

# 2012-2013 LONG SIGNATURE SHEET



UNC CHARLOTTE

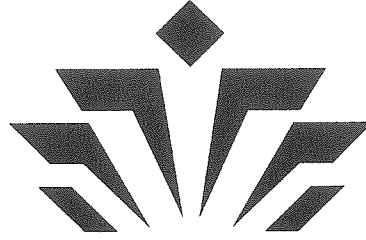
Proposal Number: MBA 10-24-12

Proposal Title: Establishment of a New MBA course "Advanced Business Analytics"

Originating Department: MBA Program Committee

TYPE OF PROPOSAL: UNDERGRADUATE \_\_\_\_\_ GRADUATE X UNDERGRADUATE & GRADUATE \_\_\_\_\_  
 (Separate proposals sent to UCCC and Grad. Council)

DATE RECEIVED	DATE CONSIDERED	DATE FORWARDED	ACTION	SIGNATURES
10-24-2012	10-24-2012	10-25-2012	Approved	<u>DEPARTMENT CHAIR</u>  [print name here:] CEM SAYDAM
12/7/2012	2/1/2013	2/1/2013	Approved	<u>COLLEGE CURRICULUM COMMITTEE CHAIR</u>  [print name here:] Steven P. Clark
			Approved	<u>COLLEGE FACULTY CHAIR (if applicable)</u>  [print name here:] Rob Roy McGregor
			Approved	<u>COLLEGE DEAN</u>  [print name here:]
			Approved	<u>GENERAL EDUCATION</u> (if applicable; for General Education courses)  [print name here:]
			Approved	<u>UNDERGRADUATE COURSE &amp; CURRICULUM COMMITTEE CHAIR</u> (for undergraduate courses only)
3/25/13	4/2/13	4/5/13	Approved	<u>GRADUATE COUNCIL CHAIR</u> (for graduate courses only) 
				<u>FACULTY GOVERNANCE ASSISTANT</u> (Faculty Council approval on Consent Calendar)
				<u>FACULTY EXECUTIVE COMMITTEE</u> (if decision is appealed)



# UNC CHARLOTTE

## LONG FORM COURSE AND CURRICULUM PROPOSAL

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To: Belk College Graduate Council

From: MBA Program Committee

Date: January 31, 2013

Re: Establishment of a new MBA course "Advanced Business Analytics"

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Proposal Number: MBAD 11-1-12

Proposal Title: Establishment of a new MBA course "Advanced Business Analytics"

Originating Department: MBA Program Committee

TYPE OF PROPOSAL: UNDERGRADUATE \_\_\_\_\_ GRADUATE X \_\_\_\_\_ UNDERGRADUATE &  
GRADUATE \_\_\_\_\_

UNIVERSITY OF NORTH CAROLINA AT CHARLOTTE

NEW GRADUATE COURSE PROPOSAL FROM THE MBA PROGRAM COMMITTEE  
OF THE BELK COLLEGE OF BUSINESS

**TITLE: Advanced Business Analytics**

**A. Proposal Summary**

1. SUMMARY

The Department of Business Information Systems and Operations Management proposes to add a new graduate course, MBAD 6211, to be used in the MBA program and other graduate programs and certificates offered by the Belk College of Business and the College of Computing and Informatics.

**B. Justification**

1. Identify the need addressed by the proposal and explain how the proposed action meets the need.

The teaching mission of the Belk College of Business is to “educate our students to become leaders who are critical thinkers, ethically informed, and globally aware”. This course supports all three dimensions of that mission. Today’s enterprise is operating in the “era of information” and its management is being exposed to an increasing formidable task of analyzing huge amounts of time-critical information. To be effective in global competition, business managers need to be able to use analytics techniques to translate information into decisions and anticipate market trends. The proposed course will help students gain required skills to succeed in today’s highly analytical and data-driven economy. They will also better understand social, legal, and ethical aspects of big data management and business analytics.

2. Discuss prerequisites/corequisites for course(s) including class-standing, admission to the major, GPA, or other factors that would affect a student’s ability to register.

Pre-requisite: MBAD 6201 or ITCS 6162 or consent of the department administered by the MBA Director given the advance nature of the subject and the degree of difficulty of readings.

3. Demonstrate that course numbering is consistent with the level of academic advancement of students for whom it is intended.

The course number will be MBAD 6211. This number positions the course as a graduate level course and the 6000 number is consistent with past practice in the MBA program.

4. In general, how will this proposal improve the scope, quality and/or efficiency of programs and/or instruction?

The proposed course is a follow-up of the existing MBA course: Business Intelligence and Analytics (MBAD 6201). It will fill the needs for an advanced skills course for the MBA Business Analytics concentration and will also serve as an elective for MBA students in other concentrations.

The addition of an advanced business analytics course at the graduate level will allow the department and the college to better fulfill our mission and values by providing students with more options.

This course can also be used as an elective for the proposed Professional Science Masters in data science and business analytics program and certificates. Offering this course will help us develop curriculum for that new degree program or certificates.

The course has not been offered previously.

### **C. Impact**

1. What group(s) of students will be served by this proposal? (Undergraduate and/or graduate; majors and/or non-majors, others? Explain). Describe how you determine which students will be served.

The proposed course will initially serve primarily the students enrolled in the MBA Business Analytics concentration. It is anticipated that, as the Belk College of Business and College of Computing and Informatics jointly develop a new Professional Science Masters in data science and business analytics program and a graduate certificate in business analytics and data science or related area this course will serve those as well.

2. What effect will this proposal have on existing courses and curricula?

- a. When and how often will added course(s) be taught?

This course will be offered in the Spring semesters and on demand.

- b. How will the content and/or frequency of offering of other courses be affected?

This elective course has been carefully constructed to complement existing graduate courses in the Belk College. The majority of the course content does not overlap with any other business analytics or non-business-analytics course in the MBA program. There will be minimal impact on the frequency of other offerings and enrollment in other courses.

- c. What is the anticipated enrollment in course(s) added (for credit and auditors)?

Anticipated enrollment: 20 students per offering.

- d. How will enrollment in other courses be affected? How did you determine this?

We anticipate that course enrollment in MBAD 6201 will increase (i.e., Fall 2012 enrollment is 28 MBA students), since the proposed course acts as a follow up course. To the extent that the proposed course is used as an elective by MBA students, enrollment in other electives available to MBA students will be minimally impacted.

- e. Identify other areas of catalog copy that would be affected, including within other departments and colleges (e.g., curriculum outlines, requirements for the degree, prerequisites, articulation agreements, etc.)

MBAD 6211 will be listed in the catalog as an elective course in the MBA Business Analytics concentration and in other MBA concentrations.

#### **D. Resource Required to Support Proposal**

##### 1. Personnel

- a. No new faculty will be required. The existing faculty members are qualified and interested in teaching this course.
- a. Qualified faculty members interested in teaching the course include Dr. Monica Johar, Dr. Kexin Zhao, Dr. Chandrasekar Subramaniam, Dr. Antonis Stylianou, Dr. Ram Kumar.

##### 2. Physical Facility

No unusual requirement is anticipated. Master classrooms will be suitable for these courses.

##### 3. Equipment and Supplies

No new equipment or supplies will be required.

##### 4. Computers

Students will make use of existing University facilities.

5. Audio-Visual

No new resources will be required.

6. Other Resources

None.

7. Source of funding

No new funding will be required.

**E. Consultation with the Library and Other Departments or Units**

1. Library Consultation

a. Written consultation with Library Reference Personnel was initiated on 9/19/2012.  
Library consultation was received 9/27/2012 and is attached.

b. Reference Librarian's evaluation of adequacy of holdings:

Evaluator: Nicole Spoor Date: 9/26/2012

Check one of:

- (1) Holdings are superior \_\_\_\_\_
- (2) Holdings are adequate X
- (3) Holdings are adequate only if department purchases additional materials \_\_\_\_\_
- (4) Holdings are inadequate \_\_\_\_\_

2. Consultation with other departments or units

None needed.

**F. Initiation and Consideration of the Proposal**

1. Originating Unit

The MBA Program committee approved the proposal unanimously on January 31, 2013.

2. The Belk College Graduate Committee approved the proposal on \_\_\_\_\_.

3. The College of Business Administration Faculty approved the proposal on \_\_\_\_\_.

## **G. Attachments**

1. Library Consultation (attached)
2. Course Syllabus (attached)
3. Proposed Catalog Copy (attached)
4. Academic plan of study (no change to existing Plan of Study)
5. Student learning outcomes (attached)
6. Textbook costs (to be determined)



**Consultation on Library Holdings**

**To:** Dr. Chandrasekar Subramaniam  
**From:** Nicole Spoor  
**Date:** September 26, 2012  
**Subject:** Course Proposal: MBAD XXXX, Advanced Business Analytics

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**Summary of Librarian's Evaluation of Holdings:**

**Evaluator:** Nicole Spoor, Business Librarian      **Date:** September 26, 2012

**Please Check One:**

- 1. Holdings are superior
- 2. Holdings are adequate
- 3. Holdings are adequate only if dept. purchases additional items
- 4. Holdings are inadequate

**Comments:**

After a thorough evaluation of Atkins Library resources with regards to journals, databases and circulating books that are relevant to the proposed course, MBAD XXXX, Advanced Business Analytics, it is found that the library's resources are sufficient to support this new course.

The following table shows the print source holdings that are relevant to Business Analytics. After performing multiple searches of the catalog, it is found that there are adequate resources related to Business Analytics. Individual books not owned by the library may be requested through the library's interlibrary loan service.

Catalog Searches Performed	Total Results	Results Less Than 5 Years Old
Analytics	156	66
Business AND Analytics	43	24
Business AND Modeling	191	67
Business AND Segmentation	68	19
Business AND Forecasting	639	51
Data Mining	631	107
Text Mining	16	5



The following is a list of selected databases that may be relevant to Business Analytics to which Atkins Library provides access:

Business Source Complete  
EconLit  
IEEE Xplore  
JSTOR  
Lexis Nexis Academic  
Mergent Online  
ScienceDirect

Atkins Library also has access to several journal titles that may be relevant to Business Analytics. Journals not owned by the library may be requested through the library's interlibrary loan service.

*Business Intelligence Journal*  
*Computer Weekly*  
*CRM Magazine*  
*Decision Sciences*  
*Financial Management*  
*Journal of Business Forecasting*  
*Journal of Methods & Systems*  
*Journal of Business Research*  
*Management Sciences*

Conclusion: Due to the non-research intensive nature of the proposed course, the holdings of Atkins Library with regards to print resources, databases and journals are sufficient to support MBAD XXXX: Advanced Business Analytics. It is suggested that the participating academic department continue ordering new resources as they are published.

**Evaluator's Signature:** *J. Nicole Spoor*

**Date:** September 26, 2012

## Syllabus for New/Revised Graduate Courses

### MBAD 6211: Advanced Business Analytics

UNC Charlotte

#### Department of Business Information Systems and Operations Management

1. Course Number and Title

MBAD 6211: Advanced Business Analytics

2. Course Description

MBAD 6211 Advanced Business Analytics (3). Pre-requisite: MBAD 6201 or ITCS 6162 or consent of the department. An in-depth study of applications of data analytics techniques to discover non-trivial relationships that are understandable, useful, and actionable to decision makers. A case approach will be used to emphasize hands-on learning and real-world deployment of business analytics. (Spring, On Demand).

3. Pre- or Co-requisites

Pre-requisite: MBAD 6201 or ITCS 6162 or consent of the department.

4. Objectives of the Course

This course aims at business managers, information professionals, data analysts, as well as general audience who are interested in applying data analytics techniques to discover non-trivial relationships and to summarize data in novel ways that are understandable, useful, and executable to business owners.

This course will examine principles, ideas, and data analytics tools underlying the current practice of data mining. Specifically, students will understand basics of predictive modeling, design of experiments, segmentation, forecasting, and text mining. By understanding business analytics as the practical and non-highly-mathematical level, students will be able to translate information into decisions and convert information about past performance into reliable forecasts.

This course will develop understanding of practical applicability of analytics methods in a variety of business scenarios. This course will not just describe/explain the end results, but also discuss *the process of formulating/refining business objectives, data selection, data preparation, model selection and evaluation* that lead to the results. The students will learn how to formulate analytic tasks in support of business objectives, how to define successful projects, and how to evaluate utility of existing and potential applications of discussed technologies in practice.

5. Instructional Method

This course will take a case approach, complemented by lectures, seminar style discussion, outside speakers, and lab work. This course will use statistical software SAS for hands-on experimentation with various analytics techniques.

6. Means of student evaluation

The students will be evaluated through projects and exams.

- a. Two exams equals 20% each, two assignments equals 15% each, and a group project equals 30%, for a total 100% of grade.

7. Specify policies that apply to this course:

- a. University integrity

Students have the responsibility to know and observe the requirements of The UNC Charlotte Code of Student Academic Integrity. Please see: <http://integrity.uncc.edu/>. This code forbids cheating (sharing work/answers), fabrication or falsification of information, multiple submissions of the same academic work, plagiarism, abuse of academic materials, and complicity in academic dishonesty. Students who violate the code can be expelled from UNC Charlotte. The normal penalty for a first offense is zero credit on the work involving dishonesty and further substantial reduction of the course grade. In almost all cases the course grade is reduced to U. Standards of integrity will be enforced in this course. Students are expected to report cases of academic dishonesty to the instructor.

- b. Attendance

Students are required to know the content from all class discussions and reading assignments. Much of the learning in this course will occur in class as participants learn how to use business analytics techniques. Thus, attendance is expected for all class sessions. If students find themselves unable to attend class, they are responsible for getting notes on the missed material. Classes are value-added in nature compared to the reading assignments. Just reading the posted articles and Power Points will not be sufficient to do well in the course.

- c. Grading policy

Grades will be calculated on an A (90% and above), B (80-89.9%), C (70-79.9%), Unsatisfactory (less than 70%) scale.

8. Probable textbooks or resources

- a. *Applied Analytics using SAS Enterprise Miner 6.1 Course Notes (2012)*, SAS Institute, ISBN: 978-1-60764-593-1
- b. *Advanced Predictive Modeling Using SAS Enterprise Miner 6.1 Course Notes (2012)*, SAS Institute
- c. *Text Analytics with SAS Text Miner Course Notes (2012)*, SAS Institute, ISBN: 978-1-60764-601-3
- d. Some supplementary course notes and articles provided by the instructor

9. Topic outline of course content (for class meeting once a week):

Week	Topic	Reading
Week 1	Managing big data	Article Reading  Applied Analytics using SAS Enterprise Miner 6.1 Course Notes (Ch 1)
Week 2	Basics of data mining	Applied Analytics using SAS Enterprise Miner 6.1 Course Notes Ch 2)
Week 3	Rapid predictive modeler	Applied Analytics using SAS Enterprise Miner 6.1 Course Notes (Ch 3)
Week 4	Predictive modeling	Applied Analytics using SAS Enterprise Miner 6.1 Course Notes (Ch 4)
Week 5	Predictive modeling	Applied Analytics using SAS Enterprise Miner 6.1 Course Notes (Ch 4)
Week 6	Experiment Design	Applied Analytics using SAS Enterprise Miner 6.1 Course Notes (Ch 5)
Week 7	Midterm Exam	--
Week 8	Segmentation: cluster segmentation	Applied Analytics using SAS Enterprise Miner 6.1 Course Notes (Ch 6)
Week 9	Segmentation: market basket analysis	Applied Analytics using SAS Enterprise Miner 6.1 Course Notes (Ch 6)
Week 10	Introduction to forecasting	Applied Analytics using SAS Enterprise Miner 6.1 Course Notes (Ch 7)
Week 11	Forecasting	Applied Analytics using SAS Enterprise Miner 6.1 Course Notes (Ch 7)
Week 12	Two-stage model	Advanced Predictive Modeling Using SAS Enterprise Miner 6.1 Course Notes
Week 13	Business analytics: ethics and legislation	Article Reading

Week 14	Final Exam	--
Week 15	Group Project Presentation	--

### Proposed Catalog Copy

MBAD 6211 Advanced Business Analytics (3). Pre-requisite: MBAD 6201 or ITCS 6162 or consent of the department. An in-depth study of applications of data analytics techniques to discover non-trivial relationships that are understandable, useful, and actionable to decision makers. A case approach will be used to emphasize hands-on learning and real-world deployment of business analytics. (Spring, On Demand).

For a new course or revisions to an existing course, check all the statements that apply:

- This course will be cross listed with another course.
- There are prerequisites for this course.
- There are corequisites for this course.
- This course is repeatable for credit.
- This course will increase/decrease the number of credits hours currently offered by its program.
- This proposal results in the deletion of an existing course(s) from the degree program and/or catalog.

## **Student Learning Outcomes for the MBA course “Advanced Business Analytics”**

The learning outcomes for the “Advanced Business Analytics” course are as follows:

1. Students will demonstrate knowledge of principles of business analytics.
2. Students will demonstrate knowledge of formulating analytic problems and tasks.
3. Students will demonstrate knowledge of the use of key business analytics tools.
4. Students will demonstrate the ability to recognize the ethical issues in business analytics.



UNC CHARLOTTE  
BELK COLLEGE *of* BUSINESS

Department of Business Information Systems and Operations Management

9201 University City Blvd, Charlotte, NC 28223-0001  
P: 704.687.7713 F: 704.687.6530 www.belkcollege.uncc.edu

To: Steven Clark, Chair of BCGC  
From: Dr. Cem Saydam, Chair  
Date: January 31, 2013  
Subject: MBAD 6211 Advanced Business Analytics

The Business Information Systems and Operations Management Department has reviewed and approved MBAD 6211 Advanced Business Analytics on November 16, 2012.

Cem  
Saydam

Digitally signed by Cem Saydam  
DN: cn=Cem Saydam, o, ou,  
email=saydam@uncc.edu, c=US  
Date: 2013.01.31 15:30:56 -05'00'