

Instructor: Dr. Guy Zimmerman

gzimmer3@depaul.edu

Office: M106 CDM

Office Phone: 312-362-7662

Office Hours: MW 10:00-11:30 am, 1:30-2:30 pm; T 3-5:15 & by appt. Virtual Office hours: TBA

Section 601: MW 3:10-4:40 pm CDM 224, Section 610 Online

Section 602: MW 11:50-1:20 pm CDM 216

Course Description

Techniques for designing algorithms including: analyzing algorithms (big-O, recurrence relations) and divide-and-conquer (quicksort, mergesort). Additional topics chosen from: the greedy method, dynamic programming, backtracking, branch-and-bound and string matching. PREREQUISITE(S): (CSC 301 or CSC 393) and MAT140. MAT141 Recommended.

Learning Outcomes

- Students will be able to use basic algorithmic structures for modeling problems in computer science.
- Students will learn basic techniques for designing and analyzing computer algorithms.
- Students will be exposed to a set of fundamental problems that have applications in several areas of computer science.

Textbook

Sanjoy Dasgupta, Christos Papadimitriou, and Umesh Vazirani, Algorithms, 1st edition, McGraw Hill, 2008. ISBN 978-0-07-352340-8.

Discussion Platform

The course discussion is an extension of our time in class. This is particularly useful for students that miss the live lecture. If you are watching the class online, you should write down any questions that arise, including the time from the recording for reference. Whether you have questions from the recording or otherwise, post your questions on the discussion platform. Everybody is encouraged to discuss and reply to the questions, however, do not send messages that demonstrate non-academic or unprofessional attitude. Respect each other's opinions and do not send messages that are not related to the course. The instructor will often follow up with a reply to each discussion or question as soon as possible, generally within 24 hours.

Assessment

Your grade in this course will be determined from the percentage of total points you earn from exams, programming assignments and homework, weighted as follows.

Item	Weight
Exams	60%
Homework Assignments	35%
Participation Classwork	5%

Range	Grade
90% - 100%	A
80% - 89.9%	B
70% - 79.9%	C
60% - 69.9%	D
Below 60%	F
+/- grades will be given at the high/low ends of each range	

Exams: The midterm and final are each worth 30% of your course grade. The final exam will be comprehensive. You will be allowed a one-page, hand-written reference sheet for each exam.

Homework Assignments: There will typically be a homework assignment every week. You will submit your solution within D2L. Some assignments may require coding. Late submissions will not be accepted. The lowest (percentage) homework score will be dropped.

Participation, Classwork, Quizzes:

Participation includes both in-class interaction as well as on the course discussion platform. Many class meetings will include an in-class exercise. There may be an assigned reading and a corresponding online quiz to be completed *before* some class meetings. In-class exercises & quizzes may not be made up; however, the lowest classwork score and the lowest quiz score will be dropped.

Online students are required to complete 'equivalent' in-class exercises. These may not be the same exercises as given in lecture and maybe less frequent. You will always have at least 24 hours to complete and submit any such exercise. Submission details will be posted in D2L. Online participation may include: responding to instructor questions (via email), discussion boards, summarizing in-class Q&A (from video), submitting questions to the instructor.

Tentative Schedule

Week		Topic () Algorithms textbook reference
1	Apr 1 - Apr 7	Introduction (1)
2	Apr 8 - Apr 14	Divide and Conquer (2)
3	Apr 15 - Apr 21	Divide and Conquer (2)
4	Apr 22 - Apr 28	Graph Algorithms (3)
5	Apr 29 -May 5	Graph Algorithms (4)
6	May 6 - May 12	Midterm Exam (May 6) Greedy Algorithms (5)
7	May 13 - May 19	Greedy Algorithms (5)
8	May 20 - May 20	Dynamic Programming (6)
9	May 27 University closed May 29	Dynamic Programming (6)
10	Jun 3 - Jun 9	TBD
11	Jun 10 2:30 - 4:30 pm Jun 10 11:30 - 1:30 pm	Final Exam - Section 601 Final Exam - Section 602 Final Exam - Section 610 TBA

Course Policies

- Attendance is strongly encouraged.
- Students must follow/participate in the D2L course discussions in a timely fashion.
- Classroom use of a laptop or tablet is restricted to class-related tasks such as note taking, checking references, testing code examples, etc. ^[1]_[SEP]

Communication/Email

- Please include *CSC321* in the subject line of emails and your full name in the body. It is not necessary to send "thank you" emails.
- If you are asking for help with code, please attach the entire source code file and be as specific as you can about what the issue is (line number(s), syntax, runtime) and what you have already tried.
- To minimize email traffic, the instructor will utilize the News feature of D2L for general announcements and use email only for more urgent notices. You can use the notifications settings in D2L to inform you of changes to the course D2L site (e.g. a new News item, changes to course grades).

Absence Notifications

Should a student need to be absent from class for a medical or personal reason, the Dean of Students Office can notify faculty of absences not exceeding five days. For additional information, please see:

<http://offices.depaul.edu/student-affairs/support-services/academic/Pages/absence-notification.aspx>

The absence notification does not mean the student is excused from course material, assignments or exams. It is ultimately up to each professor to decide what, if any, accommodation can be provided in light of this absence. It is the student's responsibility to follow up with the faculty member to inquire about such accommodations.

Academic Integrity and Plagiarism

This course will adhere to the university's academic integrity policy. More information can be found at <http://academicintegrity.depaul.edu/>. Unless otherwise noted, all submitted work must be **wholly your own**. The minimum penalty for violating the policy will be a 0 for the submitted work. If you have any questions be sure to consult with your professor.

Changes to Syllabus

This syllabus is subject to change as necessary during the quarter. If a change occurs, it will be thoroughly addressed during class, posted under Announcements in D2L and sent via email.

Academic Policies

All students are required to manage their class schedules each term in accordance with the deadlines for enrolling and withdrawing as indicated in the University Academic Calendar. Information on enrollment, withdrawal, grading, and incompletes can be found at:

<http://www.cdm.depaul.edu/Current%20Students/Pages/PoliciesandProcedures.aspx>

Exams

To maintain the academic integrity of its online courses, DePaul CDM requires that students registered in online sections complete proctored exams. Students registered in an on-campus section are not allowed to register for a proctored exam and must take the exam with the on-campus section. For additional information, please see:

<http://www.cdm.depaul.edu/onlinelearning/pages/onlinepolicies.aspx>

Incomplete Grades

An incomplete grade is a special, temporary grade that may be assigned by an instructor when unforeseeable circumstances prevent a student from completing course requirements by the end of the term and when otherwise the student had a record of satisfactory progress in the course. For additional information, please see:

<http://www.cdm.depaul.edu/Current%20Students/Pages/Grading-Policies.aspx>.

Online Course Evaluations

Evaluations are a way for students to provide valuable feedback regarding their instructor and the course. Detailed feedback will enable the instructor to continuously tailor teaching methods and course content to meet the learning goals of the course and the academic needs of the students. They are a requirement of the course and are key to continuing to provide you with the highest quality of teaching. The evaluations are anonymous; the instructor and administration do not track who entered what responses. A program is used to check if the student completed the evaluations, but the evaluation is completely separate from the student's identity. Since 100% participation is our goal, students are sent periodic reminders over three weeks. Students do not receive reminders once they complete the evaluation. Students complete the evaluation online in CampusConnect.

Students with Disabilities

Students who feel they may need an accommodation based on the impact of a disability should contact the instructor privately to discuss their specific needs. All discussions will remain confidential. To ensure that you receive the most appropriate accommodation based on your needs, contact the instructor as early as possible in the quarter (preferably within the first week of class), and make sure that you have contacted the Center for Students with Disabilities (CSD) at: <mailto:csd@depaul.edu>

Loop Campus — Lewis Center #1420, 25 E Jackson Blvd. ^[L]_[SEP]

312-362-8002

Lincoln Park Campus — Student Center #370, 2250 N Sheffield Ave. ^[L]_[SEP]

773-325-1677 ^[L]_[SEP]

Fax: 312 362 6544 ^[L]_[SEP] TTY: 773 325 7296

Withdrawal

Students who must withdraw from this course may do so by using the University's web registration system. See: <http://offices.depaul.edu/depaul-central/registration/Pages/withdrawal-or-leave-of-absence.aspx>

Retroactive Withdrawal

This policy assists students for whom extenuating circumstances prevented them from meeting the withdrawal deadline. Please see: <http://www.cdm.depaul.edu/Current%20Students/Pages/Enrollment-Policies.aspx>

*You are strongly encouraged to use class time to your best advantage.
This includes asking questions and coming to class prepared.*