Math 2020: Introductory Discrete Mathematics  
Clayton State University, Spring 2016

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Office Hours: TR 5:00pm – 6:00pm, W 3:30pm – 6:30pm, additional hours by appointment

All students are expected to read this entire syllabus and follow all policies within; failure to do so may have a significant negative impact on course performance.

CATALOG DESCRIPTION:
MATH 2020 (3-0-3) is a three credit hour course focused on the concepts of finite mathematical structures. Topics include, but are not limited to: set theory, logic, proof techniques, functions and relations, graphs, trees, and combinatorics.

Pre-requisites: A minimum grade of C in MATH 1113, 130, 1221, 1501, 151, 1112, or 1112A.

REQUIRED MATERIALS:
- **Computer:** Clayton State University requires that all students have on-demand access to a notebook computer that meets faculty-approved minimum hardware and software requirements. Full details on the official notebook computer policy may be found at itpchoice.clayton.edu.
- The WebWork and Desire2Learn web portals are used for all out-of-class assignments. These are provided at no cost to students enrolled in the course.
- **PDF Software:** In order to submit homework assignments, each student will need software capable of producing PDF output of simple mathematical formulas. While this is possible with standard word processing software (such as MS Office), it may be more convenient to use other software such as Maple or LaTeX.

COURSE CONTENT:
The following chapters of the text will be covered in MATH 2020 this semester. Particular sections may be omitted at the discretion of the instructor.

Chapter 1. Algorithms  
Chapter 2. Mathematical Induction  
Chapter 3. Graphs and Trees  
Chapter 4. Fundamental Counting Methods  
Chapter 5. Difference Equations  
Chapter 7. An Introduction to Mathematical Logic

COURSE LEARNING OBJECTIVES:
The primary outcome for a student who successfully completes MATH 2020 is that the student will have a reasonable expectation of success in future mathematics or computer science courses. To this
end, a student who successfully completes MATH 2020 will be able to:

1. Understand the importance and significance of algorithms in computer science and mathematics.
2. Apply algorithmic techniques and theory in the context of discrete mathematics.
3. Have a non-trivial understanding of mathematical induction.

ATTENDANCE:
You are expected to attend every class meeting and actively participate during class. You will not be permitted to make up any work you miss, nor will I take the time to re-explain material that was covered while you were absent. Exceptions will be considered only for official University or Government business, in which case you must notify me at least one week in advance.

It is your responsibility to manage your personal schedule so that you do not miss class and are able to complete your work on time. I provide some flexibility in the attendance and grading policies (see below) in order to allow for things such as minor illness, family emergencies, and personal business, but there is no such thing as an “excused” absence except in the case of official University of Government business.

HOMEWORK:
Homework is assigned, collected, and graded through the WebWork and Desire2Learn (D2L) web portals. Unless otherwise noted, homework will be posted by Friday of each week. WebWork problems must be completed by the following Saturday, and D2L submissions must be received by the following Sunday.

Deadlines for homework will NOT be extended FOR ANY REASON WHATSOEVER. This includes medical issues, family emergencies, extracurricular activities, and Internet/computer problems. It is your responsibility to manage your personal schedule in order to complete your assignments on-time.

Within each of the two types of homework, each assignment is worth the same number of points. Your lowest two scores from WebWork assignments and lowest two scores from D2L assignments will be ignored at the end of the semester when computing your overall course grade.

Unless noted by me, you may not give or receive help on any “for-credit” problem, or use resources other than the textbook, my lecture notes from this semester, and your own class notes. Violation of any of these rules is an act of Plagiarism/Academic Dishonesty; violators will receive a score of zero for the given assignment and be referred for disciplinary action.

WEEKLY QUIZZES AND PARTICIPATION:
Starting with the third week of class, there will for-credit activities during regular class time. This will be either a formal quiz (given at the start of class on Wednesday) or in-class work (possibly on both days of a given week). The format and material for each week will be announced no later than the previous Friday, but either activity will generally focus on material from the upcoming homework.

Quizzes require you to state important definitions, theorems, or formulas from memory or perform simple computations. Quizzes are 10 minutes long; textbooks, notes, and technology may not be used. In-class work requires more involved work or computation, usually occupy more of the class period(s), and will often be done in small groups.

Quiz/participation credit is assigned at the end of each week, with each week worth an equal number of
points. Your lowest two (2) weekly quiz/participation scores for the semester will be dropped when computing your final course grade.

EXAMINATIONS:
An in-class midterm examination will be given during regular class time on Wednesday, February 24th. All students must take the exam at the scheduled date/time; makeup exams will not be given. Topics to be covered will be announced at least one week in advance. You may bring a single page of handwritten notes to assist you during the exam, but no other items or technology are allowed.

A cumulative take-home final exam will be distributed no later than the last day of class and must be submitted through D2L is due no later than 11:59pm on Friday, May 6th (note: this is two days after the in-class final exam). You may use only the textbook and your class notes in preparing your take-home final. Outside sources of any kind and/or collaboration with others is strictly prohibited.

A cumulative in-class exam will be given during the regularly-scheduled final exam period (Wednesday, May 4th, 12:30pm – 2:30pm). You may bring a single page of handwritten notes to assist you during the exam, but no other items or technology are allowed. Any student who does not take the written final exam will receive an overall course grade of F, regardless of previous course performance.

TECHNOLOGY IN THE CLASSROOM:
All use of technology during regular class time must DIRECTLY support the learning outcomes and objectives OF THIS COURSE, any other use of technology is prohibited.

Cell phones and other portable electronic devices are not appropriate for use during class. Any such devices and accessories (this includes headphones, earbuds, and power adapters) must be completely powered off and stored out-of-sight while class is in session. I reserve the right to require any student to turn off his/her laptop or other electronic device at any time. A student who violates these policies will receive a quiz/participation grade of zero for the week in question.

ASSESSMENT AND GRADES:
Your final grade in the course is computed from the following categories:

- WebWork Assignments: 30% (lowest two scores are dropped)
- D2L “Written” Assignments: 20% (lowest two scores are dropped)
- Quizzes/Participation: 10% (lowest two scores are dropped)
- Midterm Exam: 20%
- Take-home Final Exam: 10%
- In-Class Final Exam: 10%

Within each category, each item is worth an equal number of points. Final letter grades are determined as follows:

- A: 90% and up
- B: 80% - 89%
- C: 70% - 79%
- D: 60% - 69%
- F: less than 60%

At the end of the semester after all grades have been computed, I may lower the above cutoffs. This is not guaranteed, and in any case will not be determined until after the final exam has been graded.
OTHER INFORMATION

In addition to the policies outlined above, all students must abide by policies in the University Student Handbook. To obtain this document in an alternative format and request accommodations, please contact the Disability Services Coordinator, 770-961-3719, disabilityservices@mail.clayton.edu.