MATH 242-E01 Information

I. **Schedule.** Except for holidays, class meets: 3:55 pm–5:10 pm, MW, in LeConte, room 112. First day of classes is 1/9/17, M. Last day of drop/add and to drop without a W (WF) is 1/17/17, T (3/2/17, R). Holidays are 1/16/17, M, Dr. Martin Luther King, Jr. Service Day, and 3/5/17–3/12/17, Su–Su, Spring Break. Last day of classes is 4/24/17, M.

II. **Instructor, Office Hours, e-mail, Phone Number, and Web site**. R.M. Stephenson, Jr. Office: LeConte, room 404. Office hours: anytime I'm in; or by appointment; or 2:25–3:55 pm, MW. e-mail: `stephenson@math.sc.edu` Phone: office — 777-3254; or call my home — 772-2578, except during 10:30 pm–6:00 am. For online information about this class, use `http://people.math.sc.edu/stphnson/`

III. **Tentative Syllabus and Textbook**. The textbook is *Differential Equations Computing and Modeling*, 5^{th} edition, by Edwards, Penney and Calvin. Tentative syllabus—we shall cover most of 1.1–1.6, 2.1–2.4, 3.1–3.5, 3.7, 4.1–4.2 and 7.1–7.5.

IV. **Grading**. There will be three major tests and a final exam, where the grades on them will be recorded as percents, T1, T2, T3 and E. There will also be short quizzes and possibly some hand-in assignments worth 10 points each; the last week of classes, the lowest 20 points of the short quiz and hand-in assignment grades will be dropped, and the average of the remaining ones will be computed and recorded as a percent, QH. Then the lowest one of QH, T1, T2 and T3 will be dropped, and the average of the remaining ones will be computed and denoted T+QH. A final semester average, S, will be computed with the formula S = (1/3)E + (2/3)(T+QH), except as noted below in VI. Course grades will be based on the following, and class participation will also be taken into account.

S	0–59	60–65	66–69	70–75	76–79	80–85	86–89	90–100
Grade	F	D	D+	C	C+	B	B+	A

V. **Makeups**. There will be no test, quiz or hand-in makeups—any quiz not taken or hand-in assignment not turned in when due will be counted as a "0"; if there are two or fewer such 0's, each of them will be counted as a "drop." If a student misses or expects to miss a test, he or she should promptly contact me, and if excused (illness, conflict with required participation in a USC function, or extenuating circumstance beyond the student's control), then that student's score on the final exam will also be his or her score on the missed test.

VI. **Homework, Attendance, etc**. Each day homework is given and gone over in class, but is not collected. Regular attendance and study are required. If a student misses four or more class meetings, the formula given above in IV. to compute his or her final semester average "S" may be reduced by one to four points. It is each person's responsibility to keep up with when quizzes and tests are scheduled; anyone missing a class is welcome to contact me to get the assignment. Anyone needing to leave class early is asked to contact me before class begins.

VII. **Test and Final Exam Dates**.

T or E	T1	T2	T3	E
Date	2/8/17, W	3/15/17, W	4/17/17, M	4/28/17, F 4:00 p.m.

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VIII. **Prerequisite**. Qualification through placement or a grade of C or better in MATH 142.

IX. **Expected Learning Outcomes**. After successful completion of MATH 242 the student will be able to accomplish much of the following: (a) solve initial value problems and find general or particular solutions to ordinary differential equations of the following types: separable; exact; nonlinear homogeneous; first and higher order linear equations, both homogeneous and inhomogeneous, especially those with constant coefficients; equations occurring in pairs; (b) develop skill at using solution methods such as: integrating factors; substitution; variation of parameters; undetermined coefficients; Laplace transforms; series; approximations, such as the Euler or Runge-Kutta approaches; and (c) use differential equations to solve mixture, cooling, mechanical vibration, or electrical circuit problems.

X. **Topical Outline of Content to be Covered and Time Allocation**. The three primary topics to be studied will be: ordinary differential equations of first order; higher order linear differential equations; and Laplace transform methods for solving linear differential equations. These topics will be studied in the order listed above, and each will be the main focus for about 4 weeks. More detailed information about the topics to be studied may be obtained by (i) referring to the MATH 242 course description in the *2016–2017 Undergraduate Studies Bulletin* and (ii) comparing the sections of the textbook listed In III. on the preceding page to the table of contents topics listed in the textbook we shall use.