

COMP 690 Data Fusion (3 credit hours) Fall 2008

MW: 4:30-5:45, McNair 129

Dr. Albert Esterline

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Office Hours: MWF 11:00-12:00, 1:30-3:00; TR 1:00-2:15

Texts:

- D.L. Hall and S.A.H. McMullen, *Mathematical Techniques in Multisensor Data Fusion*, Artech House 2004, 2002, ISBN 978-1-58053-335-5
- A large number of online resources

Description: This course presents various techniques for data fusion. Implementation is in SciPy and other Python modules. The text provides a survey and is especially useful for the higher levels of data fusion.

Grading

Assignments: 35 % of the course grade

2 Quizzes: 10% of the course grade (divided evenly)

These will be brief, c. 20 min., and will test your grasp of the fundamentals just covered.

2 Exams: 30 % of the course grade (divided evenly)

Final: 25 % of the course grade

Students are expected to attend each class session.

Exam Policies

Exams and quizzes are open book. Make-up exams will be allowed only if you arrange with me before the exam.

Late Submission of Assignments

15% will be deducted for assignments submitted one session after they are due. No credit will be given for assignments submitted later than this.

Grade Ranges

A: 85-100% B: 73-84% C: 60-72% D: 50-59% F: 0-49%

Cheating: Cheating covers any case in which a student has received unauthorized aid in his/her performance that contributes to a course grade or submits material contributing to a course grade with the intent to deceive the instructor or grader. If the unauthorized aid includes help from another student, then that student is considered to have cheated as well.

If a student cheats on lab work or a homework assignment, then he/she will receive a grade of zero (a grade of F) for that item as will anyone assisting him/her in an unauthorized way. If a student cheats on an exam or final, he/she will receive a failing grade for the class. All cases of cheating will be reported to the Director of Undergraduate Studies. When a student cheats for the second or more time in any Computer Science class, he/she will receive an F in the class in which the most recent case occurred and will be referred to the University authorities for disciplinary action.

Students with special needs (e.g., hearing or vision difficulties) should inform the instructor at the beginning of the semester.

COMP 690 Data Fusion Fall 2008 Schedule of Topics

Week	Dates	Text	Additional Topic(s)
1	Aug. 18, 20	Ch. 1	Python
2	Aug. 25,27	Ch. 2	Python
3	Sept. 3 Sept. 1 is Labor Day	Ch. 2	Python
4	Sept. 8, 10	Ch. 3	Matplotlib
5	Sept. 15, 17	Ch. 3	NumPy & SciPy
6	Sept. 22, 24	Ch. 4	Descriptive statistics
7	Sept. 29, Oct. 1	Ch. 4	Classical inference
8	Oct. 6, 8	Ch. 5	Classical inference, Regression
9	Oct 13, 15	Ch. 6	Regression, Kalman filter
10	Oct. 22 Fall break: Oct. 20-21	Ch. 7	Kalman filter
11	Oct. 27, 29	Ch. 7	Bayesian inference
12	Nov. 3, 5	Ch. 8	Bayesian inference, Dempster-Shafer Theory
13	Nov. 10, 12	Ch. 8	Dempster-Shafer Theory
14	Nov. 17, 19	Ch. 9	Dempster-Shafer Theory, Frequency-domain approaches
15	Nov. 24 Thanksgiving: Nov. 26-28	Ch. 9	Frequency-domain approaches
16	Dec. 1, 3	Ch. 10	Frequency-domain approaches

Schedule of Quizzes and Exams

Quiz 1	Wednesday, Sept. 3
Quiz 2	Monday, Sept. 29
Exam 1	Monday, Oct. 13
Exam 2	Monday, Nov. 24
Final	Thursday, Dec. 11, 10:30-12:30