

CS 3030 Scripting Languages - Syllabus

General Information

Semester:	Spring 2021
Textbook:	None. We will use freely available resources from the Internet.
Location:	Online
Instructor Info:	Ted Cowan tedcowan@weber.edu (801) 957-4769 (office @SLCC Redwood)
Office Hours:	Mondays, Tuesdays and Thursdays by appointment only , Virtually, either by phone or Zoom webinar. To schedule me when I am available, access https://webercsatslcc.youcanbook.me .
Website:	https://weber.instructure.com/courses/529145

Objectives of This Course

From the catalog

This course addresses the design of scripting languages and their applications. Scripting languages can be used to manipulate text and data using subtle and complex coding to automate many tasks. Students will learn to write simple scripts to automate system administration tasks using appropriate languages. This course explores the nature of scripting, the role of scripting languages, introduces some of the popular scripting languages and their applications, and provides skills in scripting language design.

Upon successful completion of this course, students should be able to

- Show examples of scripting languages and command interpreters
- Identify good candidate administrative functions for scripting
- Understand the benefits and challenges of scripting
- Demonstrate basic scripting in the Linux/Unix environment
- Use the vi(m) text editor to perform basic text editing functions
- Identify basic syntax and language elements of a Bash script and write a complete Bash script to automate common administrative functions
- Use man pages and the Internet as documentation for Linux/Unix command-line programs
- Use regular expressions to search text files
- Identify basic syntax and language elements of a Python script and write a complete Python script to automate common administrative functions
- Use the module mechanism to add functionality to a Python script

- Read and write files and databases and generate test data in a Python script
- Identify basic syntax and language elements of a PowerShell script and write a complete PowerShell script to automate common administrative functions
- Write working scripts that solve business problems in PowerShell.

Students with Disabilities

Students who have special needs or disabilities that may affect their ability to access information and/or material presented in this course are encouraged to access http://www.weber.edu/ssd/ssdPP00_registering.html to register with the WSU SSD.

Course Fees

Course fees for the Computer Science major are designed to cover the costs of lab equipment maintenance and replacement including desktop and server computer systems and software; consumable materials and supplies; and support for lab aides, student tutors, and online instructional resources.

Allotted Time

You should anticipate spending two to three hours of study per week for each credit hour of a university course. Computer and programming classes typically require time in the upper range.

Grading

Your final grade will be determined from your performance in the following areas:

Lab Assignments	65%
Quizzes	12%
Final	20%
End of Semester Assessment	3%

Class Format

A reading assignment and a short lecture video will be posted in each learning module. Each student is expected to watch the video and read the assigned reading material prior to completing the associated lab work and taking the quiz. Questions about the lab, reading material or video may be asked in the Instructor's Blog in Canvas.

Honesty

CS Department policy dictates that any verifiable evidence of student academic cheating, as defined and determined by the instructor, will result in: 1) an automatic failing grade for the class and 2) a report to the Dean of Students that will include the student's name and a description of the student's dishonest conduct. Cheating is defined in the Weber State University Policies and Procedures Manual located at http://www.weber.edu/ppm/Policies/6-22_StudentCode.html.

Anyone determined to have copied another's lab assignment, quiz or test, or use resources not specifically authorized while completing any of the above, or who provides any unauthorized resources to another will receive a failing grade for the semester. Please do your own work. You may study together but lab assignments, quizzes and tests are to be completed individually and not as a group. Please do not distribute or post solutions to lab assignments or the content of any quiz or test on the Internet.

Homework

Please complete the reading and video assignment prior to attempting the homework. A schedule of reading and lab assignments can be found below. All assignments are to be submitted for grading to `github.com`. For the Linux-based assignments, students are directed to work on their Lab assignments using their student account on the WSU CS Linux server `icarus`. Icarus is accessible from anywhere on the Internet using an SSH client such as PuTTY (more about PuTTY in Lab 1).

Assignments

Lab assignments will be given during the semester. The lab assignments are typically short and should help you to learn Unix/Linux scripting one task at a time. All lab assignments must be submitted to Github to receive credit.

You will turn in your lab assignments for this class by uploading your code to `github.com`.



Never upload any files to Canvas or email them to the instructor. Always submit your assignment by uploading the correct files to the supplied private repo on Github.com, prior to the due date and time. Assignments not submitted in this manner will not be graded and you will receive a zero for the assignment.



Unless directed to do otherwise, all code created or modified by you MUST be placed in the root folder of their Git repo or you will receive a zero for the assignment.

Grading

Your code will be retrieved from your private repo on Github.com and executed, perhaps masquerading as you and ensure that the output of your lab complies with the assignment. If your submission is on time, runs without errors and produce the proper output, you will receive full credit for the assignment. If significant features are missing or bugs are found, you will receive a lower score based on the severity of the error. Naming and location of files is critical to grading so please name your folders and files exactly as specified in the lab description and ensure that

your script is executable. See each lab assignment for more information. I reserve the right to give you a zero for the assignment if you do not follow the naming instructions to the letter when I grade that particular assignment. I also reserve the right to perform additional tests to ensure the lab requirements are completely met.

Lab assignments are due on the **date and time** listed in Canvas. Please refer to the Learning Modules, the Syllabus or the Calendar in Canvas for actual lab assignment due dates. The dates in this syllabus are guidelines only and are subject to change to meet the needs of the class.

Quizzes

Quizzes are due on the days listed in Canvas and based on the material in the associated Lab. Quizzes may consist of multiple choice, true/false and short answer questions. Your lowest quiz score will be dropped. Quizzes are open book and open note but closed neighbor. You are on the honor system. Quizzes cannot be turned in late. Each quiz is timed; you have one hour once you begin to complete it. Because some students are better programmers than quiz takers, you may take each quiz up to twice each.

Exam

A Final exam will be administered during Finals Week and due on the day listed in Canvas. The exam is based on multiple-choice, true/false or short answer-type questions. The exam is open book this semester. Please note the ending date and time for the exam.

Grading Scale

The grading scale will be as follows:

100-94% = A	83.9-80% = B-	69.9-67% = D+
93.9-90% = A-	79.9-77% = C+	66.9-64% = D
89.9-87% = B+	76.9-74% = C	63.9-60% = D-
86.9-84% = B	73.9-70% = C-	below 60% = E

Miscellaneous

The instructor reserves the sole right to amend the course schedule, or study material, or to add, change or subtract lab assignments, quizzes or examinations to best meet the needs of the class.

Your instructor maintains office hours at his office as described above, and I suggest you make use of them if you are having trouble completing the assignments, quizzes or tests. See the Instructor Info section at the top of this syllabus for directions and instructions.

No extra credit will be offered for this class.

Nothing may be turned in late for credit in this class except the Getting Started Quiz.

A grade of Incomplete will be given only in extreme circumstances and the procedure is governed by the WSU PPM.

Schedule



This schedule is a guideline only. The actual due dates are those found in Canvas.

Week	Date	Topic	Assignments
1	Jan 11	Introduction to Scripting Modules 1 and 2	Getting Started Quiz, Lab 1, Github username
2	Jan 18	UNIX/Linux Tools and BASH Basics Module 2	Lab 2
3	Jan 25	Regular Expression and Web Page Creation Module 3	Lab 3
4	Feb 01	Introduction to Python Module 4	Lab 4
5	Feb 08	Python Labs, Strings, Lists and Tuples Module 5	Lab 5
6	Feb 15	Python Labs, Strings, Lists and Tuples Module 5	Lab 5
7	Feb 22	Python Dictionaries, File I/O and shlex Module 6	Lab 6
8	Mar 01	Python Dictionaries, File I/O and shlex Module 6	Lab 6
9	Mar 08	Introduction to PowerShell: rewrite Lab 2 in PowerShell Module 7	Lab 7
10	Mar 15	PowerShell: rewrite Lab 2 in PowerShell Module 7	Lab 7
11	Mar 22	PowerShell: rewrite Lab 5 in PowerShell Module 8	Lab 8
12	Mar 29		Lab 8

		PowerShell: rewrite Lab 5 in PowerShell Module 8	
13	Apr 05	PowerShell: rewrite Lab 6 in PowerShell Module 9	Lab 9
14	Apr 12	PowerShell Lab 9: rewrite Lab 6 in PowerShell Module 9	Lab 9
15	Apr 19	PowerShell Lab 9: rewrite Lab 6 in PowerShell Module 9	Lab 9
16	Apr 26	Final Exam Week	Take the Final by the due date and time listed in ChiTester and Canvas