

Artificial Intelligence (AEE 4510)
Course syllabus
Sem1 (2020/2021)

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Class Timings: see time table on my website or on the office door.

Office Hours: see time table on my website or on the office door

Textbook:

- The course spans a variety of AI topics. No single book exists to meet the needs. The course will, therefore, rely on selected topics in the form of handouts.

Pre-requisite:

- Automatic Control (AEE 3520) and CO-OP (AEE 4920).

References:

- Michael Negnevitsky, Artificial Intelligence A Guide to Intelligent Systems, Second Edition, 2005.

Grading Criteria:

- 10% Quizzes
- 10% Assignments
- 20% Midterm Exam I (7th week)
- 20% Midterm Exam II (11th week)
- 40% Final Exam

Credit hours:

- 3(3,1,0) hours

Tentative Schedule

Topics to be Covered		
List of Topics	No of Weeks	Contact hours
AI definition	1	4
AI motivational example applications	1	4
Fuzzy sets and fuzzy membership functions	1	4
Fuzzy linguistic variables and operators	1	4
Fuzzy inference mechanism	1	4
The biological neuron	1	4
The artificial neuron/perceptron	1	4
Neural Networks architecture	1	4
Supervised neural networks	1	4
Additional issues on neural network design and training	1	4

The Genetic Algorithm overview	1	4
GA operatorsopment on the subject	1	4
GA example	1	4
Additional improvements of GA	1	4
(Total)	14	56

Course Learning Outcomes

1. Familiarity with basic knowledge in Artificial Intelligence. (a)
2. Familiarity with analytical/theoretical tools for various AI branches. (a,e).
3. Ability to conduct extensive projects in computer simulation for various AI systems. (b,c,k)

Furthermore, Program Outcomes h and j are partially realized through timely fulfillment of assignments.

Course Policy

- **General policies**

1. Course material such as lecture slides, homework ...etc. will be posted on my website; however posted material is not a substitute for the text book. Therefore, students are expected to purchase the textbook.
2. The student is responsible to check his email (university email) daily for any class announcements.
3. Use of mobile phone or other electronic devices or equipment is not allowed during class. All such systems must be turned off or silenced and not used during classes without prior permission from the instructor.
4. It is the student's responsibility to ask questions, for me if you don't ask questions then I assume that you are happy. If for one reason or another, my answer is not satisfactory for you, then you are welcome to visit my office for more discussions and details.
5. Transparency, honesty and trustworthiness are expected to be upheld by both staff and students at all times

- **Exam policy**

1. Where applicable, formulas will be provided in the exams. However, students are required to understand them, recognize their relevance and know how to apply them

- **Attendance**

1. Only official excuses are accepted. Personal excuses are not accepted.
2. Three late arrivals = One absence.
3. Any student who misses more than 25% of all lectures will not be allowed to enter the final exam.

- **Makeup policy**

1. No make-up will be provided for exams unless an official excuse exists.
2. Students who miss a quiz will not be offered a makeup quiz.
3. Any official excuse should be presented to the instructor within one week from the absence.

- **Assignments Policy**

1. HWs will be announced in tutorial classes and will be sent to you through LMS.
2. The HW solution will be sent you through LMS maximum 1 week after HW submission deadline.