

WESTFIELD STATE UNIVERSITY

**MATHEMATICAL APPLICATIONS
ONLINE COURSE**

MATH – 0111

Dr. Mahmud Ahmadov

COURSE DESCRIPTION:

An introductory course designed to provide the liberal arts major with opportunities to investigate ways in which mathematics is used to solve real world problems in a variety of disciplines. Applications may include such topics as voting schemes, fair division, networks, scheduling, finance, probability and statistics.

Prerequisite: High School Algebra II or MATH 0103.

3 Class Hours 3 Credits

COURSE ORGANIZATION:

The focus of this course is on new mathematical objects, perspectives, ideas, and connections to other areas. This enables to develop a broader understanding and more positive appreciation of mathematics.

Students will participate in discussions, possible work in groups and themselves, solve problems, use the textbook and some additional resources to explore topics of the course.

Some of the topics that we are going to cover in this course are: graphs and linear programming, voting theory, statistics and probability, fairness and game theory.

COURSE OBJECTIVES:

1. *Recognize, understand, utilize, integrate and communicate mathematical concepts, mathematical methods and logical reasoning.*

This course utilizes previously developed concepts and skills in arithmetic, algebra and geometry. As new topics are examined, you will integrate these new concepts and methods in a problem solving setting.

2. *Apply mathematical concepts, mathematical methods, and mathematical reasoning within an analytic framework.*

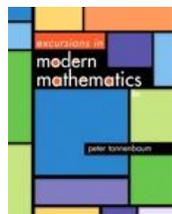
Problem solving strategies together with standard algorithms will be applied to solving problems across the disciplines.

3. *Conceptualize and utilize algorithms and formal mathematical structures.*

Within the mathematical structures of the topics examined, students will develop and apply algorithms for problem solving.

TEXTBOOKS:

The textbook (either printed copy or ebook) is required for this course.



Excursions in Modern Mathematics, 8/E

Peter Tannenbaum, California State University, Fresno

ISBN-10: 032182573X • ISBN-13: 9780321825735

Publisher: Pearson

Copyright: 2014

Format: Cloth; 608 pp

The hard copy of the book can be bought in the WSU bookstore. The eBook can be rented on CourseSmart.com

GRADING:

Students must demonstrate an understanding of course material by:

1. Actively participating in all aspects of the course
2. Using the appropriate terminology in class discussions.
3. Thoroughly and accurately completing assignments, papers, projects, quizzes, group projects, exams, etc. and submitting them on time.
4. Each graded assignment, which may be an exercise, project, discussion-based assignment, quiz, or test, will carry a certain weight.
5. Points are assigned for each assignment criterion, (an assignment criterion is a detailed expectation for a specific assignment) which has been established for the purpose of completing and evaluating each assignment to a given set of expectations.
6. Students will receive a weekly progress and grade report.
7. The final grade will be given as the ration of the earned points over the total points available converted to percents.

Calculations of your current grade:

Step 1: Add up all points earned

Step 2: Add up all points possible to earn up to date

Step 3: Divide the result of Step 1 by the result of Step 2.

Step 4: Multiply the result of Step 3 by 100

The numerical average will be converted to the letter grade according to the following scale

| Letter Grade | Numerical Grade |
|---------------------|------------------------|
| A | 93-100 |
| A- | 90-91 |
| B+ | 87-89 |
| B | 83-86 |
| B- | 80-82 |
| C+ | 76-79 |
| C | 73-76 |
| C- | 70-72 |
| D+ | 67-69 |
| D | 60-66 |
| F | 0-60 |

INSTRUCTOR AVAILABILITY

Please get in touch with me via course email system. Let me 24 – 48 hours to respond all your questions.

Use all other features of the online classroom (Messages, Ask Dr. Max, Ask Question discussion forums) to get a help with the course material.