CS 4091: Evolving a Poker-Playing Agent  
Fall 2017  
Course syllabus

Instructor  
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Description  
A specialized course providing research opportunities for superior students majoring in computer science. This offering is in the area of artiﬁcial intelligence—speciﬁcally, adversarial games and machine learning.

Grading  
The assigned grade will reﬂect progress on the research project.

Student learning outcomes  
Students will demonstrate proﬁciency in the selected topic. In the case of this offering, the task will be to  
• write a program that allows artiﬁcial agents to play each other at the game of hex.  
• build a generic artiﬁcial hex-playing agent that uses a minimax search with a depth limit.  
• build a heuristic evaluation function that takes the known state of the gameboard as input and uses its set of “genes” (weights of a neural network) to compute the estimated value of that state.  
• use a genetic-algorithm approach to evolve “organisms” (sets of genes) in an attempt to ﬁnd a robustly excellent hex player.  
• summarize work done in a final paper.

Class format  
Regular research meetings will be held to discuss approaches for and progress on the project.

Academic honesty  
Angelo State University expects its students to maintain complete honesty and integrity in their academic pursuits. By remaining enrolled in this course you agree to adhere to the Academic Honor Code, which is contained in both print and web versions of the Student Handbook.

Accommodations  
Persons with disabilities which may warrant academic accommodations must contact Student Services in order to request and to implement academic accommodations. For ASU’s policy on absences due to religious holy days, please see OP 10.19 at http://www.angelo.edu/opmanual/.