Syllabus
Instructor: Dr. Cynthia Flores
Email: cynthia.flores@csuci.edu
Office: 2762 Bell Tower East
Office Hours: Mondays 3pm-4:30pm, Wednesdays 1:30pm-3pm, or by appointment
Course website is on Blackboard.
Course Meetings: Monday and Wednesday 12:00PM-1:15PM in OJAI Hall 1964


Catalog Description: Prerequisites: MATH 151 and MATH 350 or COMP 151
This course examines the challenges of programming computers to perform mathematical computations accurately and efficiently. Students learn how ideas from calculus are used to create algorithms to solve mathematical problems numerically.

Student Learning Outcomes: Upon successful completion of the course, students will be able to

- examine, design and characterize approximation procedures called algorithms
- implement algorithms using appropriate Numerical Software (MATLAB or Mathematica)
- approximate solutions (roots) of equations in one variable
- use interpolation and polynomial approximation
- explore numerical differentiation and integration
- approximate solutions to Initial Value Problems for Ordinary Differential Equations.

Course Objective: This course is intended to introduce theory and application of numerical approximation techniques; to explain how, why, and when they can be expected to work; and to provide a foundation for further study of numerical analysis and scientific computing. The student will experience collaboration and constructive evaluation with colleagues, discussions, lectures and other in-class and out-of-class activities.

Expectations It is expected that you will attend class regularly. It is your responsibility to find out what material and announcements you missed during an absence. If you are transitioning into taking upper division courses, you may find yourself being held responsible for a lot more than you are used to. The instructor assumes that you are able to attend all classes and complete all assignments in a timely fashion. It is assumed that you will check the course website on Blackboard regularly for assignment instructions and for class announcements. You can expect to be treated equally and fairly.

Math 399 It is strongly recommended to be concurrently enrolled in Math 399 Class Advanced Math LAB MW 3:00PM-4:15PM or Advanced Math LAB TTh 3:00-4:15PM. Both take place in OJAI (room TBD). Students may attend the labs on a need-basis, but you MUST be registered. It is a good idea to complete the first homework in the labs where software and problem solving help is available.

Midterm Date TBD. The Midterm will be administered in class.

Final Per the Final Exam Schedule, our final will take place Monday, May 16, 2015 from 10:30am-12:30pm.

You must take the midterm and Final Exam. There will be no make-up exams. The only excused absences from exams are official university approved absences.
**Homework** Homework will be assigned regularly from the text. There will be a computer programming component to most homework assignments. Homework will be posted on Blackboard and may be submitted via Blackboard using the class LaTeX-template to create PDF files. Absolutely NO LATE HOMEWORK will be accepted. Please see the CI Writing Guide for a thorough description of your writing responsibility. Go to [http://www.csuci.edu/writing-ci/guide/mathematics.htm](http://www.csuci.edu/writing-ci/guide/mathematics.htm).

**Quizzes** There will be several quizzes throughout the course and will take place at the beginning of lecture. Some quizzes are for the individual student, while others will be completed in small groups. There are absolutely no make-up quizzes.

**MATLAB or Mathematica** You may require using MATLAB or Mathematica to complete most assignments. This resource is available in the following computer labs: BT 1704, OJAI 1964, OJAI 1972, and North Hall 2555. It is also available at the STEM Center in El Dorado Hall. You will need to turn in copy of .m-files along with your homework assignments. The Academic Dishonesty Policy (see below) is strongly enforced. You are encouraged to collaborate, however, the work you turn in must be your own. Absolutely NO copy/paste/simply-change-parameter-names will be tolerated. **Octave** is a free version of MATLAB and is available to download online for personal use. However, no technical support can be provided for the use of Octave.

You will find a LaTeX-template on Blackboard to create PDF files and the use of LaTeX will be required in several assignments.

**Written Work** Math 448 is classified as a UDIGE (*Upper Division Interdisciplinary General Education*) course. This means that there will be written components to your assignments and that we will work on a written project towards the end of the semester.

**Group Work** Some group work may be required during class. Working in groups is a practical life skill. Please be courteous. Through the combination of lectures, discussions (small groups and the whole class), and other in-class activities, the classroom will become a special environment where the student will be asked to work collaboratively with their peers. They will come together to promote learning and growth by sharing ideas and applications, and constructively evaluating each other’s work.

**Cell Phones** The use of cell phones or any electronic device for any reason during exams and quizzes is not allowed without prior instructor consent and may result in loss of points. You are welcome to answer Poll Everywhere and TopHat questions with your cell phone when prompted in class.

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<thead>
<tr>
<th>Grading Scale</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Homework</td>
<td>25%</td>
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<tr>
<td>Quizzes and Class Participation</td>
<td>15%</td>
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<tr>
<td>Midterm</td>
<td>20%</td>
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<tr>
<td>Final</td>
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<tr>
<td>Written Work</td>
<td>20%</td>
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**Course Grade**

- **A= 90%-100%**
- **B=80%-89%**
- **C=70%-79%**
- **D=60%-69%**
- **F= 59% and below**

Plus/minus grading will only be used in exceptional cases.

**Bonus Points** Although there are no “extra-credit” opportunities in this class, there are opportunities to receive bonus points. See Blackboard for more information.
**Academic Dishonesty** By placing your name on a paper, you certify that the work is yours. During homework, quizzes or exams, copying, allowing copying, or having another person do your work for you constitutes fraud and is prohibited by the law of the Educational Code. In study groups, ideas should be shared verbally. Avoid copying answers from tutors. If several students do this, their papers, being identical, will appear to be plagiarized. I am responsible to report instances of cheating to the Dean and give a student a grade of F for this work. For more information on the University policy, please see the University Catalog.

**Students with Disabilities** Please let me know in private about any disabilities or accommodations I should know of and please give me any paper work pertaining to them. Contact Education Access Center (EAC) if you have questions about disability accommodations.
Location: Bell Tower 1541
Email: accommodations@csuci.edu

**Tutoring/Extra Help** In this course, the student is responsible for seeking extra help from their peers (when collaboration is appropriate), the Math LAB (Math 399), and/or an appropriate tutoring center. The student may wish to utilize my office hours. Also you can get help at the STEM Center in El Dorado Hall. I am happy to provide guidance during my office hours.

**Information provided on this syllabus is subject to change.**