

**MSL S494: Computer Programming for Scientific Applications
Class Syllabus**

Spring 2015

Instructor: Dr. Seth Danielson

Office: 112 O'Ne2081(-O8:)12 Ne:- 28

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Understand how to make a map and plot spatially explicit data on the map.

Instructional methods:

This course is based on lectures, which will cover the major topics, emphasizing and discussing the important points. They are not sessions to regurgitate material already written in the text. Your personal participation is important; asking questions will help you overcome conceptual roadblocks and coding problems. It will help you learn more efficiently if you read the assigned material before lecture. We do have required and recommended textbooks and programming reference books. Readings will be regularly assigned. The course will follow these readings although in class we will emphasize select topics. Material will be conveyed by the assigned readings, standard lecture, in-class discussions, and in-

papers at the beginning of class and we will discuss problems after they have been graded and returned in the following class period.

Complaints and Concerns:

You are always welcome to talk to me to express complaints and concerns about the class.

Evaluation:

The course grade will consist of the following components. Final letter grades will be based on a standard scale: A=90 to 100%, B=80% to 89%, C=70% to 79%, ' W R D Q G) ” \$ V
of Fall 2006, UAF has instituted a +/- scale to the grades, so the bottom and top 3 percentage points will fall within the '-' and '+' ranges, respectively. For example: 90-92% will be an A-, 93-96% will be an A, and above 97% will be an A+.

programming “puzzle” at hand. It may be worthwhile to diagram the approach with a flow chart. Second, try writing code that implements the selected approach. Third, debug the program so that it actually works correctly.

Support Services:

The instructor is available for assistance during office hours (112 O’Neill Building, MWF 1-2 pm) or through individually scheduled appointments at other times. UAF Student Support Services Tutoring Center is located in 514 Gruening and is open Sunday-Friday. Walk-in and scheduled tutoring for one-on-one or small group (up to 3 students) is available. Additional information is at <http://www.uaf.edu/sss/tutoring-center/>.

Disabilities Services: The Office of Disability Services implements the Americans with Disabilities Act (ADA), and insures that UAF students have equal access to the campus and course materials. We will work with the Office of Disabilities Services (208 WHITAKER BLDG, 474-5655) to provide reasonable accommodation to students with disabilities. If you need assistance with completion of any form, contact UAF Disability Services by email at uaf-disabilityservices@alaska.edu, by phone at (907)474-5655, or by TTY at (907)474-1827.

Academic Conduct:

Plagiarism and cheating are matters of serious concern for students and academic institutions. The UAF Student Code of Conduct defines academic standards expected at the University of Alaska Fairbanks, and these will be followed in this class. The UAF Student Code of Conduct can be found at: <https://www.uaf.edu/catalog/current/academics/regs3.html>.

MSL494

- M 3/30:** HW7 due, HW8: propose final project. Animations: Flat graphics files with Javascript controls. Read Ch. 9.
- W 4/1:** Review HW7 issues. Animations: creating and structure all within Matlab
- F 4/3:** Animations: controlling, and exporting.
- M 4/6:** Final project proposal due, HW9 assigned. Accessing data through the internet: urlwrite. Read Ch. 7.
- W 4/8:** Review HW8 issues. Accessing data through the internet: OpenDAP.
- W 4/10:** Accessing data through the internet: OpenDAP, continued.
- M 4/13:** HW9 due. Homework: work on final project. 1- and 2-D interpolations. Read Ch. 14.
- W 4/15:** Review HW9 issues. Regressions and correlations.
- F 4/17:** Fitting polynomials to data.
- M 4/20:** Homework: work on final project. Embedded control statements (eval). Read Ch. 12.
- W 4/22:** Working with dates and times. Review for Test 3.
- F 4/24:** *** TEST #3 ***
- M 4/27:** Homework: work on final project. Other MATLAB tools and resources. Read Ch. 10.
- W 4/29:** Useful tricks and techniques: some final miscellaneous helpful hints.
- F 5/1:** Final project presentations (10 min. ea).
- M 5/4:** Final project presentations, continued. Class wrap-up.