Syllabus for Differential Equations – Eureka Campus		
Semester & Year	Spring 2016	
Course ID and Section #	Math55 E9159	
Instructor's Name	Jackson	
Day/Time	Tuesday, Thursday, and Friday 10:05AM – 11:20 PM	
Location	SC214	
Number of Credits/Units	4	
Contact Information	*Office location*	SC216L
	Office hours	TBA
	Phone number	476-4219
	Email address	steve-jackson@redwoods.edu
Textbook Information	*Title & Edition*	Differential Equations 2nd Edition
	Author	Polking, Boggess, Arnold
	ISBN	ISBN-13: 978-0131437388 ISBN-10: 0131437380

Course Description

A study of ordinary differential equations and solutions, equations of first and second order, linear differential equations, systems of equations, phase plane analysis, existence and uniqueness theorems, applications and modeling, and techniques for obtaining solutions, including series solutions and Laplace transforms.

Student Learning Outcomes

1. Identify the type of a given differential equation and then find exact analytical solutions for first- and second-order differential equations, and systems of differential equations, including the existence and uniqueness of solutions.
2. Apply the mathematics of differential equations to real-world problems and applications such as circuits, mixture problems, population modeling.
3. Apply the use of computer technology to solve differential equations and systems, explore mathematical concepts, and verify results.
4. Compare solutions obtained by use of power series with numerical solutions.
5. Determine the Laplace and inverse Laplace Transform of functions and use these to solve ordinary differential equations.

Special Accommodations

College of the Redwoods complies with the Americans with Disabilities Act in making reasonable accommodations for qualified students with disabilities. Please present your written accommodation request at least one week before the first test so that necessary arrangements can be made. No last-minute arrangements or post-test adjustments will be made. If you have a disability or believe you might benefit from disability related services and may need accommodations, please see me or contact Disabled Students Programs and Services. Students may make requests for alternative media by contacting DSPS at 707-476-4280.

Academic Support

Academic support is available at Counseling and Advising and includes academic advising and educational planning, Academic Support Center for tutoring and proctored tests, and Extended

Opportunity Programs & Services, for eligible students, with advising, assistance, tutoring, and more.

Academic Honesty

In the academic community, the high value placed on truth implies a corresponding intolerance of scholastic dishonesty. In cases involving academic dishonesty, determination of the grade and of the student's status in the course is left primarily to the discretion of the faculty member. In such cases, where the instructor determines that a student has demonstrated academic dishonesty, the student may receive a failing grade for the assignment and/or exam and may be reported to the Chief Student Services Officer or designee. The Student Code of Conduct (AP 5500) is available on the College of the Redwoods website at: www.redwoods.edu/district/board/new/chapter5/documents/AP5500StudentConductCodeandDisciplinaryProceduresrev1.pdf Additional information about the rights and responsibilities of students, Board policies, and administrative procedures is located in the college catalog and on the College of the Redwoods website.

Disruptive Classroom Behavior

Student behavior or speech that disrupts the instructional setting will not be tolerated. Disruptive conduct may include, but is not limited to: unwarranted interruptions; failure to adhere to instructor's directions; vulgar or obscene language; slurs or other forms of intimidation; and physically or verbally abusive behavior. In such cases where the instructor determines that a student has disrupted the educational process a disruptive student may be temporarily removed from class. In addition, he or she may be reported to the Chief Student Services Officer or designee. The Student Code of Conduct (AP 5500) is available on the College of the Redwoods website at: www.redwoods.edu/district/board/new/chapter5/documents/AP5500StudentConductCodeandDisciplinaryProceduresrev1.pdf
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Emergency Procedures for the Eureka campus:

Please review the campus evacuation sites, including the closest site to this classroom (posted by the exit of each room). The Eureka **campus emergency map** is available at: (http://www.redwoods.edu/Eureka/campus-maps/EurekaMap_emergency.pdf). For more information on Public Safety, go to http://redwoods.edu/safety/ In an emergency that requires an evacuation of the building:

- Be aware of all marked exits from your area and building.
- Once outside, move to the nearest evacuation point outside your building:
- Keep streets and walkways clear for emergency vehicles and personnel.
- Do not leave campus, unless it has been deemed safe by the Incident Commander or campus authorities. (CR's lower parking lot and Tompkins Hill Rd are within the Tsunami Zone.)

RAVE – College of the Redwoods has implemented an emergency alert system. In the event of an emergency on campus you can receive an alert through your personal email and/or phones at your home, office, and cell. Registration is necessary in order to receive emergency alerts. Please go to https://www.GetRave.com/login/Redwoods and use the "Register" button on the top right portion of the registration page to create an account. During the registration process you can elect to add additional information, such as office phone, home phone, cell phone, and personal email. Please use your CR

email address as your primary Registration Email. Your CR email address ends with "redwoods.edu." Please contact Public Safety at 707-476-4112 or security@redwoods.edu if you have any questions.

College of the Redwoods is committed to equal opportunity in employment, admission to the college, and in the conduct of all of its programs and activities.

Welcome to Differential Equations. As you can see from the course description, we have a lot of ground to cover. We will learn how to solve some special case Ordinary Differential Equations, ODE's, by hand. I must be honest with you in stating that most ODE's cannot be solved in terms of elementary functions. With that caveat out of the way, we can begin this journey in solving problems that involve processes of continuous change.

Prerequisite: Math 50B (CR's second semester calculus course)

Attendance Policy: Do not miss class. A student may be dropped from the course if they miss the time equal to two weeks of class. That is equal to 6 days of class. Faculty drops can occur from the fourth through tenth week of class.

Homework: There a combination of daily homework and "written homework". The daily homework is to be kept in a journal that may be collected from time to time. Please endeavor to keep your homework journal current. Not doing the daily homework is effectively non-participation in the course. Non-participation in the class can lead to a faculty withdrawal. The "written homework" will be collected, graded, and returned.

Exams and Quizzes: We will have the usual kinds of exams and quizzes throughout the semester. Do not miss these! Some of these will be of the take-home variety. Exercise academic integrity. All exam and quiz points will be weighted equally.

Class Project: The class project is mandatory. We will talk about the timeline in class. Begin thinking about a project that you would like to do. Projects can seem like a daunting task, so the sooner you choose a project, the more time you will have to work on it.

Grading:

Exams/Quizzes	70%
Homework	20%
Projects	10%

Course Grade Assignment:

90-100%	A
80-89%	B
70-79%	C
60-69%	D

F otherwise.

Technology: In past times, a student taking a beginning course in differential equations would learn to solve a bunch of specifically written problems that could be solved with the techniques and 'tricks' taught during the course. Too bad the 'real' world cannot be modeled with equations that we can easily solve. My belief is that real world problems require the use of any and all means in their solution, so we will employ the use of technology throughout the course.
We will learn to use a sophisticated software package named Mathematica. Fortunately, there are some intuitive aspects of the syntax, so this won't be an onerous task for beginners. Besides that, Mathematica rocks!

The information contained in this syllabus is subject to change depending on class circumstances.