

16.412J/6.834J Intelligent Embedded Systems

Description:

Algorithms and paradigms for developing embedded systems that are able to operate autonomously for years at a time within harsh and uncertain environments. Focus on systems that demonstrate high levels of deduction and adaptation. Draws upon a diverse set of computational methods from artificial intelligence, operations research, software engineering and control. Topics include: automated mission planning and scheduling, dynamic execution and reactive planning, model-based diagnosis and failure recovery, reinforcement learning, decision theoretic planning, real-time propositional inference, Bayesian inference, and state estimation based on hidden Markov models.

Prerequisites: 6.034 or 16.410, 6.041 or permission of instructor. Programming proficiency assumed.

3-0-9 H-LEVEL Grad Credit.

Lecture: MW 11:00-12:30

Location: Rm 33-418

Instructor:

Brian Williams

Office:	Space Systems Lab 33-330	Artificial Intelligence Lab NE43-838
Phone:	(617) 253-1678	(617) 253-2739
Email:	williams@mit.edu	
Office hrs	by appointment	

Mailing list: 16.412J-students@mit.edu
6.834J-students@mit.edu

Web page: www.ai.mit.edu/courses/16.412J/ (to be posted)
www.ai.mit.edu/courses/6.834J/ (to be posted)

Readings:

- ~ 2 papers from the literature per lecture, or equivalent from "AI a Modern Approach" by Russell and Norvig.

Assignments:

- ~ 5 Problem Sets
- Weekly thought questions
- Group lecture on advanced topic
(45 minute Presentation, Overview article, Demo).
- Final Project:
(Proposal, Presentation, Final Report)