Course Syllabus CS 2305

Last Updated: 2/9/2023 06:30

Special Message: Below is information about how to set up CONNECT.

Course Information

CS 2305.005 on TR from 10:00am to 11:45am.
Classroom: ECSS 2.410.

Professor Contact Information

Prof. Tim Farage

See my UTD homepage at www.utdallas.edu/~tfarage for office hours, etc.

Grader Contact Information

TA: TBA
Email: TBA

Note from Professor Farage:

I am here to assist each of you to learn the information in this course. And I want you to learn this information. Please email me with any questions that you might have, or ask during class.

Computer Science Mentoring Center:

Here is a short 3 minute video (https://youtu.be/fse-_1a-VOU) that describes the CSMC. If you have any questions related to the CSMC, please ask them to email csmc@utdallas.edu.

Normal hours of operation for the CSMC are as follows:

- Monday - 11:30 AM - 7:00 PM
- Tuesday - 11:30 AM - 7:00 PM
- Wednesday - 11:30 AM - 7:00 PM
- Thursday - 11:30 AM - 7:00 PM
- Friday - 11:30 AM - 5:30 PM
- Saturday - closed
- Sunday - 1:00 - 5:30 PM

Course Pre-requisites, Co-requisites, and/or Other Restrictions

Co-requisite: Calculus I

Course Description

Principles of counting. Logic and proof methods, including induction. Basic recurrence relations. Basics of algorithm complexity. Sets, relations, functions. Elementary number theory.

Student Learning Objectives/Outcomes

1. Ability to use and apply basic definitions and properties of logic
2. Ability to recognize and construct valid proofs including proofs by induction
3. Ability to understand what an algorithm is, use algorithms, use Big-O notation and algorithmic complexity
4. Ability to use basic counting techniques
5. Ability to use and apply basic definitions and properties of sets, relations, functions

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Required Textbooks and Materials

We'll be using Rosen's Discrete Mathematics and Its Applications 8th Edition with Connect. You can get a hardcopy, or an eBook, or any form of the book.

Student Registration for Connect through Blackboard

- Sign into your school's Blackboard.

- Go to your instructor's course.
- Go to the "Tools" menu.
- Click on the "McGraw-Hill Education" link.
- Below "My Connect Section", click **Go to My Connect Section**.
- Follow the on-screen instructions to register.

If you have any questions or need further assistance, please contact McGraw Hill below. Do not contact your professor.

Thank you,

Sandra Kunde
Higher Education Technical Support
McGraw Hill
Website: www.mhhe.com/support
Phone Support: (800) 331-5094

CONNECT Student Support Tools:
https://www.mheducation.com/highered/support/student/connect.html

CONNECT Tech Support Representatives

Visit the Tech Online Support Center or contact us below and encourage them to call or participate in an online chat:

Hours of Operation:
Sunday: 12:00 PM to 12:00 AM EST
Monday-Thursday: 24 hours
Friday: 12:00 AM to 9:00 PM EST
Saturday: 10:00 AM to 8:00 PM EST

Phone: (800) 331-5094

Online: Submit a Support Request

Chat: Chat with a Representative

Assignments are from Rosen's 8th Edition

Assignments will not be graded. They are given so you can learn the material and practice for the tests.

Assignment 1.1: 1, 3, 5, 7, 9, 11, 13, 25, 29, 33 (Propositional Logic)
Assignment 1.3: 5, 7, 21, 27, 50, 51, 52, 53 (Propositional Equivalences)
Assignment 1.4: 1, 5, 7a, b, d, 9, 13, 15, 25, 27, 37 (Predicates and Quantifiers)
Assignment 1.5: 1, 3, 5, 7, 9, 19, 27 (Nested Quantifiers)
Assignment 1.7: 1, 3, 5, 7, 9, 11, 18b (Introduction to Proofs)
Assignment 2.1: 1, 5a,b, 9a-c, 13, 17, 19a,b, 21, 23 (Sets)
Assignment 2.2: 1, 3, 4, 25, 29 (Set Operations)
Assignment 2.3: 1a,b, 3a,b, 5a, 9a-d, 12, 13, 23 (Functions)
Assignment 2.5: 1 - 4 (Cardinality of Sets)

Assignment 3.2: 1a-d, 2a-e, 7a,b, 8a,b, 15 (The Growth of Functions)
Assignment 4.1: 1, 13, 16, 26b, d, (Divisibility and Modular Arithmetic)
Assignment 4.2: 1, 3, 7, 9, 10, 11, 25, 26, 27 (Integer Representation and Modular Exponentiation)
Assignment 4.3: 3b, c, d, 17b, c, 33b, c, e (Primes and Greatest Common Divisors)
Assignment 4.4: 1, 3, 4, 31, 32 (Solving Congruences)
Assignment 4.5: 5, 7 (Pseudorandom Numbers)
Assignment 4.6: 1, 3, 5, 25, 27 (Cryptography)
Assignment 5.1: 3, 4, 5, 7, 15 (Math Induction)
Assignment 6.1: 1, 3, 7, 9, 11, 13, 15, 17, 27, 29, 33, 47 (Counting)
Assignment 6.3: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 27, 31 (Permutations and Combinations)

CONNECT assignments are given online on eLearning. They are graded automatically. The assignments are based on mastery learning, so you will continue with an assignment until you get 100%. They count toward 10% of your grade.

Note: Exams are closed book and closed notes. No electronic devices may be used. You may not consult with any individuals during the tests.

Test Dates

Test 1 – Thursday, February 23rd
Test 2 – Thursday, March 30th
Test 3 – Thursday, April 27th

There is no final exam.

Each test is worth 30% of your grade. The CONNECT HW exercises will be worth 10% of your grade.

Dates are subject to change.

Grading Policy

The tests will determine your grade.

Letter grades will be assigned as given below. I reserve the right to make the grading scale easier than given here.

98-100	A+
92-97	A
90-91	A-
88-89	B+
82-87	B
80-81	B-
78-79	C+
72-77	C

70-71	C-
68-69	D+
62-67	D
60-61	D-
Below 60	F

Your grade will be based only on your scores as described above. PLEASE do not ask me to change your score/grade or give you a score/grade for any other reason. I know that some of you will lose scholarships, be deported, etc. if you do not make a certain score/grade; there is nothing I can do about this. Of course, if a mistake was made in scoring, I will correct it. Any requests for changes to scores must be made within 30 days after the day the graded material was returned to the class. Any request for a grade change must be made within 60 days after the day that grades were posted.

Attendance Policy

Attendance is encouraged but not required.

Course & Instructor Policies

All make-up exams are scheduled and given at the discretion of the instructor. Make-up exams are only given to those students who coordinate the missing of an exam prior to the originally scheduled exam date and time, or for an emergency.

There is a strong, direct correlation between class attendance and class performance. Those students who regularly attend class

tend to make significantly higher final grades than those who don't.

Students are expected to be respectful to each other and to the course instructor. Disruptive behavior in the class room is not tolerated.

Each student in the class is encouraged to join/form a study group. Members of each study group are strongly encouraged to assist one another in learning and understanding the course material.

UT Dallas Syllabus Policies and Procedures including COVID Information

For general UTD policies go to the link:

https://go.utdallas.edu/syllabus-policies

These descriptions and timelines are subject to change at the discretion of the Professor.