

# Course Syllabus

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## CLASS INFORMATION

<b>Class Meeting Time</b>	Monday to Friday 11:00am to 11:50am at CEB 228 From week 2, there will be lab on Wednesdays at CEB 102.
<b>Instructor</b>	Shamima Yasmin, PhD
<b>Instructor Office</b>	CEB 315
<b>Instructor Office Hours</b>	Monday to Friday 12:00 pm to 1:00 pm
<b>Instructor Email</b>	<a href="mailto:syasmin@ewu.edu">syasmin@ewu.edu</a> ( <a href="mailto:syasmin@ewu.edu">mailto:syasmin@ewu.edu</a> )

## COURSE DESCRIPTION

This course includes program development tools of the UNIX operating system and syntax and programming techniques of the C language in that environment. UNIX topics include interactive shells, common text editors, utility programs, file system structure and libraries. C topics include data types, structures, pointers and pointer arithmetic, arrays, linked lists, and function design and use. Programming assignments are required.

## COURSE OUTCOME

**After successful completion of this course,**

- Students are able to utilize Unix/Linux shell commands to manage their files, including create, rename, copy and change permission etc.
- Students will understand and know how to use powerful shell utilities in Unix /Linux systems, such as wildcard, regular expression, grep and find.
- Student will learn and apply unique features of Unix/Linux systems, such as Piping and I/O redirection etc.
- Students will learn the concepts of processes and jobs in Unix/Linux system, and to manage processes and jobs using Unix commands.
- Students will learn and use tools and utility programs in Unix/Linux environment for C programming, including editors (vi or nano or emacs), compile driver (GCC), debugger tools (GDB) and deployment tool (Make).

- Students will learn and apply in their assignments and projects various C topics, including C data types, file I/O, function design, pointers and pointer to pointer (double pointers), structures etc.
- Students will understand how C differs from Java in low level memory access and management.
- Students will learn and be able to apply a 2D dynamic array (represented as a pointer to pointer) or linked lists in homework or project.

## **COURSE WEBSITE**

All materials, notes and announcements are posted on Course Website. You should turn in your assignments and labs through EWU canvas unless otherwise specified.

## **REFERENCES**

### **C programming:**

Wikibooks, C Programming, [http://en.wikibooks.org/wiki/C\\_Programming](http://en.wikibooks.org/wiki/C_Programming)  
([http://en.wikibooks.org/wiki/C\\_Programming](http://en.wikibooks.org/wiki/C_Programming)).

The C programming Language by Brian W. Kernighan and Dennis M. Ritchie. PDF is provided on the course website

C programming\_tutorial, PDF is provided on the course website

### **LINUX/UNIX:**

Shotts, William, The Linux Command Line, PDF provided on the course website.

## **COMMUNICATION AND EMAIL**

During weekdays, I could reply your email within 24 hours. If you send me emails on weekends, it may take longer time to respond.

## **ENVIRONMENT**

A command line UNIX/LINUX environment is required for this class. The lab computers are dual boot with LINUX already installed. To help your practice, I will show you how to set up a simulation environment.

## **TOPICS**

A tentative sequence of topics that we will cover this quarter.

	Introduction to C and UNIX
	UNIX shells, file systems and basic file system commands
	Intermediate file system commands, pipes, grep, stdin, stdout,

	stderr
	Basics of C programming : C types, loops, boolean, bitwise operators, Editing, compiling, debugging programs
	Variable Scope ( local and global variables)
	C arrays, pointers, pointer arithmetic, strings, malloc, calloc, free
	C double pointers, pointers as function parameters, return pointers
	Call by value and call by reference, Call by reference with pointers and double pointers.
<b>Mid Quarter Quiz</b>	<b>Details will be announced</b>
	Files and file I/O, including high level and low level file I/O APIs
	Structures and typedef, linked list.
	Pointers as a member of structure type, pointers to structure variables
	Make and makefiles, function pointers, void pointers.
	Debugging C programs Using GDB
	Linking, loading, advanced system programing.
<b>Final Exam</b>	<b>To be announced</b>

## **GRADING**

Mid quarter quiz	<b>10%</b>
Final Exam	<b>15%</b>
Homework ( 5 to 6)	<b>30%</b>

Labs (5 to 6)	<b>30%</b>
Quiz (4)	<b>5%</b>
Attendance	<b>5%</b> <b>If any student is found to miss a total number of ten classes, he/ she will be immediately given a 0.0 grade.</b>
Instructor's discretion and class participation	<b>5%</b> <ul style="list-style-type: none"> <li><b>You need to meet with me every two weeks to give an update on the course (i.e., whether you are having any difficulty, you need any extra help in the course or if you have any suggestions regarding the improvement of the course;</b></li> <li><b>You are expected to attend the PLUS tutoring session.</b></li> <li><b>Your participation in the class will also be counted.</b></li> </ul>

The following chart will be used to convert the percentage grade into the letter grade.

93% - 100%	A
90% - 92%	A-
87% - 89%	B+
84% - 86%	B
80% - 83%	B-
75% - 79%	C+
72%-74%	C
68% - 71%	C-
65% - 67%	D+

62% - 64%	D
58% - 61%	D-
< 58%	F

- Students must achieve a **C+** or better in order to pass this class.

### **Labs / Homework:**

Labs and Homework assignments will be in the form of written and/or programming projects. They are due BY THE REQUIRED TIME. Thereafter, late submissions WILL NOT be accepted. So please DO NOT ask for extension except documented or extreme cases.

All assessments (including labs, assignments and exams) will be graded and published within one week (7 days) after the assessments are due.

## **Academic Integrity**

Academic Integrity is the corner stone of the university. Any student who attempts to gain an unfair advantage over other students by violating the Academic Integrity policy may be reported to the university and may receive a sanction up to and including a grade 'F' for the course, suspension, or expulsion from the university. This policy is on the EWU web site. <https://sites.ewu.edu/policies/policies-and-procedures/wac-172-90-student-academic-integrity-3/> [\(https://sites.ewu.edu/policies/policies-and-procedures/wac-172-90-student-academic-integrity-3/\)](https://sites.ewu.edu/policies/policies-and-procedures/wac-172-90-student-academic-integrity-3/)

Students are also expected to act in accordance with the department's **Code of Professional Conduct for Students** [\\_\(http://access.ewu.edu/Computer-Science/Code-of-Ethics.xml\)](http://access.ewu.edu/Computer-Science/Code-of-Ethics.xml). Students who copy another's program/work may be subject to severe disciplinary action, which may include a course grade of **F** and a written statement in his/her permanent record. You are allowed to discuss your thoughts with other classmates; however, you must submit your own work. Generally, it is now allowed to show your source code to other students, while you work together.

## **Emergency Information**

Campus-wide emergency response procedures can be found here:

<https://access.ewu.edu/police/comprehensive-emergency-management-plan/emergency-response> [\\_\(https://access.ewu.edu/police/comprehensive-emergency-management-plan/emergency-response\)](https://access.ewu.edu/police/comprehensive-emergency-management-plan/emergency-response). In the event of the following dial 911:

Life/property in immediate danger, smoke or fire, crimes in progress, rescue or emergency medical assistance is needed.

## ADA Statement

Eastern Washington University is committed to providing support for students with disabilities. If you are a student with physical, learning, emotional, or psychological disabilities needing an accommodation, you are encouraged to stop by Disability Support Services (DSS), TAW 121 and speak with Kevin Hills, the Manager DSS or call **509-359-6871**.

## Equal Opportunity Statement

Eastern Washington University does not discriminate on the basis of race, color, creed, religion, national origin, sex, pregnancy, sexual orientation, gender identity/expression, genetic information, age, marital status, families with children, protected veteran or military status, HIV or hepatitis C, status as a mother breastfeeding her child, or the presence of any sensory, mental, or physical disability or the use of a trained guide dog or service animal by a person with a disability, as provided for and to the extent required by state and federal laws.

## Affirmative Action Statement

Eastern Washington University adheres to affirmative action policies to increase the number and retention of students and employees from historically underrepresented groups.

## Title IX and Mandatory Reporting

Eastern Washington University recognizes the inherent dignity of all individuals and promotes respect for all people. Sexual misconduct will NOT be tolerated at EWU. If you have been subjected to sexual misconduct, we encourage you to report this matter promptly. As faculty members, we are to promote a safe and healthy academic environment, and any sexual misconduct should be reported to the Title IX Coordinator. Should you want to report to a confidential source you may contact the following:









- Sexual Assault Family Trauma (SAFeT) – 509-624-7273 – 24 hours
- YWCA Domestic Violence Crisis Line – 509-326-2255 – 24 hours
- Suicide and Mental Health – 509-838-4428 – 24 hours
- Employee Assistance Program (EAP) – 360-407-9490 (employees)
- Counseling and Psychological Services (CAPS) – 509-359-2366 (students)











## Miscellaneous

- **Lectures:** Classroom activities will complement, not necessarily duplicate the textbook. Furthermore, you are accountable for materials covered in class. Your instructor will NOT teach the topics more than once in the lectures that a student skipped without acceptable excuses.
- **Cell Phone Policy:** You are expected to turn your cell phone/ringer off during class time.
- **Rules About Seeking Help With Debugging:** Generally, the instructor will not check line-by-line your homework/lab program to debug for you. You are allowed to ask questions about assignments or labs, or to verify your own ideas and designs. Debugging code is one part of programming skill, and you need practice so that it can be improved.
- **No Excuses Is Accepted As Listed Below:** if you got any of these excuses, they are not acceptable.
- I do not know the deadline. I am not aware of the deadline.
- I turned in a wrong version of my code. I turned in a wrong file.
- I do not have a pdf creator, so I turned in a different file format.

- I do not know how to create a zip file that contains all the required source code and documents.
- I did not double check my submission and I turned in a corrupted file.
- My internet is down, there is no access to canvas. My Computer is broken.
- I do not know how to ssh (remote login) into cslinux machine.
- I do not know how to transfer files between my local computer and the cslinux machine.
- My anyConnect suddenly stops working and it worked well before.
- My car is broken and I have to fix it.
- I run into technical problems when I was turning in assignments. I keep getting errors from Canvas. Or I keep getting errors from the cslinux machine. (All these technical problems have to be verified and confirmed by the IT department! )
- I have N exams and M assignments in my other H courses I am taking, please give me some extension.
- I accidentally turned in my friend's homework as my own, while we were working together. This is considered as cheating and will be reported according to EWU academic policies.

## Course Summary:

Date	Details	Due
Wed Jan 16, 2019	 <b><u>Lab 1: Basic Unix Commands</u></b> ( <a href="https://canvas.ewu.edu/courses/1250904/assignments/4607215">https://canvas.ewu.edu/courses/1250904/assignments/4607215</a> )	due by 11:59pm
Wed Jan 23, 2019	 <b><u>Lab 2: More Unix Commands</u></b> ( <a href="https://canvas.ewu.edu/courses/1250904/assignments/4623291">https://canvas.ewu.edu/courses/1250904/assignments/4623291</a> )	due by 11:59pm
Wed Jan 30, 2019	 <b><u>Lab 3: Introduction to Data Types and I/O</u></b> ( <a href="https://canvas.ewu.edu/courses/1250904/assignments/4629818">https://canvas.ewu.edu/courses/1250904/assignments/4629818</a> )	due by 11:59pm
Tue Feb 5, 2019	 <b><u>Homework 1: I/O and Arrays</u></b> ( <a href="https://canvas.ewu.edu/courses/1250904/assignments/4635477">https://canvas.ewu.edu/courses/1250904/assignments/4635477</a> )	due by 11:59pm
Wed Feb 13, 2019	 <b><u>Lab 4: Playing around with Pointers</u></b> ( <a href="https://canvas.ewu.edu/courses/1250904/assignments/4640755">https://canvas.ewu.edu/courses/1250904/assignments/4640755</a> )	due by 11:59pm
Fri Feb 15, 2019	 <b><u>HomeWork 2: Dynamically Allocating Memory</u></b> ( <a href="https://canvas.ewu.edu/courses/1250904/assignments/4644364">https://canvas.ewu.edu/courses/1250904/assignments/4644364</a> )	due by 11:59pm
Mon Feb 25, 2019	 <b><u>Homework 3: Dynamically resizing an array of char pointers</u></b> ( <a href="https://canvas.ewu.edu/courses/1250904/assignments/4653926">https://canvas.ewu.edu/courses/1250904/assignments/4653926</a> )	due by 11:59pm
Fri Mar 1, 2019	 <b><u>Lab 5: Pointers and Struct</u></b> ( <a href="https://canvas.ewu.edu/courses/1250904/assignments/4659924">https://canvas.ewu.edu/courses/1250904/assignments/4659924</a> )	due by 11:59pm

Date	Details	Due
Fri Mar 8, 2019	 <u>Homework 4: Linked List: A self referential structure</u> <a href="https://canvas.ewu.edu/courses/1250904/assignments/4665082">https://canvas.ewu.edu/courses/1250904/assignments/4665082</a>	due by 11:59pm
Mon Mar 18, 2019	 <u>Attendance</u> <a href="https://canvas.ewu.edu/courses/1250904/assignments/4711459">https://canvas.ewu.edu/courses/1250904/assignments/4711459</a>	due by 11am
	 <u>Homework 5: All about Files</u> <a href="https://canvas.ewu.edu/courses/1250904/assignments/4680091">https://canvas.ewu.edu/courses/1250904/assignments/4680091</a>	due by 11:59pm
Thu Mar 21, 2019	 <u>Instructor's discretion</u> <a href="https://canvas.ewu.edu/courses/1250904/assignments/4711507">https://canvas.ewu.edu/courses/1250904/assignments/4711507</a>	due by 12:30pm
	 <u>Final Exam</u> <a href="https://canvas.ewu.edu/courses/1250904/assignments/4711432">https://canvas.ewu.edu/courses/1250904/assignments/4711432</a>	
	 <u>Mid Quarter Quiz</u> <a href="https://canvas.ewu.edu/courses/1250904/assignments/4682218">https://canvas.ewu.edu/courses/1250904/assignments/4682218</a>	
	 <u>Quiz 1</u> <a href="https://canvas.ewu.edu/courses/1250904/assignments/4631778">https://canvas.ewu.edu/courses/1250904/assignments/4631778</a>	
	 <u>Quiz 2</u> <a href="https://canvas.ewu.edu/courses/1250904/assignments/4644848">https://canvas.ewu.edu/courses/1250904/assignments/4644848</a>	
	 <u>Quiz 3</u> <a href="https://canvas.ewu.edu/courses/1250904/assignments/4682210">https://canvas.ewu.edu/courses/1250904/assignments/4682210</a>	
	 <u>Quiz 4</u> <a href="https://canvas.ewu.edu/courses/1250904/assignments/4688572">https://canvas.ewu.edu/courses/1250904/assignments/4688572</a>	