MTH 105: Introduction to Contemporary Mathematics

**Catalog Description:** Elementary linear programming, combinatorics, descriptive statistics, elementary probability, exponential growth and decay, examples of major mathematical ideas and models.

**Credits:** 3

**Terms Offered:** F, W, S, Su

**Enforced Prerequisites:** MTH 095 or MTH 103 with C- or better, or ALEKS math placement test: 46%, or math placement test: 17, or instructor permission.

**Meetings:** Two 50-minute lectures and one 50-minute recitation

**Course Content:**
1. Elementary linear programming
2. Combinatorics
3. Descriptive statistics
4. Elementary probability
5. Exponential growth and decay
6. Examples of major mathematical ideas and models.

**MTH 105 Measurable Student Learning Outcomes:** A successful student in MTH 105 will be able to:

- Develop an appreciation for and understanding of the basics of how mathematics is used to model real-life situations.
- Correctly apply formulas to calculate earned interest, credit card payments, mortgage payments, and other relevant questions that arise in daily life.
- Read and interpret data represented in a variety of graphical forms. Recognize misleading or incorrect graphical representations of data. Organize data into appropriate graphical forms.
- Calculate some statistics such as mean, median, mode, quartiles, variance and standard deviation. Understand what information is conveyed by these statistics.

MTH 105 satisfies the Baccalaureate Core Skills category for Mathematics and successful completion of the Mathematics category is one of OSU’s First Year Skills requirements.

**Baccalaureate Core Learning Outcomes:**

1. Identify situations that can be modeled mathematically.
2. Calculate and/or estimate the relevant variables and relations in a mathematical setting.
3. Critique the applicability of a mathematical approach or the validity of a mathematical conclusion.

**Evaluation of Student Performance:** Your grade and measurement of your progress on the course outcomes will be based on daily in-class participation and clicker problems, weekly written recitation activities, and weekly written homework, along with a written midterm and final exam. (Approximate percentages given.)

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Participation/Clicker Problems</td>
<td>5%</td>
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<tr>
<td>Recitation Activities</td>
<td>15%</td>
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<tr>
<td>Written Homework</td>
<td>20%</td>
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<tr>
<td>Midterm</td>
<td>25%</td>
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<tr>
<td>Final Exam</td>
<td>35%</td>
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Learning Resources: The required text is *A Mathematical View of Our World*, by Harold Parks, Gary L. Musser, Lynn Trimpe, Vikki Maurer, and Roger Maurer (2007, First Edition or Custom Edition for Oregon State University) or other similar text selected by department. TurningPoint Clicker, scientific or graphing calculator.

Selected portions of the text will be covered as follows.

Chapter 6: 6.1, 6.2
Chapter 8: 8.1, 8.2, 8.3
Chapter 9: 9.1, 9.2, 9.3
Chapter 10: 10.1, 10.2
Chapter 11: 11.1, 11.2, 11.3,
Chapter 13: 13.1, 13.2, 13.3

Students With Disabilities: Accommodations are collaborative efforts between students, faculty and Disability Access Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DAS should contact DAS immediately at 737-4098.

Academic Honesty and Student Conduct: Students are expected to be familiar with the Homework and Exam policies stated in this syllabus, as well as Oregon State University's Student Conduct Code. [http://oregonstate.edu/studentconduct/code/index.php](http://oregonstate.edu/studentconduct/code/index.php).