

## Math 3860 Syllabus Fall 2005

**Space-Time:** PL3130 MWF 10:00-10:50am

**Instructor:** Mao-Pei Tsui

**Office Hours:** UH2080B M 1:00-3:00pm, W 5:00-6:00pm, Th 1:00-2:00pm

Math Learning Center (Carlson Library Lower Level, adjacent computer lab) W 12:00-1:00pm

**Phone:** 419-530-2998 **Fax:** 419-530-4720

**Email:** Mao-Pei.Tsui@Utoledo.edu

**Homepage:** <http://www.math.utoledo.edu/~mtsui/>

**Class Web Site:** <http://www.math.utoledo.edu/~mtsui/de05f/de05f.html>

**Text:** *Elementary Differential Equations*, eighth edition by Boyce and DiPrima.

**Prerequisites:** MATH 2850 or permission of the instructor.

**Homework:** I will post homework assignments on the web, due at the beginning of class Friday. The grader will grade 5 problems, chosen at random, each worth 1 point. Your solutions must be neat and show all work. If you do not show your work then you will not receive credit for your solution. When you turn in your assignment fold your papers lengthwise, and write your name, the course number, and due date on the outside. I will drop your 2 lowest homework scores.

**Quizzes:** There will be ten 15 minute quizzes given at the end of class on Friday. The first quiz will given on August 26 and the last on Dec. 2. The material on the quiz will be drawn from the homework assignments during the week of the quiz. The time of the quizzes can be found on the web. I will drop your 2 lowest quiz scores.

**Exams:** There will be three one hour in class exams in the fourth, eighth and twelfth weeks of the semester. There will be a comprehensive final exam given during scheduled final exam period for this section. The final exam will place slightly more emphasis on the material covered after the last in class exam. No calculators are allowed on quizzes and exams.

**Missed Quizzes and Exams:** Absences for quizzes and exams can only be excused if covered by the University's missed class policy. The policy specifically mentions absences from class may be excused for personal emergencies, religious observances, participation in certain UT sponsored activities, and government required activities. For more information see <http://www.utoledo.edu/index.asp?id=529>. Arrangements for make up quizzes and exams will only be made if you inform me of the absence without delay by phone or email and present a documented excuse.

**Grading:** The following percentages are assigned to the components of the student's grade.

Homework	15%
Quizzes	10%
Exam I	15%
Exam II	15%
Exam III	15%
Final Exam	30%

Although there are no fixed percentages for a given letter grade experience has shown that on average 10 % will receive A, 35 % will receive B, 35 % will receive C 15 % will receive D and 5 % will receive F. The IW grade will be given to only those students who have stopped attending class before or on October 28. If you have any question about your grade at any time please speak with me.

**Resources:** There are resources available for students who need extra help outside of my office hours. For this courses the most reliable source of tutorial help can be found at the Mathematics Learning and Resource Center located in the basement of Carlson Library(adjacent computer lab).

**Calendar:**

Last date to drop	Sept. 6
Exam I	Sept. 16
Exam II	Oct. 14
Last date to withdraw	Oct. 14
IW grade deadline	Oct. 28
Exam III	Nov. 18
Final exam	Dec. 14(Wednesday), 10:15-12:15 am

**Syllabus:**This syllabus is meant to be a tentative schedule for the semester. A complete syllabus can be found at the class web site.

Week	Subject	Sections
1	Introduction, Direction fields, linear equations	1.1, 1.2, 1.3, 2.1
2	Separable equations, modeling	2.2, 2.3
3	Autonomous equations, Theorem on existence and uniqueness	2.5, 2.4, 2.8
4	Integrating factors, Exam	2.6
5	Numerical Approximation, second order equation	2.7, 3.1, 3.2
6	Linear Independence, Complex roots, repeated roots	3.3, 3.4, 3.5
7	Non-homogeneous equations	3.6, 3.7
8	Applications Exam	3.8, 3.9
9	Higher order equations	4.1, 4.2
10	Non-homogeneous higher order equations, Laplace Transform	4.3, 4.4, 6.1
11	Initial value problem, Step function Discontinuous forcing	6.2-6.4
12	Impulse function, Linear systems	6.5, 7.2
13	Eigenvalue, eigenvectors, Exam	7.3
14	First order linear system	7.4, 7.5
15	First order linear system	7.6, 7.8
16	Fundamental matrices, nonhomogeneous linear system	7.7, 7.9