


QFO-AP-FI-MO02	اسم النموذج: Course Syllabus	جامعة فيلادلفيا
رقم الاصدار: 1 (Revision)	الجهة المصدرة: كلية تكنولوجيا المعلومات	 Philadelphia University
التاريخ: 2017/11/05	الجهة المدققة: عمادة التطوير والجودة	
عدد صفحات النموذج:		

<u>Course Syllabus</u>	
Course Title: Artificial Intelligence	Course code: 750751
Course Level: MSc.	Course prerequisite (s) and/or co-requisite (s):
Lecture Time:	Credit hours: 3

<u>Academic Staff Specifics</u>				
Name	Rank	Office Number and Location	Office Hours	E-mail Address

Course module description:

Artificial Intelligence is a big field, and consequently this course needs big efforts from the MSc. Students. It is assumed that most students will have had introductory courses in AI, discrete mathematics, predicate calculus and graph theory. Also it is assumed that the students have had courses in data structures including trees, graphs, a recursion-based search, using stack and queues,

Course module objectives:

A deep study in the following points:

- 1- "Unify the diverse branches of AI through a detailed discussion of its theoretical foundations".
- 2- "Advanced representational formalisms and search techniques".
- 3- "Place Artificial Intelligence within the context of empirical science".

Course/ module components

- **Books (title , author (s), publisher, year of publication)**

1. Title: Artificial Intelligence Structures and Strategies for Complex Problem Solving
Author(s)/Editor(s): George F. Luger
Publisher: Addison Wesley, 2003

2. Title: **Artificial Intelligence: A Modern Approach**

Author(s)/Editor(s): Stuart Rusel and Peter Norving
Publisher: AIMA 2010

3. Title: **Artificial Intelligence: A New Synthesis**

Author(s)/Editor(s): Nils J. Nilsson
Publisher: Morgan Kaufmann Publishers, Inc.; 1st edition (April 15, 1998)

4. Title: **Artificial Intelligence**

Author(s)/Editor(s): Winston
Publisher: Addison Wesley; 3 edition (May 10, 1992)

- **Support material (s) (vcs, acs, etc).**
- **Study guide (s) (if applicable)**
- **Homework and laboratory guide (s) if (applicable).**

Teaching methods:

Duration: 15 weeks, 45 hours in total

Lectures: 35 hours, Tutorial: 8 hours

Exams (first and second): 2 hours

Learning outcomes:

- Knowledge and understanding
 - 1) The system development lifecycle;
 - 2) A wide range of principles and tools available to the software developer, such as software process methodologies, choice of algorithm, language, software libraries and user interface technique;
 - 3) The principles of object-oriented software construction;
- Cognitive skills (thinking and analysis).
 - 1) Design and plan software solutions to problems using an object-oriented strategy.
 - 2) Identify a range of solutions and critically evaluate and justify proposed design solutions.
- Communication skills (personal and academic).
 - 1) Develop software applications in a development environment that makes use of commonly supported tools.
 - 2) Identify some of the main risks of software development and use.
- Practical and subject specific skills (Transferable Skills).
 - 1) Effectively participate in team-based activities.
 - 2) Structure and communicate ideas effectively, both orally, in writing, and in cases involving a quantitative dimension.
 - 3) Use IT skills and display mature computer literacy.
 - 4) Work independently and with others.

Assessment instruments

- Short reports and/ or presentations, and/ or Short research projects
- Quizzes.
- Home works
- Final examination: 40 marks

<u>Allocation of Marks</u>	
Assessment Instruments	Mark
Mid term examination	30 marks
Final examination:	40 marks
Reports, research projects, Quizzes, Home works, Projects	30 marks
Total	100 marks

Documentation and academic honesty

- Documentation style (with illustrative examples)
- Protection by copyright
- Avoiding plagiarism.

Course/module academic calendar

week	Basic and support material to be covered	Homework/reports and their due dates
(1)	- Introduction - Symbolic processing	
(2)	- Problem Solving: Brute-Force Search	First Homework
(3)	- Problem Solving: Heuristic Search	Second Homework
(4)	- Control Strategies: Forward Reasoning Backward Reasoning	Third Homework
(5)	- Knowledge Representation	
(6)	- Knowledge Representation	
(7) First examination	Mid Term Examination	
(8)	- Uncertain Knowledge and Reasoning	Fourth Homework
(9)	- Classical Planning - Planning and Acting in the Real World	
(10)	Communicating, Perceiving, and Acting: :	

	- Natural Language Processing - Natural Language for Communication	
(12)	Communicating, Perceiving, and Acting: : - Perception - Robotics	
(13)	- Learning	
(14)	- Project	
(15)	- Project	
(16) Final Examination		

Expected workload:

On average students need to spend 2 hours of study and preparation for each 50-minute lecture/tutorial.

Attendance policy:

Absence from lectures and/or tutorials shall not exceed 15%. Students who exceed the 15% limit without a medical or emergency excuse acceptable to and approved by the Dean of the relevant college/faculty shall not be allowed to take the final examination and shall receive a mark of zero for the course. If the excuse is approved by the Dean, the student shall be considered to have withdrawn from the course.

Module references

Books

1. Title: Artificial Intelligence Structures and Strategies for Complex Problem Solving
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Journals

Websites