

COT 3100 – Applications of Discrete Structures

<http://www.cise.ufl.edu/~pjd/>

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Course Description & Objectives

The purpose of this course is to introduce students to the techniques required in order to think mathematically about how a computer operates. Included within the topics of discussion will be: propositional logic, algorithms, time complexity, mathematical reasoning, relations, and graphs. You are expected to complete weekly discussion and homework exercises. Due to the nature and complexity of this field of study, the course will be time consuming and requires serious dedication on the part of each student. Be careful not to fall behind, success in this course requires consistent effort and practice.

Text Book

- Discrete Mathematics and Its Applications, 7th Edition, Kenneth H Rosen, 2011, McGraw-Hill, ISBN 10 / 13: 0073383090 / 978-0073383095.
- Website: <https://www.mheducation.com/highered/product/discrete-mathematics-applications-rosen/M0073383090.html>

Supplements

Recommendations for other references are given here.

- Student Solutions Guide to Discrete Mathematics and Its Applications, 7th Edition, Kenneth H Rosen & Jerrold W Grossman, 2011, McGraw-Hill, ISBN 10 / 13: 0077353501 / 978-0077353506.
- Previous additions of the textbook are useful, however the order of topics and problem sets are likely to differ book by book. Therefore, using one of these will require you to resolve these discrepancies.

Policies & Grading

General policies can be found here: <http://www.cise.ufl.edu/~pjd/admin/policies/course.html>.
You are expected **know and follow** all of these policies.

In order to be successful in this course, you should attend lecture. There is no replacement to the experience of seeing the material presented during lecture.

Activity	Final Grade Percentage
Exams	30%
Quizzes	70%

Exam

There will be one exam. It will be held during lecture on Wednesday, August 8, 2018. The exam is worth 30% of your final grade.

Quizzes

The quiz schedule is provided here. There will be five quizzes. Your lowest quiz score will automatically be dropped.

Quizzes will be given in two parts (except for Quiz #3 which will only have Part B). Part A will be a hand out distributed at the end of lecture on the dates listed in the following table. Your answers to be Part A will be turned in the next lecture. Part B will be an in class activity starting at the beginning of lecture, lasting for a minimum of 15 minutes and up to the entire period. Each of your four highest quiz scores is worth 17.5% of your final grade.

Quiz	Part A		Part B	
	Day	Date	Day	Date
I	Wednesday	2018 / 05 / 30	Friday	2018 / 06 / 01
II	Wednesday	2018 / 06 / 13	Friday	2018 / 06 / 15
III	Part B Only	Part B Only	Friday	2018 / 07 / 06
IV	Wednesday	2018 / 07 / 18	Friday	2018 / 07 / 20
V	Wednesday	2018 / 08 / 01	Friday	2018 / 08 / 03

Practice Exercises

All homework assignments (otherwise known as projects or practice exercises) will be posted online and are not associated with a graded activity. These exercises are supplemental to the course lectures and graded materials, helping you in your studies and preparation. These exercises will not be collected, however if you would like to discuss your solutions with us, please do so. It is *highly* recommended that you complete and participate in non-graded course activities: *lecture* and *practice exercises*, in addition to the graded activities: *exams* and *quizzes*.

Grading Scale & Calculation

University regulations regarding grades and the calculation of grade points earned can be found here: <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>. The range used to calculate your final letter grade in our course will be no harsher than this grading scale:

Grade	Highest	Lowest
A	100	92.00
A–	91.99	89.00
B+	88.99	86.00
B	85.99	82.00
B–	81.99	79.00
C+	78.99	76.00
C	75.99	72.00

C-	71.99	69.00
D+	68.99	66.00
D	65.99	62.00
D-	61.99	59.00
E	58.99	0.00

If it is permitted that the course be taken SU, a 75 or higher is required to receive an S (Satisfactory). The formula used to calculate your final total of points is given here. In this example, there are 5 quizzes, each worth 50 points and there is one exam, worth 100 points. Semester by semester the total worth or number of activities may vary, however the logic of the formula remains the same, i.e. the Summation of Your Total Score will be divided by the Total of Points Available and multiplied by the points attributed to the given activity.

$$\text{Exam Total} = (\text{Your Exam Scores} / 100) * 30$$

$$\text{Quiz Total} = (\text{Sum of Your Quiz Scores} - \text{Your Lowest Quiz Score} / 250) * 70$$

$$\text{Final Total} = \text{Exam Total} + \text{Quiz Total}$$

Absences & Make Ups

Daily attendance is not recorded in our course. You are free to miss without penalty any lecture where there is no graded class activity. All graded class activity dates (exams, quizzes, and so on) will be announced before the activity is administered. Whether or not you attend lecture, you are responsible for all material covered in every lecture, including during any absences.

Make ups are provided given you inform me one week prior to the conflict in question and present sufficient documentation regarding absences from graded class activities, for example a note from a medical professional if you were to become ill. There are very few events which would impede your participation in a graded activity warranting an exception, that you would not be aware of well before (at least a few hours) the start of the activity. Contacting me after the graded activity may result in the exception not meeting course requirements and a make up option no longer being available. Complete university guidelines for absences and make ups can be found here: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

This semester, all make ups will be administered during lecture on Friday, August 10, 2018.

Re-grading Requests

All grading/re-grading issues **must** be resolved within **1 week** of the graded work being returned. You must return exams/projects/quizzes to the person grading the activity in question, along with a **printed (not handwritten) attachment** stating the reasons for the re-grade. Do not write anything on the exam itself or detach (un-staple) the pages from each other. If you do so, your exam/project/quiz will not be re-graded. Note, when requesting a re-grade, the whole exam/project/quiz is subject to the re-grade, not just the portion you specify. We will be happy to discuss the solution and answer any questions, however no change will be made after the allotted week has passed.

Curving

Any curve will be determined at the end of the semester, after every student has completed all course activities. No judgment can be made beforehand. Since new exams, projects, and so on are given every semester, the scale of a previous semester has no bearing or indication as to the final scale for this semester. The grading ranges will be created based upon the complete analysis of every student's final average.

Schedule

Here is a general schedule for the semester. Please refer to the announcements, course website, and calendar for final details about each topic, exact dates, and the specific schedule we implement this semester.

Week	Topics	Chapters
1	Logic	1
2	Proofs	1
3	Sets	2
4	Functions	2
5	Algorithms & Number Theory	3, 4
6	Induction & Recursion	5
–	Summer Break	–
7	Counting	6
8	Probability	7
9	Relations	8 & 9
10	Graphs	10
11	Trees	11
12	Review	

Special Notes for the First Week of Classes

Discussion sessions will not held the first week classes, however an introductory discussion exercise is posted in [e-Learning](#). Discussions will meet for the first time starting on May 22, 2018.

There will be no office hours the first week of classes. If you need to see me, do so after lecture or schedule an individual appointment.

Support Staff

Refer to the daily schedule page on our course website for the contact information of our graduate and undergraduate support staff members.

Whom Should I Speak with Regarding?

Here are the individuals that you should see concerning the following topics:

Course Policies	Pete & Any Support Staff Member
Course Material Questions	Pete & Any Support Staff Member
Exercise Questions	Any Support Staff Member
Grading	The Support Staff Member assigned to grade the specific activity
Picking Up Graded Work	Any Support Staff Member

The Do's

Come to office hours. We will be glad to help you as much as possible. Above I refer to the "timeliness of questions", office hours are always a good time to ask any question of the appropriate person. Please remember to follow the guidelines above.

Always start early. The projects and your studying will be easier the sooner you begin. Starting early will allow you more time to ask the specific questions you need answered in order to complete the projects and understand the material given on testing activities.

Email

Include **COT 3100** (and only COT 3100) as the email subject. Also, within every email, clearly place **your name** and **section number** at the **top** of the email. Emails without this information are easier to lose and harder to reply to quickly. Here is the format you should follow:

Name Bullwinkle J. Moose
Section 4321

Before emailing questions, always read the syllabus, announcements, and schedule. It is quite possible that your question has already been answered in one of these places.

We will answer your questions and resolve your issues the quickest and most clearly in office hours. We receive many emails and reply to them in their order of importance. If you would like to ensure your question is moved to the top of the list, see us in office hours.

The Do Not's

Never place your Social Security # or UF ID # on any course material.

If you are using a laptop during lecture, use it only for the purpose of taking notes and following along with our topic of discussion. Do not play games, chat, or create any similar distractions for yourself and your classmates during lecture. Turn off your cell phone, laptop speakers, and all other electronic devices before lecture begins.

Please review the syllabus and online materials to assist in answering questions such as “Where is the Support Staff office?” or “What are your office hours?”. Copies of the syllabus are available on the course web site for your convenience.

Never ask when grades will be posted. We always post grade information as soon as possible. If you would like a grade to be clarified, see the appropriate TA in his or her office hours immediately.

Academic Honesty

We will adhere to the academic honesty policies of the University of Florida, which can be reviewed at <http://www.dso.ufl.edu/>. When a breach of these policies occurs, the University requires that an adjudication form be submitted to [Judicial Affairs](#) regarding the circumstance. The incident will then be investigated by Judicial Affairs and when an incident is found to have broken the University of Florida’s [Student Honor Code](#), a penalty is assessed. Penalties range from grade reductions to expulsion from the University. In addition, a notation of the incident is placed on the student’s permanent record.

All coursework: exams, projects, homework and so on are to be done individually. A list covering some examples of actions which break the honor code is given here.

- Copying, submitting, or viewing the work of another student.
- Working in any capacity with or helping other student(s).
- Providing any work directly (your own) or transferring the work of someone else to another student.

Recall, our course provides office hours for your assistance in understanding course material. Take advantage of these hours to receive help with your comprehension of the topics being addressed.

Students with Disabilities

Students requesting classroom accommodation must first register with the Dean of Students Office (<https://drc.dso.ufl.edu/>). The Dean of Students will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation. Your documentation and specific needs must be given to me as soon as possible, so that appropriate arrangements are made. The Dean of Students office requires request forms be completed well in advance to any accommodation request, therefore I need you to ensure your request has been made to me and all documentation delivered at least seven business days prior to the date of the request.

Course Registration Requirements

In order to take this course, sit in on the course, or complete an incomplete of this course every student must be [officially registered](#) in either the normal fashion or through the auditing process. Any student not officially registered is in violation of UF policy and subject to the penalties set forth by the University.

Evaluations

Instructor evaluations will be performed near the end of the semester. All students are highly encouraged to provide feedback not only evaluation the quality of the course offered, but also to assist the instructional staff in enhancing the course being offered. Evaluations are completed here: <https://evaluations.ufl.edu/evals/Default.aspx>. Previous evaluation can be reviewed here: <https://evaluations.ufl.edu/results/>.

Disclaimer

This document is subject to change at the discretion of the instructor, based on unforeseen circumstances (such as hurricanes, sub-freezing temperatures... this is Florida after all, rifts in the fabric of time, and so on) occurring during the semester.