To: Joan Lorden, Provost

From: Steve Ott, Dean, Belk College

RE: Business Analytics program

Date: March 6, 2015

As we discussed in our meeting on Wednesday, the Belk College does wish to modify the proposed business analytics program. Instead of creating a new major, we would like to create a concentration in Business Analytics under the current BSBA in Business Administration degree. As you noted, that degree program has been inactive so there are no current students affected by this change.

I have attached a new version of the catalog copy reflecting this change. The new concentration will be the **BSBA in Business Administration with a concentration in Business Analytics**.

Thank you for your help with this. Please let me know if there is anything else that we need to do to finish the approval process.

APPENDIX C

Proposed Catalog Copy

The Business Administration major with a concentration in Business Analytics prepares graduates for jobs in quantitative fields in business and for graduate education in Data Science and Business Analytics, Mathematical Finance, and Economics. The focus of the concentration is on providing a sound grounding and understanding in quantitative analysis to prepare exceptions undergraduate students for master's degrees. The second semester of the senior year will be designated for graduate coursework for early entry into the Professional Science Masters in Data Science and Business Analytics, Master of Science in Mathematical Finance, or Master of Science in Economics programs.

Bachelor of Science in Business Administration: Business Administration Major with a Concentration in Business Analytics

Admission to the Business Analytics concentration is competitive. To be accepted into the Business Administration major with a concentration in Business Analytics, students must have an overall GPA of 2.5 in all University courses and completed the following Progressions courses with a minimum 3.2 GPA (with no more than 2 C's): ACCT 2121, ACCT 2122, BUSN 1101, ECON 2101, ECON 2102, STAT 1220. Students must also have completed the following math and programming core courses with a minimum 3.2 GPA (with no more than 1 C): MATH 1241, MATH 1242, ITCS 2116. Students should seek admission to the Business Administration major with a concentration in Business Analytics as freshman to ensure appropriate advising and support.

This major requires a minimum of 120 semester hours. Students must complete the General Education Requirements of the University and the Progressions, Core, and Major Requirements of the Belk College of Business.

Degree Requirements

The following courses are required for a B.S.B.A. degree in Business Administration with a concentration in Business Analytics. Students may attempt each of these courses two times.

Business Core Courses (15 hours)

BLAW 3150 Business Law I (3)
COMM 3160 Business Communications (3)
MGMT 3140 Management in Organizational Behavior (3)
MKTG 3110 Marketing Concepts (3)
OPER 3100 Operations Management (3)

Major and Concentration Courses (23 hours)

ECON 3112 Econometrics (3)
INFO 3236 Business Analytics (3)
BUSA 3090 Topics in Business Analytics (2)
BUSA 3120 Financial Management with a Quantitative Focus (3)
BUSA 3122 Investments with a Quantitative Focus (3)
BUSA 3124 Intermediate Microeconomic and Macroeconomic Theory (3)
BUSA 3233 Data and Information Management (3)
BUSA 3288 Competitive Advantage with Marketing Analytics (3)

Students are expected to earn 30 hours by the end of their Freshman year and 60 hours by the end of their Sophomore year. Latitude for the hours earned minimum requirement may be given for students who study abroad, hold an internship, etc. Students are also expected to maintain a GPA of 3.2 or higher for the duration of the degree program, as this is the required GPA for graduate studies. Students failing to meet the minimum GPA and/or hours earned requirements may be subject to dismissal from the major.

When a student repeats a course, both the old and the new grades are included in the major and overall GPA. Courses repeated under the Grade Replacement Policy are excluded from the major and overall GPA computation. However, this repeated course does count as an attempt. Students must also meet the Belk College of Business residency requirements.

Suggested Curriculum

For a suggested curriculum for this degree to map out a path toward completing the major, please see the Academic Plan of Study.

Students majoring in Business Administration with a concentration in Business Analytics have two options for accelerated entry into the Professional Science Masters in Data Science and Business Analytics, Master of Science in Economics, or Master of Science in Mathematical Finance graduate programs. Through the accelerated track, high school seniors and undergraduate UNC Charlotte freshman are encouraged to apply for admission to one of these three graduate programs and begin work toward a graduate degree before completion of the undergraduate degree. Students beyond their first year may apply for early entry into one of these graduate programs after completion of 75 or more hours of undergraduate coursework and begin work toward a graduate degree before completion of their undergraduate degree. Details for both options are below.

Students who do not meet the Accelerated or Early Entry graduate program requirements are able to apply to graduate programs upon graduation following the Graduate School's admission requirements.

Students who choose not to pursue an Accelerated or Early Entry graduate degree must enroll in a minimum of 12 credit hours to satisfy the major requirement of 120 semester hours. Several

course options to round out the major in Business Administration with a concentration in business analytics include:

- OPER 3203 *Decision Modeling and Analysis*
- OPER 3208 *Supply Chain Management*
- ECON 4112 *Econometrics II*
- ECON 4117 *Business and Economic Forecasting*

Accelerated Track to Professional Science Masters in Data Science and Business Analytics, Master of Science in Mathematical Finance, or Master of Science in Economics Programs

Students may be accepted into the Accelerated Program as high school seniors and undergraduate UNC Charlotte freshman. Admissions requirements include:

- Minimum high school GPA ≥ 3.75 (unweighted on a 4.0 scale)
- Minimum score of 1900 on SAT
- Online application for graduate admission
- Statement of Purpose for pursuing the Accelerated Master's Degree
- Three recommendations provided by a high school teacher and from a UNC Charlotte faculty member who taught the applicant in the fall semester of the freshman year

Students must maintain a strong academic record at both the undergraduate and graduate levels with a cumulative GPA ≥ 3.0. Students accepted into the Accelerated master's program are subject to the same policies that pertain to other matriculated graduate students.

Early Entry Program to Professional Science Masters in Data Science and Business Analytics, Master of Science in Mathematical Finance, or Master of Science in Economics Programs

Students may be accepted into the Early Entry Program at any time after completion of 75 semester hours of undergraduate work applicable to the major in Business Administration with a concentration in Business Analytics. Admission must be approved by the Program Director, and admission is conditional pending the awarding of the undergraduate degree.

In order to be accepted into the Professional Science Masters in Data Science and Business Analytics, Master of Science in Mathematical Finance, or Master of Science in Economics graduate programs, undergraduate students must have at least a 3.2 overall GPA and a 3.2 GPA in the major. Additionally, applicants must have taken the appropriate graduate standardized test and received acceptable test scores.

Students accepted into the Early Entry Program are subject to the same policies that pertain to other matriculated graduate students. Early Entry students must finish their undergraduate degree before they complete 15 hours of graduate work.

Courses in Business Analytics (BUSA)

BUSA 2130. Business Computing. (3) Prerequisite: ITCS 2116 with a grade C or better or permission of department. Application of spreadsheet software to solve business problems. An introduction to basic and advanced Excel functionalities. Fundamental programming methods for Excel VBA to automate tasks to improve productivity. (*Fall*)

BUSA 3090. Topics in Business Analytics. (2) Prerequisite: permission of advisor. Exploration of topics from areas of business analytics. Specific topics covered will serve as the tool for exploring specialized graduate programs and examining career options. (*Fall*)

BUSA 3120. Financial Management with a Quantitative Focus. (3) Prerequisites: MATH 1242, STAT 1220, ACCT 2121, 2122, ECON 2101, 2102, ITCS 2116 with grades of C or better; Business major; and Junior standing or permission of department. Principles and problems of financial aspects of managing capital structure, least-cost asset management, planning and control. Computer application is included where appropriate, and student will be expected to use calculus and statistics. (*Spring*)

BUSA 3122. Investments with a Quantitative Focus. (3) Prerequisite: BUSA 3120 with a grade of C or better or permission of department. Major topics are security analysis and portfolio management. The viewpoint is that of the investment professionals who are concerned with the evaluation of individual securities and management of security portfolios. Students will be expected to use calculus and statistics. (*Fall*)

BUSA 3124. Intermediate Microeconomic and Macroeconomic Theory. (3) Prerequisites: ECON 2101, ECON 2102, and MATH 1242 with grades of C or better or permission of department. Microeconomic analysis with emphasis on consumer theory and the theory of production. Resource allocation and the determination of optimum output and pricing by a firm operating under various market structures. Distribution and welfare theories. Macroeconomic analysis of the level and growth of national income, production, unemployment, the balance of trade, interest rates, and price levels. Fiscal and monetary policies are considered. (*Spring*)

BUSA 3233. Data and Information Management. (3) Prerequisites: ITCS 2116 and BUSA 2130 with grades of C or better; and Junior standing or permission of department. A study of the design and implementation of databases and enterprise data warehouses for business applications. Exploration of basic concepts of database and data warehouse design, the use of SQL to create and manipulate corporate databases, and the exploration of warehouse management software. (*Fall*)

BUSA 3288. Competitive Advantage with Marketing Analytics. (3) Prerequisites: MKTG 3110 with a grade of C or better or permission of department. An introduction to the use of Big Data marketing analytics as a strategic resource. A focus is placed on integrating marketing analytics tools, including social media analytics and mobile analytics, with an understanding of how companies leverage Big Data to gain strategic advantage. Particular emphasis on the analysis and use of Big Data for competitive advantage, the creation of new value, product and business model innovation, micro segmentation, pricing, and promotion decisions. (*Fall*)

From:	Zenk, Leslie
To:	Wyse, Matt
Subject:	FW: Business Analytics memo and catalog copy
Date:	Thursday, March 12, 2015 10:25:10 AM

FYI, please file.

- Leslie

Leslie R. Zenk, Ph.D. | Assistant Provost
Associate Graduate Faculty | Department of Educational Leadership
UNC Charlotte **|** Office of Academic Affairs
9201 University City Blvd. **|** Charlotte, NC 28223
Phone: 704-687-5766 **|** Fax: 704-687-1457
Office Location: 527 Reese
lzenk@uncc.edu **|** http://provost.uncc.edu

From: Harris, Kim
Sent: Thursday, March 12, 2015 10:16 AM
To: Zenk, Leslie
Subject: RE: Business Analytics memo and catalog copy

Hi Leslie:

That would be fine. I don't see the need to put through another curriculum proposal for this.

Kim

Mary Kim Harris
Undergraduate Coordinator
Department of Mathematics and Statistics
University of North Carolina Charlotte
Charlotte, NC 28223

From: Zenk, Leslie
Sent: Wednesday, March 11, 2015 4:26 PM
To: Harris, Kim
Cc: Wyse, Matt
Subject: FW: Business Analytics memo and catalog copy

Kim –

The College of Business would like to change the proposal here: http://facultygovernance.uncc.edu/approval-memos/business-analytics-bsba-business-administration to the one attached. This changes it from a new major to a concentration in an existing major. Please let us know ASAP if you are okay with this change, and Matt will replace the

item on Consent Calendar with this new version.

If you could respond yet this week, that would be great. The college is anxious to advertise this new concentration.

Thanks,

- Leslie

Leslie R. Zenk, Ph.D. | Assistant Provost
Associate Graduate Faculty | Department of Educational Leadership
UNC Charlotte **|** Office of Academic Affairs
9201 University City Blvd. **|** Charlotte, NC 28223
Phone: 704-687-5766 **|** Fax: 704-687-1457
Office Location: 527 Reese
lzenk@uncc.edu **|** http://provost.uncc.edu

From: Ott, Steve
Sent: Friday, March 06, 2015 11:12 AM
To: Lorden, Joan; Zenk, Leslie
Cc: Tarr, Nicole; Buttimer, Richard
Subject: Business Analytics memo and catalog copy

Joan and Leslie,

I've attached a revised catalog copy reflecting the change to a BSBA in Business Administration with a **Concentration in Business Analytics**. I've also written a short transmittal memo.

Let us know if this is sufficient.

Thanks, Steve

2014-2015 LONG SIGNATURE SHEET

Proposal Number: BUSA 12-05-2014

Proposal Title: Establishment of a new Undergraduate Major in Business Analytics

Originating Department: Belk College of Business

TYPE OF PROPOSAL: UNDERGRADUATE__x___   GRADUATE_____   UNDERGRADUATE & GRADUATE____
(Separate proposals sent to UCCC and Grad. Council)

DATE RECEIVED	DATE CONSIDERED	DATE FORWARDED	ACTION	SIGNATURES
		11/7/2014	Approved	**DEPARTMENT CHAIR** [print name here:] Richard Buttimer
11/7/14	11/14/2014	11/14/2014	Approved	**COLLEGE CURRICULUM COMMITTEE CHAIR** [print name here:] Tony Puri
11/25/14	12/5/2014	12/5/2014	Approved	**COLLEGE FACULTY CHAIR (if applicable)** Rob Ray M. Gregor [print name here:] Rob Ray McGregor
12/5/14	12/5/2014	12/5/2014	Approved	**COLLEGE DEAN** [print name here:] Steven Ott
			Approved	**GENERAL EDUCATION** (if applicable; for General Education courses) [print name here:]
			Approved	**HONORS COLLEGE** (if applicable; for Honors courses & programs) [print name here:]
			Approved	**UNDERGRADUATE COURSE & CURRICULUM COMMITTEE CHAIR** (for undergraduate content)
			Approved	**GRADUATE COUNCIL CHAIR** (for graduate content)
				FACULTY GOVERNANCE ASSISTANT (Faculty Council approval on Consent Calendar)
				FACULTY EXECUTIVE COMMITTEE (if decision is appealed)

UNC CHARLOTTE

LONG FORM
COURSE AND CURRICULUM PROPOSAL

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*To: Undergraduate Course and Curriculum Committee Chair

From: Belk College of Business

Date: December 5, 2014

Re: Establishment of a new undergraduate major in Business Analytics

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The Long Form is used for major curriculum changes. Examples of major changes can include:

Undergraduate: Major changes include new undergraduate degrees, minors, concentrations, certificates, and changes to more than 50% of an existing program (Note: changing the name of an academic department does not automatically change the name(s) of the degree(s). The requests must be <u>approved</u> separately by the Board of Governors.)

Graduate: Major changes include new graduate courses, major changes to an existing graduate course or major changes to an existing graduate program

Submission of this Long Form indicates review and assessment of the proposed curriculum changes at the department and collegiate level either separately or as part of ongoing assessment efforts.

***Proposals for undergraduate courses and programs should be sent to the Undergradute Course and Curriculum Committee Chair. Proposals related to both undergraduate and graduate courses,

(e.g., courses co-listed at both levels) must be sent to both the Undergraduate Course and Curriculum Committee and the Graduate Council.

UNIVERSITY OF NORTH CAROLINA AT CHARLOTTE

NEW UNDERGRADUATE PROPOSAL FOR A MAJOR IN BUSINESS ANALYTICS

Course and Curriculum Proposal from: Belk College of Business

TITLE: Establishment of a New Undergraduate Major in Business Analytics

II. CONTENT OF PROPOSALS
    A. PROPOSAL SUMMARY.
        1. SUMMARY.
        The Belk College of Business proposes to add a new undergraduate major in Business Analytics to the Bachelor of Science in Business Administration (BSBA) degree. The focus of this major is on providing a sound grounding and understanding in quantitative analysis to prepare exceptional undergraduate students for master's degrees. This quantitative focused undergraduate degree is structured to include all required coursework to prepare students for the following graduate degree programs: 1) Professional Science Master's in Data Science and Business Analytics, 2) Master of Science in Mathematical Finance, and 3) Master of Science in Economics. The accelerated nature of the program will lead to completion of all requirements for the BSBA and MS degrees in five academic years.

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

        Students entering quantitative-based master's programs in the Belk College of Business require more quantitative-oriented undergraduate coursework as preparation than the undergraduate majors currently offered in the College provide. Many applicants to the PSM in Data Science and Business Analytics, MS in Mathematical Finance, and MS in Economics programs require additional preparatory coursework before starting coursework in these programs or in conjunction with first-semester courses. The proposed undergraduate major in Business Analytics (BUSA) would provide the foundation necessary to enter these quantitative master's programs without further preparatory coursework. Further, this major would allow the College to recruit high performing high school seniors who demonstrate a strong interest in pursuing a graduate degree as well as having excelled in any quantitative courses taken at the high school level. The BUSA major would serve as a pathway to the College's quantitative master's degrees granting automatic admission to undergraduate students who

excel in the major and meet the minimum admissions requirements for Early Entry or Accelerated Master's Program. This will allow students to complete both undergraduate and graduate degrees in five years. Students that elect not to pursue a graduate degree will gain a strong foundation in business analysis.

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.

   This program seeks outstanding high school seniors who demonstrate a strong academic background and an interest in pursuing a graduate degree. Applicants must meet the University admissions requirements. Additional minimum admission requirements for the program are:

   a) Minimum high school grade point average of 3.5 (unweighted on a 4.0 scale);
   b) Score 1900 or above on the three combined sections of the SAT or 29 or above on the ACT composite;
   c) A personal statement addressing the candidate's goals and motivations for pursuing the accelerated BSBA undergraduate major in Business Analytics and designated master's degree; and
   d) A positive letter of recommendation.

   Admission to the major is competitive. Students must have an overall GPA of 2.5 in all University courses and completed the following Progression Courses with a minimum 3.2 GPA (with no more than 2 C's): ACCT 2121, ACCT 2122, BUSN 1101, ECON 2101, ECON 2102, and STAT 1220. Students must also have completed the following math and programming core courses with a minimum 3.2 GPA (with no more than 1 C): MATH 1241, MATH 1242, and ITCS 2116.

   Interested students are also recommended to attend the Business Analytics Major Open House held in conjunction with UNC Charlotte Explore in November and March.

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

   Course numbers have been established that correspond with the Undergraduate catalog guidelines and with the Office of the Provost's published academic policy on course numbering. The following new major courses have been proposed:

BUSA 2130 Business Computing: Prerequisite: ITCS 2116 with a grade of C or better. Application of spreadsheet software to solve business problems. An introduction to basic and advanced Excel functionalities. Fundamental programming methods for Excel VBA to automate tasks to improve productivity.

BUSA 3090 Topics in Business Analytics: Prerequisite: permission of advisor. Exploration of topics from areas of business analytics. Specific topics covered will serve as the tool for exploring specialized graduate programs and examining career options.

BUSA 3120 Financial Management with a Quantitative Focus: Prerequisites: MATH 1242, STAT 1220, ACCT 2121, 2122, ECON 2101, 2102, ITCS 2116 with grades of C or better; Business major; and Junior standing or permission of department. Principles and problems of financial aspects of managing capital structure, least-cost asset management, planning and control. Computer application is included where appropriate, and student will be expected to use calculus and statistics.

BUSA 3122 Investments with a Quantitative Focus: Prerequisite: BUSA 3120 with a grade of C or better or permission of department. Major topics are security analysis and portfolio management. The viewpoint is that of the investment professionals who are concerned with the evaluation of individual securities and management of security portfolios. Students will be expected to use calculus and statistics.

BUSA 3124 Intermediate Microeconomic and Macroeconomic Theory: Prerequisites: ECON 2101, ECON 2102, and MATH 1242 with grades of C or better or permission of department. Microeconomic analysis with emphasis on consumer theory and the theory of production. Resource allocation and the determination of optimum output and pricing by a firm operating under various market structures. Distribution and welfare theories. Macroeconomic analysis of the level and growth of national income, production, unemployment, the balance of trade, interest rates, and price levels. Fiscal and monetary policies are considered.

BUSA 3233 Data and Information Management: Prerequisites: ITCS 2116 and BUSA 2130 with grades of C or better; and Junior standing or permission of department. A study of the design and implementation of databases and enterprise data warehouses for business applications. Exploration of basic concepts of database and data warehouse design, the use of SQL to create and manipulate

corporate databases, and the exploration of warehouse management software.

BUSA 3288 Competitive Advantage with Marketing Analytics: Prerequisites: MKTG 3110 with a grade of C or better or permission of department. An introduction to the use of Big Data marketing analytics as a strategic resource. A focus is placed on integrating marketing analytics tools, including social media analytics and mobile analytics, with an understanding of how companies leverage Big Data to gain strategic advantage. Particular emphasis on the analysis and use of Big Data for competitive advantage, the creation of new value, product and business model innovation, micro segmentation, pricing, and promotion decisions.

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

The creation of a major specifically intended to provide a quantitative business background for students interested in pursuing one of the College's quantitative master's programs ensures these students are getting the necessary preparation for success in these graduate programs. As such, students will know from the time they are admitted which undergraduate courses they must take and during which semester in order to progress through the major and ultimately be eligible to begin graduate coursework. The recruitment of high quality high school students into this major will add to the overall quality of the undergraduate population in the Belk College of Business as this major will be more selective in those who are admitted to it much like the Business Honors Program the College currently has in place. The BUSA major would also create a pool of qualified students/applicants for our existing quantitative master's programs leading to possible enrollment increases and fostering a larger contingent of homegrown students in these programs than currently exists.

5. If course(s) has been offered previously under special topics numbers, give details of experience including number of times taught and enrollment figures.

N/A

C. **IMPACT.** Changes to courses and curricula often have impacts both within the proposing department as well as campus-wide. What effect will this proposal have on existing courses and curricula, students, and other departments/units? Submit an Impact Statement that fully addresses how you have assessed potential impacts and what the impacts of this proposal might be. Consider the following:

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 undergraduate major in Business Analytics will serve high achieving admitted undergraduate students interested in jobs in the quantitative fields in business and in earning a graduate degree in data science and business analytics, mathematical finance, or economics. This will also affect three graduate programs as students admitted to the BUSA major will pursue one of these programs.

2. What effect will this proposal have on existing courses and curricula?
   a. When and how often will added course(s) be taught?

   The required new major courses will be offered once a year.

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

   Undergraduate students majoring in Business Analytics will take 18 hours of business prerequisite courses (ACCT 2121, ACCT 2122, BUSN 1101, ECON 2101 Honors, ECON 2102 Honors, and STAT 1220). They will also take 21 hours of math and programming courses (MATH 1241, MATH 1242, MATH 2241, MATH 2164, MATH 3122/STAT 3122, ITCS 2116, and BUSA 2130). Additionally, students majoring in Business Analytics will take 15 hours of business core courses (BLAW 3150, COMM 3160, MGMT 3140, MKTG 3110, and OPER 3100). No impact on the frequency or offering of these courses is expected. The content of these courses are not expected to change.

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

   It is anticipated that the undergraduate major in Business Analytics will enroll 20 students in the first year, growing to a steady-state enrollment of about 80 students within four years.

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

   Undergraduate students majoring in Business Analytics will take 18 hours of business prerequisite courses (ACCT 2121, ACCT 2122, BUSN 1101, ECON 2101 Honors, ECON 2102 Honors, and STAT 1220). They will also take 21 hours of math and programming courses

(MATH 1241, MATH 1242, MATH 2241, MATH 2164, MATH 3122/STAT 3122, ITCS 2116, and BUSA 2130). Additionally, students majoring in Business Analytics will take 15 hours of business core courses (BLAW 3150, COMM 3160, MGMT 3140, MKTG 3110, and OPER 3100). No impact on the enrollment in the business prerequisite or business core courses is expected as these are courses these students would take as Pre-Business majors. Enrollment in the economics honors, math, and programming courses will increase slightly. Given that the Belk College has over 3,000 undergraduate students, the approximately 20 students participating in this program will not have a material impact on existing courses.

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.)

New catalog copy will need to be developed. The proposed catalog copy is presented in Appendix C.

Additionally, the Majors of the Degree Programs section for the Belk College of Business will need to be updated to include the Business Analytics major.

III. RESOURCES REQUIRED TO SUPPORT PROPOSAL.

When added resources are not required, indicate "none". For items which require "none" explain how this determination was made.

A. PERSONNEL. Specify requirements for new faculty, part-time teaching, student assistants and/or increased load on present faculty. List by name qualified faculty members interested in teaching the course(s).

The current faculty members in the Belk College of Business have the expertise needed to teach the courses in the proposed undergraduate quantitative analysis and business major. The major will primarily utilize faculty members in the Departments of Business Information Systems and Operations Management, Economics, Finance, and Marketing. Major classes will be spread across these four departments. The College has received a gift from Belk, Inc. that will provide funding to hire adjuncts and pay overloads. The table below highlights the faculty members who are interested in teaching in the proposed major. At any given point in time, we anticipate only a small number of these faculty members will actually be teaching the new major courses.

NAME (F, P*)	ACADEMIC DEGREES & COURSEWORK Relevant to Courses Taught, Including Institution & Major List specific graduate coursework, if needed	OTHER QUALIFICATIONS & COMMENTS Related to Courses Taught
Christie Amato (F)	Ph.D. (Marketing), University of Alabama	30+ years of marketing teaching experience Author or co-author of 17 peer reviewed journal articles Served as dissertation chair for 5 doctoral candidates
Louis Amato (F)	Ph.D. (Economics), University of South Carolina	30+ years of economics teaching experience Author or co-author of nearly 25 peer reviewed journal articles
Jennifer Ames Stuart (F)	Ph.D. (Marketing), Columbia University	10+ years of marketing and brand management corporate experience Author or co-author of 3 peer reviewed journal articles
Stephen Billings (F)	Ph.D. (Economics), University of Colorado at Boulder	Nearly 10 years of public policy and economics teaching experience Author or co-author of more than 10 peer reviewed journal articles Served as dissertation chair for 1 doctoral candidate
Lloyd Blenman (F)	Ph.D. (Economics/Finance), Ohio State University	Nearly 30 years of finance teaching experience Author or co-author of nearly 30 peer reviewed journal articles Served as dissertation chair for 4 doctoral candidates
Charles Bodkin (F)	Ph.D. (Marketing), Virginia Polytechnic Institute and State University	Nearly 25 years of marketing teaching experience Author or co-author of 25 peer reviewed journal articles
Calvin Chesson (F)	J.D., University of North Carolina Chapel Hill	5 years of business law teaching experience Experienced lawyer
I-Hsuan Chiang (F)	Ph.D. (Finance), Boston College	5+ years of finance teaching experience Author or co-author of 2 peer reviewed journal articles
Steven Clark (F)	Ph.D. (Mathematical Sciences, Applied Economics), Clemson University	Nearly 15 years of finance and mathematical finance teaching experience Author or co-author of nearly 15 peer reviewed journal articles Served as dissertation chair for 4 doctoral candidates

Tamara Cohen (F)	M.B.A. (International Business), University of Pennsylvania	5+ years of marketing teaching experience
John Connaughton (F)	Ph.D. (Economics), Northeastern University	30+ years of economics teaching experience Author or co-author of nearly 10 peer reviewed journal articles Led UNC Charlotte Economic Forecast for 30+ years
Craig Depken, II (F)	Ph.D. (Economics), University of Georgia	Nearly 20 years of economics teaching experience Author or co-author of nearly 30 peer reviewed journal articles, 4 books
Sunil Erevelles (F)	Ph.D. (Business Administration/ Marketing), The Ohio State University	20+ years of marketing teaching experience Author or co-author of more than 20 peer reviewed journal articles Special issue editor for the *Journal of Business Research* and the *Journal of Personal Selling and Sales Management*
Cindy Fox (F)	M.B.A., UNC Charlotte	Nearly 5 years of marketing teaching experience
Paul Gaggl (F)	Ph.D. (Economics), University of California at Davis	2 years of economics teaching experience Author or co-author of 4 peer reviewed journal articles
John Gandar (F)	Ph.D. (Economics), University of Missouri	30+ years of economics teaching experience Author or co-author of 20+ peer reviewed journal articles
Jared Hansen (F)	Ph.D. (Business Administration, Marketing), Texas Tech University	6 years marketing teaching experience Author or co-author of 12 peer reviewed journal articles
Xiuli He (F)	Ph.D. (Supply Chain and Operations Management), University of Texas at Austin	5 years of operations management teaching experience Author or co-author of 9 peer reviewed journal articles
Ming-Chang Huang (F)	Ph.D. (Computer Science), University of Wisconsin at Milwaukee	10 years of information systems teaching experience Author or co-author of 1 peer reviewed journal article
Monica Johar (F)	Ph.D. (Management Science, Information Systems) University of Texas at Dallas	Nearly 10 years of management information systems teaching experience Author or co-author of 6 peer reviewed journal articles Served as dissertation chair for 3 doctoral candidates

Moutaz Khouja (F)	Ph.D. (Production/Operations Management), Kent State University	More than 20 years of operations management teaching experience Author or co-author of nearly 60 peer reviewed journal articles Served as dissertation chair for 3 doctoral candidates
Dolly King (F)	Ph.D. (Finance), University of Wisconsin at Madison	Nearly 20 years of finance teaching experience Author or co-author of nearly 20 peer reviewed journal articles Served as dissertation chair for 11 doctoral candidates
Chris Kirby (F)	Ph.D. (Finance), Duke University	20+ years of finance teaching experience Author or co-author of 17 peer reviewed journal articles, 1 book
Ram Kumar (F)	Ph.D. (Information Systems and Management Science), University of Maryland	More than 20 years of management information systems teaching experience Author or co-author of nearly 25 peer reviewed journal articles Served as dissertation chair for 7 doctoral candidates Associate editor for *Decision Support Systems* and *Journal of Database Management*
Hwan Lin (F)	Ph.D. (Economics), University of Illinois Urbana-Champaign	Nearly 25 years of economics teaching experience Author or co-author of 14 peer reviewed journal articles
Tom Marshall (F)	M.B.A. (Finance and Insurance), University of Pennsylvania	Nearly 10 years of finance and insurance teaching experience 30+ years of industry experience
Rob Roy McGregor (F)	Ph.D. (Economics), University of South Carolina	Nearly 25 years of economics teaching experience Author or co-author of nearly 15 peer reviewed journal articles, 1 book
Alyson Metcalfe (F)	M.S.R.E., University of North Carolina at Charlotte	10 years of industry experience
Matt Metzgar (F)	Ph.D. (Economics), University of Tennessee, Knoxville	Nearly 10 years of economics teaching experience Author or co-author of 5 peer reviewed journal articles
Sangkil Moon (F)	Ph.D. (Marketing), University of Iowa	10+ years of marketing and analytics teaching experience Author or co-author of 18 peer reviewed journal articles

Faith Neale (F)	Ph.D. (Risk Management and Insurance), Florida State University	10 years of insurance and finance teaching experience Author or co-author of 8 peer reviewed journal articles
Sungjune Park (F)	Ph.D. (Management Information Systems), State University of New York at Buffalo	13 years of management information systems teaching experience Author or co-author of more than 10 peer reviewed journal articles, 2 books
Tony Plath (F)	D.B.A. (Finance), Kent State University	25+ years of finance teaching experience Author or co-author of 7 peer reviewed journal articles
Judson Russell (F)	Ph.D. (Finance), University of Alabama	10+ years of finance teaching experience Author or co-author of 5 peer reviewed journal articles
Ben Russo (F)	Ph.D. (Economics), University of Iowa	30 years of economics teaching experience Author or co-author of 9 peer reviewed journal articles
Cem Saydam (F)	Ph.D. (Engineering Management), Clemson University	30 years of engineering and operations management teaching experiences Author or co-author of 30+ peer reviewed journal articles, 1 book Served as dissertation chair for 5 doctoral candidates Associate editor of *Information Technology and Management*
Lisa Schulkind (F)	Ph.D. (Economics), University of California, Davis	3 years of economics teaching experience
Peter Schwarz (F)	Ph.D. (Economics), Ohio State University	30+ years of economics teaching experience Author or co-author of 10 peer reviewed journal articles, 4 books Served as dissertation chair for 4 doctoral candidates
Ellen Sewell (F)	Ph.D. (Economics), University of Florida	30+ years of economics teaching experience Author or co-author of 8 peer reviewed journal articles
Dmitry Shapiro (F)	Ph.D. (Economics), Yale University	Nearly 10 years of economics teaching experience Author or co-author of 8 peer reviewed journal articles, 2 books
Reginald Silver (F)	Dr.P.H. (Public Health), University of North Carolina, Chapel Hill	Nearly 20 years of industry experience

Carol Stivender (F)	Ph.D. (Public Policy), University of North Carolina at Charlotte	10+ years of economics teaching experience Author of 1 book
Antonis Stylianou (F)	Ph.D. (Management Information Systems), Kent State University	30 years of management information systems teaching experience Author or co-author of 35+ peer reviewed journal articles Served as dissertation chair for 8 doctoral candidates Editor of *Data Base for Advances in Information Systems*
Chandra Subramaniam (F)	Ph.D. (Business Administration, Information Systems), University of Illinois at Urbana-Champaign	Nearly 10 years of management information systems teaching experience Author or co-author of 13 peer reviewed journal articles
Carol Swartz (F)	Ph.D. (Economics), Duke University	15 years of economics teaching experience 15 years of industry experience Author or co-author of 4 peer reviewed journal articles
Linda Swayne (F)	Ph.D. (Marketing), University of North Texas	More than 30 years of marketing teaching experience Author or co-author of 20+ peer reviewed journal articles, 13 books, edited 1 encyclopedia Editor of *Case Research Journal*
Weidong Tian (F)	Ph.D., McGill University	15 years of finance teaching experience Author or co-author of 20+ peer reviewed journal articles Served as dissertation chair for 1 doctoral candidate
Jennifer Troyer (F)	Ph.D. (Economics), Florida State University	15 years of economics teaching experience Author or co-author of 25 peer reviewed journal articles Served as dissertation chair for 7 doctoral candidates
Hui-Kuan Tseng (F)	Ph.D. (Economics), University of Illinois, Urbana-Champaign	25+ years of economics teaching experience Author or co-author of 13 peer reviewed journal articles

Lin Yang (F)	Ph.D. (Marketing), Duke University	Nearly 5 years of marketing teaching experience Author or co-author of 2 peer reviewed journal articles
Kexin Zhao (F)	Ph.D. (Business Administration), University of Illinois at Urbana-Champaign	More than 5 years of management information systems teaching experience Author or co-author of more than 10 peer reviewed journal articles Served as dissertation chair for 2 doctoral candidates
Jing Zhou (F)	Ph.D. (Operations Management), University of Texas at Dallas	More than 5 years of operations management teaching experience Author or co-author of nearly 10 peer reviewed journal articles
Arthur Zillante (F)	Ph.D. (Economics), Florida State University	10+ years of economics teaching experience Author or co-author of 8 peer reviewed journal articles

* F, P: Full-time or Part-time

B. PHYSICAL FACILITY. Is adequate space available for this course?

The existing facilities and laboratories in the Belk College of Business, the College of Computing and Informatics, and the College of Liberal Arts and Sciences will be adequate to support the new major. The program will also utilize existing classrooms and computer labs at the UNC Charlotte Center City Building for major courses.

C. EQUIPMENT AND SUPPLIES: Has funding been allocated for any special equipment or supplies needed?

No special equipment or supplies will be needed to offer the undergraduate major in Business Analytics.

D. COMPUTER. Specify any computer usage (beyond Moodle) required by students and/or faculty, and include an assessment of the adequacy of software/computing resources by available for the course(s).

Adequate computer resources are currently available to offer the undergraduate major in Business Analytics. The Belk College of Business is expanding one of its current computer labs from 32 seats to 90 seats. It is anticipated it will be available for use in Fall 2015 and will be available for relevant courses within the proposed major.

E. AUDIO-VISUAL. If there are requirements for audio-visual facilities beyond the standard classroom podiums, please list those here.

No audio-visual resources will be required.

F. OTHER RESOURCES. Specify and estimate cost of other new/added resources required, e.g., travel, communication, printing and binding.

Public relations and marketing materials will be necessary. It is expected that communications, printing, supplies, and advertising and recruiting expenses will cost around $5,000. All personnel and materials will be internally funded from a gift the College has received from Belk, Inc.

G. SOURCE OF FUNDING. Indicate source(s) of funding for new/additional resources required to support this proposal.

All program resources will be internally funded from a gift the College has received from Belk, Inc.

IV. CONSULTATION WITH THE LIBRARY AND OTHER DEPARTMENTS OR UNITS

    A. LIBRARY CONSULTATION. Indicate written consultation with the Library Reference Staff at the departmental level to ensure that library holdings are adequate to support the proposal prior to its leaving the department. (Attach copy of *Consultation on Library Holdings*).

    A copy of the undergraduate major in Business Analytics proposal was shared with Nicole Spoor, Business Librarian, for consultation. Her report is included in Appendix A. All new courses proposed were considered to have adequate library holdings.

    B. CONSULTATION WITH OTHER DEPARTMENTS OR UNITS. List departments/units consulted in writing regarding all elements outlined in IIC: Impact Statement, including dates consulted. Summarize results of consultation and attach correspondence. Provide information on voting and dissenting opinions (if applicable).

    The proposed undergraduate major in Business Analytics will operate out of the Belk College of Business. Faculty members from the College's Departments of Business Information Systems and Operations Management, Economics, Finance, and Marketing made up the business analytics major planning committee and engaged with departmental faculty to gauge interest. Discussions were favorable.

    A copy of the undergraduate major in Business Analytics proposal was shared with Tony Stylianou, BISOM Department Chair; Dolly King, Finance Department Chair; Jennifer Troyer, Economics Department Chair; Sunil Erevelles, Marketing Department Chair; Yuanan Diao, Mathematics and Statistics Department Chair; Bojan Cukic, Computer Science Department Chair; Mirsad Hadzikadic, DSBA Professional Science Master's Degree Program Director; and Josh Hertel, Director of Student Services for the DSBA Program for consultation. Their letters of support are included in Appendix A.

    C. HONORS COUNCIL CONSULTATION. In the case of Honors courses or Honors programs indicate written consultation with the Honors Council (if applicable).

    A copy of the undergraduate major in Business Analytics proposal was shared with Ted Amato, Director of the Business Honors Program, for consultation. His letter of support is included in Appendix A.

V. INITIATION, ATTACHMENTS AND CONSIDERATION OF THE PROPOSAL

    A. ORIGINATING UNIT. Briefly summarize action on the proposal in the originating unit including information on voting and dissenting opinions.

The proposal was unanimously approved by the Belk College of Business on December 5, 2014.

B. <u>CREDIT HOUR</u>. **(Mandatory if new and/or revised course in proposal)**
Review statement and check box once completed:
☒ The appropriate faculty committee has reviewed the course outline/syllabus and has determined that the assignments are sufficient to meet the University definition of a credit hour.

C. <u>ATTACHMENTS</u>.

    1. <u>CONSULTATION</u>: Attach relevant documentation of consultations with other units.

    Consultations with the Atkins Library, BISOM Department Chair, Computer Science Department Chair, Economics Department Chair, Finance Department Chair, Marketing Department Chair, Mathematics and Statistics Department Chair, and Director of Graduate Student Services for the DSBA Program are included in Appendix A.

    2. <u>COURSE OUTLINE/SYLLABUS</u>: For undergraduate courses attach course outline(s) including basic topics to be covered and suggested textbooks and reference materials with dates of publication. For Graduate Courses attach a course syllabus. Please see Boiler Plate for Syllabi for New/Revised Graduate Courses.

    Course outlines are attached in Appendix B.

    3. <u>PROPOSED CATALOG COPY</u>: Copy should be provided for all courses in the proposal. Include current subject prefixes and course numbers, full titles, credit hours, prerequisites and/or corequisites, concise descriptions, and an indication of when the courses are to be offered as to semesters and day/evening/weekend. Copy and paste the current catalog copy and use the Microsoft Word "track changes" feature (or use red text with "strikethrough" formatting for text to be deleted, and adding blue text with "underline" formatting for text to be added).

        a. 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.
        __x_ 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.

For all items checked above, applicable statements and content must be reflected in the proposed catalog copy.

Proposed Catalog Copy is included in Appendix C.

    b. If overall proposal is for a new degree program that requires approval from General Administration, please contact the facultygovernance@uncc.edu for consultation on catalog copy.

    N/A

4. ACADEMIC PLAN OF STUDY **(UNDERGRADUATE ONLY)**: Does the proposed change impact an existing Academic Plan of Study?
☒ Yes. If yes, please provide updated Academic Plan of Study in template format.
☐ No.

5. STUDENT LEARNING OUTCOMES (UNDERGRADUATE & GRADUATE): Does this course or curricular change require a change in Student Learning Outcomes (SLOs) or assessment for the degree program?
☒ Yes. If yes, please provide updated SLOs in template format.
☐ No.

6. TEXTBOOK COSTS: It is the policy of the Board of Governors to reduce textbook costs for students whenever possible. Have electronic textbooks, textbook rentals, or the buyback program been considered and adopted?
☒ Yes. Briefly explain below.
☐ No. Briefly explain below.

The College will work with the Bookstore to adopt textbook cost reduction measures, especially buyback and rental options.

IMPORTANT NOTE: A Microsoft Word version of the final course and curriculum proposal should be sent to facultygovernance@uncc.edu upon approval by the Undergraduate Course and Curriculum Committee and/or Graduate Council chair.

APPENDIX A

Consultations

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UNCCHARLOTTE

J. Murrey Atkins Library

Consultation on Library Holdings

To: Nicole Tarr

From: Nicole Spoor

Date: November 12, 2014

Subject: New Undergraduate Major in Business Analytics

Summary of Librarian's Evaluation of Holdings:

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 an evaluation of Atkins Library resources with regards to journals, databases, and circulating books that are relevant to the establishment of a new major in Business Analytics, it is found that the library's resources are sufficient to support this major.

The following table shows some of the print source holdings that are relevant to this major. Individual books not owned by the library may be requested through the library's interlibrary loan service.

Catalog Search Performed	Total Results	Results Less Than 3 Years Old
Business AND analytics	185	108
business AND computing	4211	1053
financial management	1456	76
marketing analytics	133	50
(data OR information) AND management	18760	4579

The library also provides access to many databases that are relevant to this major, including Business Source Complete, JSTOR, Lexis Nexis, and Science Direct.

Conclusion: The holdings of Atkins Library with regards to print resources, databases and journals are sufficient to support an undergraduate major in Business Analytics. It is suggested that the participating academic departments continue ordering new resources as they are published.

Evaluator's Signature: D. Nicole Spoor

Date: November 12, 2014

UNCCHARLOTTE
J. Murrey Atkins Library

Consultation on Library Holdings

To: Nicole Tarr

From: Nicole Spoor

Date: November 24, 2014

Subject: Proposed Course: BUSA 2130 Business Computing

Summary of Librarian's Evaluation of Holdings:

Please Check One:

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

Comments:
After an evaluation of Atkins Library resources with regards to journals, databases, and circulating books that are relevant to the establishment of the new course, Business Computing, it is found that the library's resources are sufficient to support this course. Due to the nature of this course, there are limited print resources that are applicable. Individual books not owned by the library may be requested through the library's interlibrary loan service.

The library does provides access to many databases that may be relevant to this course, including Books 24/7, Business Source Complete, JSTOR, Lexis Nexis, and Science Direct.

Conclusion: The holdings of Atkins Library with regards to print resources, databases, and journals are sufficient to support this course. It is suggested that the participating academic departments continue ordering new resources as they are published.

Evaluator's Signature: *D. Nicole Spoor*

Date: November 24, 2014

UNCCHARLOTTE

J. Murrey Atkins Library

Consultation on Library Holdings

To: Nicole Tarr

From: Nicole Spoor

Date: November 24, 2014

Subject: Proposed Course: BUSA 3090 Topics in Business Analytics

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Summary of Librarian's Evaluation of Holdings:

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 an evaluation of Atkins Library resources with regards to journals, databases, and circulating books that are relevant to the establishment of the new course, Topics in Business Analytics, it is found that the library's resources are sufficient to support this course.

The following table shows some of the print source holdings that are relevant to this course. Individual books not owned by the library may be requested through the library's interlibrary loan service.

Catalog Search Performed	Total Results	Results Less Than 3 Years Old
Business analytics	189	109

The library also provides access to many databases that are relevant to this course, including Business Source Complete, JSTOR, Lexis Nexis, and Science Direct.

Conclusion: The holdings of Atkins Library with regards to print resources, databases, and journals are sufficient to support this course. It is suggested that the participating academic departments continue ordering new resources as they are published.

Evaluator's Signature: D. Nicole Spoor

Date: November 24, 2014

UNCCHARLOTTE
J. Murrey Atkins Library

Consultation on Library Holdings

To: Nicole Tarr

From: Nicole Spoor

Date: November 24, 2014

Subject: Proposed Course: BUSA 3120 Financial Management with a Quantitative Focus

Summary of Librarian's Evaluation of Holdings:

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 an evaluation of Atkins Library resources with regards to journals, databases, and circulating books that are relevant to the establishment of the new course, Financial Management with a Quantitative Focus, it is found that the library's resources are sufficient to support this course.

The following table shows some of the print source holdings that are relevant to this course. Individual books not owned by the library may be requested through the library's Interlibrary loan service.

Catalog Search Performed	Total Results	Results Less Than 3 Years Old
Financial Management AND quantitative	284	110

The library also provides access to many databases that are relevant to this course, including Business Source Complete, JSTOR, Lexis Nexis, and Science Direct.

Conclusion: The holdings of Atkins Library with regards to print resources, databases, and journals are sufficient to support this course. It is suggested that the participating academic departments continue ordering new resources as they are published.

Evaluator's Signature: *D. Nicole Spoor*

Date: November 24, 2014

UNCCHARLOTTE
J. Murrey Atkins Library

Consultation on Library Holdings

To: Nicole Tarr

From: Nicole Spoor

Date: November 24, 2014

Subject: Proposed Course: BUSA 3122 Investments with a Quantitative Focus

Summary of Librarian's Evaluation of Holdings:

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 an evaluation of Atkins Library resources with regards to journals, databases, and circulating books that are relevant to the establishment of the new course, Investments with a Quantitative Focus, it is found that the library's resources are sufficient to support this course.

The following table shows some of the print source holdings that are relevant to this course. Individual books not owned by the library may be requested through the library's interlibrary loan service.

Catalog Search Performed	Total Results	Results Less Than 3 Years Old
Invest* AND quantitative	680	2f1
Security Analysis AND Portfolio Management	867	116

The library also provides access to many databases that are relevant to this course, including Business Source Complete, JSTOR, Lexis Nexis, and Science Direct.

Conclusion: The holdings of Atkins Library with regards to print resources, databases, and journals are sufficient to support this course. It is suggested that the participating academic departments continue ordering new resources as they are published.

Evaluator's Signature: *D. Nicole Spoor*

Date: November 24, 2014

Consultation on Library Holdings

To: Nicole Tarr

From: Nicole Spoor

Date: November 24, 2014

Subject: Proposed Course: BUSA 3124 Intermediate Microeconomic and Macroeconomic Theory

Summary of Librarian's Evaluation of Holdings:

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 an evaluation of Atkins Library resources with regards to journals, databases, and circulating books that are relevant to the establishment of the new course, Intermediate Microeconomic and Macroeconomic Theory, it is found that the library's resources are sufficient to support this course.

The following table shows some of the print source holdings that are relevant to this course. Individual books not owned by the library may be requested through the library's interlibrary loan service.

Catalog Search Performed	Total Results	Results Less Than 3 Years Old
Macroeconomic Theory	299	42
Microeconomic Theory	1483	154

The library also provides access to many databases that are relevant to this course, including Business Source Complete, JSTOR, Lexis Nexis, and Science Direct.

Conclusion: The holdings of Atkins Library with regards to print resources, databases, and journals are sufficient to support this course. It is suggested that the participating academic departments continue ordering new resources as they are published.

Evaluator's Signature: *D. Nicole Spoor*

Date: November 24, 2014

UNCCHARLOTTE
J. Murrey Atkins Library

Consultation on Library Holdings

To: Nicole Tarr

From: Nicole Spoor

Date: November 24, 2014

Subject: Proposed Course: BUSA 3293 Data and Information Management

Summary of Librarian's Evaluation of Holdings:

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 an evaluation of Atkins Library resources with regards to journals, databases, and circulating books that are relevant to the establishment of the new course, Data and Information Management, it is found that the library's resources are sufficient to support this course.

The following table shows some of the print source holdings that are relevant to this course. Individual books not owned by the library may be requested through the library's interlibrary loan service.

Catalog Search Performed	Total Results	Results Less Than 3 Years Old
data management OR information management	1910	349

The library also provides access to many databases that are relevant to this course, including Business Source Complete, JSTOR, Lexis Nexis, and Science Direct.

Conclusion: The holdings of Atkins Library with regards to print resources, databases, and journals are sufficient to support this course. It is suggested that the participating academic departments continue ordering new resources as they are published.

Evaluator's Signature: D. Nicole Spoor

Date: November 24, 2014

UNCCHARLOTTE
J. Murrey Atkins Library

Consultation on Library Holdings

To: Nicole Tarr

From: Nicole Spoor

Date: November 24, 2014

Subject: Proposed Course: BUSA 3288 Competitive Advantage with Marketing Analytics

Summary of Librarian's Evaluation of Holdings:

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 an evaluation of Atkins Library resources with regards to journals, databases, and circulating books that are relevant to the establishment of the new course, Competitive Advantage with Marketing Analytics, it is found that the library's resources are sufficient to support this course.

The following table shows some of the print source holdings that are relevant to this course. Individual books not owned by the library may be requested through the library's interlibrary loan service.

Catalog Search Performed	Total Results	Results Less Than 3 Years Old
Competitive Advantage	985	126
Marketing Analytics	134	51

The library also provides access to many databases that are relevant to this course, including Business Source Complete, JSTOR, Lexis Nexis, and Science Direct.

Conclusion: The holdings of Atkins Library with regards to print resources, databases, and journals are sufficient to support this course. It is suggested that the participating academic departments continue ordering new resources as they are published.

Evaluator's Signature: D. Nicole Spoor

Date: November 24, 2014

UNC CHARLOTTE
BELK COLLEGE *of* BUSINESS

9201 University City Blvd, Charlotte, NC 28223-0001
t/ 704.687.7577 f/ 704.687.4014 www.belkcollege.uncc.edu

To: Dr. Richard Buttimer, Senior Associate Dean

From: Dr. Antonis Stylianou, Chair of Business Information Systems and Operations
               Management Department

Date: November 7, 2014

Subject: Establishment of a new Undergraduate Major in Business Analytics

I have reviewed the proposal to establish a new undergraduate major in Business Analytics. On behalf
of the Business Information Systems and Operations Management Department, I fully support the
proposal. Please contact me with questions.

Memorandum

To: Dr. Richard Buttimer, Senior Associate Dean

From: Dr. Dolly King, Chair, Department of Finance

Subject: Consultation Regarding the Proposal to Establish a new Undergraduate Major in Business Analytics in the Bachelor of Science in Business Administration (BSBA) Degree

Date: November 12, 2014

Thank you for consulting with the Department of Finance on the proposal to add a new undergraduate major in Business Analytics to the Bachelor of Science in Business Administration (BSBA) degree. I have carefully reviewed the proposal. I note that the program structure contains courses in Mathematics, Data Science, Economics, and Finance that prepare students for quantitatively oriented graduate degree programs. Students with excellent academic performance and strong aptitude for quantitative skills are able to complete the accelerated program to receive the undergraduate and graduate degrees in five years.

Most relevant for the Finance Department, the proposed major can better prepare undergraduate students for the Master of Science in Mathematical Finance Program. In addition, we are able to attract additional top undergraduate students to the MS in Mathematical Finance Program. The Finance Department has sufficient resources to support the two new courses pertaining to the department: BUSA 3120 Financial Management with a Quantitative Focus and BUSA 3122 Investments with a Quantitative Focus.

On behalf of the Department of Finance, I fully support the proposal. Please let me know if I can be of further assistance.

Memorandum

To: Dr. Richard Buttimer, Senior Associate Dean, Belk College of Business

From: Dr. Jennifer Troyer, Chair, Department of Economics

Subject: Consultation Regarding the Proposed Undergraduate Major in Business Analytics

Date: November 7, 2014

Thank you for consulting with the Department of Economics on the proposed undergraduate major in Business Analytics and allowing me to lend my formal support to the major. The major affects four courses that will be staffed by faculty from the Department of Economics. Two of those courses are Honors sections of ECON 2101 and ECON 2102. We currently have room in those classes for the Business Analytics (BUSA) majors. With the high entry requirements for the major, these students should blend well with our current Honors students; in addition, Professor Ted Amato, who is an Economics faculty member and Director of the Business Honors program, supports the inclusion of the BUSA majors in those courses. The third affected course is ECON 3112 (Econometrics). We believe that the Econometrics course will be a good addition to the portfolio of courses the majors take. The students will gain a basic knowledge of econometric modelling, and they will be sufficiently prepared for the rigor of the material contained in that class. We do not anticipate needing to increase the number of sections to accommodate these students. The fourth course that affects the Department of Economics is a new course, BUSA 3124 (Intermediate Microeconomic and Macroeconomic Theory). The course would be a faster-paced and condensed version of two core courses that we currently require for Economics majors. We anticipate having two faculty members teach the course each time it is offered, where the faculty would be paid an overload for teaching an additional half course annually or would have the half course count as part of their regular teaching load.

We see this new major as a pathway into our M.S. in Economics program, and all of the students graduating with this major would be well positioned to enter into graduate study in Economics. Please let me know if I can be of further assistance.

UNC CHARLOTTE

BELK COLLEGE *of* BUSINESS
Department of Marketing

9201 University City Blvd., Charlotte, NC 28223-0001

To: Richard Buttimer, Senior Associate Dean, The Belk College of Business

From: Sunil Erevelles, Chair, Department of Marketing

Subject: Establishment of a new Undergraduate Major in Business Analytics

Date: November 11, 2014

I fully support and endorse the proposal to establish a new undergraduate major in Business Analytics. The Department of Marketing is glad to be contributing by adding the following course to the major: BUSA 3288 - Competitive Advantage with Marketing Analytics. I wish you all the best as you move forward with this new major.

UNC CHARLOTTE

The University of North Carolina at Charlotte
9201 University City Boulevard
Charlotte, NC 28223-0001

Fax: (704) 687-1392
E-Mail: math@uncc.edu

Department of Mathematics & Statistics
(704) 687-0620

Memorandum

To: Dr. Richard Buttimer, Senior Associate Dean, Belk College of Business

From: Dr. Yuanan Diao, Chair, Department of Mathematics and Statistics

Subject: Consultation Regarding Establishment of a new Undergraduate Major in Business Analytics

Date: November 10, 2014

Thank you for consulting with the Department of Mathematics and Statistics on the proposed new undergraduate major in business analytics.

The proposed new major will likely increase 20 students in our math course offerings and this number will eventually grow to 80. This increase is modest and I expect that the math department will be able to meet the demand without having to request additional resources. I am writing to let you know that our department fully support this proposed new major. Please let me know if you need further assistance.

Yuanan Diao

UNC CHARLOTTE
The Graduate School

UNC CHARLOTTE
College of Computing and Informatics

Department of Computer Science

9201 University City Blvd, Charlotte, NC 28223-0001
t/ 704.687.8560 www.cs.uncc.edu

December 11, 2014

Dear Prof. Buttimer,

On behalf of the Department of Computer Science I offer my support to the proposal to establish a new undergraduate major in *Business Analytics* in Belk College of Business. Computer Science Undergraduate Curriculum Committee analyzed the proposal and agreed that we will support the new program by regularly offering ITCS 2116, C Programming. I also indicated that in the near future, we will likely update the contents of ITCS 2116 to meet the requirements of your program even better, possibly through redesigning it together with ITCS 2231, Introduction to Business Programming.

I look forward to expanding the undergraduate degree offerings at UNC Charlotte and our collaboration with the new Business Analytics program.

Sincerely,

Bojan Cukic
Professor and Chair

The UNIVERSITY *of* NORTH CAROLINA *at* CHARLOTTE
An Equal Opportunity/Affirmative Action Employer

November 12, 2014

Dr. Richard Buttimer
Senior Associate Dean
Belk College of Business

Dear Dr. Buttimer:

I am pleased to write on behalf of the Data Science and Business Analytics program in support of the proposed undergraduate major in business analytics. The proposed major will provide a natural pathway for our most gifted undergraduates to prepare themselves for graduate programs like the DSBA.

Thank you for your assistance.

Sincerely,

Joshua Hertel
Director of the Graduate Center
Program Director Health Informatics PSM
Director of Student Services Data Science and Business Analytics Program

cc: Mirsad Hadzikadic

Department of Economics

9201 University City Blvd., Charlotte, NC 28223-0001

To: Jennifer L. Troyer, Chair, Economics Department

From: Ted Amato, Director of Business Honors Program

Subject: Establishment of a new Undergraduate Major in Business Analytics

Date: November 3, 2014

I have read and fully endorse the proposal to establish a new undergraduate major in Business Analytics. I further endorse including the honors sections of ECON 2101, Principles of Macroeconomics and ECON 2102, Principles of Microeconomics in the curriculum for this new major.

Please contact me with questions.

APPENDIX B

Course Outlines for Proposed New Courses

Business Computing

Course Description:

BUSA 2130. Business Computing. (3) Prerequisite: ITCS 2116 with a grade C or better or permission of department. Application of spreadsheet software to solve business problems. An introduction to basic and advanced Excel functionalities. Fundamental programming methods for Excel VBA to automate tasks to improve productivity. (*Fall*)

Required Text:

New Perspectives on Microsoft Office Excel 2013, Comprehensive by Parsons et al.

VBA for Modelers, Developing Decision Support Systems with Microsoft Office Excel Fourth Edition by S. Christian Albright, published by South-Western CENGAGE Learning, Mason, OH 45040 ISBN-13: 9781439019843

Course Outline:

Topics to be covered include:
- The Fundamentals of Excel
- Excel Formulas and Functions
- Data Analyses and Decision Making
- Data visualization
- The Fundamentals of Excel VBA

Topics in Business Analytics

Course Description:

BUSA 3090. Topics in Business Analytics. (2) Prerequisite: permission of advisor. Exploration of topics from areas of business analytics. Specific topics covered will serve as the tool for exploring specialized graduate programs and examining career options. (*Fall*)

Required Materials:

Students will not need to purchase reading materials. Relevant readings will be distributed at least seven days prior to the class session.

Course Outline:

Topics to be covered include:
- Introduction to the business analytics major
- Emerging trends: economics and analytics
- Emerging trends: finance and analytics
- Emerging trends: marketing and analytics
- Emerging trends: management information systems and analytics
- Early-entry graduate program requirements
- Overview of the Professional Science Masters in Data Science and Business Analytics
- Overview of the Master of Science in Economics
- Overview of the Master of Science in Mathematical Finance
- Exploration of career options

Financial Management with a Quantitative Focus

Course Description:

BUSA 3120. Financial Management with a Quantitative Focus. (3) Prerequisites: MATH 1242, STAT 1220, ACCT 2121, 2122, ECON 2101, 2102, ITCS 2116 with grades of C or better; Business major; and Junior standing or permission of department. Principles and problems of financial aspects of managing capital structure, least-cost asset management, planning and control. Computer application is included where appropriate, and student will be expected to use calculus and statistics. (*Spring*)

Course Outline:
Main topics to be covered:
1. An Introduction to the Foundations of Financial Management
2. The Financial Markets and Interest Rates
3. Understanding Financial Statements and Cash Flows
4. Evaluating a Firm's Financial Performance
5. The Time Value of Money
6. The Meaning and Measurement of Risk and Return
7. The Valuation and Characteristics of Bonds
8. The Valuation and Characteristics of Stock
9. The Cost of Capital
10. Capital-Budgeting Techniques and Practice
11. Short-Term Financial Planning
12. International Business Finance

Suggested textbooks and reference materials:
Required text:
Foundations of Finance, 8th revised edition, by Arthur Keown, John Martin, and William Petty, 2014. Prentice Hall.

Optional materials:
Study Guide to Accompany Foundations of Finance, 8th revised edition, Arthur Keown, John Martin, and William Petty, 2014. Prentice Hall.
MyFinanceLab, an integrated online homework management system that provides hands-on practice and guided tutorial instruction for each of the chapters in the text.

Investments with a Quantitative Focus

Course Description:

BUSA 3122. Investments with a Quantitative Focus. (3) Prerequisite: BUSA 3120 with a grade of C or better or permission of department. Major topics are security analysis and portfolio management. The viewpoint is that of the investment professionals who are concerned with the evaluation of individual securities and management of security portfolios. Students will be expected to use calculus and statistics. (*Fall*)

Course Outline:

Main topics to be covered:
1. Introduction to Investments, Asset Classes, and Financial Instruments
2. Securities markets, Statistics of Investments
3. Investment Companies, Risk and Return
4. Efficient Diversification, Capital Asset Pricing and Arbitrage Pricing Theory
5. Efficient Market Hypothesis
6. Behavioral Finance and Technical Analysis
7. Bond Prices and Yields, Managing Bond Portfolios
8. Equity Valuation
9. Derivative Securities and Portfolio Hedging

Suggested textbooks and reference materials:
Required text:
Essentials of Investments, 9th edition, by Bodie, Kane and Marcus, 2013. McGraw-Hill.

Intermediate Microeconomic and Macroeconomic Theory

Course Description:

BUSA 3124. Intermediate Microeconomic and Macroeconomic Theory. (3) Prerequisites: ECON 2101, ECON 2102, and MATH 1242 with grades of C or better or permission of department. Microeconomic analysis with emphasis on consumer theory and the theory of production. Resource allocation and the determination of optimum output and pricing by a firm operating under various market structures. Distribution and welfare theories. Macroeconomic analysis of the level and growth of national income, production, unemployment, the balance of trade, interest rates, and price levels. Fiscal and monetary policies are considered. (*Fall*)

Textbooks Required:

Intermediate Microeconomic Theory Text: Pindyck, Robert and Daniel Rubenfeld. Microeconomics: 8th edition, 2012, Pearson Series in Economics, Prentice Hall.

Intermediate Macroeconomic Theory Text: Mankiw, N. Gregory. Macroeconomics, 8th edition, 2012, Worth Publishers.

Course Outline:

1. Intermediate Microeconomic Theory
   a. Introduction to Markets and Prices
   b. Consumer Behavior, Individual Demand, and Market Demand
   c. Uncertainty and Consumer Behavior
   d. Production
   e. Cost of Production
   f. Profit Maximization and Competitive Supply
   g. Game Theory and Competitive Strategy
   h. General Equilibrium and Economic Efficiency

2. Intermediate Macroeconomic Theory
   a. The Science of Macroeconomics
   b. The Data of Macroeconomics
   c. National Income: Where It Comes from and Where It Goes
   d. Money and Inflation
   e. The Open Economy
   f. Economic Growth I
   g. Economic Growth II
   h. Unemployment
   i. Introduction to Economic Fluctuations
   j. Stabilization Policy

<p style="text-align: center;">**Data and Information Management**</p>

Course Description:

BUSA 3233. Data and Information Management. (**3**) Prerequisites: ITCS 2116 and BUSA 2130 with grades of C or better; and Junior standing or permission of department. A study of the design and implementation of databases and enterprise data warehouses for business applications. Exploration of basic concepts of database and data warehouse design, the use of SQL to create and manipulate corporate databases, and the exploration of warehouse management software. (*Fall*)

Required Texts:

Coronel, C., Morris, S., and Rob, P. Database Systems: Design, Implementation, and Management, 10th Edition, Course Technology ISBN 978-1-111-96960-8 or 978-1-305-03345-0

Additional readings on Data Warehousing and Decision Modeling

Course Outline:

Topics to be covered include:
- Introduction to relational databases
- Fundamentals of data modeling and database design
- Entity-relationship diagrams
- Normalization
- Database development project
- Introduction to data warehousing

<center>**Competitive Advantage with Marketing Analytics**</center>

Course Description:

BUSA 3288. Competitive Advantage with Marketing Analytics. (3) Prerequisites: MKTG 3110 with a grade of C or better or permission of department. An introduction to the use of Big Data marketing analytics as a strategic resource. A focus is placed on integrating marketing analytics tools, including social media analytics and mobile analytics, with an understanding of how companies leverage Big Data to gain strategic advantage. Particular emphasis on analyzing and using Big Data for the creation of new value for competitive advantage, the creation of new value, production and business model innovation, micro segmentation, pricing, and promotion decisions. (*Fall*)

Course Outline

Main topics to be covered:
- Leveraging marketing analytics tools to obtain a strategic competitive advantage
- The use of quantitative models to enhance decision making
- The use of quantitative models to understand marketing and consumer phenomena
- Using marketing analytics tools to obtain intelligence and value from data
- Big data analytics in product and business model innovation
- Big data analytics in targeting and micro-segmentation
- Big data analytics and consumer centricity
- Social media analytics and marketing strategy
- Mobile analytics and marketing strategy
- Use of analytics to identify market opportunities and threats
- Use of big data and analytics to strategically exploit the dynamics of consumer behavior

Suggested Textbooks and Reference Material

Lilien, Gary L. and Arvind Rangaswamy, Marketing Engineering: Computer-Assisted Marketing Analysis and Planning, Revised Second Edition, Trafford Publishing. (ISBN 141202252-5)

Bart Baesens, Analytics in a Big Data World: The Essential Guide to Data Science and its Applications, Wiley and SAS Business Series, ISBN-10: 1118892704, ISBN-13: 978-1118892701

Davenport, Thomas H. and Jeanne G. Harris, Competing on Analytics: The New Science of Winning, Harvard Business School Press, ISBN-10: 1422103323, ISBN-13: 978-1422103326

APPENDIX C

Proposed Catalog Copy

The Business Analytics major prepares graduates for jobs in quantitative fields in business and for graduate education in Data Science and Business Analytics, Mathematical Finance, and Economics. The focus of the major is on providing a sound grounding and understanding in quantitative analysis to prepare exceptions undergraduate students for master's degrees. The second semester of the senior year will be designated for graduate coursework for early entry into the Professional Science Masters in Data Science and Business Analytics, Master of Science in Mathematical Finance, or Master of Science in Economics programs.

Bachelor of Science in Business Administration: Business Analytics

Admission to the Business Analytics major is competitive. To be accepted into the Business Analytics major, students must have an overall GPA of 2.5 in all University courses and completed the following Progressions courses with a minimum 3.2 GPA (with no more than 2 C's): ACCT 2121, ACCT 2122, BUSN 1101, ECON 2101, ECON 2102, STAT 1220. Students must also have completed the following math and programming core courses with a minimum 3.2 GPA (with no more than 1 C): MATH 1241, MATH 1242, ITCS 2116. Students should seek admission to the Business Analytics major as freshman to ensure appropriate advising and support.

This major requires a minimum of 120 semester hours. Students must complete the General Education Requirements of the University and the Progressions, Core, and Major Requirements of the Belk College of Business.

Degree Requirements

The following courses are required for a B.S.B.A. degree in Business Analytics. Students may attempt each of these courses two times.

Business Core Courses (15 hours)

BLAW 3150 Business Law I (3)
COMM 3160 Business Communications (3)
MGMT 3140 Management in Organizational Behavior (3)
MKTG 3110 Marketing Concepts (3)
OPER 3100 Operations Management (3)

Major Courses (23 hours)

ECON 3112 Econometrics (3)
INFO 3236 Business Analytics (3)
BUSA 3090 Topics in Business Analytics (2)
BUSA 3120 Financial Management with a Quantitative Focus (3)

BUSA 3122 Investments with a Quantitative Focus (3)
BUSA 3124 Intermediate Microeconomic and Macroeconomic Theory (3)
BUSA 3233 Data and Information Management (3)
BUSA 3288 Competitive Advantage with Marketing Analytics (3)

Students are expected to earn 30 hours by the end of their Freshman year and 60 hours by the end of their Sophomore year. Latitude for the hours earned minimum requirement may be given for students who study abroad, hold an internship, etc. Students are also expected to maintain a GPA of 3.2 or higher for the duration of the degree program, as this is the required GPA for graduate studies. Students failing to meet the minimum GPA and/or hours earned requirements may be subject to dismissal from the major.

When a student repeats a course, both the old and the new grades are included in the major and overall GPA. Courses repeated under the Grade Replacement Policy are excluded from the major and overall GPA computation. However, this repeated course does count as an attempt. Students must also meet the Belk College of Business residency requirements.

Suggested Curriculum

For a suggested curriculum for this degree to map out a path toward completing the major, please see the Academic Plan of Study.

Students majoring in Business Analytics have two options for accelerated entry into the Professional Science Masters in Data Science and Business Analytics, Master of Science in Economics, or Master of Science in Mathematical Finance graduate programs. Through the accelerated track, high school seniors and undergraduate UNC Charlotte freshman are encouraged to apply for admission to one of these three graduate programs and begin work toward a graduate degree before completion of the undergraduate degree. Students beyond their first year may apply for early entry into one of these graduate programs after completion of 75 or more hours of undergraduate coursework and begin work toward a graduate degree before completion of their undergraduate degree. Details for both options are below.

Students who do not meet the Accelerated or Early Entry graduate program requirements are able to apply to graduate programs upon graduation following the Graduate School's admission requirements.

Students who choose not to pursue an Accelerated or Early Entry graduate degree must enroll in a minimum of 12 credit hours to satisfy the major requirement of 120 semester hours. Several course options to round out the business analytics major include:
- OPER 3203 *Decision Modeling and Analysis*
- OPER 3208 *Supply Chain Management*
- ECON 4112 *Econometrics II*
- ECON 4117 *Business and Economic Forecasting*

Accelerated Track to Professional Science Masters in Data Science and Business Analytics, Master of Science in Mathematical Finance, or Master of Science in Economics Programs

Students may be accepted into the Accelerated Program as high school seniors and undergraduate UNC Charlotte freshman. Admissions requirements include:

- Minimum high school GPA ≥ 3.75 (unweighted on a 4.0 scale)
- Minimum score of 1900 on SAT
- Online application for graduate admission
- Statement of Purpose for pursuing the Accelerated Master's Degree
- Three recommendations provided by a high school teacher and from a UNC Charlotte faculty member who taught the applicant in the fall semester of the freshman year

Students must maintain a strong academic record at both the undergraduate and graduate levels with a cumulative GPA ≥ 3.0. Students accepted into the Accelerated master's program are subject to the same policies that pertain to other matriculated graduate students.

Early Entry Program to Professional Science Masters in Data Science and Business Analytics, Master of Science in Mathematical Finance, or Master of Science in Economics Programs

Students may be accepted into the Early Entry Program at any time after completion of 75 semester hours of undergraduate work applicable to the Business Analytics major. Admission must be approved by the Program Director, and admission is conditional pending the awarding of the undergraduate degree.

In order to be accepted into the Professional Science Masters in Data Science and Business Analytics, Master of Science in Mathematical Finance, or Master of Science in Economics graduate programs, undergraduate students must have at least a 3.2 overall GPA and a 3.2 GPA in the major. Additionally, applicants must have taken the appropriate graduate standardized test and received acceptable test scores.

Students accepted into the Early Entry Program are subject to the same policies that pertain to other matriculated graduate students. Early Entry students must finish their undergraduate degree before they complete 15 hours of graduate work.

Courses in Business Analytics (BUSA)

BUSA 2130. Business Computing. (3) Prerequisite: ITCS 2116 with a grade C or better or permission of department. Application of spreadsheet software to solve business problems. An introduction to basic and advanced Excel functionalities. Fundamental programming methods for Excel VBA to automate tasks to improve productivity. (*Fall*)

BUSA 3090. Topics in Business Analytics. (2) Prerequisite: permission of advisor. Exploration of topics from areas of business analytics. Specific topics covered will serve as the tool for exploring specialized graduate programs and examining career options. (*Fall*)

BUSA 3120. Financial Management with a Quantitative Focus. (3) Prerequisites: MATH 1242, STAT 1220, ACCT 2121, 2122, ECON 2101, 2102, ITCS 2116 with grades of C or better; Business major; and Junior standing or permission of department. Principles and problems of financial aspects of managing capital structure, least-cost asset management, planning and control. Computer application is included where appropriate, and student will be expected to use calculus and statistics. (*Spring*)

BUSA 3122. Investments with a Quantitative Focus. (3) Prerequisite: BUSA 3120 with a grade of C or better or permission of department. Major topics are security analysis and portfolio management. The viewpoint is that of the investment professionals who are concerned with the evaluation of individual securities and management of security portfolios. Students will be expected to use calculus and statistics. (*Fall*)

BUSA 3124. Intermediate Microeconomic and Macroeconomic Theory. (3) Prerequisites: ECON 2101, ECON 2102, and MATH 1242 with grades of C or better or permission of department. Microeconomic analysis with emphasis on consumer theory and the theory of production. Resource allocation and the determination of optimum output and pricing by a firm operating under various market structures. Distribution and welfare theories. Macroeconomic analysis of the level and growth of national income, production, unemployment, the balance of trade, interest rates, and price levels. Fiscal and monetary policies are considered. (*Spring*)

BUSA 3233. Data and Information Management. (3) Prerequisites: ITCS 2116 and BUSA 2130 with grades of C or better; and Junior standing or permission of department. A study of the design and implementation of databases and enterprise data warehouses for business applications. Exploration of basic concepts of database and data warehouse design, the use of SQL to create and manipulate corporate databases, and the exploration of warehouse management software. (*Fall*)

BUSA 3288. Competitive Advantage with Marketing Analytics. (3) Prerequisites: MKTG 3110 with a grade of C or better or permission of department. An introduction to the use of Big Data marketing analytics as a strategic resource. A focus is placed on integrating marketing analytics tools, including social media analytics and mobile analytics, with an understanding of how companies leverage Big Data to gain strategic advantage. Particular emphasis on the analysis and use of Big Data for competitive advantage, the creation of new value, product and business model innovation, micro segmentation, pricing, and promotion decisions. (*Fall*)

Academic Plan of Study

<div align="right">

B.S.B.A. in Business Analytics
Academic Plan of Study
Belk College of Business

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PROGRAM SUMMARY

- *Credit Hours*: 120 hours
- *Concentrations*: No
- *Declaring the major*: Admission to the major is competitive. Students must have an overall GPA of 2.5 in all University courses and completed the following Progressions Courses with a minimum 3.2 GPA (with no more than 2 C's): ACCT 2121, ACCT 2122, BUSN 1101, ECON 2101 Honors, ECON 2102 Honors, STAT 1220. Students must also have completed the following math and programming core courses with a minimum 3.2 GPA (with no more than 1 C): MATH 1241, MATH 1242, ITCS 2116. Students should seek admission to the Business Analytics major as freshman to ensure appropriate advising and support.
- *Advising (For the Major)*: The Business Advising Center advises all students in the Belk College of Business. Advising is required upon admission to the major and recommended before registration each semester. Business Analytics students also have access to a specialized Academic Advisor who ensures correct progression of the undergraduate degree. Note: Students with less than 30 earned hours will have an advising hold prior to registration.
- *Advising (For General Education)*: Schedule appointment with assigned Academic Advisor in the Business Advising Center.
- *Minimum Grades/GPA*: Students must earn B's or better (with the exception of 2 C's) in all business coursework. GPA of 3.2 in major, business prerequisites, and math and programming courses required for accelerated entry into the Professional Science Masters in Data Science and Business Analytics, Master of Science in Mathematical Finance, or Master of Science in Economics programs.
- *Teacher Licensure*: No
- *Evening Classes Available*: No
- *Weekend Classes Available*: No
- *Other Information*: Business Honors Program, Internships, Study Abroad, Student Center for Professional Development
- *Contact*: Belk College of Business Advising Center, 368 Friday Bldg., (704) 687-7685 or stadvise@uncc.edu

PROGRAM REQUIREMENTS

The Business Analytics major prepares graduates for jobs in quantitative fields in Business and for graduate education in Data Science and Business Analytics, Mathematical Finance, and Economics. To declare the major, students will complete a Curriculum Guide and Change of Major form with their assigned Academic Advisor during their freshman year.

The second semester of the senior year will be designated for graduate coursework for early entry into the Professional Science Masters in Data Science and Business Analytics, Master of Science in Mathematical Finance, or Master of Science in Economics programs.

Areas	Credit Hours	Description
Pre-Major/ Prerequisites/ Math and Programming Core	18 (prereq)	Minimum 3.2 GPA (with no more than 2 C's) in *Pre-Major*: ACCT 2121, ACCT 2122, BUSN 1101, ECON 2101 Honors, ECON 2102 Honors, and STAT 1220.
	21 (math and programming core)	Minimum 3.2 GPA in *Math and Programming Core*: MATH 1241, MATH 1242, MATH 2241, MATH 2164, MATH 3122/STAT 3122, ITCS 2116, BUSA 2130 Students may not exceed two attempts for these courses.

Major	38	Includes courses in Economics, Business Analytics, and required Business Core courses (BLAW 3150, COMM 3160, MGMT 3140, MKTG 3110, OPER 3100) in the Belk College.
Graduate Coursework	12	Selected coursework from one of the following graduate programs: Professional Science Masters in Data Science and Business Analytics, Master of Science in Mathematical Finance, or Master of Science in Economics.
General Education *(not satisfied by other major requirements)*	28	UWRT 1101 and UWRT 1102 satisfy the First Year Writing requirement. ECON 2101, MATH 1241 and STAT 1220 satisfy General Education Social Science and Mathematics requirements. COMM 3160 satisfies one Writing Intensive and the Oral Communications requirement.
Related Work	-	
Foreign Language	-	Not required.
Electives	3	As needed to complete 120 hours total for the degree. 50% of all hours must be classified as "non-business" (offered outside of the Belk College). Some General Education and Math and Programming coursework may be used to satisfy 50%.
Total Credit Hours	120	

SUGGESTED PLAN OF STUDY

Freshman Year					
Course Number	**Course Title**	**Credit Hours**	**General Education**	**W/O Course**	**Notes**
Fall Semester					
UWRIT 1101	Writing and Inquiry in Academic Contexts I	3	X		
MATH 1241	Calculus I	3	X		Math/programming core
LBST 11xx	LBST 1100 Series: Arts and Society	3	X		
ITCS 2116	C Programming	3			Math/programming core
BUSN 1101	Introduction to Business & Professional Development	3			Progression course
Spring Semester					
xxxx xxxx	Natural Science w/Lab	4	X		
MATH 1242	Calculus II	3			Math/programming core
STAT 1220	Elements of Statistics I	3	X		Progression course
LBST 2101	Western Cultural and Historical Awareness	3	X		
UWRIT 1102	Writing and Inquiry in Academic Contexts II	3	X		

32 credit hours for year

Sophomore Year					
Course Number	**Course Title**	**Credit Hours**	**General Education**	**W/O Course**	**Notes**
Fall Semester					
MATH 2164	Matrices and Linear Algebra	3			Math/programming core
ACCT 2121	Principles of Accounting I	3			Progression course
ECON 2101	Principles of Economics – Macro (Honors)	3	X		Progression course
BUSA 2130	Business Computing	3			Math/programming core
xxxx xxxx	Writing Intensive Course	3	X	W	
BUSA 3090	Topics in Business Analytics	2			Major course
Spring Semester					
xxxx xxxx	Natural Science	3	X		
ACCT 2122	Principles of Accounting II	3			Progression course
MATH 2241	Calculus III	3			Math/programming core
ECON 2102	Principles of Economics – Micro (Honors)	3			Progression course
LBST 2102	Global and Intercultural Connections	3	X		

31 credit hours for year

Junior Year					
Course Number	**Course Title**	**Credit Hours**	**General Education**	**W/O Course**	**Notes**
Fall Semester					
BLAW 3150	Business Law I	3			
MATH 3122 / STAT 3122	Probability and Statistics I	3			Math/programming core
MGMT 3140	Management and Organizational Behavior	3			
MKTG 3110	Marketing Concepts	3			
ECON 3112	Econometrics	3			Major course
Spring Semester					
LBST 22xx	LBST 2200 Series: Ethical Issues and Cultural Critique	3	X		
COMM 3160	Business Communications	3	X	W, O	
OPER 3100	Operations Management	3			
BUSA 3120	Financial Management with a Quantitative Focus	3			Major course
INFO 3236	Business Analytics	3			Major course

30 credit hours for year

Senior Year					
Course Number	**Course Title**	**Credit Hours**	**General Education**	**W/O Course**	**Notes**
Fall Semester					
BUSA 3124	Intermediate Microeconomic and Macroeconomic Theory	3			Major course
BUSA 3122	Investments with a Quantitative Focus	3			Major course
BUSA 3233	Data and Information Management	3			Major course
BUSA 3288	Competitive Advantage with Marketing Analytics	3			Major course
xxxx xxxx	General Elective	3			
Spring Semester					
xxxx xxxx	Accelerated/early entry graduate course or undergraduate general elective	3			
xxxx xxxx	Accelerated/early entry graduate course or undergraduate general elective	3			
xxxx xxxx	Accelerated/early entry graduate course or undergraduate general elective	3			
xxxx xxxx	Accelerated/early entry graduate course or undergraduate general elective	3			

27 credit hours for year

5th Year					
Course Number	**Course Title**	**Credit Hours**	**General Education**	**W/O Course**	**Notes**
Fall Semester					
xxxx xxxx	Graduate course	3			
xxxx xxxx	Graduate course	3			
xxxx xxxx	Graduate course	3			
xxxx xxxx	Graduate course	3			
Spring Semester					
xxxx xxxx	Graduate course	3			
xxxx xxxx	Graduate course	3			
xxxx xxxx	Graduate course	3			
xxxx xxxx	Graduate course	3			

24 credit hours for year

UNC CHARLOTTE

Student Learning Outcomes Assessment Plan

College: Belk College of Business
Degree Program: B.S.B.A. Business Analytics Major

Student Learning Outcome 1
(knowledge, skill or ability to be assessed)

Students will demonstrate the ability to analyze economic theories and methods.

Effectiveness Measure: Identify the data collection instrument, e.g., exam, project, paper, etc. that will be used to gauge acquisition of this student learning outcome and explain how it assesses the desired knowledge, skill or ability. <u>A copy of the data collection instrument and all scoring rubrics associated with this student learning outcome are to be attached to the plan.</u>

The instruments used to assess student ability to analyze economic theories and methods will be questions and problems embedded in two courses. Specifically, the questions and problems test the concepts below, which, together effectively gauge overall student understanding:

1. Students will demonstrate the ability to analyze econometric methods to solve a business problem.
2. Students will demonstrate the ability to apply microeconomic theory.
3. Students will demonstrate the ability to apply macroeconomic theory.

Methodology: Describe when, where and how the assessment of this student learning outcome will be administered and evaluated. Describe the process the department will use to collect, analyze and disseminate the assessment data to program faculty and to decide the changes/improvements to make on the basis of the assessment data.
This SLO will be measured in two major courses: ECON 3112, *Econometrics*, and BUSA 3124, *Intermediate Microeconomic and Macroeconomic Theory* every other Fall semester. Students will be assessed using course embedded questions and problems designed to measure student knowledge related to each of the three effectiveness measures.
Program faculty members are responsible for collecting assessment data. Program faculty report(s) individual student assessment results to the Belk College of Business Assurance of Learning [AoL] Data Center. The Data Center collects and combines the program's assessment data from across multiple courses. The Data Center then aggregates the data and returns statistical results to all program faculty. Program faculty members analyze these results and hold a closing the loop meeting each semester to complete the continuous improvement process. At this meeting, program faculty determines what changes or improvements should be made to instruction, the program, individual courses, or to the assessment process. Changes are implemented the next time the course is taught.

Performance Outcome: Identify the percentage of students assessed that should be able to demonstrate proficiency in this student learning outcome and the level of proficiency expected. *Example: 80% of the students assessed will achieve a score of "acceptable" or higher on the Oral Presentation Scoring Rubric*
75% of students will correctly answer 75% of the questions correctly and/or earn a score of 75 or higher (out of 100) on the assessment problems related to each effectiveness measure.

Student Learning Outcome 2 (knowledge, skill or ability to be assessed)
Students will demonstrate knowledge of database design and implementation by building databases and queries.

Effectiveness Measure: Identify the data collection instrument, e.g., exam, project, paper, etc. that will be used to gauge acquisition of this student learning outcome and explain how it assesses the desired knowledge, skill or ability. <u>A copy of the data collection instrument and all scoring rubrics associated with this student learning outcome are to be attached to the plan.</u>
The instruments used to assess student knowledge of database design and implementation will be questions and problems embedded in one course. Specifically, the questions and problems test the concepts below, which, together effectively gauge overall student understanding: 1. Students will demonstrate the ability to develop a business database. 2. Students will demonstrate the ability to build SQL queries. 3. Students will demonstrate the ability to explain the principles of designing and implementing business databases.

Methodology: Describe when, where and how the assessment of this student learning outcome will be administered and evaluated. Describe the process the department will use to collect, analyze and disseminate the assessment data to program faculty and to decide the changes/improvements to make on the basis of the assessment data.
This SLO will be measured in BUSA 3233, *Data and Information Management*, every other Fall semester. Students will be assessed using course embedded questions and problems designed to measure student knowledge related to each of the three effectiveness measures. Program faculty members are responsible for collecting assessment data. Program faculty report(s) individual student assessment results to the Belk College of Business Assurance of Learning [AoL] Data Center. The Data Center collects and combines the program's assessment data from across multiple courses. The Data Center then aggregates the data and returns statistical results to all program faculty. Program faculty members analyze these results and hold a closing the loop meeting each semester to complete the continuous improvement process. At this meeting, program faculty determines what changes or improvements should be made to instruction, the program, individual courses, or to the assessment process. Changes are implemented the next time the course is taught.

Performance Outcome: Identify the percentage of students assessed that should be able to demonstrate proficiency in this student learning outcome and the level of proficiency expected. *Example: 80% of the students assessed will achieve a score of "acceptable" or higher on the Oral Presentation Scoring Rubric.*
75% of students will correctly answer 75% of the questions correctly and/or earn a score of 75 or higher (out of 100) on the assessment problems related to each effectiveness measure.

Student Learning Outcome 3 (knowledge, skill or ability to be assessed)
Students will demonstrate the ability to make decisions using analytical skills.

Effectiveness Measure: Identify the data collection instrument, e.g., exam, project, paper, etc. that will be used to gauge acquisition of this student learning outcome and explain how it assesses the desired knowledge, skill or ability. <u>A copy of the data collection instrument and all scoring rubrics associated with this student learning outcome are to be attached to the plan.</u>

The instruments used to assess student ability to make decisions using analytical skills will be questions and problems embedded in two courses. Specifically, the questions and problems test the concepts below, which, together effectively gauge overall student understanding:
    1. Students will demonstrate the ability to apply problem solving processes.
    2. Students will demonstrate the ability to think analytically.
    3. Students will demonstrate the ability to apply analytics techniques.
    4. Students will demonstrate the ability to use analytics to solve business problems.

Methodology: Describe when, where and how the assessment of this student learning outcome will be administered and evaluated. Describe the process the department will use to collect, analyze and disseminate the assessment data to program faculty and to decide the changes/improvements to make on the basis of the assessment data.
This SLO will be measured in two major courses: BUSA 3120, *Financial Management with a Quantitative Focus*, every other Spring semester and BUSA 3288, *Competitive Advantage with Marketing Analytics*, every other Fall semester. Students will be assessed using course embedded questions and problems designed to measure student knowledge related to each of the three effectiveness measures. Program faculty members are responsible for collecting assessment data. Program faculty report(s) individual student assessment results to the Belk College of Business Assurance of Learning [AoL] Data Center. The Data Center collects and combines the program's assessment data from across multiple courses. The Data Center then aggregates the data and returns statistical results to all program faculty. Program faculty members analyze these results and hold a closing the loop meeting each semester to complete the continuous improvement process. At this meeting, program faculty determines what changes or improvements should be made to instruction, the program, individual courses, or to the assessment process. Changes are implemented the next time the course is taught.

Performance Outcome: Identify the percentage of students assessed that should be able to demonstrate proficiency in this student learning outcome and the level of proficiency expected. *Example: 80% of the students assessed will achieve a score of "acceptable" or higher on the Oral Presentation Scoring Rubric*
75% of students will correctly answer 75% of the questions correctly and/or earn a score of 75 or higher (out of 100) on the assessment problems related to each effectiveness measure.