Mathematical Modeling

Instructor: Dr. Hamid Behmard

Office: room: MNB 119, phone: 838-8869, email: behmarh@wou.edu

Office Hours: 2:00-4:30 Wed, Thurs; other times by appointment.


Course Prerequisite: Mth 252 with a grade of “C-” or higher or my consent.

Course Objectives: Students in this course will learn

- *Creative & Empirical Model Construction*: Given a real world scenario, the student learns to identify a problem, make assumptions and collect data, propose a model, test the assumptions, refine the model as necessary, fit the model to data if appropriate, and analyze the underlying mathematical structure of the model to appraise the sensitivity of the conclusions when the assumptions are not precisely met.
- *Model Analysis*: Given a model, the student learns to work backward to uncover the implicit underlying assumptions, assess critically how well those assumptions fit the scenario at hand, and estimate the sensitivity of the conclusion when the assumptions are not precisely met.
- *Model research*: The student investigates a specific area to gain a deeper understanding of some behavior and learns to use what has already been created or discovered.

Homework: Homework problems will be assigned after each class. Work on these problems on a daily basis, individually. We will discuss them in class as needed. I will collect homework periodically.

Project: There will be several individual projects and one to two group projects. I will give you more information for these projects.

Midterm Exam: There will be one in class midterm exam on February 18th.

Final exam: A comprehensive final exam will be given on Monday the 16th of March from 8:00 to 9:50. The final is required for all students. **There is no early final exam.**

**There is no make-up for missed projects or midterm exam.** You may use your coupon, which I distribute along with this syllabus, to make-up one missed homework up to one class period after the due date. **It is your responsibility to fill up the coupon completely and turn in with your missed homework.** The coupon does not apply to midterms or final.
Grading:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>HWK</td>
<td>15%</td>
</tr>
<tr>
<td>Projects</td>
<td>40%</td>
</tr>
<tr>
<td>Midterm</td>
<td>25%</td>
</tr>
<tr>
<td>Final</td>
<td>20%</td>
</tr>
</tbody>
</table>

Grades will be assigned according to the following scale:

- A  90-100%
- B  80-89%
- C  70-79%
- D  60-69%
- F  30-59%

The details of “plus” or “minus” is not included.

Where to get help:

- come see me during my office hours or by appointment;
- work with your classmates in small groups;
- go to Tutoring Center;
- If you have a documented disability and wish to discuss academic accommodations, please contact me as soon as possible.

General guidelines for success:

- attend every class and take notes;
- study and do written homework daily;
- read the current textbook section before/after each class discussion/lecture;
- ask questions about concepts, techniques or ambiguities as soon as possible;
- use the support available: me, the Tutoring Center, your classmates;

**plan to spend 6 or more hours per week outside of class studying/reading/thinking/speaking calculus!**

---

This coupon grants the bearer one class period of grace period to receive full credit for one homework assignment upon turning the missed homework along with this coupon. One coupon per student. If you do not use the coupon, you will receive five bonus points at the end of the term. This offer is void if I must endure a long story about why you are using the coupon.

Name___________________________________________

PIN or Student ID

Number____________Course______________

Assignment___________________

Date________________________