

85025 CSE 591: Knowledge Representation and Reasoning

Time and Place: MW 10:40–11:55 a.m., BYAC 190

Instructor: Joohyung Lee (joolee@asu.edu)

Instructor's Office Hours: TTh 3–4 p.m. and by appointment, BY 574

Description: Knowledge representation and reasoning is one of the most active areas in Artificial Intelligence research. It is concerned with how to encode knowledge in an adequately expressive formalism and how to draw relevant conclusions efficiently from the knowledge base. While the behavior of intelligent agents is hard to be pre-programmed in a procedural manner, knowledge can be effectively programmed into a machine using a declarative language. Thanks to recent breakthroughs which include efficient implementations for solving NP-class problems, in many cases, knowledge-based approaches have shown to outperform specialized, domain-dependent problem solving methods. This course will cover basic and recent developments in the research in knowledge representation and reasoning.

Course materials will be handed out in class and will be posted at the course webpage:

<http://peace.eas.asu.edu/joolee/teaching/kr-f07> .

Grading The grade will be determined by class participation, homework and a project.

Class participation	30%
Homework	30%
Project	40%

Class Participation For problems announced for class discussion, you are expected to volunteer to present solutions to at least two problems at some times during the semester; in this way you get credit for class participation. This should be a solution that you found by yourself, without help from others.

Homework Several times during the semester you will receive e-mail messages with homework problems. When you work on these additional problems, you may consult the materials handed out in class and your notes, but not any books, and you should not accept any help.

Project The project is individual. You may choose your own topic, or the instructor will assist you in selecting one. More detailed instructions will be provided later.

Initial proposal	10%
Survey, progress report	30%
Final report	60%

The syllabus is subject to change if necessary.