

CREDIT BY EXAMINATION IN COMPUTER SCIENCES

Policies Effective for the Academic Year 2004-2005*

UT Austin provides you with the opportunity to earn course credit by examination. Such credit will satisfy degree requirements in the same way as credit earned by passing a course, except that it will not count as credit earned in residence. Although you may take tests before you enroll in UT Austin, you must be a currently or previously enrolled student in order to receive credit. Unsuccessful attempts to earn credit by examination will not become part of your official transcript.

Faculty members in the Department of Computer Sciences select the tests, set the levels of performance required for credit, and specify who is eligible to earn credit by examination. The Measurement and Evaluation Center (MEC) assists the department by communicating policies, giving the tests, and reporting the credit.

UT AUSTIN TESTS FOR CREDIT IN COMPUTER SCIENCES

COMPUTER SCIENCES 303E

The UT Austin Test for Credit in Computer Sciences 303E consists of questions concerning basic computer architecture, basic software components, and Java syntax and semantics, as well as programming tasks that will be graded by representatives of the department.

Computer Sciences 303E, Elements of Computer and Programming, is the first course in the Elements of Computing program, which is designed for students who are majoring in some discipline other than computer sciences and want to develop programming skills.

Eligibility for Credit by Examination

To be eligible for credit by examination you must not already have a passing or failing grade in Computer Sciences 303E, or 305J, or an equivalent course. In addition, you must have

- a score of at least 560 on the Math Level I or IC Test **OR**
- a score of at least 530 on the Math Level IIC test **OR**
- a grade of at least C in M 305G.

Computer Sciences 303E and CS 305J may not be counted towards a degree in computer sciences.

Level of Performance Required for Credit

To earn credit for CS 303E, you must pass the UT Austin Test for Credit in Computer Sciences 303E with a grade of C or better.

Study Topics for the UT Austin Test for Credit in Computer Sciences 303E

Test questions will be chosen from the topics that are covered in CS 303E.

Topics include:

- Basic computer organization: hardware and software
- Introduction to software engineering
- Problem solving and program development
- Java language elements
- Algorithms including sorting and searching
- Simple data structures
- Survey of computer applications

*Policies are subject to change.

3/19/2004

Suggested textbooks:

- *Computing Concepts with Java Essentials*, by Cay Horstmann, 3rd Edition, Wiley, 2003.
- *Java: An Introduction to Computer Science and Programming*, by Walter Savitch, 3rd Edition, Pearson/Prentice-Hall, 2004.
- *An Introduction to Computer Science Using Java*, by Samuel Kamin, M. Dennis Mickunas and Edward Reingold, 2nd Edition, McGraw Hill, 2002.

COMPUTER SCIENCES 305J

The UT Austin Test for Credit in Computer Sciences 305J consists of questions concerning basic computer architecture, basic software components, and Java syntax and semantics, as well as programming tasks that will be graded by representatives of the department.

Computer Sciences 305J, Introduction to Computer Science, serves as an introduction to computer sciences for students who wish to become computer sciences majors but lack basic programming skills.

Eligibility for Credit by Examination

To be eligible for credit by examination you must not already have a passing or failing grade in Computer Sciences 303E, 305J, or an equivalent course. In addition, you must have

- a score of at least 560 on the Math Level I or IC Test **OR**
- a score of at least 530 on the Math Level IIC test **OR**
- a grade of at least C in M 305G.

Computer Sciences 303E and CS 305J may not both be counted towards a degree in computer sciences.

Level of Performance Required for Credit

To earn credit for CS 305J, you must pass the UT Austin Test for Credit in Computer Sciences 305J with a grade of C or better.

Study Topics for the UT Austin Test for Credit in Computer Sciences 305J

Test questions will be chosen from the topics that are covered in CS 305J

Topics include:

- Basic computer organization: hardware and software
- Problem solving and program development
- Java language elements
- Algorithms including sorting and searching
- Simple data structures

Suggested textbooks:

- *Java Program Design*, by James Cohoon and Jack Davidson, McGraw-Hill, 2003.
- *Java: An Introduction to Computer Science and Programming*, Walter Savitch, Prentice-Hall, 1999.
- *An Computing Concepts with Java Essentials*, by Cay Horstmann, 3rd Edition, Wiley, 2003.

COMPUTER SCIENCES 307

The UT Austin Test for Credit in Computer Sciences 307 consists of questions concerning fundamental computer science concepts: data types, data structures, and algorithms; functions and recursion; abstraction and encapsulation; correctness; specification, testing, and proving and implementation of programs using the object-oriented paradigm.

Eligibility for Credit by Examination

To be eligible for credit by examination you must not already have a passing or failing grade in Computer Sciences 307 or an equivalent course. In addition, students must have

- a score of at least 560 on the Math Level I or IC Test **OR**
• a score of at least 530 on the Math Level IIC Test **OR**
• a grade of at least C in M 305G

AND

- one year of programming in high school **OR**
• a grade of at least C in CS 303E, CS 305J, or 304P **OR**
• consent of the department.

Level of Performance Required for Credit

To earn credit for CS 307, you must pass the UT Austin Test for Credit in Computer Sciences 307 with a grade of C or better.

Study Topics for the UT Austin Test for Credit in Computer Sciences 307

Test questions will be chosen from the topics that are covered in CS 307. The exam uses the Java programming language. No special knowledge of the Java standard library is required other than the String class.

Topics include:

- Basic data types, constructed data types; type checking, conversion, and casting
- Procedural code, subroutines and functions (including recursion), algorithm development
- Basic data structure concepts as provided by the programming language such as arrays, two-dimensional arrays, and objects; as well as more complex structures such as stacks, queues, linked lists, trees, binary trees, binary search trees, and hash tables
- Introduction to algorithmic complexity; algorithms include: searching, sorting, mathematical algorithms, and symbol manipulation
- Program design, development, testing, and verification; includes programming style, pre and post conditions
- Design and implementation of programs using the object-oriented paradigm. Encapsulation, inheritance, polymorphism. Implement and use objects. Understand instance variables and methods

Suggested textbooks:

- *Data Structures & Problem Solving using Java*, by Mark Allen Weiss, Addison-Wesley, 2001.
- *Classic Data Structures in Java*, by Timothy Budd, Addison-Wesley, 2001.
- *The Java Programming Language, Third Edition*, by Arnold, Gosling, and Holmes, Addison-Wesley, 2000.

TEST ADMINISTRATION

Test Periods: These tests are offered on the UT Austin campus several days before class registration periods in late August, mid-Fall, and mid-Spring. Test schedules giving details will be available from the MEC Web page.

Test Registration: You should register for the test online at www.utexas.edu/academic/mec.

Test Registration for Students with Disabilities: If you require academic accommodations or assistance due to a documented disability, you should contact these two offices at least five business days before the day of the test:

- Services for Students with Disabilities, in the Office of the Dean of Students at ssd@uts.cc.utexas.edu, <http://deanofstudents.utexas.edu/ssd/>, or (512) 471-6259 to seek approval for authorized accommodations;
- MEC at (512) 232-2662 to register and make arrangements to take the test.

Registration Fee and Test Fee Payment: The total test fee is \$55 (subject to change) for each computer sciences test. When

you confirm your registration for a test you will be immediately billed a non-refundable test registration fee of \$15. The remainder of the test fee will be billed after you take the test. Payment is due within 14 days after the test administration. The Web site gives a full explanation on how to pay your test fees.

Repeating the Test: You may take the UT Austin Tests for Credit in Computer Sciences 303E, 305J, and 307 only once.

Admission to the Test Room: When you register online you will be given the location of your test room. You must present, at the test room, a **generally accepted form of identification that includes both your signature and photograph**. Without such identification, you will be admitted only if you bring and relinquish a photograph of yourself. You should take several sharpened No. 2 pencils to the test room; all other test materials will be provided.

Test Results: Results are available within a few days after the test date. Once they are available, results may also be found online at the MEC Web page www.utexas.edu/academic/mec.

COLLEGE BOARD ADVANCED PLACEMENT EXAMINATION IN COMPUTER SCIENCE

The College Board Advanced Placement (AP) Examination in Computer Science serves as a basis for credit in Computer Sciences 305J and 307. This examination is offered once a year in May, usually in high schools that offer College Board Advanced Placement courses. Although determined by each school giving the test, registration deadlines are no later than March. Test results are available in July. The 2004 fee for each AP examination is \$80 (subject to change). The test is not offered on the UT Austin campus.

The AP Examinations are based on course descriptions prepared by The College Board. A course description, which includes sample questions, is available for the Computer Science examination at the College Board's Web site www.collegeboard.com/apcentral.

You may also write for a course description by sending \$15 to the Advanced Placement Program, Box 6670, Princeton, NJ 08541-6670. Sometimes high school counselors have reference copies of course descriptions. If a high school in your vicinity is not administering AP Examinations, you can request special testing arrangements by contacting AP Services, Box 6671, Princeton, NJ 08541-6671, 1-888-CALL-4-AP.

Level of Performance Required for Credit

The College Board AP Examination has a score range of 1-5. Satisfactory scores for credit are as follows:

Scores UT Austin Courses, Grades

Computer	5	CS 305J, A
Science A	4	CS 305J, B

Computer	5	CS 305J, A and CS 307, CR
Science AB	4	CS 305J, B and CS 307, CR
	3	CS 305J, C

INTERNATIONAL BACCALAUREATE HIGHER-LEVEL EXAMINATION IN COMPUTER SCIENCE

UT Austin also awards credit for lower-division courses on the basis of the International Baccalaureate (IB) Higher-Level Examination in Computer Science.

Level of Performance Required for Credit

The IB examinations have a score range of 1-7. Satisfactory scores for credit are as follows:

Scores UT Austin Courses, Grades

Computer	7	CS 305J, A and CS 307, A
Science	6	CS 305J, A and CS 307, B
	5	CS 305J, B and CS 307, C
	4	CS 305J, C

CLAIMING CREDIT

No credit by examination will appear on your official transcript until you instruct the MEC to report it to the registrar. To have credit reported, you must claim your credit by logging onto the MEC Web site at www.utexas.edu/academic/mec. For each course in which you have earned a grade, you may choose to have the credit hours reported either with the letter grade or with the symbol *CR (credit only)*. Credit by examination accepted as *credit only* will not affect your cumulative grade point average. You will be assessed a fee of \$2 per credit hour for the credit by examination you request to be reported to the Office of the Registrar. The Web site gives a full explanation on how to petition and pay for credit. After credit has been reported to the registrar, your choice, letter grade or *credit only*, cannot be changed.

Although you may petition as soon as you are admitted as a student at UT Austin, your course credit will not be recorded until after you have started classes at UT Austin. After you have begun attending classes at UT Austin, you may then petition at any time during your studies here. To have credit recorded at the end of a particular semester, you must petition by that semester's final petition deadline, which is available from the MEC Web page. If you take a course for which you have earned credit by examination prior to petitioning for that specific course, you are no longer eligible for credit by examination in that course. You must petition for your credit by examination within 10 years from the test date.

Petitioning for credit by examination that does not apply towards your degree plan may make you ineligible for a tuition rebate. See the [General Information](#) issue of the catalog, page 57, for information on the university's policy for a tuition rebate and consult with your academic adviser.