MATH 214-004: Elementary Differential Equations

Syllabus, Fall 2018

Course goals. This course covers first-order ODEs, higher-order ODEs, Laplace transforms, linear systems, nonlinear systems, numerical approximations, and modeling.

Prerequisite. Grade *C* or better in MATH 213.

Textbook required. *Differential Equations*, 3rd Edition, by J. R. Brannan and E. B. Boyce, Wiley, 2015.

Material to be covered. Chapters 1-5 (with some sections omitted).

Lectures. TR, 9:00 am–10:15 am, Innovation Hall, Room 131.

Instructor. Dr. Valeriu Soltan. Office: Exploratory Hall, Room 4202. Email: vsoltan@gmu.edu

Office hours. TR, 11 am to 1 pm, or by appointment.

Recitation. F, 9:30 am–10:20 am, Robinson Hall, Room B104.

Teaching Assistant.

Syllabus. It available at http://math.gmu.edu/faculty_staff/soltan.htm

Homework. Problems for the homework are given in the course outline (see next page). Although these will not be collected, success in quizzes, tests, and final exam strongly depends on their completing and understanding.

Tutoring. Free tutoring is available at Math Tutoring Center (Johnson Center, Room 344); for hours of operation, visit http://math.gmu.edu/tutor-center.php.

ODS. If you are a student with a disability and you need academic accommodations, please see me and contact the Office of Disability Services. All academic accommodations must be arranged through this office.

Quizzes, tests, and final exam. There will be weekly quizzes (during recitations), <u>two tests</u> (tentatively, October 3 and November 13), and the <u>final exam</u> (December 13). All quizzes, tests, and the final exam are closed-book and closed-notes. Calculators are not allowed.

Important days. Fall break (October 9), Thanksgiving recess (November 21-25), last day of classes (December 8), final exam (December 13, 7:30 am–10:15 am).

Grading. All quizzes make 20% of your grade, each test is 20%, and final exam is 40% worth of the total grade. Your grade for the course is the sum of scores for quizzes, tests, and final exam. There is no curving, dropping, extra crediting, etc. Equivalence between scores and letters, recommended by GMU, is given in the table below.

A+	A	A-	B+	B	B-	C+	C	C-	D	F
100-97	96-94	93-90	89-87	86-84	83-80	79-77	76-74	73-70	69-60	59-0

Attendance and make-ups. Each student is expected to come to class regularly. <u>No make-ups for tests are allowed unless you provide a serious written excuse</u>. Excused tests should be taken within a timely fashion before the last day of classes.

GMU policies on final exams. The final exam may not be given during the last week of classes. If you need to change the date of your final exam for unusual circumstances or because you have three or more finals scheduled in one day, you have to obtain professor's approval at least a week prior to the last day of classes. Retaking final exams is not permitted.

Absence from the final exam will not be excused except for sickness on the day of the exam <u>confirmed by physician's note</u> or for other causes <u>approved by the student's academic dean or director</u>. If a student missed the final exam due to illness or a family emergency, an <u>incomplete grade</u> (IN) may be assigned provided the student took both tests. If absence from the final exam is unexcused, the grade for the course is F.

Academic integrity and university policies. Mason is an Honor Code university; please see the University Catalog for a full description of the code and the honor committee process. Other policies are available at http://universitypolicy.gmu.edu/. Students are responsible for knowing and following established policies.

COURSE OUTLINE

Sections	Homework Problems
1.1	1, 5
1.2	1, 3, 5, 7, 9, 11, 13, 15, 17, 19
1.3	1, 3, 5, 7, 9, 11, 13, 15, 17, 21, 23
2.1	1, 3, 5, 7, 9, 11, 13, 15, 17, 19
2.2	1, 3, 5, 7, 9, 11, 13, 15, 17, 19
2.4	1, 3, 5, 7, 9, 11, 15, 17
2.6	1, 3, 5, 7, 11
2.7	1, 3, 5, 7, 9, 11, 13, 15, 17, 19
3.1	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23
3.2	1, 3, 5, 7, 9, 11, 15, 19, 21, 23
3.3	1, 3, 5, 7, 9, 11, 13, 15
3.4	1, 3, 5, 7, 9
3.5	1, 3, 5, 7, 9, 11
4.1	1, 3, 5, 7, 9, 11
4.2	1, 3, 5, 7, 9, 11, 13, 23, 25
4.3	1, 3, 5, 7, 9, 11, 13, 27, 29, 31, 33
4.5	1, 3, 5, 7, 9, 11, 17, 19, 21
4.7	1, 3, 5, 7, 9, 11, 13
5.1	1, 3, 5, 7, 9, 11, 13, 15, 17
5.2	1, 3, 5, 7, 9, 13, 15, 17
5.3	1, 3, 5, 9, 11, 13, 15, 17
5.4	1, 3, 5, 7, 9, 11, 13, 15, 17, 19
5.5	7, 9, 11, 13, 15, 17
5.6	1, 3, 5, 7, 9, 11