This course will be a general introduction to artificial intelligence (AI) concepts, with an emphasis on various of its practical aspects to enable the participant to solve real problems quickly and effectively. The class work will consist both of worked problems, but a significant component of the course will also involve programming assignments. While in the past this course has utilized Lisp (such as GNU Common Lisp), you may use any language that you choose. Some of the assignments might be easier in lisp, while others might not be. It is your choice.

Lecturer: Prof. Jeff Bilmes 418 EE/CS Bldg. <bilmes@ee.washington.edu> Office Hours Tuesdays, 2:00-4:00pm. Lectures will be MW 11:30-1:00 in EE1-031. 4 units.

TA: Winyu Chinthammit <winyu@ee.washington.edu> Office Hours Thur and Fri 2:00-3:30pm at the EE main atrium. Work phone is 206-616-4607.

Course web page: http://ssli.ee.washington.edu/courses/ee562

Texts: The text will be “Artificial Intelligence: A Modern Approach, 2nd Edition, by Stuart Russell and Peter Norvig. This text is quite up to date but we will occasionally also be using other handouts that will either be passed out in class, and/or will be available on the course web page (copyright permitting).

Prerequisites: Basic programming (any modern programming language) and computer science techniques, knowledge of modern data structures (lists, queues, stacks, trees, heaps, searching, sorting, etc.), and basic logic and probability (e.g., STAT390, EE505, etc.). Alternatively, permission of instructor.

Homework: There will be periodic homework assigned in this class (there will be 4 total assignments this quarter). These problem sets will be a combination of worked problems and programming assignments. Assignments are due at the beginning of class the day they are due and are to be turned in using printed form.

Exams: There will be a midterm exam and a final exam.

Grading and Exams: Grades will be based on a combination of the homework (33%), the midterm exam (33%you are registered for the course as S/NS, then you must attend lectures, and do the midterm and final exam to get a passing grade. Please let me know ASAP if you registered for the course as S/NS.

Important Dates:

Midterm Exam: Mon, May 2nd, in class.

Final Exam: 2:30-4:20 p.m. Wednesday, June 8th.

Last Day of Class: Wed, June 1st.

Holiday: Mon, May 30th (Veterans Day).

Class outline 19 lectures total.

- Lec 1. Mon, March 28th Intro, background (Chap 1)
• Lec 2. Wed, March 30th, Agents (Chap 2)
• Lec 3. Mon, April 4th Search (Chap 3)
• Lec 4. Wed, April 6th Search (Chap 3)
• Lec 5. Mon, April 11th Informed Search (Chap 4)
• Lec 6. Wed, April 13th Informed Search (Chap 4)
• Lec 7. Mon, April 18th Constraint Satisfaction (Chap 5)
• Lec 8. Wed, April 20th Constraint Satisfaction (Chap 5)
• Lec 9. Mon, April 25th Constraint Satisfaction (Chap 5)
• Lec 10. Wed, April 27th Constraint Satisfaction (Chap 5)
• Lec 11. Mon, May 2nd Midterm
• Lec 12. Wed, May 4th (star wars day) Game Playing (Chap 6)
• Lec 13. Mon, May 9th Game Playing (Chap 6)
• Lec 14. Wed, May 11th First-Order Logic (Chap 8)
• Lec 15. Mon, May 16th Logic and Inference (Chap 9)
• Lec 16. Wed, May 18th Knowledge Representation (Chap 10)
• Lec 17. Mon, May 23rd Learning (Chap 18)
• Lec 18. Wed, May 25th Statistical Learning (Chap 20)
• Lec –. Mon, May 30th Holiday
• Lec 19. Wed, June 1st (last meeting) Reinforcement Learning (Chap 21)