

WAYLAND BAPTIST UNIVERSITY
WBUOnline
SCHOOL OF MATHEMATICS & SCIENCES

Wayland Mission Statement: Wayland Baptist University exists to educate students in an academically challenging, learning-focused and distinctively Christian environment for professional success and service to God and humankind.

Course Title and Number: CSCI 3364-VC01; Design and Analysis of Algorithms

Term: FALL 2017

Name of Instructor: Dr. Scott R. Franklin, Dean of the School of Math and Sciences & Professor of Mathematics

Office Phone Number and WBU Email Address:
806-291-1130; franklins@wbu.edu; Mobile: 806-252-3855.

Office Hours, Building, and Location: Moody Science Building; Room 121
Office Hours: MWF 8:15 – 11:00am; TR 8:15 – 9:15am (Central)

Class Meeting Time and Location: Online via Blackboard (Weekly Assignments)

Catalog Description: Fundamental techniques for designing and analyzing computer algorithms, including asymptotic analysis; divide-and-conquer algorithms and recurrences; greedy algorithms; data structures; dynamic programming; graph algorithms; and randomized algorithms.

Prerequisites: CSCI 2313 & MATH 3307

Required Textbook: Algorithms, 4th Ed. Sedgwick. (ISBN: 978-0-3215-7351-3)
Additional Readings provided by Dr. Franklin.

Supplies: You must have access to a computer on which you can install the Java development software, including both the JDK and a development environment such as DrJava, BlueJ, or IntelliJ.

Outcome Competencies:

Students who successfully complete this course will be able to:

1. Analyze and classify the complexity (e.g., order-of-growth) of classical algorithms
2. Describe the following paradigms in algorithm design, explain when an algorithmic design calls for it, and be familiar with algorithms that employ it:
 - a. Divide-and-conquer algorithms,
 - b. Greedy algorithms,
 - c. Dynamic programming,
 - d. Graph Algorithms, and
 - e. Randomized Algorithms
3. Use algorithms in the context of implementing and testing them in practical applications.
4. Perform numerical experiments on existing algorithms, to observe, make order-of-growth hypotheses, and compare algorithms.
5. Implement efficient algorithms in common real world applications.

Attendance Requirements: Students are expected to participate in all required instructional activities in their courses. Online courses are no different in this regard; however, participation must be defined in a different manner. Student “attendance” in an online course is defined as active participation in the course. In this course, students are expected to complete weekly readings, weekly online homework exercises, weekly reading quizzes, and weekly lab. A submission in any of these areas is considered weekly participation. Any student absent 25 percent or more of the online course, i.e., non-participatory during 3 or more weeks of an 11 week term, will receive an F for the course. Instructors may also file a Report of Unsatisfactory Progress for students with excessive non-participation. Any student who has not actively participated in an online class prior to the census date (**September 7, 2017**) is considered a “no-show” and will be administratively withdrawn from the class without record.

Statement on Plagiarism and Academic Dishonesty: Wayland Baptist University observes a zero tolerance policy regarding academic dishonesty. Per university policy as described in the academic catalog, all cases of academic dishonesty will be reported and second offenses will result in suspension from the university.

Disability Statement: In compliance with the Americans with Disabilities Act of 1990 (ADA), it is the policy of Wayland Baptist University that no otherwise qualified person with a disability be excluded from participation in, be denied the benefits of, or be subject to discrimination under any educational program or activity in the university. The Coordinator of Counseling Services serves as the coordinator of students with a disability and should be contacted concerning accommodation requests at (806) 291-3765. Documentation of a disability must accompany any request for accommodations.

Course Requirements and Grading Criteria:

Homework: Weekly homework assignments will be made available in Blackboard. These assignments are based on the exercises at the end of the sections in the textbook. There will also be specific questions from the lecture videos which students are required to watch each week. These questions will verify that you have watched the videos for the week. The weekly homework assignments are to be completed by 10:00 pm on Monday of the following week. *Late work is penalized by 10 points for each calendar day past the due date that the assignment is submitted.*

Reading Quizzes: Each week there are reading assignments. There will be a single reading quiz each week over the readings. These are due by 10:00 pm on Monday of the following week.

Programming Labs: Each week there are programming assignments that must be submitted in Blackboard. These are due by 10:00 pm on Monday of the following week.

Exams: During the semester there will be 2 exams: a midterm and a final. Details about these exams will be provided at least one week prior to the exam. The dates for these exams are in the course schedule below. The midterm will be a timed exam and DOES NOT require a proctor. The final exam REQUIRES A PROCTOR. The final exam is a comprehensive exam covering materials from the entire course. The proctor may be a Wayland staff or faculty member in which case, no additional approval is required. Schedule the exam at your nearest campus. If you are not near a campus or cannot schedule at a time they are available, you are responsible for finding your own proctor. See the link below for a description of the Wayland policy on who can serve as a proctor:

http://www.wbu.edu/academics/online_programs/proctor/proctorrequest.htm

Grading:

30%	Homework Exercises
10%	Reading Quizzes
30%	Programming Labs
15%	Midterm
15%	Final

A: 90 – 100 B: 80 – 89 C: 70 – 79 D: 60 – 69 F: Below 60

Students shall have protection through orderly procedures against prejudices or capricious academic evaluation. A student who believes that he or she has not been held to realistic academic standards, just evaluation procedures, or appropriate grading, may appeal the final grade given in the course by using the student grade appeal process described in the Academic Catalog. Appeals may not be made for advanced placement examinations or course bypass examinations. Appeals are limited to the final course grade, which may be upheld, raised, or lowered at any stage of the appeal process. Any recommendation to lower a course grade must be submitted through the Executive Vice President/Provost to the Faculty Assembly Grade Appeals Committee for review and approval. The Faculty Assembly Grade Appeals Committee may instruct that the course grade be upheld, raised, or lowered to a more proper evaluation.

Tentative Schedule: **[COMING SOON!]**

Academic Honesty: Disciplinary action for academic misconduct is the responsibility of the faculty member assigned to this course. The faculty member is charged with assessing the gravity of any case of academic dishonesty, and with giving sanctions to any student involved.

Important Dates:	9/5/17	Last day to drop without record
	10/13/17	Last day to withdraw with “W”
	10/20/17	Last day to withdraw with a “WP/WF”
	11/4/17	Last day of term

This syllabus is only a plan. The teacher may modify the plan during the course. The requirements and grading criteria may be changed during the course if necessary.

Revised 7/11/17