

**Marshall University**  
**Math 140H: Applied Calculus Honors**

<b>Semester and Year</b>	Spring 2014
<b>Course Title</b>	Applied Calculus Honors
<b>Course Number</b>	Math 140H
<b>Section Number</b>	201
<b>CRN</b>	4741
<b>Days and Time</b>	Tuesday, Thursday – 9:30am - 10:45am
<b>Location</b>	Smith Hall 518
<b>Credit Hours</b>	3
<b>Prerequisites</b>	ACT Math 25; SAT Math 580; C or better in MTH 127; MTH 130E; MTH 130; MTH 130H; MTH 132.
<b>Instructor</b>	Dr. Anna Mummert
<b>Office</b>	Smith Hall 721
<b>Phone</b>	304 696 3041
<b>E-mail</b>	mummerta@marshall.edu
<b>Office Hours</b>	Monday, Tuesday, Wednesday, Thursday – 3:00pm - 4:00pm other office hours by appointment

**Course Webpage**

All important course information will be posted on our class MUOnline page.

**Required Texts**

Larson. 2009. *Applied Calculus for the Life and Social Sciences*. Houghton Mifflin.

The topics covered in this class correspond to Chapters 1, 2, 3, 4, 6, and 10 from the textbook.

**Calculators and Other Technology**

You may use a calculator on all work and assignments in this class. A graphing calculator (e.g. TI-84) is not required. You may not use your phone, iPad, laptop, etc. as a calculator on any exam.

Cell phones may not be used in class.

**Course Description:**

MTH 140H - Applied Calculus Honors

A brief survey of calculus including both differentiation and integration with applications. This honors course will also introduce topics from differential equations with applications. 3 hours

**Honors Course**

This course has an honors designator (H) and is limited to students in the Honors College. This course differs from MTH 140 by having an explicit focus on population dynamics and population modeling. To the extent possible, all the concepts in this course will be explored through the lens of changing population size.

<b>Student Learning Outcomes</b> for this course	How students will practice each outcome in this course	How student achievement of each outcome will be assessed in this course
Students will identify and use functions appropriately.	In class activities, Homework	Exams
Students will describe the main ideas of Calculus: derivative and integral.	In class activities, Homework	Exams
Students will compute derivatives and integrals given a table, graph, or equation.	In class activities, Homework	Exams
Students will use derivatives and integrals to solve real world problems and interpret the results .	In class activities, Homework	Exams
Students will explain how exponential and logarithmic functions are used in growth and decay models.	In class activities, Homework	Exams
Students will explain how differential equations can be used to describe population dynamics.	In class activities, Homework	Exams

### Assessments

Late assignments will only be accepted with an Excused Absence – university-sponsored activity, student illness, immediate family emergency, short-term military obligation, jury duty or court appearance, religious holiday. Please read the university policy on how to secure an Excused Absence. Most excused absences are obtained from the Dean of Student Affairs.

Late assignment must be turned in within 1 week after you return to class.

**Homework:** Homework will be done on-line using WebWork:

<http://webwork.marshall.edu/webwork2>

Your user name and password are the same as your Marshall user name (email) and password. Homework will be due at midnight every Tuesday and Thursday (starting Thu, Jan 16).

Additional practice problems from the textbook will be listed on our course MUOnline page.

Please bring any questions that you have about the homework problems to class. We will begin every class with your questions.

**Exams:** Three in-class exams will be given during the semester. Exam questions will be similar to in-class and homework questions.

- Thursday, February 13
- Thursday, March 13
- Thursday, April 17

**Final exam:** The final exam will be given in Smith Hall 518 on

- Tuesday, May 6, at 8:00am - 10:00am

The final exam will be comprehensive. Final exam questions will be similar to in-class work, homework, the previous exam questions.

## Grading Policy

Any student caught cheating will receive a 0 on the assignment and Academic Affairs will be notified.

Assignment	Points	Final Grade, Percent	Letter Grade
Homework	300	90 - 100	A
Exam 1	200	80 - 89	B
Exam 2	200	70 - 79	C
Exam 3	200	60 - 69	D
Final Exam	300	0 - 59	F

## Attendance Policy

Attendance will be taken every day. Students who arrive late will be considered absent and will not be given extra time on exams.

If you are absent with an Excused Absence, then please secure an Excused Absence immediately.

If you are absent for any reason, then it is your responsibility to make up any missed material.

## Tentative Course Schedule

Week 1	1.1, 1.2
Week 2	1.3, 1.4, 1.5, 1.6
Week 3	2.1, 2.2, 2.3
Week 4	2.4, 2.5
Week 5	2.6, Exam 1
Week 6	3.1, 3.2, 3.3
Week 7	3.7
Week 8	4.1, 4.2, 4.3
Week 9	Exam 2
Week 10	4.4, 4.5, 4.6, logistic growth
Week 11	6.1, 6.4
Week 12	6.4, estimating integrals from tables and graphs
Week 13	Exam 3
Week 14	differential equations
Week 15	differential equations

## University Schedule

The complete university schedule can be found at [www.marshall.edu/calendar/academic/spring2014.asp](http://www.marshall.edu/calendar/academic/spring2014.asp)

## University Policies

By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy by going to

<http://www.marshall.edu/academic-affairs/policies/>

Academic Dishonesty, Excused Absence Policy for Undergraduates, Computing Services Acceptable Use, Inclement Weather, Dead Week, Students with Disabilities, Academic Forgiveness, Academic Probation and Suspension, Academic Rights and Responsibilities of Students, Affirmative Action, and Sexual Harassment.