Syllabus

Catalog Description
Mathematical structures for describing data, algorithms, and computing machines. Theory and application of sets, relations, functions, combinatorics, matrices, graphs, and algebraic structures which are pertinent to computer science.

Official Course Syllabus
For additional details including course description, the purpose of the course, student learning objectives, credit hour statement, and content, see the official course syllabus here: Course Syllabus

Materials
- Discord (either on Web / Windows / Android / Apple);
  Invite Link: https://discord.gg/WMshSVD56m

Grading

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Assigned Score (s)</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90% ≤ s</td>
<td>Excellent</td>
</tr>
<tr>
<td>B</td>
<td>80% ≤ s &lt; 90%</td>
<td>Good</td>
</tr>
<tr>
<td>C</td>
<td>70% ≤ s &lt; 80%</td>
<td>Average</td>
</tr>
<tr>
<td>D</td>
<td>60% ≤ s &lt; 70%</td>
<td>Passing</td>
</tr>
<tr>
<td>F</td>
<td>s &lt; 60%</td>
<td>Failure</td>
</tr>
</tbody>
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Webwork 10%
Quizzes 20%
Exam 1 20%
Exam 2 20%
Final Exam – Comprehensive 30%
Total 100%
Course Requirements

Exams
Exams make up 70% of the course grade – short answer, problems, programs – all exams are comprehensive. There will be two in-class exams and a final exam. Dates are on the course schedule; however, please consider the dates tentative.

Check the final exam time. If the final exam time is a problem, you will need to drop this course: SFASU Final Exam Schedule.

Quizzes
Periodic quizzes will be given. Check the semester schedule. Quizzes will be open notebook. Many problems on quizzes will be similar to suggested homework problems (or the exact homework problem). There will be no make-up quizzes. Quizzes missed will be replaced by the grade on the following exam. All quiz dates are on the course schedule; however, please consider the dates tentative. Quiz grade is computed as a percentage of points earned out of total possible points on all quizzes:

\[
\frac{\text{points earned on all quizzes}}{\text{possible points on all quizzes}} 
\]

Webwork
We use Webwork https://webwork.sfasu.edu/webwork2/CSCI-3333-Spring2024/ to cover basic concepts from the class. There will be no late assignments allowed. Webwork Average will be calculated by

\[
\frac{(\text{Correct Problems} + 5)}{\text{Total Problems}} \times 100\%.
\]

To login, your username is your mySFA username. For example, mine is becneljj

The initial password is your student id with no spaces or hyphens, e.g. 01234567

Attendance
Attendance and constructive class participation are expected.

Practice Assignments
Only a minimum number of textbook problems are assigned (see class schedule). You should do several more to be successful. Please note that any reasonable problem in the book may be the basis for questions on quizzes and exams since they cover material presented or discussed in class or address background information you should know.
Ground Rules

Late Assignment Policy
All homework assignments are due no later than the time and date specified in the assignment. Assignments will not be accepted after the specified date and time.

Policy Regarding Help on Graded Assignments:
All graded assignments are restricted to individual effort, and you may not receive help from another student. Any resource used, other than the instructor or the course text, must be explicitly documented in your submission detailing the source and describing what was learned and how that information was used. You may receive help from the AARC, but you must clearly document what help was received. Submissions will be severely penalized if:

- copied in part or in whole from any source;
- the result of excessive help from any other individual; or
- documentation is missing, inadequate, or vague.

AI Policy
Academic integrity is a core value of this course, and any form of academic dishonesty, including using artificial intelligence (AI) to cheat, will not be tolerated. Cheating with AI includes, but is not limited to, using AI-generated content for exams, using AI chatbots to communicate with others during exams, or using AI tools to generate responses to exam questions. Any student caught engaging in academic dishonesty using AI will face serious consequences, including but not limited to, failing the course and being reported to the appropriate academic authorities.

Expectations of Students:
- **Be prepared for lectures and take notes.** I expect you to have read the assigned readings. Class time is primarily for extending and applying what you learn from the readings. If you come unprepared, you will get significantly less out of class and quickly fall behind. Be an active note-taker.
- **Attend the lectures and be on time.** There will be times when you will want to skip class. Make your education a priority. During the lectures, I will reinforce material from the textbook and cover things that are not in the textbook. You will still be responsible for this material. Missing a lecture should be a rare occurrence. If you do miss the lecture, get the notes from another student.
- **Take ownership of your learning.** You are solely responsible for how much you get out of this course. I hope that this course will challenge you. Deep learning happens when you struggle and succeed. During lectures, your participation and undivided attention are critical. On the assignments, leaning too much on looking at someone else’s code robs you of learning and tricks you into thinking you understand more than you do.
- **Seek my help early if you feel lost.** If you are doing the readings, attending the lectures and taking copious notes, and yet you still feel lost, do not convince yourself that things will get better on their own or that you will catch up this weekend. This course, like most others, builds on itself throughout the semester. Come see me before the feelings of confusion compound.
University Required Items

Student Learning Outcomes
This course will provide students an opportunity to do the following:

1. Use formal notation for prepositional and predicate logic.

2. Construct formal proofs in prepositional and predicate logic and use such proofs to determine the validity of English language arguments.

3. Prove conjectures using the techniques of direct proof, proof by contraposition, proof by contradiction, and proof by induction.

4. Prove the correctness of programs that contain looping constructs.

5. Demonstrate an understanding of recursive definitions and to write recursive definitions for certain sequences and collections of objects.

6. Describe how recursive algorithms execute.

7. Use set notation and set operations to prove/disprove set identities.

8. Use the Principle of Inclusion and Exclusion to find the number of elements in the union of sets.

9. Solve permutation and combination problems for a set of n distinct objects.

10. Use relations and functions and apply these concepts to ordering problems.

11. Use graphs, directed graphs, and trees as representation tools in a wide variety of contexts.

Program Learning Outcomes
Program learning outcomes define the knowledge, skills, and abilities students are expected to demonstrate upon completion of an academic program. These learning outcomes are regularly assessed to determine student learning and to evaluate overall program effectiveness.

- Students majoring in the Department of Computer Science may access program learning outcomes at http://www.sfasu.edu/academics/colleges/sciences-math/computer-science/about/accreditations

Computer Laboratory Usage
Students utilizing equipment in university computing laboratories are expected to read and abide by all posted policies for the laboratories. Please note that no children and no pets are permitted in university computing laboratories.

Software Policy
Disciplinary action will be taken against individuals who perform unauthorized duplication of software or who are involved in the unauthorized use of duplicated software. Such an action may make it impossible for you to successfully complete this course.
Drop Policy
The official university add/drop policy is located [https://www.sfasu.edu/docs/hops/04-103.pdf](https://www.sfasu.edu/docs/hops/04-103.pdf). If you have questions concerning registration, add/drop, or the withdrawal process, contact the Registrar at (936) 468-2501 or E-mail: REGISTRAR@SFASU.EDU. The Registrar is located on the 2nd floor of the Rusk building.

Academic Integrity
The Code of Student Conduct and Academic Integrity outlines the prohibited conduct by any student enrolled in a course at SFA. It is the responsibility of all members of all faculty, staff, and students to adhere to and uphold this policy.

Articles IV, VI, and VII of the new Code of Student Conduct and Academic Integrity outline the violations and procedures concerning academic conduct, including cheating, plagiarism, collusion, and misrepresentation. Cheating includes, but is not limited to: (1) Copying from the test paper (or other assignment) of another student, (2) Possession and/or use during a test of materials that are not authorized by the person giving the test, (3) Using, obtaining, or attempting to obtain by any means the whole or any part of a non-administered test, test key, homework solution, or computer program, or using a test that has been administered in prior classes or semesters without permission of the Faculty member, (4) Substituting for another person, or permitting another person to substitute for one’s self, to take a test, (5) Falsifying research data, laboratory reports, and/or other records or academic work offered for credit, (6) Using any sort of unauthorized resources or technology in completion of educational activities.

Plagiarism is the appropriation of material that is attributable in whole or in part to another source or the use of one’s own previous work in another context without citing that it was used previously, without any indication of the original source, including words, ideas, illustrations, structure, computer code, and other expression or media, and presenting that material as one’s own academic work being offered for credit or in conjunction with a program course or degree requirements.

Collusion is the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any provision of the rules on academic dishonesty, including disclosing and/or distributing the contents of an exam.

Misrepresentation is providing false grades or résumés; providing false or misleading information in an effort to receive a postponement or an extension on a test, quiz, or other assignment for the purpose of obtaining an academic or financial benefit for oneself or another individual or to injure another student academically or financially.
Withheld Grades Semester Grades Policy
Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the coursework because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course to compute the grade point average. For additional information, go to https://www.sfasu.edu/docs/hops/02-206.pdf.

Acceptable Student Behavior
Classroom behavior should not interfere with the instructor’s ability to conduct the class or the ability of other students to learn from the instructional program (see the Student Conduct Code, policy D-34.1). Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic, or other penalties. This prohibition applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom. Students who do not attend class regularly or who perform poorly on class projects/exams may be referred to the Early Alert Program. This program provides students with recommendations for resources or other assistance that is available to help SFA students succeed.

Student Wellness and Well-Being
SFA values students’ overall well-being, mental health and the role it plays in academic and overall student success. Students may experience stressors that can impact both their academic experience and their personal well-being. These may include academic pressure and challenges associated with relationships, emotional well-being, alcohol and other drugs, identities, finances, etc.

If you are experiencing concerns, seeking help, SFA provides a variety of resources to support students’ mental health and wellness. Many of these resources are free, and all of them are confidential.

On-campus Resources:
The Dean of Students Office (Rusk Building, 3rd floor lobby)
www.sfasu.edu/deanofstudents
936.468.7249
dos@sfasu.edu

SFA Human Services Counseling Clinic Human Services, Room 202
www.sfasu.edu/humanservices/139.asp
936.468.1041
The Health and Wellness Hub “The Hub”
Location: corner of E. College and Raguet St.

To support the health and well-being of every Lumberjack, the Health and Wellness Hub offers comprehensive services that treat the whole person – mind, body and spirit. Services include:

- Health Services
- Counseling Services
- Student Outreach and Support
- Food Pantry
- Wellness Coaching
- Alcohol and Other Drug Education

www.sfasu.edu/thehub
936.468.4008
thehub@sfasu.edu

Crisis Resources:
- Burke 24-hour crisis line: 1.800.392.8343
- National Suicide Crisis Prevention: 9-8-8
- Suicide Prevention Lifeline: 1.800.273.TALK (8255)
- Crisis Text Line: Text HELLO to 741-741

Asynchronous Minutes
The students are required to devote 150 minutes outside the instructional hours, where you will be asked to conduct independent study based on online resources (not covered in class) related to the course, and the material will be asked in the HW assignments(s), labs, or exams.