CSc 352 - Systems Programming and UNIX
11:00-12:30 pm, Mo/Tu/We/Th, June 12th - August 9th
Gould-Simpson 906 / Online

Description of Course
Introductory Unix topics including shell commands and programming, developing in a
shell, debuggers, and makefiles.
Programming in C, including arrays, lists, stacks, queues, trees, bit manipulation, and
basic systems programming

Course Prerequisites or Co-requisites
Prerequisite: 127B or 227

Instructor and Contact Information
Instructor: Daniel Dicken
  Email: dpdicken@email.arizona.edu
  Office: Gould-Simpson 745
  Office Hours: Mo/Tu/We/Th, 12:30 - 3:00, or by appointment. I have an open
door policy, if I'm in my office, feel free to stop by.

TA: Brian Lane
  Email: brianlane@email.arizona.edu
  Office: Gould-Simpson 934
  Office Hours: Mo/Tu/We/Th, 9:00 - 11:00, or by appointment.

Course Communications:
The majority of the students in this class are taking the course online. If you are an
online student and you need urgent help or communications via Piazza aren’t working
out, I will be able to hold office hours via Skype or other online communications. I
encourage all students, if you ever have an issue, please do not hesitate to send email,
post on piazza, or come to office hours!

Course Communications
Course communications will be made through email or piazza. Piazza is preferred,
unless you have a more individual question.

Email: See above for instructor or TA email.
Piazza: Link
Class Homepage: Link
**Course Format and Teaching Methods**

There will be in-person lectures meeting four times a week. These lectures will be recorded and made available to students taking the class online. Assignments will be individual.

**Course Objectives and Expected Learning Outcome**

- Proficiency in C programming and problem solving, so that you can focus on course material in the 400s, and spend relatively little time "fighting" with C.
- Sufficient knowledge of UNIX to use it effectively as a platform for software development.

**Absence and Class Participation Policy**

The UA’s policy concerning Class Attendance, Participation, and Administrative Drops is available at [http://catalog.arizona.edu/policy/class-attendance-participation-and-administrative-drop](http://catalog.arizona.edu/policy/class-attendance-participation-and-administrative-drop)

The UA policy regarding absences for any sincerely held religious belief, observance or practice will be accommodated where reasonable: [http://policy.arizona.edu/human-resources/religious-accommodation-policy](http://policy.arizona.edu/human-resources/religious-accommodation-policy).

Absences preapproved by the UA Dean of Students (or dean’s designee) will be honored. See [https://deanofstudents.arizona.edu/absences](https://deanofstudents.arizona.edu/absences).

Due to this course being taught with an in person and online section, attendance will not be required at lecture. However, I strongly encourage those enrolled in the in person section to attend class. I also encourage the online students to watch all lectures, which will be recorded.

**Makeup Policy for Students Who Register Late**

If you register late, talk to me and I will deal with late work on a per case basis.

**Required Texts or Readings**

There are no required textbooks or readings. However, numerous free resources can be found online and I may suggest some readings throughout the course.

**Required or Special Materials**

Access to a computer with ssh capabilities in order to connect to lectura.

**Assignments and Examinations: Schedule/Due Dates**

**Assignments**

This class will include a number of programming projects. The following schedule gives approximate due dates for each one. The schedule below is approximate; as we assign the projects, it may occasionally be necessary to adjust due dates. Likewise, the topics
mentioned are our current plans, and are subject to change. All projects will be due at 11:59pm on the due date and must be turned in via turnin in lectura

Project 1 - due on or about June 18th - Basic UNIX, developing java in UNIX
Project 2 - due on or about June 23rd - Basic C programs
Project 3 - due on or about June 30th - Basic C, Including pointers and structs
Project 4 - due on or about July 7th - C programs involving memory management
Project 5 - due on or about July 14th - C programs, memory management and debuggers
Project 6 - due on or about July 21st - Advanced C programs, Makefiles
Project 7 - due on or about July 28th - Advanced C programs, Makefiles
Project 8 - due on or about August 7th - Shell scripting

Late work and resubmissions will not be accepted, unless it is due to a situation beyond your control. This will be dealt with on a case by case basis. All submissions must be in acceptable format when turned in (that means working, up to date, compilable versions of your code).

There will be two exams in this course. Online students will have a 24 hour period to take the exams starting at the beginning of the class period.

Midterm
The midterm will be held on July 11th during our regular class period.

Final
The final will be held on the last day of class, August 9th during our regular class period.

Final Examination or Project
There is no finals week for summer courses, so a final exam will be held on the last day of class during the class time. It will take up the full class time and will be comprehensive.

Grading Scale and Policies

Grading Scale
There will be a simple grade cutoff scheme. This means that if you earn the number of points listed for a given grade, you are guaranteed that grade. At the end of the semester, we reserve the right to lower these cutoffs (meaning that it might be easier to earn a good grade); however, we do not guarantee that we will do so. However, we guarantee that we will not raise these cutoffs (making it harder to earn a good grade).
90% - A
80% - B
70% - C
60% - D

**Point Distribution**
Point will be distributed in the following way:

- 60% - Assignments
- 20% - Midterm
- 20% - Final

All points will be distributed equally between projects. Projects will be grading primarily on correctness, with some emphasis on style and approach.

**Grading Deadlines**
We will grade assignments within four days of them being turned in. We will also grade exams within four days. If there is an issue that arises prohibiting us from meeting these deadlines, we will notify you as soon as possible.

**Requests for incomplete (I) or withdrawal (W)**
Requests must be made in accordance with University policies, which are available at [http://catalog.arizona.edu/policy/grades-and-grading-system#incomplete](http://catalog.arizona.edu/policy/grades-and-grading-system#incomplete) and [http://catalog.arizona.edu/policy/grades-and-grading-system#Withdrawal](http://catalog.arizona.edu/policy/grades-and-grading-system#Withdrawal), respectively.

**Dispute of Grade Policy:**
If you think a project or exam was graded incorrectly / unfairly, please notify us within seven days of receiving it. If it is beyond this seven day period, regrades will not be considered.

**Scheduled Topics/Activities**
- **Assignments**
  - Week 1 - June 12, 13, 14, 15 - Course Introduction, Basic UNIX (commands, working in environment)
  - Week 2 - June 19, 20, 21, 22 - Basic C, Arrays, Pointers
  - Week 3 - June 26, 27, 28, 29 - Pointers, Structs
  - Week 4 - July 3, 5, 6 (No class on the 4th) - Memory allocation and management
  - Week 5 - July 10, 11, 12, 13 - **Midterm on July 11th**, Memory allocation, debuggers
  - Week 6 - July 17, 18, 19, 20 - C preprocessor, make files
  - Week 7 - July 24, 25, 26, 27 - Loose ends of C
  - Week 8 - July 31, August 1, 2, 3 - More UNIX, Shell scripting
  - Week 9 - August 7, 8, 9 - **Final exam on August 9th**
Department of Computer Science Code of Conduct

The Department of Computer Science is committed to providing and maintaining a supportive educational environment for all. We strive to be welcoming and inclusive, respect privacy and confidentiality, behave respectfully and courteously, and practice intellectual honesty. Disruptive behaviors (such as physical or emotional harassment, dismissive attitudes, and abuse of department resources) will not be tolerated. The complete Code of Conduct is available on our department web site. We expect that you will adhere to this code, as well as the UA Student Code of Conduct, while you are a member of this class.

Classroom Behavior Policy

To foster a positive learning environment, students and instructors have a shared responsibility. We want a safe, welcoming, and inclusive environment where all of us feel comfortable with each other and where we can challenge ourselves to succeed. To that end, our focus is on the tasks at hand and not on extraneous activities (e.g., texting, chatting, reading a newspaper, making phone calls, web surfing, etc.).

Inclusive Excellence is a fundamental part of the University of Arizona’s strategic plan and culture. As part of this initiative, the institution embraces and practices diversity and inclusiveness. These values are expected, respected and welcomed in this course.

Students are asked to refrain from disruptive conversations with people sitting around them during lecture. Students observed engaging in disruptive activity will be asked to cease this behavior. Those who continue to disrupt the class will be asked to leave lecture or discussion and may be reported to the Dean of Students.

Threatening Behavior Policy

The UA Threatening Behavior by Students Policy prohibits threats of physical harm to any member of the University community, including to oneself. See http://policy.arizona.edu/education-and-student-affairs/threatening-behavior-students.

Elective Name and Pronoun Usage

It is already UA policy that class rosters are provided to instructors with a student’s preferred name. Students may share their preferred name and pronoun with members of the teaching staff and fellow students, as desired, and these gender identities and gender expressions will be honored in this course. As the course includes group work and in-class discussion, it is critical to create an educational environment of inclusion and mutual respect. In this class, to be inclusive of all gender identities and expressions, students will be referred to by their first or last names, the pronoun of their choice, or by default, the pronoun “they”.

Accessibility and Accommodations

Our goal in this classroom is that learning experiences be as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, please let me know immediately so that we can discuss options. You are also welcome to contact the Disability Resource Center (520-621-3268) to establish reasonable accommodations. For additional information on the Disability Resource Center and reasonable accommodations, please visit http://drc.arizona.edu.
If you have reasonable accommodations, please plan to meet with me by appointment or during office hours to discuss accommodations and how my course requirements and activities may impact your ability to fully participate.

Please be aware that the accessible table and chairs in this room should remain available for students who find that standard classroom seating is not usable.

**Code of Academic Integrity**

Students are encouraged to share intellectual views and discuss freely the principles and applications of course materials. However, graded work/exercises must be the product of independent effort unless otherwise instructed. Students are expected to adhere to the UA Code of Academic Integrity as described in the UA General Catalog. See [http://deanofstudents.arizona.edu/academic-integrity/students/academic-integrity](http://deanofstudents.arizona.edu/academic-integrity/students/academic-integrity).

If I discover any cases of academic integrity violations, it will result in a failing grade in the course with a possibility of additional consequences.

To fully explain my views on academic integrity, I offer this lengthy explanation borrowed from another lecturer.

It is difficult to concisely and completely describe where reasonable collaboration stops and cheating begins, but here are some guidelines:

• It is surely cheating to submit code or text that was not written by you. Exception: If I work you through any part of a solution, either individually or in a group setting, you may freely use any code developed in that process. However, you may not pass along that code to anyone else.

• It is surely cheating to give another student any portion of a solution.

• I consider it to be reasonable to work together on assignments to get to the point of understanding the problems and the language or library elements that are required for solutions.

• I consider it to be reasonable to help another student find a bug if (1) you've finished that problem, and (2) your help consists of asking questions that help the other student to see the problem for themselves. If you find yourself about to dictate code to a classmate, STOP! (Note that occasionally during office hours you will see me dictate code to a student but that's because I've decided that's the best way to help them learn given the full situation at hand. You do not have that prerogative.)

• I consider it to be reasonable to exchange test cases unless test cases are one of the deliverables for a problem. **Note: All test cases should be shared publically on Pazza. I highly encourage this.**

• If you receive help on a solution but are unable to fully explain how it works, it is surely a mistake to submit it as your own work.

• If your gut feeling is that you're cheating on an assignment or helping somebody else cheat, you probably are.

• The vast resources of the Internet raise some interesting issues. You should be fully
informed of information you need to finish an assignment with information presented in class, through suggested readings, and assignment specs. If you find yourself stuck, please come to me and do not resort to cheating.

• If in the heat of the moment you submit a solution that is not fully yours, or give your work away, and you later reconsider your actions, you and any recipients will at worst lose points for the work involved if you confess before your act is discovered. Conversely, further dishonesty when confronted, which invariably increases the time expenditure, raises the likelihood of more extensive penalties, like a recommendation for expulsion.

Essentially, don't cheat, because one strike and you are out.

Another important point that falls under this section is malicious code.

**Malware is a Federal Crime**

"Malware, short for malicious software, is any software used to disrupt computer operation, gather sensitive information, or gain access to private computer systems."—Wikipedia. In various situations my TAs and I will be running your code. Do not be tempted to slip some malware into your code, even for "harmless fun". Introducing malware into a computer system is a federal crime—see fas.org/sgp/crs/misc/97-1025.pdf. This is not something to be taken lightly, serious action will be taken if malicious code is found.

**UA Nondiscrimination and Anti-harassment Policy**

The University is committed to creating and maintaining an environment free of discrimination; see
http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy

Our classroom is a place where everyone is encouraged to express well-formed opinions and their reasons for those opinions. We also want to create a tolerant and open environment where such opinions can be expressed without resorting to bullying or discrimination of others. Please always maintain a respectful environment when in the classroom.

**Additional Resources for Students**

UA Academic policies and procedures are available at http://catalog.arizona.edu/policies

Student Assistance and Advocacy information is available at http://deanofstudents.arizona.edu/student-assistance/students/student-assistance

Office of Diversity information is available at http://diversity.arizona.edu/

Campus Health information may be found here:
http://www.health.arizona.edu/counseling-and-psych-services

OASIS Sexual Assault and Trauma Services
https://www.health.arizona.edu/oasis-sexual-assault-and-trauma-services
Confidentiality of Student Records
FERPA description:

Essentially, I as your instructor will not release any grade records or personal information to anyone but you.

Subject to Change Statement
Information contained in the course syllabus, other than the grade and absence policy, may be subject to change with advance notice, as deemed appropriate by the instructor.