778-549-9.
10.	Course Objectives	Learn ruby.
11.	Policy on absences and tardies	Attendance will be taken. Missing the first 3 classes, or more than 5 classes may result in an instructional withdrawal from the course.
12.	Policy on late work	If a student needs more time on an assignment, the instructor needs to be contacted before the assignment is due.
13.	Policy on academic dishonesty	It is illegal to plagiarize web content, or to use content not permitted by copyright policy. It is dishonest to claim other's work as your own or use tools outside the scope of the projects to build your website. You may be given a failing grade on a project or the course overall for academic dishonesty. You may work with friends to help guide problem solving, but copying—from friends, previous students, or the Internet—is strictly prohibited. If caught cheating, you will fail this course. Ask questions in class and at office hours, and email me if you have questions. If you're really stuck and can't get help, write as much code as you can and write comments within your code explaining where you're stuck.
14.	Disability Arrangements	In coordination with Educational Access Services, reasonable accommodations will be provided for qualified students with disabilities. Please meet with the instructor the first week of class to make arrangements. Nancy Conklin, the Coordinator of Educational Access Services, can be contacted at 248-1826, or in person in Houston Hall, Suite 108.
15.	Evaluation and grading	Tests and homework assignments will be graded on a combination of objective and subjective basis. Students that do more than is required on an assignment, and demonstrate knowledge of the Ruby programming language and the Rails framework will achieve higher grades.
16.	Major assignments	Most of the grade earned will come from a class project due at the end of the semester.
17.	Course Topics	See below
18.	TLC	Houston Hall 113

		The TLC is a FREE academic service for all Colorado Mesa University students. Tutors are available on a walk-in basis for many courses. Do you have a quick question? Do you need homework clarification or feedback on a paper? Are you reviewing for a test? Help is available at the TLC! At the main campus, come to Houston Hall 113 to meet with one of our friendly peer tutors. We are open on Monday, Wednesday and Thursday from 8am-6pm; Tuesdays from 8am-7pm, and Fridays from 8am-5pm. We are also open Sundays from 1pm-6pm! Tutoring at branch campuses and distance tutoring is also available. Check out the website for schedules and locations at www.coloradomesa.edu/tutoring or call 248-1392 with any questions.
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Calendar

Week	Mon	Tue	Wed	Thu	Fri
16-Mar		Tue 18-Mar 1		Thu 20-Mar 2	
23-Mar		Tue 25-Mar *Spring Break*		Thu 27-Mar *Spring Break*	
30-Mar		Tue 01-Apr 3		Thu 03-Apr 4	
6-Apr		Tue 08-Apr 5		Thu 10-Apr 6	
13-Apr		Tue 15-Apr 7		Thu 17-Apr 8	
20-Apr		Tue 22-Apr 9		Thu 24-Apr 10	
27-Apr		Tue 29-Apr 11		Thu 01-May 12	
4-May		Tue 06-May 13		Thu 08-May 14	
11-May		Tue 13-May 5PM Final		Thu 15-May *Finals*	

Course Topics

[Ruby on rails on vagrant](#)

[First Tutorial](#)

<http://rosettacode.org/>

<http://compileonline.com/>

Learn the Ruby syntax conventions for naming classes, constants, variables, class instance variables, and class global variables.

To learn what constitutes "true" and "false" (boolean logic) in expressions.

Learn to recognize and use Ruby code blocks and iterators.

Learn how Ruby handles variable scoping (including in closures).

Create an OO class in Ruby, and extend either it or an existing class to add a new behavior and/or modify an existing behavior.

With the core Ruby libraries, create several small programs that (individually) utilize:

- Threads

- Basic data classes, including

- strings, arrays and hashes

- Classes to read/write files

- Classes to scan directories and

- enumerate the files and directories under them

- Regular expressions to match patterns in strings

For a class project, create a web application using the Rails 4 framework. This project will persistently store data, and allow a user to view, add, update, and possibly delete, data from this persistent store.