

University of North Texas at Dallas
Spring 2016
SYLLABUS

CSCE 2110.001: Computing Foundations II		3 Hrs
Department of	Mathematics & Information Sciences	School of
		Liberal Arts & Sciences
Instructor Name:	<i>Dr. Gerard Rambally</i>	
Office Location:	DAL2-229	
Office Phone:	972-780-3093	
Email Address:	gerard.rambally@untdallas.edu	
Office Hours:	10:00 AM – 1:00 PM on Mondays and Wednesdays or by appointment.	
Virtual Office Hours:	9:00 AM – 10:00 AM on Tuesdays and Thursdays.	
Classroom Location:	DAL2-306	
Class Meeting Days & Times:	MW: 1:00 – 2:20 pm	
Course Catalog Description:	Further introduces students to both data structures and formalisms used in computer science, such as asymptotic behavior of algorithms. Learn about data structures and formalisms used to both describe and evaluate those data structures simultaneously. By the end of the two-semester sequence of which this course is the second part, each student will have a solid foundation in conceptual and formal models, efficiency, and levels of abstraction as used in the field of computer science.	
Prerequisites:	CSCE 2100: Computing Foundations I	
Co-requisites:		
Required Text:	Levitin, Anany. <i>Introduction to the Design & Analysis of Algorithms</i> . 3rd Edition. Pearson, 2012. ISBN: 0-13-231681-1.	
Recommended Text and References:		
Access to Learning Resources:	UNT Dallas Library: phone: (972) 338-1616; web: http://www.untdallas.edu/our-campus/library UNT Dallas Bookstore: phone: (972) 780-3652; e-mail: 1012mgr@fhcg.follett.com	
Course Goals or Overview:	This course will emphasize how to design and choose appropriate algorithms and data structures to solve a given problem efficiently. Design methods covered will include divide-and-conquer techniques, brute force algorithms, greedy methods, and transform-and-conquer techniques. Space/Time trade-offs and the fundamental notions of P, NP, and NP-complete problems will be introduced.	
Student Learning Outcomes:	Upon successful completion of this course, the student will have	
1	An ability to apply knowledge of computing and mathematics appropriate to the discipline.	
2	An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.	
3	An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices.	

Course Outline

This schedule is subject to change by the instructor. Any changes to this schedule will be communicated in class.

TOPICS	TIMELINE
1. Fundamentals of Analysis of Algorithms	Week of 1/18/16 & Week of 1/25/16
2. Brute Force Algorithms	Week of 2/1/16 & Week of 2/8/16
3. Recursion	Week of 2/15/16
Exam 1	2/22/16
4. Decrease and Conquer Algorithms	Week of 2/22/16 & Week of 2/29/16
5. Divide and Conquer Algorithms	Week of 3/7/16
SPRING BREAK	Week of 3/14/16
6. Transform and Conquer Algorithms	Week of 3/21/16 & Week of 3/28/16
Exam 2	4/4/16
7. Greedy Algorithms	Week of 4/4/16 & Week of 4/11/16
8. Space and Time Tradeoffs	Week of 4/18/16
9. P, NP, and NP-Complete Problems	Week of 4/25/16
Exam 3	5/4/16

Course Evaluation Methods

This course will utilize the following instruments to determine student grades and proficiency of the learning outcomes for the course.

Grading Matrix:

Instrument	Value (points or percentages)	Total
Assignments	Assignments will be given on each topic with variable weights. There will be a total of 12 assignments. These assignments will involve designing and writing computer programs and algorithms to apply the concepts discussed in each topic.	25%
Exam 1	25%	25%
Exam 2	25%	25%
Exam 3	25%	25%
Total:		100%

Grade Determination:

- A = 90% or better
- B = 80 – 89 %
- C = 70 – 79 %
- D = 60 – 69 %
- F = less than 60%

University Policies and Procedures

Students with Disabilities (ADA Compliance):

The University of North Texas Dallas faculty is committed to complying with the Americans with Disabilities Act (ADA). Any student requesting academic accommodations based on a disability is required to register with Disability Services each semester. A letter of verification for approved accommodations can be obtained from this office. Please be sure the letter is delivered to me as early in the semester as possible. Grades assigned before an accommodation is requested will not be changed as accommodations are not retroactive. Disability Services is located in the Student Life Office in DAL2, Suite 200 and is open 8:30a.m. – 5:00 p.m., Monday through Friday. The phone number is (972) 338-1775.

Student Evaluation of Teaching Effectiveness Policy:

The students' evaluation of teaching effectiveness is a requirement for all organized classes at UNT. This short survey will be made available to you at the end of the semester, providing you a chance to comment on how this class is taught. I am very interested in the feedback I get from students, as I work to continually improve my teaching. I consider students' evaluations to be an important part of your participation in this class.

Assignment Policy:

All assignments are due in class on the due dates stated on the assignments. No late assignments will be accepted, except for documented emergencies. All assignments are to be done individually unless stated otherwise on the assignment.

Exam Policy:

Exams should be taken as scheduled. No makeup examinations will be allowed except for documented emergencies (See Student Handbook).

Academic Integrity:

Academic integrity is a hallmark of higher education. You are expected to abide by the University's code of Academic Integrity policy. Any person suspected of academic dishonesty (i.e., cheating or plagiarism) will be handled in accordance with the University's policies and procedures. Refer to the Student Code of Academic Integrity at <http://www.unt.edu/unt-dallas/policies/Chapter%2007%20Student%20Affairs,%20Education,%20and%20Funding/7.002%20Code%20of%20Academic%20Integrity.pdf> for complete provisions of this code.

Academic dishonesty includes, but is not limited to, cheating, plagiarizing, fabrication of information or citations, facilitating acts of dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students.

Inclement Weather Policy:

On those days that present severe weather and driving conditions, a decision may be made to close the campus. In case of inclement weather, call UNT Dallas Campuses main voicemail number (972) 780-3600 or search postings on the campus website www.unt.edu/dallas. Students are encouraged to update their Eagle Alert contact information, so they will receive this information automatically.

Attendance and Participation Policy:

The University attendance policy is in effect for this course. Class attendance and participation is mandatory because the class is designed as a shared learning experience and because essential information not in the textbook will be discussed in class. The dynamic and intensive nature of this course makes it impossible for students to make-up or to receive credit for missed classes. Attendance and participation in all class meetings is essential to the integration of course material and your ability to demonstrate proficiency. Students are responsible to notify the instructor if they are missing class and for what reason. Students are also responsible to make up any work covered in class. It is recommended that each student coordinate with a student colleague to obtain a copy of the class notes, if they are absent.

Successfully completing this class is a function of many factors. Two such factors are class attendance and assignment completion.

Diversity/Tolerance Policy:

Students are encouraged to contribute their perspectives and insights to class discussions. However, offensive & inappropriate language (swearing) and remarks offensive to others of particular nationalities, ethnic groups, sexual preferences, religious groups, genders, or other ascribed statuses will not be tolerated. Disruptions which violate the Code of Student Conduct will be referred to the Office of Student Life as the instructor deems appropriate.

Cell Phones:

Cell Phone use (or ringing) in class is strictly prohibited.