OAKLAND UNIVERSITY
COLLEGE OF ARTS AND SCIENCES
DEPARTMENT OF MATHEMATICS AND STATISTICS
STUDENT INFORMATION SHEET AND SYLLABUS

COURSE: APM 2555, 4 Credits
SEMESTER: Winter 2018

Instructor	Office	Phone	Email	Section	Time	Room
B. Cahlon	550 MSC	248-370-3435	cahlon@oakland.edu	15242	MWF 1:20pm-2:27 p.m.	MSC 384

Attendance at every class is expected.

OFFICE HOURS: By Appointment.

CONDUCT: Success in this course requires an atmosphere conducive to learning. As a courtesy to your fellow students and instructor, please come to class on time and refrain from extraneous conversation during class. All electronic devices must be turned off prior to the start of class. Quiet consumption of beverages is permitted during class; eating food is not. If circumstances make it necessary for you to leave early, please notify the instructor in advance and leave quietly. Otherwise, come prepared to stay for the entire class.

COURSE (CATALOG) DESCRIPTION: Systems of equations, matrices, and linear programming (simplex method); rational, exponential and logarithmic functions. *Satisfies the university general education requirement in Formal Reasoning.*

PREREQUISITES: A 2.0 or better in MTH 1555, an equivalent course at another school, or placement "R". Prerequisites are strictly enforced: if you do not meet the prerequisite, you will not be permitted to remain in the course. In order to do well in this course, you need to have intermediate algebra and basic analytic geometry skills. Some of this material is contained in Chapter 1 of the text, which will be briefly reviewed on the first day of class. Students are sometimes unaware, until after they have taken a college mathematics course, how much more emphasis is placed in college courses on understanding and applying concepts, as opposed to learning to perform routine computations. Indeed, understanding of mathematical concepts and their applications are the central issues of college-level work. Students who have not been in such courses often underestimate the amount of time and hard work needed to succeed.

COURSE OBJECTIVES: The successful student in this course should develop an understanding of the basic concepts of functions, systems of linear equations, exponential functions and logarithmic functions, matrix algebra, linear programming (simplex method), and financial mathematics, learn interesting applications of these concepts in diverse areas such as business, economics, and biology, and develop an understanding of the concepts of mathematical reasoning, and appropriate (algebraic and analytical) problem solving skills.

TEXT: *Differential Equations and Linear Algebra, Life*, 4th Edition, C. Henry Edwards, David E. Penney, David T. Calvis published by Pearson. The material to be covered is contained in chapters 2-6 (see the schedule below). You are expected to have a copy of this textbook.

CALCULATOR POLICY: For this course you will need a calculator with exponential and logarithmic functions. You may use the calculator on all tests, quizzes, and homework assignments, and it is important to learn to use it effectively. In particular, know how to do complex calculations without writing down intermediate answers, and be aware of how many digits of accuracy you can expect an answer to have. To receive full credit on tests, be sure to show all the mathematical work necessary for setting up a calculation before using the calculator. Try to use your calculator imaginatively; for example, calculators often provide you with ways to verify an answer (e.g. by graphing with a graphing calculator, or plugging in particular values of variables). Using a calculator to store formulas you need for a test is not permitted.

TESTS: There will be 3 in-class tests. In the daytime sections they are scheduled for **February 2 (Fri)**, **March 7 (Wed),** and **April 6 (Fri)**. These tests will be closed book tests. Each test is worth 100 points. Absent university closure, these tests are only given on these dates, at the regular class time and in the regular classroom. Any questions about the grading of these tests must be raised with the instructor within 10 work days of their return.

COURSE OBJECTIVE: The student should learn methods of solving first and second order differential equations: become familiar with mathematical models that lead to these types of differential equations: and master the necessary linear algebra needed to apply the methods of solution and to analyze solutions.

HOMEWORK: Homework will be assigned regularly but will not collected or graded. However, it is imperative to do the homework in order in order to do well on the tests.

FINAL EXAM: THE FINAL EXAMINATION WILL BE COMPREHENSIVE and worth 200 points. Final Exam will be given on Monday April 23, 3:30-6:30pm.

EMERGENCY CLOSING: If the University is officially closed at the time of a scheduled test or examination, it will be given during the next class period when the University reopens. Closures during the final exam period require rescheduling by

the Registrar. The Oakland University emergency closing number is 248-370-2000.

GRADING POLICY: Your course grade will be based upon the percentage of total points you have earned out of the 600 maximum number of points available to you (100 points for each test, 100 points for daily work, and 200 points for the final examination). There is no fixed grading scale for this course; a conversion formula from your percentage score to an Oakland University grade will be determined at the end of the course. However, the following list shows the lowest possible grade that a given percentage score will earn (the grade may be higher than this): 95%→4.0, 80%→3.0, 65%→2.0, 50%→1.0. This list is the best way to measure your performance throughout the semester. Course grades are posted by the Registrar on-line at sail.oakland.edu after the close of the semester's exam period. Any questions about a course grade must be raised with the instructor within 10 work days of its posting by the Registrar.

MAKE-UP POLICY: No make-up tests will be given. If you miss a test and promptly present legitimate, documented evidence for a valid excuse, your final exam will be worth 300 points; otherwise the missed test will be counted as a 0.

ACADEMIC HONESTY: Cheating is a serious academic crime. Oakland University policy requires that all suspected instances of cheating be reported to the Academic Conduct Committee for adjudication. Anyone found guilty of cheating in this course will receive a course grade of 0.0, in addition to any penalty assigned by the Academic Conduct Committee. Working with others on a homework assignment does not constitute cheating; handing in an assignment that has essentially been copied from someone else does. Receiving help from someone else or from unauthorized written material during a quiz, test, or final exam is cheating, as is using a calculator as an electronic "crib sheet."

STUDY HABITS: Cultivating good work and study habits is necessary for doing well in mathematical sciences courses. You should keep on top of the subject by doing large amounts of homework (frequently working on problems not assigned), regularly reviewing earlier material, asking questions in class, and making good use of your instructor's office hours and the Tutor Center. If you are having difficulty with some concept or mathematical procedure, you should get it clarified as soon as possible. If you make mistakes on tests or quizzes, rework these problems with the idea that you will not make similar mistakes later. Regular reviewing of older material in the course will put you in good stead when it comes to final exam time. This will help you to avoid the usual non-retention problems students encounter at the end of the course. You should expect that doing all of these things will take at least two hours outside of class for each hour in class. Many students find it helpful to spend some of this time working with others, in study groups.

IMPORTANT DATES: The Registrar sets dates for "no grade" drops and official withdrawal. Current information for this semester can be found at: www.oakland.edu/important-dates or 248-370-3450. It is the student's responsibility to be aware of the University deadlines for dropping the course.

SPECIAL CONSIDERATIONS: Students with disabilities who may require special considerations should contact the Office of Disability Support Services. Such students should also notify their instructor as soon as possible.

TENTATIVE SCHEDULE:

INTENDED SYLLABUS

Below is the intended syllabus for the class.

Monday	Tuesday	Wednesday	Thursday	Friday
Jan. 1	**Jan. 2**	**Jan. 3** **First day of classes** 1.1-1.2	**Jan. 4**	**Jan. 5** 1.2, 1.4
Jan. 8 1.5	**Jan. 9**	**Jan. 10** 2.1	**Jan. 11**	**Jan. 12** 2.3
Jan. 15 Martin Luther King Day No classes	**Jan. 16**	**Jan. 17** 3.1	**Jan. 18**	**Jan. 19** 3.2
Jan. 22 3.3	**Jan. 23**	**Jan. 24** **3.4**	**Jan. 25**	**Jan. 26** **3.5**
Jan. 29 3.6	**Jan. 30**	**Jan. 31** Review	**Feb. 1**	**Feb. 2** Exam 1

Feb. 5 4.1	**Feb. 6**	**Feb. 7** 4.2	**Feb. 8**	**Feb. 9** 4.3
Feb. 12 4.4	**Feb.13**	**Feb. 14** 5.1	**Feb. 15**	**Feb. 16** 5.2
Feb. 19 **Winter Recess**	**Feb. 20**	**Feb. 21** **Winter Recess**	**Feb. 22**	**Feb. 23** **Winter Recess**
Feb. 26 **5.2-5.3**	**Feb. 27**	**Feb. 28** **5.3**	**Mar. 1**	**Mar. 2** **5.4**
Mar. 5 Review	**Mar. 6**	**Mar. 7** **Last day to withdraw** EXAM 2	**Mar. 8**	**Mar. 9** 5.5
Mar. 12 5.5	**Mar. 13**	**Mar. 14** **5.6**	**Mar. 15**	**Mar. 16** 5.6
Mar. 19 6.1	**Mar. 20**	**Mar. 21** 10.1	**Mar. 22**	**Mar. 23** **10.1**
Mar. 26 10.2	**Mar. 27**	**Mar. 28** 10.2	**Mar. 29**	**Mar. 30** 10.3
Apr. 2 10.3	**Apr. 3**	**Apr. 4** **Review**	**Apr. 5**	**Apr. 6** Exam 3
Apr. 9 10.4 **Apr. 16** Review	**Apr. 10** **Apr. 17** **Winter clas-** **ses end** **10 pm**	**Apr. 11** 10.5	**Apr. 12**	**Apr. 13** 10.5

Important Dates

Jan. 17	Last day for "no record" drop, add, refund
Feb. 19-25	Winter Recess
March 14	Last day of official withdrawal
Apr. 17	Last day of classes
April 23	Final Exam 3:30-6:30 pm