

Discrete Mathematics II (MATH 30123-015) in Spring 2014

Room	Time
WIN 171	TuTh 9:30–10:50 AM
Instructor	E-mail
Loren Spice	l.spice@tcu.edu
Office	Office hours
TUC 315	M 6–7 PM (shared) TuTh 8:30–9:20 AM F 11–11:50 AM (shared)
TCU Online	and by appointment
tcuglobal.edu	

Textbook Rosen, *Discrete mathematics and its applications* (7th edition)

Course goals As a student in Discrete Mathematics II, you are expected to continue the transition away from algorithm-based mathematics and towards exploration-centred, proof-based mathematics.

As opposed to the ‘continuous’ objects discussed in calculus and differential equations, in this class we discuss ‘discrete’ objects. The first example of such objects is the counting numbers, and we will start the class with a discussion of the surprising subtleties of the topic of counting, including its applications to probability. This is covered in Chapters 6–8.

Another major topic, of importance both to pure mathematicians and for its applications in computer science, is graph theory. The graphs we will study are more like what in colloquial English is known as a map; they are not graphs of functions, as in calculus, but abstract records of adjacency between regions. We will study graph classification and properties, as well as related computational algorithms. This is covered in Chapters 10 and 11.

If time permits, we will cover another exciting topic where pure mathematics meets computer science, namely, Boolean algebra and its relation to logic and circuit design. This is covered in Chapter 12.

Attendance Attendance is **required**. You **must** sign the attendance sheet **each class**, or you may be marked absent. Attendance can earn up to 1 bonus point on each exam. See the expanded syllabus on the course web-page.

Grading Course components will be weighted as follows:

Homeworks	Midterms	Final
25%	15% each (45% total)	30%

You may also earn up to 1 bonus point on each midterm for participation. See the expanded syllabus on the course web-page. Please notice particularly that there is **no “roll-over”**. You can see your current weighted percentage on the course web-page at any time. If you think that a grade has been mis-computed, you **must** talk to me within 1 week of its being recorded.

Your course grade will be determined as follows:

Min. %	Min. Grade	Min. %	Min. Grade	Min. %	Min. Grade
90%	A-	94%	A		
80%	B-	84%	B	87%	B+
70%	C-	74%	C	77%	C+
60%	D-	64%	D	67%	D+

If you have earned less than 60% of the course credit, then you may receive an F. Exam and course grades may be curved.

See reverse for course details.

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Academic Conduct You must comply with the University's academic-conduct policies at http://www.catalog.tcu.edu/current_year/undergraduate/1411.htm. See the expanded syllabus on the course web-page.

Calculators and technology A calculator is permitted, but not required, for the class (although it may be **forbidden** for selected problems).

Homeworks Homeworks will be posted on the course web-page after most classes, and are due by the **beginning** of class 1 week after they are assigned. If the due date would fall on a midterm day (Thursday), then it will be moved to the **earlier Tuesday**.

Homeworks must be handed in to me **in person**. If you are not able to do so, then you may have a friend hand it in, or e-mail me a scanned copy by the due time. If an Official Absence will interfere with a due date, please let me know **in advance** so that we can make an appropriate adjustment. **Late** homeworks will not be accepted.

You may work with classmates on the homeworks, but you must write up your own work **independently**. Depending on class size, a portion of the homework grade may be based on **participation**. The lowest homework grade will be dropped.

You should budget about **10 hours** per week for reviewing notes and doing homework. You **cannot** earn better than a C, regardless of exam scores, without satisfactory homework and quiz grades.

Exams Midterms will be held in class on Thursdays: **February 13; March 20; and April 17**.

Re-scheduling of exams will be provided **only** in case of an Official Absence; or at my discretion, for extreme, documented reasons. In either case, you must tell me **one week** in advance, or as soon as is reasonably possible.

The final exam will be **Tuesday, May 6, 8–10:30 AM**, in a location to be announced. The time is set by the registrar, and **not** subject to change. **Travel plans** are not a sufficient reason to miss a final.

Disability policy This course complies with the University disability statement at <http://www.ugradcouncil.tcu.edu/forms/DisabilitiesStatement.doc>. See the expanded syllabus on the course web-page.