EXAM 2 INFORMATION
Math 262, Spring 2022

Exam 2 will consist of a short take-home portion, distributed on April 11 and due at the beginning of class on April 13, and an in-class portion on April 13. The exam will test your knowledge of concepts, definitions, and theorems, as well as your ability to solve problems involving discrete and continuous random variables, from Sections 2.1 through 2.7 and 3.1 through 3.4 in the textbook.

Take-Home

The take-home portion of the exam will contain a few problems similar to the homework problems in this course. All of the probability distributions that we have studied through Section 3.4 are fair game for this part of the exam. For this part of the exam, you may refer to your own notes, materials that the professor has posted on the course web site, the textbook, and computational technology (e.g., *R*, *Mathematica*, *Wolfram Alpha*, a calculator). **Do not consult other people, web sites, etc.** The St. Olaf Honor Code applies to this exam.

In-Class

Books, notes, and internet-capable devices will not be permitted during the in-class exam. Calculators will be allowed, but probably not very useful, as problems will not require much arithmetic. You should know the mean, variance, and probability mass/density functions for the following distributions:
- Binomial distribution
- Poisson distribution
- Uniform distribution
- Exponential distribution

You should also know the definitions and basic properties of the moment-generating functions for discrete and continuous random variables

Problems to Review

*Consider the following problems for practice, especially those printed in **bold**.*
- The *Supplementary Exercises* at the end of each chapter in the book.
  - Section 2.9: #**147**, 149, 151, 153, 154, **156**, **157**, 158, **159**, 160, 163, **164**, **165**, **166**, 167, 168 (pages 140 – 145)
  - Section 3.9: #**140**, **141**, 142, **143**, 144, **145**, 146, 150, **151**, 152, **153**, **156**, 157, **159**, 162, 166 (pages 230 – 237)
- All problems assigned in the homework (note that solutions are on the course web site).