ECE 893, Sec. 008 - Turbo Codes and Iterative Decoding,

Credit hours: 1 **Prof. Dan Noneaker**
Meeting time: M 3:00pm-5:30pm **305 EIB, 656-0100**
Meeting location: TBD **danno@ces.clemson.edu**
Office hours: by appointment

Purpose of course: ECE 893 covers the topics of parallel concatenated convolutional codes, serial concatenated convolutional codes, turbo-product codes, low-density parity-check codes, Tanner graphs, and iterative decoding algorithms for these classes of codes.

Outline: (approximate)

i.) Instructor's lectures: background material, basic concepts (initial 6 weeks plus occasional later dates)
ii.)*Student presentations:* specialized topics of interest (all other meeting times)

Prerequisites: ECE 860 or permission of instructor.

Grading: 90% student presentations, 10% class attendance

References:
S. Lin and D. Costello, *Error Control Coding: Fundamentals and Applications*, Prentice Hall, 1983. (Selected preprints from the second edition of the book, currently under development, will also be used.)
Course notes and assigned reading from journal papers.
S.B. Wicker, *Error Control Systems for Digital Communications and Storage*, Prentice Hall, 1995. (also a required text for the pre-requisite course ECE 857)
R. Johannesson and K. S. Zigangirov, *Fundamentals of Convolutional Coding*, IEEE Press, 1999.

Attendance, Class meetings: Since most of the value in the course is contained in the lectures and student presentations, class attendance is mandatory. Every attempt will be made to announce class cancellations in advance. A time for make-up lectures will be determined.

Exam policy: If a student misses one of his or her scheduled presentations, a make-up time will be allowed only for urgent reasons. A make-up time must be requested before the scheduled presentation date, except in extenuating circumstances.