

Texas Wesleyan University Course Syllabus

Spring 2019

Course: CSC1310-01
(Foundations of Computer Science)

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Meet: MWF 10:00am, STC-111

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Office Hours: M-F 2-3, TTH 3-3:30

Web: <http://cscdevprod01.txwes.edu/>

Course Description

Prerequisite: Completion of, or concurrent enrollment in MAT 0301 or higher.

Topics include problem solving and software development principles including problem decomposition, abstraction, data structures, algorithm design and analysis, debugging, and testing; computer architectures including low-level data representation and instruction processing; computer systems including programming languages, compilers, operating systems; real-world application including networks, security and cryptography, artificial intelligence, and social issues.

Learning Objectives

This course is intended for the students who are interested in computer science. It presents an introduction to the major areas of computer science and students completing the course will: *a*) know about the various sub-disciplines within computer science; *b*) be proficient in microcomputer applications, database, and web page design; *c*) understand the basics of computer hardware, including binary numbers, Boolean logic, gates, and computer organizations; *d*) understand the basics of operating systems and utility software; *e*) know how computer software is created, including algorithm development, programming, and debugging.

Required Materials

- **Computer Science Illuminated** by Nell Dale and John Lewis, 6th edition, Jones and Bartlett Publishers, 2016. ISBN:978-1-284-05591-7

Instructional Methods

The instructions will be conducted through classroom lectures and discussion along with web assistance. Students will be assigned homework problems. Exams will be given during the semester.

Class Schedule ¹

Week	Topic
Week 1-2:	The World Wide Web
Week 3 :	Binary Values and Number Systems
Week 4:	Data Representation
Week 5-6:	Gates and Circuits
Exam 1	
Week 7:	Computing Components
Week 8:	Problem Solving and Algorithm Design
Week 9:	High-Level Programming Languages and MS Office
Week 11-12:	Abstract Data Types and Algorithms
Exam 2	
Week 13:	Operating Systems
Week 14:	Database Systems
Week 15:	Computer Networks
Final Exam	

Evaluation and Grading

Category	Weight
Homework	40%
Class Participation	5%
Two Exams	30%
Final	25%

The assignments will be weighted by difficulty. All the assignments are due on the date specified. Grades of all assignments and exams are posted online. Students are encouraged to check their grades on a regular basis.

Absence Policy

The absence policy specified in the current Texas Wesleyan University Catalog and Student Handbook will be used. Regular and punctual attendance at all scheduled classes is expected of all students. University regulations authorize absences of students when representing the University (e.g. at athletic, student government, student development, or fine arts events). Other authorized absences are those that may be necessary to fulfill course requirements. Unless otherwise specified by the instructor in the course syllabus, **the maximum number of authorized absences during one semester is five for a Monday-Wednesday-Friday class, three for a Tuesday-Thursday class, and two for a class or laboratory meeting once a week.** Unauthorized absences may be

¹This is a tentative schedule. It is subject to change as the class progresses

excused when caused by illness or other emergencies and should be reported promptly to the instructor. A student is held responsible for all class assignments. When a student has a number of unauthorized absences equal to the number of hours the class meets per week, the student may be dropped from the class roll by the instructor of the class. (page 101 in 2012-13 Undergraduate Catalog)

Academic Integrity

You are allowed and encouraged to study in groups, provided that it is done in a way that benefit all students involved. However, if one person simply tells another how to do a problem or gives another a copy of his/her program, it totally defeats the purpose of the assignment. You will get maximum benefit from an assignment if you work hard on it alone before discussing with others. In any case, the assignment you turn in with your name on it should be written in your own words and represent your own effort. Sharing homework solutions and program code is not allowed. It will be treated as a violation of the University's Academic Integrity Code. All students involved will be reported and recorded. In addition, copying solutions from the Internet or other source is illegal. Please see the University Catalog and Student Handbook regarding appropriate standards of conduct in courses at Texas Wesleyan University.

Texas Wesleyan University Policies

- Students should read the current Texas Wesleyan University Catalog and Student Handbook to become familiar with University policies. These policies include but are not limited to grade appeal, sexual harassment, student access to records, and others; policies specified in the current catalog are applicable unless otherwise stated in this syllabus.
- Texas Wesleyan University adheres to a disability policy which is in keeping with relevant federal law. The University will provide appropriate accommodation as determined by the Director of the Counseling Center, Dr. Michael Ellison. Students must notify instructors of any permanent or temporary disabilities and must provide documentation regarding those disabilities prior to the granting of an accommodation. For assistance, students should consult with Dr. Ellison at mellison@txwes.edu or (817) 531-7565.
- Course syllabi are intended to provide students with basic information concerning the course. The syllabus can be viewed as a 'blueprint' for the course; changes in the syllabus can be made and students will be informed of any substantive changes concerning examinations, the grading or attendance policies and changes in project assignments.
- Any course taken at Texas Wesleyan University and repeated for a grade must be repeated at Texas Wesleyan University. Any course taken at another university may be repeated at Texas Wesleyan, and the most recent grade on the course will

be counted. When a course is repeated, the grade point average will be computed using the most recent grade achieved.

- As noted in the catalog under the Unified Discrimination and Harassment Policy, Texas Wesleyan University is committed to providing an environment free of all forms of prohibited discrimination and sexual harassment. If you have experienced any such discrimination or harassment, including gender- or sex-based forms, know that help and support are available from the following resources:
 - Complete online incident report at <https://txwes.edu/student-life/report-a-concern/>
 - Contact Campus Conduct Hotline (24 hours a day): (866) 943-5787
 - Campus security (24 hours a day): (817) 531-4911
 - Dean of Students: deanofstudents@txwes.edu OR (817) 531-4872
 - Please be aware that all Texas Wesleyan University employees, other than designated confidential resources (i.e., Community Counseling Center) are required to report credible evidence of prohibited discrimination or harassment to the University's Title IX Coordinator, or to one of the Title IX Assistant Coordinators. If you wish to speak to someone confidentially, please contact the Community Counseling Center at (817) 531-4859 to schedule an appointment.
- Due to the limitless variety of potentially hazardous chemicals that may be found in a scientific or other laboratory environment, students having known, or potential, health-related concerns, such as allergies, asthma, contact dermatitis, pregnancy, or other physiological sensitivities should check with their physician on the advisability of laboratory work. The instructor and/or chair of the teaching department will provide, upon request, a list of chemicals that will be used in experiments during the semester. More detailed information (that is, Materials Safety Data Sheets) will be furnished by the deans upon written request.

Syllabus is subject to change