



Lincoln University

BA 355

Special Topics in Management Information Systems Digital Communications & Artificial Intelligence for Business Performance

COURSE SYLLABUS Spring 2026

Instructor: Dr. Walter Kruz, DBA
Lecture Schedule: Tuesday 12:30 PM – 3:15 PM
Credits: 3 units / 45 lecture hours
Level: Mastery 2 (M2)
Office Hours: Tuesday 11:45 AM – 12:30 PM, By appointment
e-mail: wrkruz@lincolnuca.edu
Main Textbook: *The AI Advantage: How to Put the Artificial Intelligence Revolution to Work by T. Davenport. ISBN: 0262538008
*Various technical resources provided by instructor
Prerequisite: *Instructor's permission and BA160 or BA350*
Last Revision: Jan 5, 2026

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 160 or BA 350*

EDUCATIONAL OBJECTIVES

By taking this course, students will learn the technical fluency and strategic insight required to compete in today's data-driven economy. By understanding how AI tools and methods automate decision workflows, enhance predictive capabilities, and streamline operations, students will learn to translate complex data into actionable business intelligence. Exposure to both traditional and emerging database technologies will enable them to evaluate architectural trade-offs, design information strategies aligned with organizational goals, and lead cross-functional teams that leverage AI responsibly and effectively. Ultimately, this integration prepares MBA graduates to drive innovation, optimize performance, and make evidence-based decisions in dynamic business environments.

COURSE LEARNING OUTCOMES¹

	Course Learning Outcome	Program LO	Institutional LO	Assessment activities
1	Demonstrate an ability to analyze business models and incorporate appropriate AI technologies for performance improvement.	PLO 1	ILO 1b, ILO 2b	Homework, participation in the in-class discussions; case studies; quizzes; midterm/final exams
2	Demonstrate ability to choose competing database technologies for business model improvement	PLO 1	ILO 1b, ILO 2b, ILO 4b	Participation in the in-class discussions; case studies; quizzes
3	Demonstrate ability to integrate Quantum Computing and Artificial Intelligence capabilities into the firm's business model	PLO 3	ILO 2b, ILO 7b	Course project presentation, course project report; case studies; quizzes
4	Demonstrate understanding of latest Artificial Intelligence systems	PLO 5	ILO 4b, ILO 5b	Course project presentation; case studies

INSTRUCTIONAL METHODS

This class offers a highly interactive learning environment. All students will expect to participate in class discussions, research findings, and class exercises. Short oral presentations may be assigned. Assignments may consist of oral presentations of AI technologies and systems. Assignments and projects require students to actively use resources of the library and the Computer Lab. Detailed guide to business *resources of the library* as well as the description of Lincoln University approach to *information literacy* are available at the [LU Library](http://lincolnuca.libguides.com) website (lincolnuca.libguides.com).

CLASS ATTENDANCE

Attendance is a school requirement. Exams may include questions from class discussions.

EXAMS

Typically, the class will include several exams of equal weight as well as homework and quizzes throughout the sessions. All exams are individual deliverables. These activities enable the student to accumulate points which will be used to calculate grade performance. Exams are designed to demonstrate a student's mastery of concepts being discussed and consist mostly of short answers and calculations related to the material being discussed. The exam format is closed book with no electronic devices allowed. Failure to follow exam rules will earn 0 points or "F" grade for that exam.

¹ Detailed description of learning outcomes and information about the assessment procedure are available at the [Learning Outcomes Assessment](#) section of LU website.

COURSE PROJECT

A project will consist of research resulting in a written report plus a PowerPoint presentation describing how a particular application of AI methods and tools will create a competitive advantage for given firm. A project outline is provided in class as guidance to complete the report.

COURSE GRADE DISTRIBUTION

Weights	
Homework	10%
Quizzes	5%
Midterm Exams (20% each) (3 exams)	60%
Project using AI for a given business model	25%
Total	100%

The points needed for securing a given course grade are shown in the table posted 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

SCHEDULE OF TESTING

Session	Test
5	Exam 1
10	Exam 2
15	Exam 3

PROPOSED CLASS SCHEDULE

Session	Activity	Assignment
Session 1	Chapter 1. Business model and information technologies. Intro to AI, Class Project planning. Video review.	Lecture, class exercises, business model description and selection for project
Session 2	Artificial Intelligence Basics	Project proposal
Session 3	Relational and vector database technologies Vectors, Tensors, Database methods	Review DB technologies, notes
Session 4	Large Language models (LLMs)	Review AI technology notes
Session 5	Exam 1	Business model and AI Database technologies
Session 6	Mongo database basics and applications	AI exercises TBA
Session 7	Mongo database download exercises	AI exercises TBA
Session 8	Mongo database laboratory	AI exercises TBA
Session 9	Mongo database prototype design	FL exercises TBA
Session 10	Exam 2	AI database prototype
Session 11	Natural Language processing	NL exercises TBA
Session 12	Robotics	R exercises TBA
Session 13	Artificial Intelligence methods	Exercises TBA
Session 14	Review	Submit written Project
Session 15	Exam #3 and Final presentation	

Last Revision: 1/5/26