

# Math 305 Sec 1

## *Numerical Analysis*

Spring 2009

**Instructor:** Yangsuk Ko

**Office:** SCI3-248

**Phone:** (661)-654-3175

**E-mail:** [yko@csub.edu](mailto:yko@csub.edu)

**Web page:** [www.csub.edu/~yko](http://www.csub.edu/~yko)

**Office hours:** 3:00–3:50 pm on Tue & Thur **or** by appointment

**Class Meeting** *Lecture:* TuThFr 12:20 pm – 1:40 pm in SCI 120

*Lab:* Mo 9:30 am – 11:55 am in SCI 127

**Text Book:** "Numerical Analysis: Mathematics of Scientific Computing" 3rd edition, by David R. Kincaid and E. Ward Cheney (ISBN-10: 0534389058, ISBN-13: 978-0821847886)

**Course Objectives:** In this course, students will learn basic theories and algorithms of various numerical methods in scientific computing. Topics include number representation, concepts of error, numerical solutions to nonlinear equations, interpolation, extrapolation, numerical differentiation and integration. Numerical solutions of ordinary differential equations and/or approximation by spline functions will be covered, if time permits. These topics are covered in chapter 1, 2, 3, 6, 7, and 8 of the textbook.

**Programming:** There are limited number of programming assignments which should be done using MATLAB. Note that this is not a programming class. The students are assumed to have basic programming experience.

**Course Webpage:** The course webpage can be found in [www.csub.edu/~yko](http://www.csub.edu/~yko). Check on the course webpage regularly for announcements and uploaded materials such as solutions.

**Homework:** In general, a homework assignment will be assigned at the end of each section and will be collected two lectures after, *unless* there is an announcement otherwise. For example, if section 2.3 is finished on Thursday, then the homework assignment from section 2.3 is due on Tuesday of the next week. It is extremely important that you finish the homework assigned from each section by the next lecture, because each lecture begins with answering questions concerning homework problems. Many problems in quizzes and exams will be very similar to some of the homework problems. **NO LATE HOMEWORK WILL BE ACCEPTED.**

**Labs:** There will be labs on Mondays, *unless* there is an announcement otherwise. Students should work in groups. However, each person in the group should complete his/her own lab report, and turns it in to be graded. *If you miss a lab, you will NOT get any credit for that missed lab.* **NO LATE LAB REPORT WILL BE ACCEPTED.**

**Quiz:** Generally, there will be a quiz with 1 or 2 problems on Mondays, *unless* there is an announcement otherwise. Note that problems on the quizzes will be almost directly from the previous homework assignments. NO MAKE-UP QUIZZES WILL BE GIVEN.

**Midterms:** There will be two in-class midterms. The exact schedule and covered materials will be announced later.

**Final:** There will be a final exam which covers the whole material of the course. The final exam will be given at 2:00 pm on Thursday, June 11, 2009. The room for the final will be announced later.

**Grading Policy:** For all homework, quiz, lab, and exam problems, you are supposed to give the right answers with correct and sufficient work to justify your answers. Partial credits may be given to ONLY SUFFICIENTLY CLOSE work. Right answers without justifying work might not get any credit.

<b>Grades:</b>	• Quizzes, Labs, & Homeworks	33 % (100 points)
	• Two midterm exams	2×17 % (2× 50 points)
	• Final Exam	33 % (100 points)
	• Total	100 % (300 points)

These are only approximate figures; actual figures will be depending on how many quizzes, labs, and homeworks are actually given by the end of the course. The letter grade will be assigned according to the grand totals. To obtain a final grade of D- or better, you must get at least 40% in the final exam.

**Policies on Missed Labs, Homeworks, and Quizzes:** Two worst scores from labs and quizzes, respectively and FOUR worst scored sections from homeworks will be dropped. Those drops could be used to cover “personal excuses” such as late wake-up, attending a wedding/funeral, etc. However, NO MORE than those drops will be accepted, *unless* you have a “life threatening emergency” or a conflict of schedule due to an *official* school activity. Therefore, you have to take advantage of this policy wisely. “Don’t waste your bullets too early.”

**Policies on Missed Exams:** There are NO DROPS in MIDTERMS and FINAL EXAM. NO MAKE-UP EXAM will be given, *unless* you have a “life threatening emergency” or a conflict of schedule due to an *official* school activity. In such cases, you have to discuss with the instructor as early as possible.

**Cheating:** The mathematics department will not tolerate cheating of any sort. All cheating cases will be handled according to CSUB regulations. All of the exams **will be photocopied** before they are returned to students **to prevent “after-work cheating”**.

**Change of Course Policies:** Any part of the policies may be changed any time in the quarter. However, you will be notified in advance, if there should be any change.

- General Advice:**
1. Attend every class and lab.
  2. Review lecture note and the textbook thoroughly right after each lecture.
  3. Start working on homework problems as soon as review of material is done.

If you have any questions, don’t hesitate to ask me. Have fun in this course!