

### Course Information

Semester & Year:	Spring 2020
Course ID & Section #:	MATH-55-E7575
Instructor's Name:	Tony Luehrs
Day/Time:	TR 9:30-11:35am
Location:	SC 214
Number of Units:	4

### Instructor Contact Information

Office Location:	SC 216E
Office Hours:	M: 11:00-12:00    T: 1:00-2:00    W: 1:45-2:45    R: 3:30-4:30
Phone Number:	707-476-4531
Email Address:	<a href="mailto:anthony-luehrs@redwoods.edu">anthony-luehrs@redwoods.edu</a>

### Required Materials

Textbook Title:	<i>Differential Equations</i>
Edition:	2 <sup>nd</sup>
Author:	Blanchard, Devaney, Hall
ISBN:	0-534-38514-1
Other requirement:	N/A

### Catalog 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. Note: Computer exploration is an integral component of this course.

### Course Student Learning Outcomes (*from course outline of record*)

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.

## Evaluation & Grading Policy

I generally use the traditional grading scale (90-100 = A, etc.) but occasionally will grade on a curve. You must “pass” the final exam with a grade of 60% or greater to pass the course, regardless of the other components of your grade. Here are the components of your final grade:

Homework - 30%

Project - 10%

Tests - 40%

Final Exam - 20%

Project grading rubrics will be distributed and discussed when the project is assigned.

## Prerequisites/co-requisites/ recommended preparation

A passing grade of C in Math50B (Integral Calculus)

## Class participation and Attendance policy

Attendance is required for this course. This course is not easy. Historically, students with regular absences are consistently the students who perform less well than their regularly-attending classmates. No formal attendance policy will be put in place, as the depth of the content of the course is sufficient to enforce attendance. All planned absences should be discussed with the instructor before they occur.

## Homework

Students should expect homework to be assigned daily. Assignments will be collected (typically) one week after assignment. Homework will typically be graded 50% by completion and 50% by accuracy of selected problems within the assignment. Students are expected to work together and to seek help from the instructor whenever necessary. *Students should expect to need to seek help. This is a difficult course.*

## Technology

The role of technology in analyzing differential equations is constantly growing. Every time I teach this class, I try to incorporate more technology-based components into the course to reflect the true nature of the way professionals interact with differential equations in the real world. We will rely on software both to help us ask and to answer questions in this course. We will utilize some pre-existing software (like CalcPlot3D, pplane, and dfield), as well as writing our own programs in Python (or MATLAB if a student is also enrolled in Math4) to perform numerical and graphical analysis. All necessary software is available on all campus computers, and students may also download and install all software used in this course for free on their own personal computers.

## Final Exam

The final exam period for this course is **Tuesday May 12, 8:30-10:30am**. As with all college courses everywhere – the final exam period is mandatory and unchangeable. If you cannot attend the final exam period, you should not take this course.

# Institutional Policies

## Special accommodations statement

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.

## Student Accessibility Statement and Academic Support Information

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.

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- Eureka: 707-476-4280, student services building, 1<sup>st</sup> floor
- Del Norte: 707-465-2324, main building near library
- Klamath-Trinity: 530-625-4821 Ext 103

## Student Access

These standards are required by federal regulation. Students will have access to this course that complies with the Americans with Disabilities Act of 1990 (ADA), Section 508 of the Rehabilitation Act of 1973, and College of the Redwoods policies. Course materials will include a text equivalent for all non-text elements; videos will include closed captioning, images will include alt-tags, hyperlinks will use descriptive/meaningful phrases instead of URLs and audio files will include transcripts. All text will be formatted for use with screen readers and all course materials will be understandable without the use of color.

Students who discover access issues with this class should contact the instructor.

## Admissions deadlines & enrollment policies

Spring 2020 Dates

- *Classes begin: 1/18/20*
- *Martin Luther King Jr. Day (all-college holiday): 1/20/20*
- *Last day to add a class: 1/24/20*
- *Last day to drop without a W and receive a refund: 1/31/20*
- *Census date: 2/3/20 or 20% into class duration*
- *Lincoln's Birthday (no classes): 2/14/20*

- *Last day to petition to file P/NP option: 2/14/20*
- *President's Day (all-college holiday): 2/17/20*
- *Last day to petition to graduate or apply for certificate: 3/05/20*
- *Spring break (no classes): 3/16/20-3/21/20*
- *Last day for student-initiated W (no refund): 4/3/20*
- *Last day for faculty initiated W (no refund): 4/3/20*
- *Final examinations: 5/9/20-5/15/20*
- *Semester ends: 5/15/20*
- *Grades available for transcript release: approximately 6/1/20*

Students who have experienced extenuating circumstances can complete & submit the **Excused Withdrawal Petition** to request an Excused Withdrawal (EW) grade instead of the current Withdrawal (W) or non-passing (D, F & NP) grades. The EW Petition is available from the Admissions and Records Forms Webpage. Supporting documentation is required.

### **Academic dishonesty**

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. 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 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, the student 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. 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](#).

### **Canvas Information**

Log into Canvas at <https://redwoods.instructure.com>

Password is your 8 digit birth date

For tech help, email [its@redwoods.edu](mailto:its@redwoods.edu) or call 707-476-4160

Canvas Help for students: <https://www.redwoods.edu/online/Help-Student>

Students have the ability to have an alternate first name and pronouns to appear in Canvas. Contact [Admissions & Records](#) to request a change to your preferred first name and pronoun. Your Preferred Name will only be listed in Canvas. It does not change your legal name in our records. See the [Student Information Update form](#).

### **Gender-Inclusive Language in the Classroom**

College of the Redwoods aspires to create a learning environment in which all people feel comfortable in contributing their perspectives to classroom discussions. It therefore encourages instructors and students to use language that is

gender-inclusive and non-sexist to affirm and respect how people describe, express, and experience their gender. Just as sexist language excludes women’s experiences, non-gender-inclusive language excludes the experiences of individuals whose identities may not fit the gender binary, and/or who may not identify with the sex they were assigned at birth. Gender-inclusive/non-sexist language acknowledges people of any gender (for example, first year student versus freshman, humankind versus mankind, etc.), affirms non-binary gender identifications, and recognizes the difference between biological sex and gender expression.

Students have the ability to have an alternate first name and pronouns to appear in Canvas. Contact [Admissions & Records](#) to request a change to your preferred first name and pronoun. Your Preferred Name will only be listed in Canvas. It does not change your legal name in our records. See the [Student Information Update form](#).

## Emergency procedures / Everbridge

College of the Redwoods has implemented an emergency alert system called Everbridge. In the event of an emergency on campus you will receive an alert through your personal email and/or phones. Registration is not necessary in order to receive emergency alerts. Check to make sure your contact information is up-to-date by logging into WebAdvisor <https://webadvisor.redwoods.edu> and selecting ‘Students’ then ‘Academic Profile’ then ‘Current Information Update.’

Please contact Public Safety at 707-476-4112 or [security@redwoods.edu](mailto:security@redwoods.edu) if you have any questions. For more information see the [Redwoods Public Safety Page](#).

In an emergency that requires an evacuation of the building anywhere in the District:

- 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 campus authorities.

### **Del Norte Campus Emergency Procedures**

Please review the [Crescent City campus emergency map](#) for campus evacuation sites, including the closest site to this classroom (posted by the exit of each room). For more information see the [Redwoods Public Safety Page](#).

### **Klamath Trinity Campus Emergency Procedures**

Please review the [campus emergency map](#) for evacuation sites, including the closest site to this classroom (posted by the exit of each room). For more information on Public Safety go to the [Redwoods Public Safety Page](#) It is the responsibility of College of the Redwoods to protect life and property from the effects of emergency situations within its own jurisdiction.

In the event of an emergency:

1. Evaluate the impact the emergency on your activity/operation and take appropriate action.
2. Dial 911, to notify local agency support such as law enforcement or fire services.
3. Follow established procedures for the specific emergency as outlined in the College of the Redwoods Emergency Procedure Booklet.
4. If safe to do so, notify key Klamath-Trinity Instructional Site administrators and personnel.
5. Do not leave site, unless it is necessary to preserve life and/or has been deemed safe by the person in command.
6. If safe to do so, move to the nearest evacuation point outside building (Pooky’s Park), directly behind the Hoopa Tribal Education Building.

## Student Support Services

The following online resources are available to support your success as a student:

- [CR-Online](#) (Comprehensive information for online students)
- [Library Articles & Databases](#)
- [Canvas help and tutorials](#)
- [Online Student Handbook](#)

[Counseling and Advising](#) offers academic support and includes academic advising and educational planning

Learning Resource Center includes the following resources for students

- [Academic Support Center](#) for instructional support, tutoring, learning resources, and proctored exams.
- [Library Services](#) to promote information literacy and provide organized information resources.
- Multicultural & Diversity Center [waiting for hyperlink and Mission]
- Math Lab & Drop-in Writing Center

Special programs are also available for eligible students include

- [Extended Opportunity Programs & Services \(EOPS\)](#) provides financial assistance, support and encouragement for eligible income disadvantaged students at all CR locations.
- The TRiO Student Success Program provides eligible students with a variety of services including trips to 4-year universities, career assessments, and peer mentoring. Students can apply for the program in [Eureka](#) or in [Del Norte](#)
- The [Veteran's Resource Center](#) supports and facilitates academic success for Active Duty Military, Veterans and Dependents attending CR through relational advising, mentorship, transitional assistance, and coordination of military and Veteran-specific resources.
- Klamath-Trinity students can contact the CR KT Office for specific information about student support services at 530-625-4821
- The [Honors Program](#) helps students succeed in transferring to a competitive four-year school.