

CSCE 190: Computing in the Modern World

1. Course number and name: CSCE 190: Computing in the Modern World
2. Credit: 1-hrs; Contact: 1 lecture of 50 minutes per week
3. Instructor: Fall 2010: John Rose
Spring 2011: Manton Matthews
4. Text book: None. Lecture notes will be provided. Some material will come from websites of professional organizations.
5. Specific course information
 - a. Catalog description: An introduction to the field of computing: trends in computing technology, the profession, and careers; subdisciplines in computing; the nature of research and development .
Note: Open to all majors. Not auditable.
 - b. Corequisites: CSCE 145, 204, 205, 206 or equivalent
 - c. Required in all curricula
6. Specific goals for the course
 - a. Specific outcomes of instruction:
 - Describe “the big picture” of computing.
 - Identify important milestone events in the history of computing.
 - Identify some advanced directions in computing research..
 - Describe career trends and career options in computing.
 - b. Relation of course outcomes to Student Outcomes: CE: see page 2; CS & CIS: see page 3
7. Topics covered and approximate weight (14 weeks, 1 hours/week, 14 hours total)
 1. The curricula in computing at USC (1 hour)
 2. The job market and employment trends in computing and IT (1 hour)
 3. Trends in computing—hardware, devices, HCI, software, and the web (5 hours)
 4. Research methodology in computing (1 hour)
 5. Research topics in computing at USC (2 hours)
 6. Lectures from the real world (3 hours)

c.

Computer Engineering

Relation of Course Outcomes to EAC Student Outcomes*

| Course Outcomes (CE) | Student Outcomes | | | | | | | | | | | |
|---|---|--|--|--|---|---|---|---|---|---|--|---|
| | (a) apply knowl edge of mathe matics , scienc e, and engine ering | (b) design and condu ct experi ments, ... interpr et data | (c) design a syste m, comp onent, or proces s to meet desire d needs ... | (d) functi on on multid iscipli nary teams | (e) identif y, formu late, and solve engine ering proble ms | (f) unders tandin g of profes sional and ethical respon sibilit y | (g) comm unicat e effecti vely | (h) the broad educat ion to unders tand the impac t of engine ering soluti ons ... | (i) a recogn ition of the need for, and an ability to enga ge in life- long learni ng | (j) a knowl edge of contem pora ry issues | (k) use the techni ques, skills, and moder n engine ering tools | (CE) demo nstrate knowl edge of discret e mathe matics [CE] |
| Criteria | a | b | c | d | e | f | g | h | i | j | k | CE |
| 1. An understanding of “the big picture” of computing. | | | | | | | | | | | | |
| 2. Knowledge of milestone events in the history of computing and what the future of computing will look like. | | | | | | | | | | | | |
| 3. Knowledge of some advanced directions in computing research. | | | | | | | | | | | | |
| 4. A familiarity with career trends in computing. | | | | | | | | | | | | |

* 3 = major contributor, 2 = moderate contributor, 1 = minor contributor; blank if not related

d.

Computer Science & Computer Information Systems

Relation of Course Outcomes to CAC Student Outcomes*

| Course Outcomes (CS & CIS) | Student Outcomes | | | | | | | | | | | |
|---|---|--|--|---|---|---|--|--|---|---|--|---|
| | All | | | | | | | | | CS | | CIS |
| | (a) apply knowl edge of comput ing and mathe matics approp riate to the discipl ine | (b) analyz e a proble m, and identif y and define the comput ing requir ement s ... | (c) design , imple ment, and evalua te a comput er- based system, ... | (d) functi on effecti vely on teams to accom plish a comm on goal | (e) An unders tandin g of profes sional, ethical , legal, ... respon sibiliti es | (f) comm unicat e effecti vely with a range of audien ces | (g) analyz e the local and global impact of comput ing on ... societ y | (h) Recogn ition of the need for ... contin uing profes sional develop ment | (i) curren t techni ques, skills, and tools necess ary for comput ing practi ce | (j) apply mathe matical found ations, algorit hmics princi ples, and CS theory ... | (k) apply design and develop ment princi ples | (j) An unders tand proces ses that suppo rt the infor matio n system s enviro nment |
| Criteria | a | b | c | d | e | f | g | h | i | j | k | j |
| 1. An understanding of “the big picture” of computing. | | | | | | | | | | | | |
| 2. Knowledge of milestone events in the history of computing and what the future of computing will look like. | | | | | | | | | | | | |
| 3. Knowledge of some advanced directions in computing research. | | | | | | | | | | | | |
| 4. A familiarity with career trends in computing. | | | | | | | | | | | | |

* 3 = major contributor, 2 = moderate contributor, 1 = minor contributor; blank if not related