

Spring 2014 Syllabus for Section 4 of PBIS 188

Introduction to Modern Mathematics and its Applications

Instructor Information

Dr. Kenneth Price, Associate Professor of Mathematics.

You do not need an appointment to stop by Swart 239 for help during office hours. These are held on Mondays from 1:00 to 2:00 PM and Wednesdays and Thursdays from 1:00 to 3:00 PM. Ask in person, call, or send E-mail for arranged appointments at other times.

Contact. Phone (920) 424-1057 or send E-mail to pricek@uwosh.edu.

Course Information

Book Requirements. The required text is *Excursions in Modern Mathematics* by Peter Tannenbaum. You need either the 5th or 6th edition. A course packet containing supplementary materials can be purchased in the bookstore.

Equipment. You may not share calculators, use cell phones, or use laptop computers during exams. A scientific calculator is required.

Cell Phone Policy. You may not use cell phones during class.

Course Description

PBIS 188 is centered on problem solving to develop critical thinking skills. Unlike many of your previous math classes, which probably focused on algebraic steps to find a unique solution, most of the problems we consider will possibly have multiple solutions or no desirable best solution. Thus they may be more representative of problems you encounter in your major. We consider two broad topics.

The Mathematics of Social Choice. Modern scholars tend to separate disciplines from each other. This was not the case in years past. The mathematics of social choice draws on ideas from a large number of historically important figures. These contributions play an important role in the structure of our society.

Management Science. A routing problem is to find an efficient route for delivering a good or service. Focusing on relationships between objects reduces routing problems to spatially defined mathematical models, called graphs. Applications and historical stories are included in the study of paths on graphs.

Class Format

In addition to attending class regularly, every student should plan to participate in group activities, to complete computer-based projects, to answer questions in class, and to solve problems. Students will be assigned groups and will sit with their groups in class. Be involved, keep up with class activities, and be prepared to explain every step of your solution. You are encouraged to think critically, ask questions, read ahead, visit office hours, and form study groups.

Explanation of Grading

Your final grade is based on a percentage according to the following scale.

A	at least 93.0%	C	73.0% to 75.9%
A-	90.0% to 92.9%	C-	70.0% to 72.9%
B+	86.0% to 89.9%	D+	66.0% to 69.9%
B	83.0% to 85.9%	D	63.0% to 65.9%
B-	80.0% to 82.9%	D-	60.0% to 62.9%
C+	76.0% to 79.9%	F	below 60.0%

Exams = 75% There will be five chapter exams. Many of the exam problems will be copied directly from the exercises or group work exercises.

Group Work = 25% In-class activities will be assigned on a regular basis. You will work in groups to solve these problems and also complete computer-based projects. Every group should submit a solution with everyone's name on it. Groups of five or more students are prohibited. Each group activity will be worth up to five points. Late work will not be accepted.

- To earn a 5, work must be free of calculation mistakes and gaps in written explanations.
- A score of 4 indicates satisfactory explanation with calculation mistakes.
- A score of 3 indicates unsatisfactory explanation or severe calculation mistakes.
- A score of 0, 1, or 2 indicates unsatisfactory explanation with missing calculations, gaps, or mistakes.

Grading Policies. *A statement of the solution with no explanation will not be awarded full credit.* Final Grades will not be assigned until after Friday, May 16. No grades will be sent by Email under any circumstances. All scores will be posted to D2L.

Makeup Policy. Students are responsible for finding out about missed group work assignments during their absences. Special consideration for particular students is unfair to the rest of class. No makeups will be made available unless the following conditions are met.

- The reason must be documented, verifiable, and beyond your control.
- Provide a written explanation. Phone messages and E-mail do not count.
- Make arrangements in advance whenever possible.

Academic Integrity. Examples of academic misconduct include submitting others' work as your own, cheating on an exam, tampering with the work of others, and intentionally assisting another student in any of these activities. The University of Wisconsin System disciplinary code provides standards of academic integrity for all students. Section 14.01 of these guidelines states:

Students are responsible for the honest completion and representation of their work, for the appropriate citation of sources, and for respect of others' academic endeavors.

System guidelines and local procedures are printed in the UW Oshkosh Student Discipline Code 2001-2002. Questions should be directed to the Dean of Students office.