# ECEN 5773
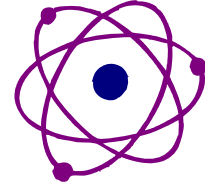# Evolutionary Computation
# Fall 2007
# Syllabus

**Time**: Tuesday/Thursday 2:00-3:15 PM

**Place**: Noble Research Center 107

**References**:
*Genetic Algorithms in Search, Optimization & Machine Learning*
Goldberg, Addison-Wesley, 1989
*An Introduction to Genetic Algorithms*
Mitchell, MIT, 1996
*Ant Colony Optimization*
Dorigo and Stutzle, MIT, 2004
*Multi-Objective Optimization Using Evolutionary Algorithms*
Deb, John Wiley, 2001

**Instructor**:
Professor Gary G. Yen,
http://www.okstate.edu/elec-engr/faculty/yen
744-7743, gyen@okstate.edu
Engineering South 404
Office Hours: Tuesday/Thursday 3:30PM-5:00PM;
or by appointment only

**Objectives**:
An overview of emerging biologically motivated computational intelligence paradigms and hand-on working knowledge with specific application domains and with focus on evolutionary algorithms: Topics include, but not limited to,
- computational intelligence;
- simulated annealing;
- introduction to evolutionary computation;
- ant colony system;
- particle swarm intelligence;
- genetic algorihms (search operators, search schemes, niching, constraint handling;
- evolutionary multiobjective optimization;
- genetic programming;
- evolutionary strategy;
- co-evolution;
- artificial immune system;
- memetic algorithm;
- social based algorithm;
- learning classifier systems;
- theoretical analysis

**Grading**:

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Homework Assignments on each subject covered **50%**
Final Project: proposal, final report, and oral presentation **50%**
Fall Break and University Holiday (October 9 and November 22)
**A**-90% above; **B**-78%-90%; **C**-68%-77%; **D**-58%-67%; **F**-57% below

**Drop and Add**:

The instructor will follow University, College and Departmental guidelines for drops and adds. Consult the class schedule book or Ms. Helen Daggs in Engineering South 202 for more information.

**Attendance**:

Attendance record will be sampled randomly and will be counted toward your grade. Students will be expected to attend class. Habitual failure to do so will result in a reduced grade. An incomplete grade will only be given when a student misses a portion of the semester because of illness or accident. All (I) grades must be completed within thirty days.

**Academic Integrity**:

The instructor will strictly follow OSU's Academic Integrity Policy as stipulated in http://academicintegrity.okstate.edu/ There is a video clip at http://ra.okstate.edu/provost/academic/integrity.html that every student (and probably every faculty member) should watch early in their academic career. This video very clearly defines the different types of academic misconduct and summarizes methods to avoid these problems.

Cheating on homework, quizzes or examinations, plagiarism and other forms of academic dishonesty are serious offenses and will subject the student to serious penalties.

**Disability Impairment**:

If any member of the class feels that he/she has a disability and needs special accommodations of any nature whatsoever, the instructor will work with you and the University Office of Disabled Student Services to provide reasonable accommodations to ensure that you have a fair opportunity to perform in this class.

**Class Website**:

You are advised to check class website at the Online Classroom and Community page (D2L) at https://oc.okstate.edu/ regularly for important information, such as handouts, homework assignments, schedule changes, old exams and last minute announcements.