CS657 Intelligent Systems
Spring 2015 Class Schedule

Instructor Information
- M. Tarokh, Ph.D., Professor of Computer Science.
- Office location and email: GMCS 541, mtarokh@mail.sdsu.edu
- Office Hours: M 15:30 - 17:30; W 12:00 - 14:00

Course Material

Goals
- We live in an information age where the real world problems have become increasingly more complex. This information must be searched, retrieved, summarized or used for planning, decision making and control. Intelligent systems use approaches similar to those employed in the human cognition, information processing and reasoning. They have become methods of choice for dealing with often imprecise and vague information. The goal of this course is to study several tools of intelligent systems and applications of these tools.

Topics
- Rule-base expert systems
- Fuzzy logic and fuzzy expert systems, approximate reasoning, rule base inference engines, applications
- Genetic algorithms, genetic and evolutionary programming, applications
- Neural networks, backpropagation and Hopfield networks, applications.
- Control, behavior and fuzzy control, applications using Simulink.

Students Learning Outcomes
- Ability to propose alternative solutions to real-world computer science problems that do not have classical solutions.
- Ability to analyze potential solutions using different approaches listed under Topics above.
- Ability to select a feasible solution with respect to computational complexity and implementation issues.
- Ability to propose control and decision making solutions for real-time systems
- Ability to simulate a dynamic system and determine the efficacy of a control algorithm.

Prerequisites
- Interest and time.
- Knowledge of data structures and algorithms
- Good programming skills in either Java or C++

Assignments
- There will be five assignments.
- Assignments require programming (some extensive), as well as report writing.
- Each person is to do all the work on their own.
- The assignments are to be handed in the specified format, on the date specified, at the beginning of the class.

Course Material:
- The course material will be available on SDSU Blackboard.

Course Assistant and Hours
- These will be announced during the second week of the semester. Please check the class website (Blackboard).
Exams and Grading

- There will be one mid-term exam and the final. All exams are comprehensive.
- You will not pass the course if you miss the mid-term exam, the final, or more than one assignment. No make-up assignment or exam will be given.
- Percentage contributions to the course grade are as follows: Midterm-exam: 25%, Final: 30%, Assignments: 35% (scores of the best 4 out of 5 assignments will be used), Class participation: 10% (presenting at least one assignment to the class, attending the class on regular basis, participating in class discussions).

Important Dates:

- Mid-term Exam 1: March 23, 17:30-18:45
- Final Exam: See the university final exam schedule.

Other Course Policies

- Regular attendance is a requirement of this course, and you are responsible for all material, schedules, assignments, deadlines, etc. discussed in class or announced on the class website. Please visit the class website frequently. Please come to the class on time and do not leave early, as these will cause disruption to the class.
- Please do not eat, sleep or use your cell phone in class. Turn off your cell phone before entering the room.
- Please do not ask for or expect special case treatment, such as extension of your assignment deadline, taking exams on a different date than those scheduled, make up exams/assignments, special extra credit assignments, etc.