

1. General Information

1a. Submitted by the College of: BUSINESS AND ECONOMICS

Date Submitted: 11/25/2013

1b. Department/Division: B&E Graduate Center

1c. Contact Person

Name: Steven Skinner

Email: steve.skinner@uky.edu

Phone: 257-1543

Responsible Faculty ID (if different from Contact)

Name:

Email:

Phone:

1d. Requested Effective Date: Semester following approval

1e. Should this course be a UK Core Course? No

2. Designation and Description of Proposed Course

2a. Will this course also be offered through Distance Learning?: No

2b. Prefix and Number: EMBA 607

2c. Full Title: Business Intelligence

2d. Transcript Title:

2e. Cross-listing:

2f. Meeting Patterns

LECTURE: 2

2g. Grading System: Graduate School Grade Scale

2h. Number of credit hours: 2

2i. Is this course repeatable for additional credit? No

If Yes: Maximum number of credit hours:

If Yes: Will this course allow multiple registrations during the same semester?

2j. Course Description for Bulletin: This course is an introduction to the field of Business Intelligence (BI), a field that encompasses the use of business performance monitoring, querying/reporting, online analytical processing (OLAP), and business analytics, with particular emphasis on the latter.

2k. Prerequisites, if any: Admission to the EMBA program.

2l. Supplementary Teaching Component:

3. Will this course taught off campus? Yes

If YES, enter the off campus address: Possibly at the University of Louisville

4. Frequency of Course Offering: Fall,

Will the course be offered every year?: Yes

If No, explain:

5. Are facilities and personnel necessary for the proposed new course available?: Yes

If No, explain:

6. What enrollment (per section per semester) may reasonably be expected?: 40

7. Anticipated Student Demand

Will this course serve students primarily within the degree program?: Yes

Will it be of interest to a significant number of students outside the degree pgm?: No

If Yes, explain: [var7InterestExplain]

8. Check the category most applicable to this course: Traditional – Offered in Corresponding Departments at Universities Elsewhere,

If No, explain:

9. Course Relationship to Program(s).

a. Is this course part of a proposed new program?: Yes

If YES, name the proposed new program: Joint Executive MBA Program with the U. of Louisville

b. Will this course be a new requirement for ANY program?: No

If YES, list affected programs:

10. Information to be Placed on Syllabus.

a. Is the course 400G or 500?: No

b. The syllabus, including course description, student learning outcomes, and grading policies (and 400G-/500-level grading differentiation if applicable, from 10.a above) are attached: Yes

Distance Learning Form

Instructor Name:

Instructor Email:

Internet/Web-based: No

Interactive Video: No

Hybrid: No

1.How does this course provide for timely and appropriate interaction between students and faculty and among students? Does the course syllabus conform to University Senate Syllabus Guidelines, specifically the Distance Learning Considerations?

2.How do you ensure that the experience for a DL student is comparable to that of a classroom-based student's experience? Aspects to explore: textbooks, course goals, assessment of student learning outcomes, etc.

3.How is the integrity of student work ensured? Please speak to aspects such as password-protected course portals, proctors for exams at interactive video sites; academic offense policy; etc.

4.Will offering this course via DL result in at least 25% or at least 50% (based on total credit hours required for completion) of a degree program being offered via any form of DL, as defined above?

If yes, which percentage, and which program(s)?

5.How are students taking the course via DL assured of equivalent access to student services, similar to that of a student taking the class in a traditional classroom setting?

6.How do course requirements ensure that students make appropriate use of learning resources?

7.Please explain specifically how access is provided to laboratories, facilities, and equipment appropriate to the course or program.

8.How are students informed of procedures for resolving technical complaints? Does the syllabus list the entities available to offer technical help with the delivery and/or receipt of the course, such as the Information Technology Customer Service Center (<http://www.uky.edu/UKIT/>)?

9.Will the course be delivered via services available through the Distance Learning Program (DLP) and the Academic Technology Group (ATL)? NO

If no, explain how student enrolled in DL courses are able to use the technology employed, as well as how students will be provided with assistance in using said technology.

10.Does the syllabus contain all the required components? NO

11.I, the instructor of record, have read and understood all of the university-level statements regarding DL.

Instructor Name:

SIGNATURE|ZNNIKO0|Roshan N Nikou|EMBA 607 NEW Graduate Council Review|20140107

SIGNATURE|MKT210|Steven J Skinner|EMBA 607 NEW College Review|20131125

EMBA 607 BUSINESS INTELLIGENCE

Professor:

Office:

Office Hours:

Phone:

E-mail:

Course Description

This course is an introduction to the field of Business Intelligence (BI), a field that encompasses the use of business performance monitoring, querying/reporting, online analytical processing (OLAP), and business analytics, with particular emphasis on the latter.

The Business Analytics (BA) element in BI is concerned with fact-based decision making and involves extensive reliance on factual data and the analysis of the data using explanatory modeling and analysis techniques, predictive modeling and analysis techniques, and optimization modeling and analysis techniques, all with a view to making better-informed/more-scientific decisions than possible through relying solely on custom, convention, intuition, hunch/gut-feel, mis-information and the like or some combination thereof. Stated simply, BA is concerned with descriptive, predictive, and prescriptive analysis of business data. A powerful tool for descriptive and predictive analysis is Data Mining (DM) which is a key element of the Business Analytics tool set. Data Mining is concerned with tools and techniques to help a data/business analyst numerically and visually explore relevant data, classify data, predict outcomes, and to identify associations, patterns, and exceptional events. Lastly, the field of management science/operations research (MS/OR) provides capable tools for prescriptive modeling and analysis to determine the best course of action given a decision maker's understanding of the past, the present, and the future. As with data mining, MS/OR is another crucial member of the Business Analytics tool set.

Learning Outcomes

At the end of the course, students should be able to

- Describe the broad field of Business Intelligence (BI) and the interrelationships between Business Analytics (BA) and BI.
- Recognize that Business Analytics is comprised of Descriptive Analytics ("explanatory" modeling/analysis), Predictive Analytics ("predictive" modeling/analysis), and Prescriptive Analytics ("optimization" modeling/analysis).
- Distinguish between these three kinds of Analytics.
- Appreciate the importance of data pre-processing steps including data cleaning, data transformation, data reduction, and data partitioning for successful Analytics.

- Comprehend how to apply useful Descriptive Analytics techniques to example data to draw inferences about and gain insights into the data.
- Appreciate how Data Mining is a powerful Predictive Analytics tool for tasks such as forecasting, classification, association, pattern recognition, and anomaly detection.
- Apply Data Mining techniques to example data for predictive tasks involving forecasting, classification, and association.
- Comprehend how Data Mining differs from, and has overlaps with, traditional statistical analysis and information retrieval/querying using data base technologies.
- Explain how to set up and execute Prescriptive Analytics models such as Linear Programming, Integer Programming, Non-linear Programming, & Simulation models to arrive at optimal decisions for particular descriptive or predictive scenarios.
- Understand how to evaluate and choose between multiple decision models for a given decision task using tools such as confusion matrices, error matrices, cumulative lift charts, decile-wise lift charts, ROC charts, etc.

Course Reference Textbooks

1. Business Intelligence, Rajiv Sabherwal & Irma Becerra-Fernandez (2011), John Wiley & Sons.
2. Business Analytics for Managers: Taking Business Intelligence Beyond Reporting, Gert H. N. Laursen & Jesper Thorlund (2010), John Wiley & Sons
3. Data Mining for Business Intelligence: Concepts, Techniques, and Applications in Microsoft Office Excel with XLMiner, 2nd Edition, Galit Shmueli, Nitin R. Patel & Peter C. Bruce (2010), John Wiley & Sons.
4. Management Science: The Art of Modeling with Spreadsheets, 4th Edition, Stephen G. Powell & Kenneth R. Baker (2013), John Wiley & Sons

Software

We will use appropriate versions of the following software in this class on an as-needed basis – MS Excel, Tableau 7.0, Tibco Spotfire, XLMiner, and others (TBD).

Recommended Additional Readings

We may draw upon other references (both books and articles) on an as-needed basis. A student is responsible for all such content.

Student Evaluation Criteria

In-class and Take-home Assignments:	70 points	Periodic; TBA
In-class/Take-home Quizzes/Exams:	30 points	Periodic; TBA

Course Grading Scheme

The default grading scheme is:

A = [90% - 100%]; B = [80% - 90%); C = [70% - 80%); E = [00% - 70%)

Tentative Course Schedule:

Week	Date	Topics Covered	Text Reference
		Introduction to Business Intelligence & Course Preliminaries	Ch.1 & 2 Sabherwal & Becerra-Fernandez
		Technologies Enabling Business Intelligence	Ch.3, 4, 5, & 6 Sabherwal & Becerra-Fernandez
		The Business Analytics Model & Business Analytics at the Strategic Level	Ch 1 & 2 Laursen & Thorlund
		Introduction to/Overview of Data Mining; Dimension Reduction and Data Visualization	Ch.1, 2, & 4 Shmueli, Patel, & Bruce
		Evaluating Classification and Predictive Performance	Ch.5 Shmueli, Patel, & Bruce
		Linear and Logistic Regression; Classification & Regression Trees	Ch.6, 9, 10 Shmueli, Patel, & Bruce
		Cluster Analysis; Handling Time Series Data	CH.14, 15 Shmueli, Patel, & Bruce
		Non-Linear Optimization; Linear Optimization; Network Models; Integer Optimization	Ch 8, 9, 10, 11 Powell & Baker
		Simulation & Simulation Optimization	Ch, 14, 15 Powell & Baker
		Structuring a Business Intelligence Competency Center	Ch. 7 Laursen & Thorlund
		Management and Future of Business Intelligence	Ch.7, 8, 9, Ch.10 Sabherwal & Becerra-Fernandez

[Note:- Dates for assignment submission, exams, project progress reports, and final project reports, will be determined prior to the Fall 2014 term. Students will be given sufficient notice in each case.]

Course Policies**Submission of Assignments**

Explicit instructions will be given when each assignment is handed out.

Attendance Policy

Given the nature of this program, it is hard to imagine that anyone would ever miss class except for a very good reason.

Makeup Policy

Makeup quizzes and exams will only be given if there is an excused absence. If it is possible, you must notify me before the quiz/exam date.

Excused Absences

Students need to notify the professor of absences prior to class when possible. S.R. 5.2.4.2 defines the following as acceptable reasons for excused absences: (a) serious illness, (b) illness or death of family member, (c) University-related trips, (d) major religious holidays, and (e) other circumstances found to fit “reasonable cause for nonattendance” by the professor.

Students anticipating an absence for a major religious holiday are responsible for notifying the instructor in writing of anticipated absences due to their observance of such holidays no later than the last day in the semester to add a class. Information regarding dates of major religious holidays may be obtained through the religious liaison, Mr. Jake Karnes (859-257-2754).

Students are expected to withdraw from the class if more than 20% of the classes scheduled for the semester are missed (excused or unexcused) per university policy.

Verification of Absences

Students may be asked to verify their absences in order for them to be considered excused. Senate Rule 5.2.4.2 states that faculty have the right to request “appropriate verification” when students claim an excused absence because of illness or death in the family. Appropriate notification of absences due to university-related trips is required prior to the absence.

Academic Integrity

Per university policy, students shall not plagiarize, cheat, or falsify or misuse academic records. Students are expected to adhere to University policy on cheating and plagiarism in all courses. The minimum penalty for a first offense is a zero on the assignment on which the offense occurred. If the offense is considered severe or the student has other academic offenses on their record, more serious penalties, up to suspension from the university may be imposed.

Plagiarism and cheating are serious breaches of academic conduct. Each student is advised to become familiar with the various forms of academic dishonesty as explained in the Code of Student Rights and Responsibilities. Complete information can be found at the following website: <http://www.uky.edu/Ombud>. A plea of ignorance is not acceptable as a defense against the charge of academic dishonesty. It is important that you review this information as all ideas borrowed from others need to be properly credited.

Part II of *Student Rights and Responsibilities* (available online <http://www.uky.edu/StudentAffairs/Code/part2.html>) states that all academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression. In cases where students feel unsure about the question of plagiarism involving their own work, they are obliged to consult their instructors on the matter before submission.

When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording or anything else from another source without appropriate acknowledgement of the fact, the students are guilty of plagiarism. Plagiarism includes reproducing someone else’s work, whether it be a published article, chapter of a book, a paper from a friend or some file, or something similar to this. Plagiarism also includes the practice of

employing or allowing another person to alter or revise the work which a student submits as his/her own, whoever that other person may be.

Students may discuss assignments among themselves or with an instructor or tutor, but when the actual work is done, it must be done by the student, and the student alone. When a student's assignment involves research in outside sources of information, the student must carefully acknowledge exactly what, where and how he/she employed them. If the words of someone else are used, the student must put quotation marks around the passage in question and add an appropriate indication of its origin. Making simple changes while leaving the organization, content and phraseology intact is plagiaristic. However, nothing in these Rules shall apply to those ideas which are so generally and freely circulated as to be a part of the public domain (Section 6.3.1).

Please note: Any assignment you turn in may be submitted to an electronic database to check for plagiarism.

Accommodations Due to Disability

If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (Room 2, Alumni Gym, 257-2754, email address: jkarnes@email.uky.edu) for coordination of campus disability services available to students with disabilities.