



# Lincoln University

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## BA 355 – Application of Artificial Intelligence in Modern Information Systems

### COURSE SYLLABUS

Fall 2017

**Lecture Schedule:** Tuesday, 3:30 PM – 6:15 PM

**Credit:** 3 units (45 lecture hours)

**Instructor:** Prof. Sergey K. Aityan

**Office Hours:** Monday, 11:15 AM – 12:15 PM

Tuesday, 11:15 AM – 12:15 PM

Students are advised to schedule appointments by signing their names on the appointment list which is located on the information board next to the professor's office that will ensure exact appointment time without waiting.

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**☎:** (510) 628-8016

**Assistant to the  
Instructor:** TBD

**Textbook:**

**1. Main Textbook:**

Stephen Lucci and Danny Kopec (2015)

Artificial Intelligence in the 21st Century (Computer Science) 2nd Edition

Publisher: Mercury Learning & Information; 2 edition, 615 pages

ISBN-10: 1942270003

ISBN-13: 978-1942270003

\*\*\* previous editions of this book are okay too \*\*\*

**Last Revision:** August 28, 2017

### CATALOG DESCRIPTION

The course focuses on important areas of information systems not covered by the regularly offered courses. A specific topic for it is chosen by the instructor and announced in the syllabus. (3 units)  
Prerequisites: Instructor's permission and BA 260 or BA 350

### COURSE OBJECTIVES

- To introduce students to the basic concepts of eCommerce, its major challenges and strategies in global environment.
- To introduce students to a variety of eCommerce approaches and directions.
- To introduce students to strategic and tactical aspects of eCommerce.

- To introduce students to technical and social challenges of eCommerce

### **PROCEDURES AND METHODOLOGY**

Lecture method is used in combination with a supervised business case study. The emphasis will be on learning by doing. Every student must participate in an intensive classroom activity.

### **COURSE PROJECT**

Every student must complete and submit a course project. The project includes an idea of an application of AI in information technology, brief specifications, business model, and implementation strategy.

### **ATTENDANCE**

Students are expected to attend each class session. If you cannot attend a class due to a valid reason, please notify the instructor prior to the class.

### **EXAMS**

Both, midterm and final exams are structured as written essay to answer the given questions. Each exam includes six questions. The essay must be written clearly and easy to read, structurally with clear logical presentation of the answers. Graphs, charts, tables, and other supporting illustrations are required if needed. Examples to illustrate the answers are required.

Exams will cover all assigned chapters, any additional readings or supplementary materials covered in class. The final exam is comprehensive, i.e. includes the whole course. The exams are neither “open book” nor “open notes.”

Cheating in exam results in immediate termination of the exam, grade “F” with ZERO points, and report to the dean.

### **GRADING AND SCORING**

All activities will be graded according to the points as shown below.

Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	F
Points	94-100	90-93	87-89	83-86	80-82	77-79	73-76	70-72	67-69	60-66	0-59

In exams every answer is graded by points from 0 to 100 and the total points for an exam are calculated as the average of the points received for all answers in the exam.

The final grade for the course will be given as the total weighted score for all activities according to the percentage shown in the table below.

Activity	Time	Percent
Quizzes, home tasks, and classroom activities	Every week	20%
Course project		20%
Mid-term exam	In the middle of the course	30%
Final exam	Last week of the course	30%

If both grades for the midterm and final exams are “F” the term grade for the course is “F” regardless of the grades for the project and classroom activities.

**COURSE SCHEDULE**

Lectures		Topic	Chapters
#	Date		
1	Aug. 22	About the Course Overview of Artificial Intelligence	Ch. 1
2	Aug. 29	(a) Uninformed Search (b) Informed Search	Ch. 2 Ch. 3
3	Sep. 5	(a) Search Using Games (b) Logic in Artificial Intelligence	Ch. 4 Ch. 5
4	Sep. 12	Knowledge Representation	Ch. 6
5	Sep. 19	Production Systems	Ch. 7
6	Sep. 26	(a) Uncertainty in AI (b) Expert Systems	Ch. 8 Ch. 9
7	Oct. 3	Midterm Exam	Ch. 1-9
8	Oct. 10	Inductive Learning with Decision Tree	Ch. 10
9	Oct. 17	Machine Learning with Neural Networks	Ch. 11
10	Oct. 24	Search Inspired by Mother Nature	Ch. 12
11	Oct. 31	Natural Language Understanding	Ch. 13
12	Nov. 7	Automated Planning	Ch. 14
13	Nov. 14	Robotics	Ch. 15
	Nov. 21	Thanksgiving	
14	Nov. 28	Comprehensive Final Exam	Ch. 1-15
15	Dec. 5	Course Project Presentations and Defense	

**OTHER COMMENTS**

- Please participate. What you put into the class will determine what you get out of it – and what others get out of it.
- Please come on time. Late arrivals disturb everyone else.
- If you miss a class, you are responsible for getting notes/slide printouts on the material covered from a classmate or the instructor.
- To avoid distracting noise in class, cellular phones must be turned off or the ringing mode silenced.
- Questions and comments during the class are welcome. Do not hesitate to ask questions – do not leave anything unclear for you.

**MODIFICATION OF THE SYLLABUS**

The instructor reserves the right to modify this syllabus at any time during the semester. Announcements of any changes will be made in a classroom.

**APPENDIX. Program and Institutional Learning Outcomes.**

<b>Institutional Learning Outcomes (ILOs)</b>	
<i>MBA Graduates of Lincoln University should be able to:</i>	
<b>1b</b>	Recognize and be able to work with the components of reasoning and problem solving; understand concepts, assumptions, purpose, conclusions, implications, consequences, objections from alternative viewpoints, and frame of reference.
<b>2b</b>	Gather and assess relevant information, using abstract ideas to interpret it effectively; to develop well-reasoned conclusions and solutions, and test them against relevant criteria and standards
<b>3b</b>	Be exemplary business professionals and try to ensure that the products of their efforts will be used in socially responsible ways, will meet social needs, and will avoid harmful effects to health and welfare
<b>4b</b>	Lead by example in order to create highly collaborative organizational environment, and be able to develop and use strategies to encourage employees at all organizational levels to do the same.
<b>5b</b>	Set goals and have a vision of the future. The vision should be owned throughout the organization. As effective leaders, they should habitually pick priorities stemming from their basic values.
<b>6b</b>	Continually look for, develop, and offer new or improved services, and be able to use original approaches when dealing with problems in the workplace.
<b>7b</b>	Demonstrate fluency in the use of tools, technologies and methods in the field. They should know how to evaluate, clarify and frame complex questions or challenges using perspectives and scholarship from the business discipline.

<b>Program Level Outcomes (PLOs)</b>	
<i>Students graduating our MBA program will be able to:</i>	
<b>1</b>	Develop and exhibit applied and theoretical knowledge in the field of management and business administration
<b>2</b>	Use theoretical knowledge and advanced problem-solving skills to formulate solutions and identify risks in the following fields: international business, finance management, general business, human resources management, management information systems, marketing management
<b>3</b>	Communicate within a highly specialist environment that allows the presentation of critiques of complex strategic matters
<b>4</b>	Demonstrate autonomy, creativity, and responsibility for managing professional practices
<b>5</b>	Demonstrate leadership and set strategic objectives for team performance
<b>6</b>	Identify ethical issues/problems in business organizations and reach decisions within ethical framework