CS 4091: Evaluating Intelligent Voting Strategies  
Spring 2021  
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, algorithmic game theory and computational social choice.

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

Student learning outcome  
Students will demonstrate proficiency in the selected topic. In the case of this offering, the task will be to  
• write a program that simulates elections according to different single-winner voting systems and allows for functions to take the role of voters.  
• write a diverse set of functions that vote strategically based on the current vote totals and their own preferences.  
• simulate many elections using voters with random preferences and varying voting strategies.  
• evaluate voting strategies and voting systems based on multiple criteria.  
• use a genetic-algorithms approach to fine-tune voting strategies.  
• summarize work done and results 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 not to commit academic misconduct as defined in section 1.B.1 of the Student Handbook, available at www.angelo.edu/student-handbook.

Important university policies  
• You must contact Student Disability Services in order to request and to implement academic accommodations.  
• For ASU’s policy on absences due to religious holy days, see OP 10.19 at www.angelo.edu/opmanual.  
• I am obligated to report any knowledge of sexual misconduct to the Title IX office; see www.angelo.edu/services/title-ix.
Modifications  This syllabus, including grade evaluation and course schedule, is subject to modification. In particular, the COVID-19 pandemic may require significant changes in course delivery and content on potentially short notice.