

**SYLLABUS**

**Instructor:** Dr. Kejian Shi  
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**Office Hour:** Tuesday, 10:00am-11:00am virtual office hour via zoom on canvas

**Prerequisites:** MATH 32 or MATH 32H (with a grade of C or better) or equivalent, and CIS 22A or CIS 35A (with a grade of C or better) or equivalent.

**Textbook:** *Discrete Mathematics*, Brief Edition, by Susanna S. Epp

**Materials:** A scientific calculator recommended

**Attendance:** This class is an **online asynchronous class**. My daily lecture videos will be posted on the Canvas. Students are expected to watch and study the videos daily. Different people can watch at different times during the day. The videos can be watched multiple times. Questions will be answered during office hours or through email. **(It is the students' responsibility to drop by the appropriate deadline. Petitions to drop after the deadline will not be considered by the instructor.)**

**Homework:** Homework is the key to success in this class. Plan to devote a minimum of **TWO hours** to homework for each class lesson.

**Quizzes:** **Three Quizzes** (33, 33, and 34 points) will be given from **8:00pm-9:00pm** on the quiz day. No makeup quizzes. Quiz problems are similar to homework problems and lecture examples.

**Midterms:** **Two midterm examinations** (100 points each) will be given from **8:00pm-10:00pm** on the midterm exam day. No makeup except for extenuating circumstances assuming the student notifies the instructor as soon as the emergency arises.

**Final Exam:** **One comprehensive examination** will be given from **8:00pm-11:00pm** on **Tuesday, March 28, 2023**. Any student missing the final will receive an F grade for the course.

**Integrity:** Any types of cheating are not tolerated. Corresponding school rules will be followed.

| <b>Grading:</b> | <u>Distribution</u> | <u>Scale</u>                      |         |          |
|-----------------|---------------------|-----------------------------------|---------|----------|
|                 |                     | Grade      Points      Percentage |         |          |
| Quizzes         | 100                 | A+                                | 473-500 | 95%-100% |
|                 |                     | A                                 | 448-472 | 90%-94%  |
|                 |                     | A-                                | 438-447 | 88%-89%  |
|                 |                     | B+                                | 423-437 | 85%-87%  |
|                 |                     | B                                 | 398-422 | 80%-84%  |
| Midterms        | 200                 | B-                                | 388-397 | 78%-79%  |
|                 |                     | C+                                | 373-387 | 75%-77%  |
|                 |                     | C                                 | 323-372 | 65%-74%  |
|                 |                     | D+                                | 298-322 | 60%-64%  |
|                 |                     | D                                 | 288-297 | 58%-59%  |
| Final Exam      | 200                 | D-                                | 273-287 | 55%-57%  |
|                 |                     | F                                 | 0-272   | 0%-54%   |
|                 |                     | Total                             | 500     |          |

Math 22-60Z Tentative Schedule (Winter 2023)

| Winter 2023         |   |                                    |            |                                |  |                                     |   |    |
|---------------------|---|------------------------------------|------------|--------------------------------|--|-------------------------------------|---|----|
|                     | MONDAY                                      | TUESDAY                            | WEDNESDAY  | THURSDAY                       | FRIDAY   | SATURDAY                            | SUNDAY  | Wk |
| Jan                 | 9<br>INSTRUCTION<br>BEGINS<br>1.1, 1.2, 1.3 | 10<br>2.1                          | 11<br>2.2  | 12<br>2.3                      | 13<br>3.1  | 14                                  | 15  | 1  |
| Jan                 | 16<br>M L K Holiday<br>(No class)           | 17<br>3.2                          | 18<br>3.3  | 19<br>3.4                      | 20<br>Quiz #1<br>8:00pm-9:00pm                                   | 21<br><i>Last Day to Add</i>        | 22<br><i>Last Day to Drop<br/>without a W</i> | 2  |
| Jan                 | 23<br>Census Day                            | 24                                 | 25         | 26                             | 27   | 28                                  | 29  | 3  |
|                     | 4.1   | 4.2                                | 4.3        | 4.4                            | 4.5  |                                     |   |    |
| Jan<br>/<br>Feb     | 30<br>4.6                                   | 31<br>5.1                          | 1<br>5.2   | 2<br>Review                    | 3<br>Exam #1<br>8:00pm-10:00pm                                   | 4                                   | 5   | 4  |
| Feb                 | 6<br>Solutions                              | 7<br>5.3                           | 8<br>5.4   | 9<br>5.5                       | 10<br>5.6  | 11                                  | 12  | 5  |
| Feb                 | 13<br>6.1                                   | 14<br>6.2                          | 15<br>6.3  | 16<br>Quiz #2<br>8:00pm-9:00pm | 17<br><i>Lincoln's B-Day<br/>Holiday<br/>(No class)</i>          | 18-19<br><i>President's Weekend</i> |   | 6  |
| Feb                 | 20<br><i>Washington's B-day<br/>Holiday</i> | 21<br>6.4                          | 22<br>7.1  | 23<br>7.2                      | 24<br>7.3  | 25                                  | 26  | 7  |
| Feb<br>/<br>March   | 27<br>7.4                                   | 28<br>8.1                          | 1<br>8.2   | 2<br>Review                    | 3<br><i>Last day: drop with a W</i><br>Exam #2<br>8:00pm-10:00pm | 4                                   | 5   | 8  |
| March               | 6<br>Solutions                              | 7<br>8.3                           | 8<br>8.5   | 9<br>9.1                       | 10<br>9.2  | 11                                  | 12  | 9  |
| March               | 13<br>9.3                                   | 14<br>9.4                          | 15<br>9.5  | 16<br>9.6                      | 17<br>Quiz #3<br>8:00pm-9:00pm                                   | 18                                  | 19  | 10 |
| March               | 20<br>10.1                                  | 21<br>10.2                         | 22<br>10.3 | 23<br>10.4                     | 24<br>Review   | 25                                  | 26  | 11 |
| March<br>/<br>April | 27  | 28<br>Final Exam<br>8:00pm-11:00pm | 29         | 30                             | 31   | 1                                   | 2   | 12 |

| Sections | Problems (Epp, Brief Ed.)  |
|----------|--|
| 1.1      | 1, 2, 3, ..., 13.  |
| 1.2      | 1, 2, 3, ..., 12.  |
| 1.3      | 2, 4, 6, ..., 20.  |
| 2.1      | 2 - 5, 8, 9, 13 - 17, 22, 26, 28, 31, 33, 35, 42 - 44, 46.                   |
| 2.2      | 2, 4, 8, 10, 13, 14b, 17, 18, 20, 22, 25, 27, 33, 35, 38, 41, 43, 44, 46.    |
| 2.3      | 2, 4, 11, 12b, 20, 21, 23, 28, 29, 31, 32, 36, 38, 40, 42.                   |
| 3.1      | 4, 6, 7, 9, 10, 15, 16, 18, 23, 24, 28, 32.                                  |
| 3.2      | 3, 5, 8, 10, 12, 19, 21, 23, 29, 31, 33, 38, 40, 44, 47.                     |
| 3.3      | 11, 14, 16, 17, 19, 23, 30, 35, 36, 41, 43, 44.                              |
| 3.4      | 4, 6, 11, 12, 14, 15, 17, 19, 22, 24, 26.                                    |
| 4.1      | 5, 12, 30, 32, 36, 41, 42, 46, 52, 53, 57, 58.                               |
| 4.2      | 5, 14, 19, 23, 26, 28, 30.   |
| 4.3      | 3, 5, 13, 18, 23, 24, 26, 28, 36, 37, 41, 46, 49.                            |
| 4.4      | 2, 4, 8, 9, 15, 19, 22, 25, 30, 37, 38, 43.                                  |
| 4.5      | 7, 10, 15, 17, 20, 24, 29, 33, 34c.  |
| 4.6      | 2, 4, 8, 10, 11, 15, 23, 28, 33.   |
| 5.1      | 2, 4, 9, 11, 17, 29, 31, 43, 47, 49, 52, 53, 55, 59, 61, 63, 65, 68, 72.     |
| 5.2      | 4, 7, 9, 12, 16, 17, 18, 23, 27, 32.   |
| 5.3      | 2, 3, 7, 9, 15, 17, 20, 25, 29.  |
| 5.4      | 1, 3, 5, 7, 9, 15, 17, 18.   |
| 5.5      | 2, 4, 8, 12, 14, 16, 19, 22, 26, 32.   |
| 5.6      | 4, 7, 8, 13, 20, 23, 25, 33, 38, 52.   |
| 6.1      | 3, 6, 8, 9, 12, 14, 17, 18, 20, 23, 27, 30, 33.                              |
| 6.2      | 2, 7, 9, 14, 19, 21, 23b, 26, 31, 35, 39.                                    |
| 6.3      | 2, 8, 13, 16, 19, 20, 32, 35, 43.  |
| 6.4      | 2, 3, 5, 9, 11a <sup>ii</sup> , 11a <sup>iii</sup> , 11a <sup>v</sup> , 11b. |
| 7.1      | 2, 4, 10, 12, 22, 23, 27, 35, 37, 39, 42.                                    |
| 7.2      | 2, 5, 7, 9, 11, 16, 17, 20, 23, 30, 33, 37.                                  |
| 7.3      | 2, 4, 7, 10, 11, 17, 19, 22, 24, 25.   |
| 7.4      | 3, 4, 8, 9, 11, 15, 17, 18, 22, 27, 34.                                      |
| 8.1      | 3, 5, 7, 8, 17, 18, 20, 21.  |
| 8.2      | 2, 10, 13, 17, 19, 21, 21, 26, 30, 38, 42.                                   |
| 8.3      | 2, 4, 6, 9, 10, 13, 14, 17, 19, 24, 40.                                      |
| 8.5      | 2, 4, 6, 8, 10, 12, 14.  |
| 9.1      | 4, 6, 8, 10, 13, 14, 16, 19, 21, 22, 24, 26.                                 |
| 9.2      | 5, 11, 14, 15, 18, 21, 22, 24, 26, 27, 30, 33, 36.                           |
| 9.3      | 6, 11, 20, 23, 25, 29, 32, 35.   |
| 9.4      | 2, 4, 8, 13, 16, 19, 23, 25, 28, 30, 31, 36.                                 |
| 9.5      | 4, 5, 7, 10, 12, 14, 17, 20, 22, 24, 25, 26a-d, 28, 30.                      |
| 9.6      | 5, 9, 11, 14, 16, 17, 30, 34, 37, 44, 49, 54.                                |
| 10.1     | 4, 6, 9, 16, 19, 22, 26c, 27, 33, 37, 39, 40, 44.                            |
| 10.2     | 2, 5, 6, 8, 13, 15, 20, 22, 29, 30, 32, 33, 47.                              |
| 10.3     | 3, 7, 15, 17, 19, 23, 26, 29.  |
| 10.4     | 2, 3, 5, 7, 11, 14, 17, 19, 20.  |



**Student Learning Outcome(s):**

\*Critique a mathematical statement for its truth value, defend choice by formulating a mathematical proof or constructing a counterexample.

\*Analyze and apply patterns of discrete mathematical structures to demonstrate mathematical thinking.

**Office Hours:**

M,T,W,TH    10:00 AM    11:00 AM    Zoom