

**Algorithms for Science Applications II**  
**ISC 4221**

Spring 2011

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<b>Instructors:</b>	Professor Janet Peterson email: jpeterson@fsu.edu office: 444 DSL phone: 644-1979	Dr. John Burkardt email: jburkardt@fsu.edu office: 445 DSL phone:
<b>Office Hours:</b>	M 12:15-1:15 p.m. F 11-12 a.m.	
<b>TA:</b>	Olmo Zavala-Romero email: osz09@fsu.edu	office: 492E DSL office hours:
<b>Class:</b>	MWF 12:20-1:10 152 DSL	
<b>Lab:</b>	T 3:30-6 p.m., 152 DSL	
<b>Prerequisites:</b>	Calculus I and II	
<b>Website:</b>	Blackboard	
<b>Text:</b>	None required; see reading list	

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**Course Description:** This course provides the student with an introduction to algorithms used for solving discrete problems such as sorting or searching an array, scheduling, determining an optimal path (such as the well-known traveling salesman problem), extracting and interpreting data, etc. In addition to introducing the student to common algorithms for various problems, this course also provides the student with tools to analyze algorithms so that algorithms which solve the same problem can be compared. The course is divided into eight parts:

- Part I - Introduction to Algorithm Design and Analysis (Peterson)
- Part II - Random Processes (Peterson)
- Part III - Graph Theory (Burkardt)
- Part IV - Data Mining (Peterson)
- Part V - Clustering (Peterson)
- Part VI - Optimization (Peterson)
- Part VII - Feature Extraction and Pattern Recognition (Burkardt)
- Part VIII - Computational Geometry (Burkardt)

**Grading Policy:** The grade for the course will be based upon labs, homework, a midterm and a final project. This work is weighted as follows:

- Midterm Exam - 15%
- Final Project - 15%
- Homework - 45%
- Labs - 25%

**Late Assignment Policy:** You can turn in *one* laboratory assignment and *one* homework late with no questions asked and no penalty; however, the assignment must be turned in no later than 1 week after its due date. Additional late assignments will be penalized by applying a graded scale which terminates with a 25% reduction at the end of one week; no assignments will be accepted more than a week past the due date. Exceptions to these rules are made only if extenuating circumstances (such as illness, etc.) arise which can be documented.

**Honor Code:** The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of students' 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://dof.fsu.edu/honorpolicy.htm>.)

**ADA:** Students with disabilities needing academic accommodation should:

1. register with and provide documentation to the Student Disability Resource Center; and
2. 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  
97 Woodward Avenue, South  
108 Student Services Building  
Florida State University  
Tallahassee, FL 32306-4167  
(850) 644-9566 (voice)  
(850) 644-8504 (TDD)  
sdrc@admin.fsu.edu  
<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.