ISC 4932 - Senior Seminar in Scientific Computing
ISC 5939 - Advanced Graduate Seminar
The Top Ten Algorithms
Fall 2015

Instructor:	John Burkardt
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Website:	http://www.sc.fsu.edu/~jburkardt/classes/tta_2015/tta_2015.html
Time and Room:	Mondays, 12:20-1:10, Room 499 DSL
Text (optional:)	*9 Algorithms That Changed the Future*, John MacCormick.

Course Description: This 1-credit seminar focusses on algorithms. At one time, algorithms were thought of simply as procedures for computing numerical results, such as square roots. Now, algorithms can recognize faces, recommend a movie, predict a crime wave, or set up a price schedule for seats on an airline flight.

Each week, we will

- present an interesting problem and show how it is solved by algorithms. This discussion will concentrate on the ideas and clever tricks behind the algorithm, not on the mathematics or computational implementation;
- invite students to make a 5 minute presentation on an algorithm of their choosing;
- look at a particular numerical algorithm, and discuss its history, uses, limitations, implementations, and extensions.

At the end of the semester, each student will submit a document describing an algorithm that should be considered for the final Top Ten List. We will vote for our favorites, and prepare a "Top Ten Algorithms" poster to be printed out and hung in room 499.

The course is inspired by a list of the top ten algorithms that appeared in the January-February 2000 issue of the magazine "Computing in Science and Engineering".

Course Objectives: Students completing the course will be able to:

- list modern algorithms;
- describe the ideas that enable these algorithms;

Grading: The course grades (Pass/Fail) will be based upon:

- Attendance - 1/3
- Presentation - 1/3
- Nomination document for final list - 1/3

University Attendance Policy: Excused absences include documented illness, deaths in the family and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Consideration will also be given to students whose dependent children experience serious illness.

Academic Honor Policy: The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of student's academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to . . . be honest and truthful and . . . [to] strive for personal and institutional integrity at Florida State University. (Florida State University Academic Honor Policy, found at http://academichonor.fsu.edu/policy/policy.html.)

Americans with Disabilities Act Students with disabilities needing academic accommodation should:

- register with and provide documentation to the Student Disability Resource Center; and
- bring a letter to the instructor indicating the need for accommodation and what type. This should be done during the first week of class.

This syllabus and other class materials are available in alternative format upon request. For more information about services available to FSU students with disabilities, contact the Student Disability Resource Center, sdrc@admin.fsu.edu, web page: http://www.disabilitycenter.fsu.edu/.

Syllabus Change Policy Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice.