

Application to Offer an Accelerated Master's Program

Originating Department: Belk College of Business

Submitted by: Jennifer Troyer, Associate Dean for Research and Graduate Programs

Date Submitted: March 12, 2015

Program

On behalf of the Belk College of Business, we request permission to implement an Accelerated Master's program in Data Science and Business Analytics. Exceptional undergraduate UNC Charlotte students enrolled in the undergraduate concentration in Business Analytics, as noted below, may be accepted into the Professional Science Master's (PSM) program in Data Science and Business Analytics and begin work toward a graduate degree before completion of the baccalaureate degree as stipulated below.

Goal

The goal of the Accelerated Master's Program is to recruit academically talented high school and undergraduate students to graduate programs at the University, and to support them through graduation.

Mechanism

Students will begin graduate coursework in their senior year, although they will be mentored throughout the Accelerated Master's Program. The Accelerated Master's Program will allow students to complete the bachelor's degree and the master's degree in less time than pursuing them singularly, and the two degrees will be awarded simultaneously after successful completion of all program requirements. Students will only be eligible to participate in commencement ceremonies upon completing the requirements for both the bachelor's and master's degrees.

This Accelerated Master's Program may also be accelerated in which up to 12 hours earned at the graduate level may be substituted for required undergraduate hours. In other words, up to 12 hours of graduate work may be "double counted" toward both the baccalaureate and graduate degrees.

A sample of the Accelerated Master's Program curriculum for the Professional Science Master's in Data Science and Business Analytics program is attached.

Application and Admission Requirements

Students may express interest in the Accelerated Master's Program while enrolled in high school if they have a minimum GPA ≤ 3.75 (on a 4.0 scale) and a minimum score of 1700 on the SAT. Students who enroll at UNC Charlotte will apply for full admission to the Program in the spring semester of their freshman year. They must submit an online application for graduate admission and the Statement of Purpose as well as three (3) recommendations in support of the application. At least one recommendation must be provided by a high school teacher and another from a UNC Charlotte faculty member who taught the applicant in the fall semester. The application and supporting documents must be submitted by March 15th of the freshman year. Enrollment will be based on program capacity, and certain programs may have more stringent admission policies or application deadlines.

Continuing Enrollment Requirements

Students must:

- Maintain a strong academic record at the undergraduate and graduate levels, respectively (Cumulative GPA ≥ 3.0).

- Students who do not maintain the minimum GPA will be placed on probation the first semester and will be dismissed from the graduate program at the end of the second semester.
- Exhibit stellar performance in coursework.

Financial Aid and Tuition

Students may:

- Be considered for undergraduate financial aid and funding prior to completion of 121 semester hours of undergraduate credit.
- Afterwards, students may be considered for graduate financial assistance.
- Students will be charged graduate tuition and fees after completion of all baccalaureate courses, generally beginning in the fifth year of study.

Support

The academic program is expected to engage students continuously throughout their undergraduate and graduate programs. Towards this end, the following advising, mentoring, research, and financial support will be provided to participants in the Accelerated Master's Program:

- **Advising**: The Business Advising Center advises all undergraduate students in the Belk College of Business. Advising is required upon admission to the major and recommended before registration each semester. Undergraduate students in the Business Analytics concentration also have access to a specialized Academic Advisor who ensures correct progression of the undergraduate degree. Upon beginning graduate coursework, students will receive advising from the PSM Data Science and Business Analytics Program Director. Additionally, each student will complete a graduate program of study and receive advising related their plan of study.
- **Mentoring**: Students receive mentoring from the specialized Academic Advisor dedicated to undergraduate students majoring in Business Administration with a concentration in Business Analytics, undergraduate and graduate faculty, and the graduate program director throughout the program. The PSM program works closely with the Center for Graduate Life to provide professional development opportunities tailored to the unique needs of graduate and professional students. Students also have access to the University Career Center and receive career coaching from both the Belk College of Business and the University.
- **Research**: Students engage in research throughout their undergraduate and graduate career and may collaborate with faculty to conduct research. Professional development travel awards are also available for PSM students to attend conferences.
- **Financial**: Students may be considered for undergraduate financial aid funding prior to completion of 121 semester hours of undergraduate credit; afterwards, students may be considered for graduate financial assistance. A limited number of graduate assistantships are available each year that students may apply for.

Program Approval

Date Received	Date Considered	Date Forwarded	Action	Signature
3/16/2015	3/16/2015	3/16/2015	Approved	<i>Luisad Sadzivad</i> PSM in Data Science and Business Analytics Graduate Program Director
3/16/15	3/16/15	3/16/15	Approved	<i>Daryl R. Ken</i> Associate Dean for Undergraduate Programs
	5/3/15		Approved	<i>Tom Reynolds</i> Graduate Dean

Application Submission

Please submit this Accelerated Master's Program application to: Dr. Thomas Reynolds, Dean of the Graduate School, 210 Cato Hall.

Sample Accelerated Professional Science Master's in Data Science and Business Analytics Curriculum

The University of North Carolina at Charlotte will offer an integrated five-year Bachelor of Science in Business Administration with a major in Business Administration and a concentration in Business Analytics and Professional Science Master's in Data Science and Business Analytics program for exceptional Belk College of Business students.

Degree Requirements

The Professional Science Master's in Data Science and Business Analytics degree requires a minimum of 33 hours of graduate credit. Of the 33 graduate credit hours, 24 credit hours are required core courses (inclusive of 3 hours for the internship), and 9 credit hours are electives. A minimum of 24 credit hours contributing to the PSM in DSBA must be from courses numbered 6000 or higher.

Students accepted into the Accelerated PSM in Data Science and Business Analytics program will typically complete 15 undergraduate credit hours during their fall semester of their senior year. Students will typically complete 12 graduate credit hours during their spring semester of their senior year which will count towards both their baccalaureate and graduate degrees. Students will complete 9-12 graduate credit hours each semester of their fifth year to complete their graduate degree.

Core Requirements (24 hours)

- DSBA 6100 Big Data Analytics for Competitive Advantage (3)
- DSBA 6400 Internship (3)
- ITCS 5122 Visual Analytics (3)
- ITCS 6156 Machine Learning (3)
- ITCS 6160 Database Systems (3)
- MBAD 6201 Business Intelligence and Analytics (3)
- MBAD 6211 Advanced Business Analytics (3)
- MBAD 6276 Consumer Analytics (3)

Elective Courses (9 hours)

In addition, students choose 3 elective courses from a growing list of Data Science and Business Analytics courses or propose a three-course specialization for approval by the DSBA Program Director. In choosing their 3 elective courses, students must select at least one course from each of the following areas:

Data Science Electives

- ITCS 5121 Information Visualization (3)
- ITCS 6155 Knowledge-Based Systems (3)
- ITCS 6190 Cloud Computing for Data Analysis (3)
- ITIS 5510 Web Mining (3)
- ITIS 6500 Complex Adaptive Systems (3)
- ITIS 6520 Network Science (3)

Business Analytics Electives

- ECON 6112 Graduate Econometrics (3)
- MBAD 6122 Decision Modeling and Analysis via Spreadsheets (3)
- MBAD 6207 Project Management (3)
- MBAD 6208 Supply Chain Management (3)
- MBAD 6277 Social Media Marketing and Analytics (3)
- MBAD 6278 Innovation Analytics (3)

Student-Structured Electives Option

Students may propose a three-course specialization (9 credit hours) in a significant area of interest for approval by the Director of the PSM DSBA Program. In addition to the courses listed in the Data Science and Business Analytics specializations listed above, this specialization may include graduate courses from MS in CS, MS in IT, MBA, MS in Applied Statistics, MS in Mathematical Finance, MS in Economics, and other programs or Departments within the University with approval of the related Department.

Sample Program of Study: B.S.B.A. Major in Business Administration and Concentration in Business Analytics, P.S.M. in Data Science and Business Analytics with Quantitative Financial Economics Concentration

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
DSBA 6100	Big Data Analytics for Competitive Advantage	3			Program core course
Spring Semester					
ITCS 5122	Visual Analytics	3			Program core course
ITCS 6160	Database Systems	3			Program core course
MBAD 6201	Business Intelligence and Analytics	3			Program core course
xxxx xxxx	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 elective from Business Analytics elective list	3			
xxxx xxxx	Graduate elective	3			
ITCS 6156	Machine Learning	3			Program core course
MBAD 6276	Consumer Analytics	3			Program core course
Spring Semester					
MBAD 6211	Advanced Business Analytics	3			Program core course
DSBA 6400	Internship	3			Program core course
xxxx xxxx	Graduate elective from Data Science elective list	3			
xxxx xxxx	Graduate elective	3			

24 credit hours for year