Lincoln University
Spring 2018

COURSE: BA 355 – Special Topics in MIS – Big Data Analytics
3 units / 45 lecture hours (15 weeks)

LEVEL : Advanced
Advanced courses in undergraduate programs are intended to bring students' comprehensive knowledge of concepts, ideas, and skills in the specific field of study to the highest level within the baccalaureate programs.

INSTRUCTOR: Dr. Walter Kruz, wrkruz@lincolnuca.edu

CLASS SCHEDULE: Thursdays; 6:30PM – 9:15PM

OFFICE HOURS: Thurs 12:00 - 12:30 PM, and Sat 9:00-12:30 PM, or by appointment

TEXTBOOK: Data Science and Big data Analytics, by Wiley, 2015, ISBN: 978-1-118-87613-8

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
Develop competence and understanding in discovering, analyzing, visualizing, and presenting data within the Big Data paradigm. Big data is creating new opportunities for organizations to create a competitive advantage from their most valuable asset : information. Students will gain familiarity with advanced mathematical concepts that produce the business insight sought by major industry players.

COURSE LEARNING OUTCOMES

	Course Learning Outcome	Program Learning Outcomes	Institutional Learning Outcomes	Assessment activities
1	Develop and exhibit applied and theoretical knowledge in the field of Big Data Analytics	PLO 1	ILO 1b, ILO 2b	Homework assignments, quizzes, project assignment, exams
2	Use theoretical knowledge and advanced problem-solving skills to formulate solutions using methods such as clustering, association rules, and more	PLO 2	ILO 1b, ILO 2b, ILO 4b	Homework assignments, quizzes, project assignment, exams
3	Communicate new developments in related technologies such as data visualization	PLO 3	ILO 2b, ILO 7b	Homework assignments, quizzes, project assignment, exams, technical presentations
4	Demonstrate autonomy, creativity, and responsibility for managing professional practices	PLO 4	ILO 4b, ILO 5b, ILO 6b	Class activities, project teamwork, presentations
5	Demonstrate leadership and set strategic objectives for team performance	PLO 5	ILO 4b, ILO 5b	Homework assignments, quizzes, project assignments

INSTRUCTIONAL METHODS:

This is a direct classroom instruction course.
This class offers a highly interactive learning environment. All students will participate in class discussions, research findings, and class exercises. Short oral presentations will be assigned. Assignments will be given weekly and may consist of textbook cases and research questions.

CLASS ATTENDANCE:

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

EXAMS:
Typically, the class will consist of several exams of equal weight as well as homework and quizzes throughout the semester. All exams are individual deliverables. They consist mostly of short answers 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.

COURSE PROJECT:
Project, if assigned, will require secondary research on a technology or industry chosen by the student. A written report, following the APA standard, and including a Turnitin score, will summarize this research. A detailed report requirement along with suggested data analytics issues will be discussed in class

GRADING POLICY

Percentage	Grade
90 – 100%	A
80 – 89%	B
70 – 79%	C
60 – 69%	D
below 60%	F

Weights	
Homework	10%
Quizzes	10%
Midterm Exams (each) (3)	20%
Individual Research Project	20%

TENTATIVE CLASS SCHEDULE:

Week	Topic	Related CLO
1	Course Introduction: What is Big Data analytics	CLO 1
2	Data analytics lifecycle	CLO 1
3	Learning R	CLO 3

4	Advanced methods: Clustering	CLO 3
5	**Exam 1**	
6	Advanced methods: Association rules	CLO 3
7	Advanced methods: Multivariate regression	CLO 3
8	Advanced methods: Classification	CLO 2
9	Advanced methods: Time series analysis	CLO 2
10	**Exam 2**	
11	Advanced analytics: Hadoop	CLO 1
12	Advanced analytics: Map reduce & Hadoop	CLO 5
13	Advanced analytics: Database analytics	CLO 4
14	Putting it all together	CLO 1, 5
15	**Exam 3**	

SCHEDULE OF TESTING:

Week	Test
5	Exam 1
10	Exam 2
15	Exam 3

Syllabus Reviewed: 02/10/2018

Appendix A. Program and Institutional Learning Outcomes.

Institutional Learning Outcomes (ILOs)	
MBA Graduates of Lincoln University should be able to:	
1b	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.
2b	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
3b	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
4b	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.
5b	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.
6b	Continually look for, develop, and offer new or improved services, and be able to use original approaches when dealing with problems in the workplace.
7b	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.

Program Level Outcomes (PLOs)	
Students graduating our MBA program will be able to:	
1	Develop and exhibit applied and theoretical knowledge in the field of management and business administration
2	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
3	Communicate within a highly specialist environment that allows the presentation of critiques of complex strategic matters
4	Demonstrate autonomy, creativity, and responsibility for managing professional practices
5	Demonstrate leadership and set strategic objectives for team performance
6	Identify ethical issues/problems in business organizations and reach decisions within ethical framework

Appendix B. Classification of LU curriculum courses:

Code	Classification	Description
Courses 300 level w/o graduate prerequisites	Mastery 1 (M1)	Mastery 1 courses introduce graduate level concepts and ideas in a specific field of study and provide an opportunity to initiate the development of graduate level competences.
Courses 300 level with graduate prerequisites	**Mastery 2 (M2)**	**Mastery 2 courses build upon students' execution of Mastery 1 learning outcomes and allow for further development of students' mastery of concepts, ideas, and competences in the specific field of study.**
Courses 398, 399	Mastery 2 / Assessment (M2A)	Mastery 2/Assessment courses are structured to provide opportunity to assess students' achievements of set program learning outcomes.