

# EAS 230 A

## Computer Programming for Engineers

Spring 2005

3 Credit Hours

**Instructor:** Bina Ramamurthy  
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### Office Hours:

Monday: 13:00 – 14:20  
Wednesday: 13:00 – 14:20

Additional times by appointment.

*Note: Office hours are subject to change.*

### Course Schedule:

Section A:	M–W	17:00 – 17:50	104 Knox
Lab A1:	M	10:00 – 10:50	211 Furnas
Lab A2:	R	10:00 – 10:50	211 Furnas
Lab A3:	R	12:30 – 13:20	211 Furnas
Lab A4:	W	18:00 – 18:50	211 Furnas
Lab A5:	T	14:00 – 14:50	211 Furnas
Lab A6:	T	10:00 – 10:50	211 Furnas

### Description:

An introduction to computer programming with an emphasis on problem solving will be presented. Specific topics include: a problem solving methodology, computer programming using the C++ programming language, program testing, and results validation and presentation. Programming concepts covered include: data types, data input and output, control structures, functions and parameter passing, arrays, and object-oriented programming.

### Objectives:

The objective of this course is to introduce the fundamentals of problem solving using computers, including a problem solving methodology, C++ programming and testing, and methods to validate and present results.

### Expected Outcome:

On completion of this course with a passing grade, students will be able to analyze an engineering problem, design and develop a computer program to solve the problem, test the validity of the computerized solution, and present the completed solution in a user-friendly format.

**Pre-requisites:** EAS 140 or an equivalent course

- Equivalent course must teach computer literacy and basic operation of a computer.

### Required Text:

- Dolores M. Etter and Jeanine A. Ingber, *Engineering Problem Solving with C++*, Prentice Hall, 2003
- Deitel, Deitel, Nieto & Strassberger, *GETTING STARTED with Microsoft Visual C++ 6 with an Introduction to MFC*, Prentice Hall, 2000

### References:

- Additional references may be cited throughout the semester. Check the course web site for details.

### Grading Policy:

- Evaluation:
  - Midterm Exam 15%
  - Final Exam 25%
  - Labs 60%
  - In order to pass the course, a passing average must be obtained on the exams.
- Exams: *No make-ups will be given* except for authorized excuses as defined by university policy.
- Labs: Completed labs are to be submitted electronically (procedure to be specified in lecture). *Late labs will NOT be accepted.* The lowest lab grade will be dropped for final grade calculation.
- Grade Assignments: Letter grades will be assigned only at the end of the semester.
- Grade Distribution: A normal distribution (“bell curve”) is used for grade assignment, unless the instructor deems a special curve necessary to benefit the class. Plus/minus grades will be used.
- Work Returns: Graded exams will be returned during lecture. If a paper is not picked up during class, it is the student’s responsibility to pick it up from the TA’s. Graded labs will be returned via email or by the TA’s.
- Re-grading Policy:
  - Re-grade requests may be submitted no later than one (1) week after the graded work is *returned* to the class (not the date it is picked up).
  - Re-grade requests must be specific, clearly written, attached to the work that is to be re-graded, and submitted to the grader of the work. If the issue cannot be resolved by that grader, then re-submit it to the instructor.
  - Works submitted for re-grade are subject to a re-grade of the *entire* work.
  - *Work done in pencil will NOT be considered for re-grading.*

**Computer Usage:**

Information will be disseminated through the course web site and newsgroup, and via email. Students are expected to check these resources regularly for course announcements/changes.

- **Course Web Site:**

<http://www.cse.buffalo.edu/~bina/EAS230/spring2005>

- **Course News Group:**

[sunyab.eas.230](mailto:sunyab.eas.230)

- **Email Correspondence:**

To ensure that all course related email gets read, the subject line of each email must have "EAS230:" prior to a *descriptive* subject.

- **EAS 230 Software Tools**

Students will use the MS Visual C++ 6.0 programming environment for all projects. Instruction will be given in lecture and lab.

- **EAS Computer Account**

Students will be provided with an EAS account for use on the Engineering computer system, if they don't have one already. Instruction on how to access the system will be given in lecture and lab.

**Class Participation:**

Class participation is *strongly* encouraged and can only positively affect your final grade.

**Illness/Emergencies:**

If you become ill, or have to deal with a serious emergency (dependent illness, death in the family, etc.), contact the instructor as soon as is reasonably possible. *DO NOT wait until the end of the semester to discuss mid-semester events and expect that anything can be done.*

**Incompletes:**

As per departmental and University policy, Incomplete (I) grades are only given in cases where *the student is passing, but only lacks one or two assignments or the final exam due to some sort of unexpected emergency or serious illness at the end of the semester.* Do not request an "I" grade unless you believe that you actually fall into this category, and you are prepared to present evidence.

**Disabilities:**

If you have any diagnosed disability that will make it difficult for you to carry out the course work as outlined, or that requires accommodations such as recruiting note-takers, readers, or extended time on exams or assignments, please *advise me during the first two weeks* of the course so that we may review possible arrangements for reasonable accommodations. In addition, if you have not yet done so, *contact the Office of Disability Services. These steps cannot harm you, they can only help you!*

**Academic Integrity:**

All work submitted *must be your own and must be done on an INDIVIDUAL basis.* Collaboration, usually evidenced by unjustifiable similarity in any graded work, is never allowed. After an appropriate informal review, *if any students are found in violation of maintaining academic integrity, sanctions will be imposed, which can be as severe as receiving an F in the course.* If you ever have any questions or concerns regarding the policy, particularly as it relates to this course, see your instructor. See the course web site for a link to the departmental statement on academic integrity.