Course Information

Course:	DSC270 – Data Structures & Algorithms
Credit Hours:	3
Call #:	21457
Room:	Decary 206
Day/Times:	WF: 8:00–9:20 am
Prerequisites:	C+ in MAT212 & DSC/MAT225
Textbook:	M.T. Goodrich, et al. *Data Structures and Algorithms in Python*, Wiley (2016)

Instructor Information

Name:	James Quinlan
Office:	Decary 339
Phone:	(207) 602–2421
Contact:	Please contact me through Brightspace
Office Hours:	T: 12:30 P.M.– 1:00 P.M. & W: 10 A.M.– 11:30 A.M. & R: 11 A.M.– 1:00 P.M.

Course description

The practical goal of the course is to write more efficient programs. To that end, the course presents a broad array of algorithms – methods for solving problems suited for computer implementation. In addition to algorithms, our study will include data structures – schemes for organizing data that allow efficient processing by an algorithm. Students learn to implement and analyze elementary data structures and algorithms that use greedy, divide-and-conquer, and backtracking. Computer problems of searching, sorting, and selecting are practical applications of these techniques.

Learning Outcomes

At the conclusion of this course students will be able to:

- Plan, design, write, and comment Python code;

- Describe, explain, and use various data structures including arrays, stacks, queues, lists, and trees in algorithms;

- Analyze the time and space efficiency of data structures and algorithms and apply this analysis to select optimal techniques to a particular problem.

- Read and write recursive algorithms. Understand when to appropriately use recursion;

Course's Role in Curriculum

DSC270 is an elective course for the Data Science major and a requirement for Computer Science minor.

Course Evaluation and Grading Policies

Course will be evaluated as a weighted average as follows:

1. Homework (50%)

2. Midterm (25%)

3. Final Exam (25%)

Topic Schedule

University Policies and Statements

Grading Schema

Letter grades are assigned base on the final percent using the cut-off values:

Grade	% bound
A	93
A-	90
B+	87
B	83
B-	80
C+	77
C	73
C-	70
D	60
F	<60

Diversity Statement

This course and our classroom is a place where all students should feel welcomed. UNE's Core Values Statement acknowledges "the benefits of a richly varied campus community arise not only from the diversity of its people but also from a sense of belonging and the context this creates to explore and celebrate differences in backgrounds, experiences, and perspectives, underpinned by a sense of cultural humility and a commitment to ethical ideals" (see `https://www.une.edu/about/glance/mission-vision-and-values`).

- If you have another name or pronouns different from the roster, please let me know.

- If a student has feedback on their experience in the classroom, performance, or diversity of scholars discussed, please contact me. If a student should experience any form of discrimination on campus, contact the Title IX and Office of Civil Rights Coordinator: Ms. Angela Shambarger (ashambarger@une.edu) or the Dean of Students: Ms. Jennifer DeBurro (jdeburro@une.edu).

Academic Integrity

THE UNE STUDENT HANDBOOK STATES:

> The University of New England values academic integrity in all aspects of the educational experience. Academic misconduct in any form undermines this standard and devalues the original contributions of others. It is the responsibility of all members of the university community to actively uphold the integrity of the academy; failure to act, for any reason, is not acceptable.
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> Charges of academic misconduct will be reviewed by the Dean of the appropriate College and, if upheld, will result at minimum in a failing grade on the assignment and a maximum of dismissal from the University of New England. (UNE Student Handbook, 2020, p. 93).

Academic dishonesty includes, but is not limited to:

1. Cheating, copying, or the offering or receiving of unauthorized assistance or information including but not limited to:

   (a). use of any unauthorized assistance in taking quizzes, tests, or examinations;

   (b). dependence upon the aid of sources beyond those authorized by the faculty in writing papers, preparing reports, solving problems, or carrying out other assignments, including but not limited to calculators, handheld computers, smart phones, or any other electronic devices or applications of any kind whatsoever; or

   (c). C) the acquisition, with or without permission, of tests or other academic materials belonging to a member of the University faculty or staff.

2. Fabrication or falsification of data, results, or sources for papers, reports, or examinations, either oral or written.

3. Actions that destroy or alter the work of another student.

4. Multiple submissions of the same paper or report for assignments in more than one course without permission of each instructor.

5. Plagiarism: the appropriation of records, research, materials, ideas, or the language of other persons or writers and the submission of them as one's own including but not limited to:

   (a). the use, by paraphrase or direct quotation, of the published or unpublished work of another person without full and clear acknowledgment; or

   (b). the unacknowledged use of materials prepared by another person, company, online purveyor, or agency engaged in the selling of term papers or any other academic materials. (UNE Student Handbook, 2020, p. 37)

The College of Arts and Sciences policy on reviewing alleged acts of academic dishonesty can be found at: `https://www.une.edu/cas/academic-policies`

Attendance Policy

All students are expected to attend all classes for which they are registered. Students who are absent from class should:

(i) communicate in advance (when possible) the details of any absence to their faculty and other university-wide reporting mechanisms as applicable, and;

(ii) engage in meaningful follow-up with the instructor to make up any missed work in a timely manner, as agreed upon with the instructor.

Midterm Academic Progress Reports

The University of New England is committed to the academic success of its students. At the midterm of each semester, instructors will report the performance of each student as SATISFAC-TORY (S) or UNSATISFACTORY (U). Instructors will announce when these midterm academic progress reports will be available for viewing via U-online. This early alert system gives all students important information about progress in their courses. Students who receive an UNSATISFAC-TORY midterm report should take immediate action by speaking with their instructor to discuss suggestions for improvement such as utilizing the services of academic advising, the Student Academic Success Center, Counseling Services, and Residential Education.

Student Academic Success Center (SASC)

The Student Academic Success Center offers a range of free services to support your academic achievement, including tutoring, writing support, digital project support for ePortfolio, test-prep and studying strategies, learning consultations, and many online resources. To see and schedule available appointments go to une.tutortrac.com or visit the SASC. To access our online resources, including links, guides, and video tutorials, visit `https://une1.sharepoint.com/sites/SASC`.

Students with Disabilities

The University of New England is committed to creating a learning environment that meets the needs of its diverse student body and will make reasonable accommodations for students with documented disabilities. Any student eligible for and needing academic adjustments or accommodations because of a disability is requested to speak with the professor at the beginning of the semester. Registration with the Student Access Center is required before accommodation requests can be granted. Visit `https://www.une.edu/student-access-center` for more information.

Student Well-Being

If you find yourself struggling, please reach out and take advantage of the many campus resources available to you. For academic support, contact your instructor, professional advisor, faculty advisor, and/or the SASC. For physical or mental health concerns, the Student Health Center, Student Counseling Services, and wellness programming are available. For concerns about finances, contact Student Financial Services. *There are lots of people to help*; in addition to those named above, you can always talk with your Area Coordinator, coach, club advisor, faith leader, or a friend.

Important Dates

August 25 .... Official beginning of the semester, first day of classes
September 1 .... Last day to add/drop classes (not appear on transcript)
September 6 .... Labor Day holiday, (classes in session on campus)
October 8 – 11 .... Fall long weekend (no classes on campus)
October 13 – 20 .... Mid-term academic performance due
October 25 .... Last day to Withdraw to receive a "W"
November 11 .... Veteran's Day recognition (no classes 11 a.m.-1 p.m.)
November 12 .... Pre-Registration for Spring 2022
November 24 – 28 .... Thanksgiving holiday, no classes on campus
December 3 .... Last day of classes
December 6 - 10 .... Final exam week

* Until the final exam schedule is published, you should not make travel arrangements that could possibly conflict with any scheduled finals.

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