

CS341 Syllabus - Spring 2020

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Description

This course is a survey of various levels of computer architecture and design: microprogramming and processor architecture, advanced assembly language programming, operating system concepts and input/output via the operating system.

Textbook(s)

Required:

- “Computer Systems: A Programmer’s Perspective” Randal Bryant and David O’Hallaron. 3rd edition. Pearson 2016. *It has a student companion website. The text is offered through the inclusive access program of UNM Bookstore in electronic form.*
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Prerequisites

Prerequisite courses:

- CS 241L
- ECE 238L

Prerequisite courses may be waived with instructor permission. Students who receive such a waiver will be responsible for knowing the material.

Instructor(s)

- **Tyler Morrow** - tmorro@unm.edu
 - Office Hours: Tuesdays/Thursdays @ 08:00AM-09:30AM in CENT-1032

Teaching Assistant(s)

- **Melody Horn** - mhorn@unm.edu
 - Office Hours: Tuesdays @ 04:00PM-05:00PM in Farris 2000

Grader(s)

- **Alyshia Bustos** - abustos2436@unm.edu
 - Office Hours: TBD
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Schedule

Lecture:

- Tuesdays/Thursdays @ 09:30-10:45 in CENT-1032

Lab:

- Fridays @ 11:00-11:50 in DSH-141

Week	Tuesday (lecture)	Thursday (lecture)	Friday (Lab)
1: 01/21 - 01/24	Module 1	Module 2	C Programming Overview
2: 01/27 - 01/31	Module 2	Module 2	Data lab (start)
3: 02/03 - 02/07	Module 3	Module 3	Data lab (eval.)
4: 02/10 - 02/14	Module 3	Module 3	GDB Overview, Bomb Lab (start)
5: 02/17 - 02/21	Module 3	Module 3	Bomb Lab (eval.)
6: 02/24 - 02/28	Module 3	Module 3	Attack Lab (start)
7: 03/02 - 03/06	Module 3	Module 3	Attack Lab (eval.)
8: 03/09 - 03/13	Module 5	Module 5	Performance Lab (start)
03/16 - 03/20 (Spring break)			
9: 03/23 - 03/27	Module 6	Module 6	Performance Lab (eval.)
10: 03/30 - 04/03	Module 7	Module 8	Cache Lab (start)
11: 04/06 - 04/10	Module 8	Module 9	Cache Lab (eval.)
12: 04/13 - 04/17	Module 9	Module 10	Shell Lab (start)
13: 04/20 - 04/24	Module 11	Module 11	Shell Lab (eval.), Proxy Lab (start)
14: 04/27 - 05/01	Module 12	Module 12	Proxy Lab (cont.)
15: 05/04 - 05/08	Quiz + Review	Quiz + Review	Proxy Lab (eval.)
16: 05/11 - 05/15 (Finals week)	TBD		

Course Policies

Attendance

This course's attendance policy is identical to UNM's faculty handbook policy which can be found here. Students are encouraged to reconcile any perceived vagueness of this policy during lecture for the benefit of everyone.

Quizzes

There will be no quizzes in the traditional sense (but see "Final Exam" section).

- The class will contain up to

$$Q = 100$$

quiz questions; each question is worth

$$1/Q$$

point(s).

- There will be a quiz during every Tuesday lecture (except for the first lecture) for ~15 minutes.
- Each quiz will have some number of questions that have not yet been correctly answered by the student.
- Questions answered incorrectly on a previous quiz will appear on the next quiz.
 - **Students who are keeping up with material may see less quiz questions each week.**
- Unless clearly specified otherwise, students should assume all quizzes are closed everything.
 - *Recommendation: take notes, complete associated homework problems, and bring them to each lecture.*
- Quiz questions are almost always short answer.
- Quizzes are typically 1 page with 5-10 questions.
- Suspicion of cheating during an exam will result in the loss of all points available from the questions on that exam, and being reported to the institution.
 - Multiple offenses will result in being dropped from the course.

See the "Grading" section for a detailed description of how final grades are calculated.

Make-up Quizzes

- Student may not take quizzes outside of a lecture, except in the case of make-up quizzes.
- Students may have an opportunity to take a make-up quiz if they have an acceptable and verifiable reason.
- The decision to permit a make-up quiz or approve an alternative quiz time is ultimately at the discretion of the instructor.
- **A request for a make-up quiz must be submitted via email to the instructor before the start of the Tuesday lecture being missed. Not a second later.**
- Make-up quizzes will be conducted during the instructor's office hours.

Final Exam

- The final exam contains all remaining, unanswered quiz questions.
- Final exam participation is the prerogative of each student.
 - Whatever a student's final exam situation may be, taking it cannot hurt their grade, only help it.
- The date/time of the final exam will be announced toward the end of the semester.

Homework

- The instructor will *strategically* assign problems from the textbook to prepare students for quizzes.
 - Module problem sets can found on this course website on module pages.
 - Problems will typically be assigned/made available at the start of each module.
- The textbook contains two types of problems:
 - Practice problems:
 - * Module problems are due before the start of the next module.
 - * All answers are in the book.
 - * Likely turned in via Learn, assuming it is functioning.
 - Homework problems:
 - * Module problems are due before the start of the next module.
 - * Answers are NOT in the book.
 - * Likely turned in via Learn, assuming it is functioning.
- Problems will closely resemble quiz questions.

See the “Grading” section for a detailed description of how final grades are calculated.

Labs

- There will be numerous labs assigned throughout the semester.
- Labs will be posted via Learn.
- Labs must be inspected by the TA during “evaluation” labs, and then submitted via Learn before leaving the lab.
- Cheating will not be tolerated in this course. Unless specified otherwise, everything is to be completed **individually**. Students are free to ask questions of others and learn from friends, but they **may not** copy answers, ideas, and/or code. If there is any question or concern as to whether something would be considered cheating, students should contact the instructor prior to doing that thing. If you think it *might* be considered cheating, it probably is - don’t do it.

See the “Grading” section for a detailed description of how final grades are calculated.

Submission Deadlines

The submission deadline for any assignment or lab will not be changed for individual students except under special circumstances as determined by the instructor.

Late submission = no points.

Grading

A student’s final grade in the course will be the number of correctly answered quiz questions divided by the total number of questions, unless there are missing homework problems and labs.

Module	Questions	Lab(s)
Module 1	8	
Module 2	TBD	C Programming Overview, Data Lab
Module 3	TBD	GDB Overview, Bomb Lab, Attack Lab
Module 4	0	
Module 5	TBD	Performance Lab
Module 6	TBD	Cache Lab
Module 7	TBD	
Module 8	TBD	Shell Lab
Module 9	TBD	
Module 10	TBD	
Module 11	TBD	Proxy Lab

Module	Questions	Lab(s)
Module 12	TBD	Proxy Lab
Total Questions	Q	

A point for question

$$Q_i$$

is determined as follows:

$$Q_i = q_i \times h_i \times l$$

where:

•

$$i$$

is the question number

•

$$q_i$$

is whether or not the quiz question was answered correctly

•

$$h$$

is whether or not all [non-bonus] practice/homework questions associated with the question's module were completed

•

$$l$$

is whether or not all labs associated with the question's module were completed

Final grades are calculated as follows:

$$FinalGrade = [(\sum_{i=1}^Q Q_i) + BonusPoints]/Q$$

Letter grades follow the standard institution scale.

Bonus Points

Opportunities for bonus points will be announced throughout the semester and listed below:

- Perfect attendance (+2 bonus points)
- Completing all labs on time (+2 bonus points)
- Select book problems

Other Classroom Rules

- Laptops: permitted
- Unwarranted noises: forbidden
- Unprompted interruptions: discretionary
- Excessive interruptions: forbidden

Disability Support

If you have a documented disability and anticipate needing accommodations in this course, you are strongly encouraged to meet with the instructor as early as possible in the semester. You will need to request that the Accessibility Resource Center (<http://arc.unm.edu/>) staff send an email to the instructor verifying your disability and specifying what accommodation(s) you will need before the instructor can arrange your accommodation.

Academic Integrity

Every student enrolled in this course is expected to be familiar with the school's policy on Academic Integrity <http://handbook.unm.edu/d100>. Incidences of Academic Dishonesty will typically result in zero grades for the respective course components, notification to the university administration, and the student's department chair, and further academic sanctions may be imposed as well in accordance with the regulations. Note that those who allow others to copy their work are just as guilty of plagiarism and will be treated in the same manner.

Title IX

UNM is committed to the safety and well-being of all members of its community. US Federal Law Title IX states that no member of the university community shall, on the basis of sex, be excluded from participation in, or be denied benefits of, or be subjected to discrimination under any education program or activity. Furthermore, in accordance with Title IX guidelines from the US Office of Civil Rights, UNM requires that all faculty and staff members report any notice of sexual harassment, abuse, and/or violence (including personal relational abuse, relational/domestic violence, and stalking) disclosed through communication including but not limited to direct conversation, email, social media, classroom papers and homework exercises.

UNM's Title IX Coordinator can be found here: <http://oeo.unm.edu/title-ix/index.html>.

Changes

The course may be modified as the semester progresses. The instructor will do his best to inform students of changes as early as possible.
