CS5368, Intelligent Systems, Fall 2015

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Textbook: "Knowledge Representation, Reasoning, and the Design of Intelligent Agents", M. Gelfond and Y. Kahl

Course Objectives: To provide an in depth coverage of knowledge representation and reasoning methodology, declarative solutions to classical AI problems including planning and diagnostics, and their use for the design of intelligent systems.

Learning Outcomes: Students are expected to learn:

- Knowledge Representation language Answer Set Prolog (ASP) and several of its variants.

- Inference Methods for various classes of ASP programs.

- Basic Techniques of Declarative Problem Solving and their Application for the Design of Intelligent Systems.

- Some current advances in theory and practice of Answer Set Programming.

These corresponds to objectives 1–5 in both, Master and Phd Programs.

Methods of Assessment:

Two Tests - 100 points each

Final exam (comprehensive) - 150 points

Home Work - 50 points.

Homework Policy: Homework will be given at least once a week. Some of it will be collected and graded. Questions about the homework (as well as other questions related to the subject material) are encouraged. Students are expected to spend *at least* two and a half hours preparing for each class.

Attendance Policy: You are expected to attend every lecture.

Academic Conduct: Policy of the Department and the University will be followed.

Students with Disabilities: Any student who, because of a disability, may require special arrangements in order to meet course requirements should contact the instructor as soon as possible to make any necessary arrangements. Students should present appropriate verification from Student Disability Services during the instructor's office hours. Please note instructors are not allowed to provide classroom accommodations to a student until appropriate verification from Student Disability Services has been provided. For additional information, you may contact the Student Disability Services office in 335 West Hall or 806-742-2405.

The Intended Material

- Syntax and Semantics of Answer Set Prolog (ASP).

- Modeling Common Sense Reasoning.

- Answer Set Programming.

- ASP Reasoning Methods.

- Modeling Dynamic Domain.

- Agents in Dynamic Domains: Planning and Diagnostics.

- Probabilistic Reasoning.