

2014-2015 LONG SIGNATURE SHEET



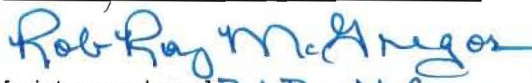



UNC CHARLOTTE

Proposal Number: BISOM 11-13-14

Proposal Title: Establishment of Concentrations in Management Information Systems
 Originating Department: Department of Business Information Systems and Operations Management

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

DATE RECEIVED	DATE CONSIDERED	DATE FORWARDED	ACTION	SIGNATURES
11/13/2014	11/13/2014	11/13/2014	Approved	<u>DEPARTMENT CHAIR</u>  Dr. Antonis Stylianou
			Approved	<u>COLLEGE CURRICULUM COMMITTEE CHAIR</u>  Dr. Tony Plath
				<u>COLLEGE FACULTY CHAIR (if applicable)</u>  [print name here:] Rob Ray McGregor
			Approved	<u>COLLEGE DEAN</u>  Dr. Steven Ott
				<u>GENERAL EDUCATION</u> (if applicable; for General Education courses) [print name here:]
				<u>HONORS COLLEGE</u> (if applicable; for Honors courses & programs) [print name here:]
			Approved	<u>UNDERGRADUATE COURSE & CURRICULUM COMMITTEE CHAIR</u> (for undergraduate content)
				<u>GRADUATE COUNCIL CHAIR</u> (for graduate content)
				<u>FACULTY GOVERNANCE ASSISTANT</u> (Faculty Council approval on Consent Calendar)
				<u>FACULTY EXECUTIVE COMMITTEE</u> (if decision is appealed)



UNC CHARLOTTE

LONG FORM COURSE AND CURRICULUM PROPOSAL

To: Undergraduate Course and Curriculum Committee Chair

From: Department of Business Information Systems and Operations Management

Date: November 13, 2014

Re: Establishment of New Concentrations in the Management Information Systems
Major

Revised Undergraduate

Course and Curriculum Proposal From: Department of Business Information Systems and Operations Management (BISOM)

ESTABLISHMENT OF CONCENTRATIONS IN MANAGEMENT INFORMATION SYSTEMS MAJOR

A. PROPOSAL SUMMARY.

The department of Business Information Systems and Operations Management (BISOM) proposes the following changes to the curriculum for Management Information Systems (MIS) majors and minors.

1. Create and offer three different concentrations for Management Information Systems majors: 1) a general "Management Information Systems" concentration, 2) "Business Intelligence and Analytics" concentration, and 3) "Systems Analysis" concentration. The attached proposed catalog copy shows the requirements for each concentration.
2. Add a new course "INFO 3230 Enterprise Systems"
3. Reduce the number of required credit hours from MIS Major and elective courses from eighteen (18) to fifteen (15) hours
4. Replace INFO 3229 with INFO 3234 in the required courses for MIS Minor
5. Revise course titles, descriptions and prerequisites.
6. Change the list of electives and remove courses that are not offered for many years.

B. JUSTIFICATION.

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

The field of information systems has changed significantly since the last major revisions made to the undergraduate curriculum for Management Information Systems (MIS) majors and minors. In particular, addressing the emerging talent needs in big data and business analytics is a top priority for UNC Charlotte and the Belk College of Business. There is increased demand for graduates with analytics skills presenting a great opportunity for our undergraduate students. A study by the McKinsey Global Institute (May 2011) estimates that U.S. organizations will create 290,000 to 340,000 "big data" jobs by 2018. More than half of those jobs will go unfilled with present production of workers in this area. The proposed change in the curriculum addresses this need. The program is designed to graduate students well equipped for employment in a wide variety of industries where the need for

business analysts with quantitative and computational skills is growing at an explosive pace.

In response to these needs from the industry, many business schools established undergraduate concentrations or tracks within the information systems and operations management department. The list of institutions and departments that made this change includes:

- Florida Atlantic University – Information Technology and Operations Management (Business Analytics concentration)
- Arizona State University – Information Systems (Business Data Analytics concentration)
- Texas Tech University – Information Systems and Quantitative Science (Business Analysis concentration)
- University of Pennsylvania – Operations and Information Management (Business Analytics track)
- Rutgers University – Management Science and Information Systems (Business Analytics concentration)

In addition, there is significant demand for graduates with enterprise systems skills. These skills enable students to deepen their understanding of the ways in which enterprise systems can support business processes, while providing them with the wide range of competencies. Enterprise systems today are capable of constantly generating key data required for business intelligence and analytics. It is important that the department keeps up with these changing needs at the regional and national levels as well as look ahead and create a curriculum for the future. The proposed new course, INFO 3230 Enterprise Systems, will serve the needs for students who are pursuing careers in business intelligence and analytics as well as systems analysis.

Overall, the proposed curriculum changes aim to refine and enhance the ability of students to think critically, and provide a profound understanding of enterprise systems and their strategic role in core business processes and functions. In addition, these changes offer students better visibility in the job market while providing more flexibility in choosing their electives.

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

The prerequisites for the new course proposed is INFO 2130, which all College of Business majors are required to take. Therefore, there is no impact in student's ability to register for the course.

The required credit hours for all MIS concentrations are reduced from 18 to 15 hours, and required courses are offered more frequently. Also, prerequisites are

changed to co-requisites for INFO 3234. These changes are intended to streamline the process of graduation for MIS majors and minors.

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

The new course INFO 3230 Enterprise Systems has consistent numbering with other courses offered to MIS majors and minors, such as INFO 3229 and INFO 3231.

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

The proposed curriculum will streamline the existing major, remove bottlenecks and barriers to student graduation, and maximize student flexibility. Major changes contributing to this objective include a reduction in required courses for the major, the removal of unnecessary prerequisites, the removal of courses that are no longer being offered, and increased frequency of offering the required courses.

The proposed program will improve the scope of instruction available in Belk College of Business by clearly delineating and strengthening our offerings in the three key “concentrations” in the management information systems discipline. Our proposal will also make the rationale and focus of our courses clearer to MIS undergraduate students and to other students taking MIS courses. They will better see how the various courses relate to their career paths. The academic advisors in the Belk College of Business will be fully apprised of the changes in our curriculum, so they in turn will better be able to direct students interested in the MIS major. In summary, the proposed curriculum will make an important contribution to UNC Charlotte in its mission to enhance the intellectual capital in the region, and contribute to its economy.

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

The new course has not been offered as special topics course.

C. IMPACT.

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

Undergraduate MIS majors and minors will most directly be impacted by this proposal. They will have an updated and forward-looking curriculum in MIS. In addition, depending on their career interests and strengths, they also will have courses from three “concentrations” to meet their needs. We believe all undergraduate business majors will have a better sense of the relevance of MIS to their own majors, and potentially have the opportunity to take additional courses

connected with their interests (such as the new Enterprise Systems course and other analytics courses).

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

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

The proposal involves only a single new course in Enterprise Systems. This course will be required for students in the Business Intelligence and Analytics concentration and will be an elective for the other concentrations, for the MIS minor, and the OSCM majors and minors. We also expect that the course will attract students from other majors, such as Accounting, Management, and Marketing. As such, it will at first be offered every Spring semester, with the prospect, as demand picks up, to be offered every semester.

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

INFO 3234 will be offered every semester (it is currently offered only in the Fall) to satisfy increased demand from the course being a requirement for MIS minors. This will contribute positively to time to graduation, since INFO 3234 is a pre/co-requisite to INFO 3240, which currently creates a bottleneck.

INFO 3229 will have a reduction in offerings as it will no longer be required for MIS minors. However, this course does not have MIS prerequisites so there will not be any impact on time to graduation.

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

Initially, we expect 30-40 students per offering taking the Enterprise Systems course.

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

Two courses from Marketing and Economics departments are added to the Major electives for the Business Intelligence and Analytics concentration. Increase in enrollment for both courses is expected to be less than 10 students per year. We determined this because current student enrollment for the MIS major is about 40 per year and there are at least two other regularly offered electives (INFO 3234 and OPER 3203) for the concentration. Please also see section "b" above.

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.)

The proposed changes will not impact any other areas of the catalog.

D. RESOURCES REQUIRED TO SUPPORT PROPOSAL.

1. PERSONNEL.

a. Hiring:

None. The proposal reduces the number of required courses for the MIS major.

b. Qualified faculty members interested in teaching the new courses:

INFO 3230 (Enterprise Systems): All MIS faculty are qualified to teach this course.

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

No additional resources, since the new course, INFO 3230 Enterprise Systems, will be taught in existing classrooms or computer laboratories.

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

No additional resources, since the new course requires equipment and supplies similar to those required by our current courses.

4. 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).

No additional resources, since the new course does not require more computer resources than those currently available.

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

No additional resources, since the new course does not require additional audio-visual equipment.

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

Some travel to professional conferences and/or onsite training will be required for faculty members to get training on the use of Enterprise Systems.

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

It is expected that the department's travel budget will be able to accommodate the need for the required professional development for Enterprise Systems.

E. INITIATION, ATTACHMENTS AND CONSIDERATION OF THE PROPOSAL

1. ORIGINATING UNIT.

- The BISOM Department approved the proposal unanimously on 11/13/2014.
- The BISOM Department approved the revised proposal, which incorporated the following suggested changes from the College course and curriculum committee, on 11/24/2014.
 - Include a comparison chart of the current MGIS major with the new major and concentrations.
 - List peer (or other) institutions that established similar concentrations.

2. CREDIT HOUR. (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.

3. ATTACHMENTS.

1. CONSULTATION:

- a. Library Consultation
- b. Consultation from Economics Department
- c. Consultation from Marketing Department

2. COURSE OUTLINE (INFO 3230 ENTERPRISE SYSTEMS)

3. PROPOSED CATALOG COPY:

4. Comparison of Current MIS Major and the New MIS Major and Concentrations

5. ACADEMIC PLAN OF STUDY: 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.

6. 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.

7. 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.

We are proposing one new course “Enterprise Systems” as a part of this revision. The probable textbooks and resources for the course are listed below.

- Monk, Ellen & Wagner, Bret., “Concepts in Enterprise Resource Planning”, 2012, ISBN-13: 978-1111820398
- Ptak C.A. and Scheagenheim E., “ERP: Tools, Techniques and Applications for Integrating the Supply Chain”, Second Edition, St. Lucie Press, 2004, ISBN 1-57444-358-5.
- Hamilton S., “Managing Your Supply Chain using Microsoft Dynamics AX 2009”, McGraw Hill, 2012, ISBN 978-0979255229.

All the three books listed above are available as electronic textbooks and can be rented from websites such as amazon.com.



Consultation on Library Holdings

To: Dr. Sungjune Park
From: Nicole Spoor
Date: November 13, 2014
Subject: New Course: INFO 3230 Enterprise Systems

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 course, INFO 3230 Enterprise Systems, it is found that the library's resources are sufficient to support this major.

A search of the library catalog reveals that there are approximately 2,630 books, including e-books that reference the term, "Enterprise System," with 589 of those titles having been published in the last three years. Individual books not owned by the library may be requested through the library's interlibrary loan service.

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

Conclusion: The holdings of Atkins Library with regards to print resources, e-books, databases, and journals are sufficient to support this new 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 12, 2014



Consultation on Library Holdings

To: Dr. Sungjune Park
From: Nicole Spoor
Date: November 13, 2014
Subject: Management Information Systems Concentration

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 concentration, Management Information Systems, it is found that the library's resources are sufficient to support this concentration.

The following table shows some of the print source holdings that are relevant to this concentration. 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
Enterprise System	2630	569

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

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

Evaluator's Signature: *D. Nicole Spoor*

Date: November 13, 2014



Consultation on Library Holdings

To: Dr. Sungjune Park
From: Nicole Spoor
Date: November 13, 2014
Subject: Business Intelligence and Analytics Concentration

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 concentration, Business Intelligence and Analytics, it is found that the library's resources are sufficient to support this concentration.

The following table shows some of the print source holdings that are relevant to this concentration. 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
Enterprise System	2630	569

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

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

Evaluator's Signature: *D. Nicole Spoor*

Date: November 13, 2014



Consultation on Library Holdings

To: Dr. Sungjune Park
From: Nicole Spoor
Date: November 13, 2014
Subject: Systems Analysis Concentration

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 concentration, Systems Analysis, it is found that the library's resources are sufficient to support this concentration.

The following table shows some of the print source holdings that are relevant to this concentration. 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
Enterprise System	2630	569

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

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

Evaluator's Signature: *D. Nicole Spoor*

Date: November 13, 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

Memorandum

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

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

Subject: Consultation Regarding the Proposed Changes to the MIS Major

Date: November 11, 2014

Thank you for consulting with the Department of Economics on the proposed inclusion of ECON 3112 (Econometrics) among the list of elective courses for the undergraduate BSBA in Management Information Systems with a Concentration in Business Analytics. My sense is that this course would be a great complement to the other courses outlined in the concentration.

We typically offer this course once per year during the Fall and once in the Summer, and it is a core course for Economics majors and minors. While it is difficult to predict the demand for this course in the Concentration in Business Analytics, should the demand be more than about 15 students per year, it would be difficult to accommodate additional students. Given our existing obligations to other programs, we are unlikely to be able to offer larger sections of the course or to offer it more frequently with our current faculty resources.


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: Antonis Stylianou, Chair, Department of BISOM
From: Sunil Erevelles, Chair, Department of Marketing 
Subject: Establishment of new concentrations and other revisions in the BISOM
undergraduate curriculum
Date: November 21, 2014

I fully support and endorse your proposal to establish new concentrations and other revisions in the BISOM undergraduate curriculum. The Department of Marketing is glad to be contributing the following elective course: MKTG 3229 – Internet Marketing and Analytics. I wish you all the best as you move forward with these new revisions.

Belk College of Business Administration, University of North Carolina at Charlotte

INFO 3230: ENTERPRISE SYSTEMS

Course Description

A problem-solving based overview of enterprise systems. Through experiential learning, students understand how business processes such as sales, logistics, production, procurement, finance, accounting and human resources are supported in ERP software. Students also learn how to configure an ERP system to meet best practices.

Prerequisites: INFO 2130 with grade of C or above; and Junior Standing or permission of department.

Learning Objectives

This course explains the core ERP applications in a typical organization to support their fundamental business functions. The specific learning objectives of this course are to enable the student:

- To understand how Enterprise Resource Planning (ERP) systems are used to enable business processes in various functional areas
- To understand the business and technical components of typical ERP systems
- To understand the necessary business and organizational characteristics for the adoption of integrated resource planning systems,
- To understand how ERP systems provide the foundations for effective business intelligence & analytics and other strategic decision-making in an enterprise
- To understand the challenges and methods for evaluation, selection, and implementation of ERP systems.

Course Materials

1. Monk, Ellen & Wagner, Bret., "Concepts in Enterprise Resource Planning", 2012, ISBN-13: 978-1111820398
2. Ptak C.A. and Scheagenheim E., "ERP: Tools, Techniques and Applications for Integrating the Supply Chain", Second Edition, St. Lucie Press, 2004, ISBN 1-57444-358-5.
3. Hamilton S., "Managing Your Supply Chain using Microsoft Dynamics AX 2009", McGraw Hill, 2012, ISBN 978-0979255229.
4. Moodle: Handouts, power-point slides, and other documents to help during class discussion or class work will be posted on Moodle.

Course Outline

Week	Topic
1	History of and state-of-the-art ERP
2 &3	Business Functions and Business Processes Development of ERP Systems
4	ERP Selection and Implementation
5 & 6	Marketing Information Systems & Sales Order Process
7 & 8	Materials Planning and Warehouse Management
9 &10	Accounting in ERP Systems
11 &12	Human Resources Processed with ERP
12 &13	Business Intelligence and Analytics Issues in ERP
14	Data Accuracy in ERP
15 & 16	ERP System Requirements
17	Project Presentations

Department of Business Information Systems and Operations Management

<http://belkcollege.uncc.edu/bisom>

The Department of Business Information Systems and Operations Management (BISOM) offers majors in two dynamic disciplines toward the Bachelor of Science in Business Administration (B.S.B.A.) degree: (1) Management Information Systems (MGIS) and (2) Operations and Supply Chain Management (OSCM). In addition, the department offers two minors: one in MGIS and another in OSCM. The focus of these programs is development of information technology and operations managers who can enhance the productivity of the firm in a knowledge-driven economy. Both majors offer students an integrated background in the functional areas of business and focus on enhancing problem-solving and critical-thinking skills using current technology.

A Major in MGIS involves the application of information technology and analytical skills to the solution of organizational problems and opportunities for innovation. MGIS graduates are prepared for positions in the design, planning, development, implementation, and management of ~~e-business information systems and systems support information systems~~. The Department of BISOM offers three concentrations for MGIS students: a general "MIS" concentration, a "Business Analytics" concentration, and a "Systems Analysis" concentration. All three concentrations are designed to provide both technological and managerial knowledge relevant to the development and use of computer-based information systems. The MIS concentration prepares students for careers in the information systems function of organizations. The Business Analytics concentration is designed for students who are planning to pursue careers in analytics. Students planning to pursue a career as business analyst or project manager are encouraged to elect the Systems Analysis concentration.

A Major in OSCM focuses on the efficient use of resources to provide quality goods and services. OSCM enables students to pursue such careers in supply chain management, production planning, project management, quality assurance, and operations. Environments in which OSCM graduates are in high demand include health care, government, manufacturing, and service industries.

Who uses Management Information Systems?

All businesses use MGIS to make forecasts, manage day-to-day operations, schedule personnel and equipment, manage quality and inventory, work with suppliers, and undertake projects. In addition, management depends on information systems to collect and analyze data to make decisions. Data on customers, suppliers, competitors, and others are the main inputs to decision making at all levels of the organization. While all organizations have information systems needs, some industries have much greater reliance on them. These include banking, insurance, large-scale retailing, and communications.

Skills for Management Information Systems majors include:

- Analytical problem solving
- Business process skills
- Communication skills
- Information technology skills
- Organizational skills

Who uses Operations and Supply Chain Management?

All businesses, including for profit and not-for-profit, manufacturing and services, use OSCM. These businesses have to make forecasts, manage day-to-day operations, schedule personnel and equipment, manage quality and inventory, work with suppliers, and undertake projects. While OSCM has always been important in manufacturing, service organizations are discovering the importance of being able to effectively and efficiently manage operations. Financial services and health care industries have been on the leading edge in using OSCM to improve operations.

Company expenditures on programs such as Six Sigma, total quality management, and operational risk management are in the billions of dollars.

Skills for Operations and Supply Chain Management majors include:

- Analytical problem solving
- Communication skills
- Information technology skills
- Organizational skills
- Project management skills

Bachelor of Science in Business Administration: Management Information Systems with Concentration in MIS

~~The primary objective of the Management Information Systems (MGIS) major is to prepare students for careers in the information systems function of organizations. The curriculum is designed to provide both technological and managerial knowledge relevant to the development and use of computer-based information systems.~~

To be accepted into the Management Information Systems major with a Concentration in MIS and to progress into the upper division of the College, a student must meet the Progression Requirements as previously stated in the PRE-ACCOUNTING, PRE-BUSINESS, and PRE-ECONOMICS section. The B.S.B.A. in Management Information Systems requires a minimum of 120 semester hours. Students must complete the General Education Requirements of the University and the Progression, Core, and Major Requirements of the Belk College of Business.

Degree Requirements

The following courses are required. **Students may attempt each of these courses two times.**

Core Courses (27 hours)

- BLAW 3150 Business Law I (3)
- COMM 3160 Business Communications (3)
- ECON 3125 Managerial Economics (3)
- FINN 3120 Financial Management (3)
- INFO 3130 Management Information Systems (3)
- MGMT 3140 Management and Organizational Behavior (3)
- MGMT 3280 Strategic Management (3)
- MKTG 3110 Marketing Concepts (3)
- OPER 3100 Operations Management (3)

MGIS Major MIS Required Courses (159 hours)

- INFO 3229 Business Data Communications and Information Security (3)
- ~~INFO 3231 Business Applications Development (3)~~
- INFO 3233 Data and Information Management (3)
- INFO 3234 Business Information Systems Analysis and Design (3)
- ~~INFO 3240 eBusiness Systems (3)~~

MGIS Major MIS Electives (36 hours)

(Select one ~~two~~ of the following courses)

- ~~ACCT 3340 Accounting Information Systems (3)~~
- INFO 3000 Topics in Management Information Systems (3)
- ~~INFO 3211 Technical Support (3)~~
- ~~INFO 3235 Advanced Business Information Systems Development (3)~~
- INFO 3230 Enterprise Systems (3)
- INFO 3236 Business Analytics (3)
- INFO 3240 eBusiness Systems (3)
- ~~INFO 3238 Current Issues in the Management of Information Systems (3)~~
- ~~INFO 3241 Information Audit, Control, and Risk Management (3)~~
- INFO 3400 Management Information Systems Internship (3)

INFO 3800 Directed Study (3)
~~ITCS 3112 Design and Implementation of Object-Oriented Systems (3)~~
~~ITCS 3155 Software Engineering (3)~~
~~ITCS 3160 Database Design and Implementation (3)~~
~~OPER 3203 Decision Modeling and Analysis (3)~~
~~OPER 3204 Management of Service and Project Operations (3)~~
OPER 3206 Quality Assurance and Management (3)

To obtain a B.S.B.A. in Management Information Systems with a Concentration in MIS, a student must meet the University requirements of a GPA of at least 2.0 overall and in the courses for the major. Students must earn a minimum grade of C in all required Progression, Core, and Major Courses. When a student repeats a course, both the old and new grades are included in the major and overall GPA. Courses repeated under the Grade Replacement Policy are excluded from the major GPA and overall computation. However, this repeated course does count as an attempt. Students must also meet the Belk College of Business residency requirements as described at the beginning of this section.

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 available online at academics.uncc.edu.

Bachelor of Science in Business Administration: Management Information Systems with Concentration in Business Intelligence and Analytics

To be accepted into the Management Information Systems major with a Concentration in Business Intelligence and Analytics and to progress into the upper division of the College, a student must meet the Progression Requirements as previously stated in the PRE-ACCOUNTING, PRE-BUSINESS, and PRE-ECONOMICS section. The B.S.B.A. in Management Information Systems requires a minimum of 120 semester hours. Students must complete the General Education Requirements of the University and the Progression, Core, and Major Requirements of the Belk College of Business.

Degree Requirements

The following courses are required. **Students may attempt each of these courses two times.**

Core Courses (27 hours)

BLAW 3150 Business Law I (3)
COMM 3160 Business Communications (3)
ECON 3125 Managerial Economics (3)
FINN 3120 Financial Management (3)
INFO 3130 Management Information Systems (3)
MGMT 3140 Management and Organizational Behavior (3)
MGMT 3280 Strategic Management (3)
MKTG 3110 Marketing Concepts (3)
OPER 3100 Operations Management (3)

Major Courses (9 hours)

INFO 3230 Enterprise Systems (3)
INFO 3233 Data and Information Management (3)
INFO 3236 Business Analytics (3)

Major Business Intelligence and Analytics Electives (6 hours)

(Select two of the following courses, at least one of which is an INFO course)
INFO 3000 Topics in Management Information Systems (3)
INFO 3234 Business Information Systems Analysis and Design (3)

[INFO 3400 Management Information Systems Internship \(3\)](#)
[INFO 3800 Directed Study \(3\)](#)
[ECON 3112 Econometrics \(3\)](#)
[MKTG 3229 Internet Marketing and Analytics \(3\)](#)
[OPER 3203 Decision Modeling and Analysis \(3\)](#)

To obtain a B.S.B.A. in Management Information Systems with a Concentration in Business Intelligence and Analytics, a student must meet the University requirements of a GPA of at least 2.0 overall and in the courses for the major. Students must earn a minimum grade of C in all required Progression, Core, and Major Courses. When a student repeats a course, both the old and new grades are included in the major and overall GPA. Courses repeated under the Grade Replacement Policy are excluded from the major GPA and overall computation. However, this repeated course does count as an attempt. Students must also meet the Belk College of Business residency requirements as described at the beginning of this section.

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 available online at academics.uncc.edu.

Bachelor of Science in Business Administration: Management Information Systems with Concentration in Systems Analysis

To be accepted into the Management Information Systems major with a Concentration in Systems Analysis and to progress into the upper division of the College, a student must meet the Progression Requirements as previously stated in the PRE-ACCOUNTING, PRE-BUSINESS, and PRE-ECONOMICS section. The B.S.B.A. in Management Information Systems requires a minimum of 120 semester hours. Students must complete the General Education Requirements of the University and the Progression, Core, and Major Requirements of the Belk College of Business.

Degree Requirements

The following courses are required. **Students may attempt each of these courses two times.**

Core Courses (27 hours)

[BLAW 3150 Business Law I \(3\)](#)
[COMM 3160 Business Communications \(3\)](#)
[ECON 3125 Managerial Economics \(3\)](#)
[FINN 3120 Financial Management \(3\)](#)
[INFO 3130 Management Information Systems \(3\)](#)
[MGMT 3140 Management and Organizational Behavior \(3\)](#)
[MGMT 3280 Strategic Management \(3\)](#)
[MKTG 3110 Marketing Concepts \(3\)](#)
[OPER 3100 Operations Management \(3\)](#)

Major Courses (12 hours)

[INFO 3231 Business Applications Development \(3\)](#)
[INFO 3233 Data and Information Management \(3\)](#)
[INFO 3234 Business Information Systems Analysis and Design \(3\)](#)
[INFO 3240 eBusiness Systems \(3\)](#)

Major Systems Analyst Electives (3 hours)

(Select one of the following courses)

[INFO 3229 Business Data Communications and Information Security \(3\)](#)
[INFO 3230 Enterprise Systems \(3\)](#)
[INFO 3236 Business Analytics \(3\)](#)
[INFO 3400 Management Information Systems Internship \(3\)](#)
[INFO 3800 Directed Study \(3\)](#)

OPER 3204 Management of Service and Project Operations (3)

To obtain a B.S.B.A. in Management Information Systems with a Concentration in Systems Analysis, a student must meet the University requirements of a GPA of at least 2.0 overall and in the courses for the major. Students must earn a minimum grade of C in all required Progression, Core, and Major Courses. When a student repeats a course, both the old and new grades are included in the major and overall GPA. Courses repeated under the Grade Replacement Policy are excluded from the major GPA and overall computation. However, this repeated course does count as an attempt. Students must also meet the Belk College of Business residency requirements as described at the beginning of this section.

Bachelor of Science in Business Administration: Operations and Supply Chain Management

To be accepted into the Operations and Supply Chain Management major and to progress into the upper division of the College, a student must meet the Progression Requirements as previously stated in the PRE-ACCOUNTING, PRE-BUSINESS, and PRE-ECONOMICS section. The B.S.B.A. in Operations and Supply Chain Management requires a minimum of 120 semester hours. Students must complete the General Education Requirements of the University and the Progression, Core, and Major Requirements of the Belk College of Business.

Degree Requirements

The following courses are required. **Students may attempt each of these courses two times.**

Core Courses (27 hours)

BLAW 3150 Business Law I (3)
COMM 3160 Business Communications (3)
ECON 3125 Managerial Economics (3)
FINN 3120 Financial Management (3)
INFO 3130 Management Information Systems (3)
MGMT 3140 Management and Organizational Behavior (3)
MGMT 3280 Strategic Management (3)
MKTG 3110 Marketing Concepts (3)
OPER 3100 Operations Management (3)

OSCM Major Courses (9 hours)

OPER 3203 Decision Modeling and Analysis (3)
OPER 3204 Management of Service and Project Operations (3)
OPER 3208 Supply Chain Management (3)

OSCM Major Electives (6 hours)

(Select two of the following courses)

ENGR 3670 Total Quality Systems (3)
ETIN 3133 Quality Control (3)
INFO 3230 Enterprise Systems (3)
INFO 3233 Data and Information Management (3)
INFO 3236 Business Analytics (3)
OPER 3000 Topics in Operations Management (3)
OPER 3201 ~~Advanced Operations Management~~Operations Planning and Control (3)
OPER 3206 Quality Assurance and Management (3)
OPER 3400 Operations and Supply Chain Management Internship (3)
OPER 3800 Directed Study (3)

To obtain a B.S.B.A. in Operations and Supply Chain Management, a student must meet the University requirements of a GPA of at least 2.0 overall and in the courses for the major. Students must earn a minimum grade of C in all required Progression, Core, and Major Courses. When a student repeats a course, both the old and 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 as described at the beginning of this section.

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 available online at academics.uncc.edu.

Minor in Management Information Systems

The Minor in Management Information Systems is designed to provide students who have an interest in business information systems with a broad foundation for integrating information technology techniques and concepts into their major field of study in business. The demand for business graduates who are knowledgeable about designing, planning, developing, managing, and evaluating of information systems continues to increase as the economy moves from a manufacturing to an information base. The demand for MGIS professionals has increased dramatically during the past ten years and the trend is expected to continue. However, there is also an increase in the demand for management information systems professionals who have an in-depth understanding of the application domain and who can apply MGIS concepts in contexts which are more specific to their major. Thus, professionals with a primary interest and expertise in marketing, health care, banking, finance, accounting, and management are being sought by business application-area specialists.

The focus of the Minor in MGIS is to impart a framework for understanding MGIS and for utilizing its tools to the student's major. The minor will offer graduates a competitive advantage in terms of the types of positions for which they qualify. Graduates of the program will be able to act as technical liaisons between MGIS professionals and their "home" departments, as sales specialists for specialized software/applications systems, and as technical representatives.

The Minor in MGIS is directed not only at UNC Charlotte students majoring in business but also those majoring in other Colleges. The benefits of a Minor in MGIS include increased marketability in information-dependent firms in the public and private sector and the ability to leverage one's major discipline with state-of-the-art computing knowledge. A key benefit of taking MGIS courses is that students learn to effectively use technology in business settings.

Minor Requirements

To be accepted into the Minor in MGIS and to progress into the upper division of the College, a student must present a minimum 2.5 GPA overall and Junior standing. A Minor in Management Information Systems requires a minimum 15 semester hours (five courses) for students who have taken the business prerequisites listed below. **Students may attempt each of these courses two times.**

Prerequisite Courses (18 hours)

ACCT 2121 Principles of Accounting I (3)
ACCT 2122 Principles of Accounting II (3)
ECON 2101 Principles of Economics Macro (3)
ECON 2102 Principles of Economics Micro (3)
MATH 1120 Calculus (3)
STAT 1220 Elements of Statistics I (3)

MGIS Minor Courses (12 hours)

INFO 2130 Introduction to Business Computing (3)*
INFO 3130 Management Information Systems (3)
~~INFO 3229 Business Data Communications and Information Security (3)~~
INFO 3233 Data and Information Management (3)
INFO 3234 Business Information Systems Analysis and Design (3)

MGIS Minor Electives (3 hours)

(Select one of the following courses)

ACCT 3340 Accounting Information Systems (3)

[INFO 3229 Business Data Communications and Information Security \(3\)](#)

[INFO 3230 Enterprise Systems \(3\)](#)

INFO 3231 Business Application Development (3)

~~INFO 3234 Business Information Systems Analysis and Design (3)~~

INFO 3236 Business Analytics (3)

[INFO 3240 eBusiness Systems \(3\)](#)

MKTG 3214 Internet Marketing (3)

OPER 3203 Decision Modeling and Analysis (3)

**All Computer Science and Software and Information Systems majors will be exempted from INFO 2130. Other students with sufficient background can apply for Credit by Exam for INFO 2130.*

To obtain a Minor in Management Information Systems, a student must meet the University requirements of a GPA of at least 2.0 overall and in the courses for the minor. Students must earn a minimum grade of C in all required minor courses. When a student repeats a course, both the old and new grades are included in the minor and overall GPA. Courses repeated under the Grade Replacement Policy are excluded from the minor and overall GPA computation. However, this repeated course does count as an attempt. Students must also meet the Belk College of Business residency requirements as described at the beginning of this section.

Minor in Operations and Supply Chain Management

The Minor in Operations and Supply Chain Management (OSCM) is designed to provide business and non-business students who have an interest in supply chain management, manufacturing, and service operations with a broad foundation of OSCM concepts and analytical methodology to be integrated into their major field of study.

The demand for graduates who are knowledgeable about designing, planning, evaluating, and managing supply chains, production, and service systems continues to increase. There is also an increase in the demand of OSCM professionals who can define strategic and operational problems, collect relevant data, and apply advanced analytical techniques to improve the performance of firms. OSCM courses deal with supply chains, service systems, and manufacturing organizations. These areas examine the production function of an organization at a strategic level, as well as the plant and shop floor level. Areas included in the OSCM program include operations strategy, process analysis, product design, quality management, logistics management, procurement, supply chain management, project management, and waiting line management as well as analytical techniques such as optimization and simulation.

The minor offers graduates a competitive advantage in terms of the types of positions for which they qualify. The Minor in OSCM is directed not only at UNC Charlotte students majoring in business but also those majoring in other Colleges. The benefits of a minor in OSCM include increased marketability in the public and private sector and the ability to leverage one's major discipline with a solid understanding of one business area, increased analytical thinking, problem solving ability, and an understanding of internal and external environments of service and business organizations.

Minor Requirements

To be accepted into the Minor in OSCM and to progress into the upper division of the College, a student must present a minimum 2.5 GPA overall and Junior standing. A Minor in Operations and Supply Chain Management requires a minimum 15 semester hours (five courses) for students who have taken the business prerequisites listed below. **Students may attempt each of these courses two times.**

Prerequisites (21 hours)

ACCT 2121 Principles of Accounting I (3)

ACCT 2122 Principles of Accounting II (3)

ECON 2101 Principles of Economics Macro (3)

ECON 2102 Principles of Economics Micro (3)

INFO 2130 Introduction to Business Computing (3)*
MATH 1120 Calculus (3)
STAT 1220 Elements of Statistics I (3)

OSCM Minor Courses (9 hours)

MGMT 3140 Management and Organizational Behavior (3)
OPER 3100 Operations Management (3)
OPER 3208 Supply Chain Management (3)

OSCM Minor Electives (6 hours)

(Select two of the following courses, one of which must be an OPER course)

[INFO 3230 Enterprise Systems \(3\)](#)

INFO 3233 Data and Information Management (3)

[INFO 3236 Business Analytics \(3\)](#)

OPER 3201 ~~Advanced Operations Management~~ Operations Planning and Control (3)

OPER 3203 Decision Modeling and Analysis (3)

OPER 3204 Management of Service and Project Operations (3)

OPER 3206 Quality Assurance and Management (3)

**All Computer Science and Software and Information Systems majors will be exempted from INFO 2130. Other students with sufficient background can apply for Credit by Exam for INFO 2130.*

To obtain a Minor in Operations and Supply Chain Management, a student must meet the University requirements of a GPA of at least 2.0 overall and in the courses for the minor. Students must earn a minimum grade of C in all required minor courses. When a student repeats a course, both the old and new grades are included in the minor and overall GPA. Courses repeated under the Grade Replacement Policy are excluded from the minor and overall GPA computation. However, this repeated course does count as an attempt. Students must also meet the Belk College of Business residency requirements as described at the beginning of this section.

Management Information Systems (INFO)

INFO 2130. Introduction to Business Computing. (3) Introduction of computer methods to solve business problems. Emphasis on understanding fundamental hardware and software concepts, selecting and using appropriate hardware and software needed for making various business decisions, and developing practical methods for using the computer to solve quantitative business problems. (May not be taken for upper-level credit in business, but may be taken for general University credit.) *(Fall, Spring, Summer) (Online)*

~~**INFO 2231. Introduction to Business Programming. (3)** Cross listed as ITCS 2231. Pre- or corequisite: INFO 2130 or permission of department. The examination of business problems, the extraction of the logic and business rules, and the relationship between business logic, programming constructs and technologies for decision support. *(Fall, Spring, Summer) (Online)*~~

INFO 3000. Topics in Management Information Systems. (3) Prerequisite: INFO 3233 with grade of C or above. Topics from the area of Management Information Systems. *May be repeated for credit. (On demand)*

INFO 3130. Management Information Systems. (3) Prerequisites: ACCT 2121, 2122; ECON 2101, 2102; MATH 1120; INFO 2130; and STAT 1220 with grades of C or above; and Junior standing. Impact of information systems on management decision-making activities. Principles of the structure and analysis of information flows within an organization. Emphasis on database accumulation and generation, capabilities of information processing, system function (e.g., file creation, report generation, etc.) and evaluation and modification of information systems. *(Fall, Spring, Summer)*

~~**INFO 3200. Foundations in Business Computing. (3)** Introduction to computer systems in business with emphasis on the capabilities of computer systems (hardware & software) and skills needed to effectively use computerized decision tools for typical business problems. (Cannot be taken for credit toward any undergraduate degree within the Belk College of Business.) *(On demand)*~~

~~**INFO 3211. Technical Support. (3)** A study of technical support and help desk concepts. Emphasis on building skill sets in diagnosing and solving user and software related problems. Topics include: support management techniques, help desk operations, and support performance evaluation. *(On demand)*~~

INFO 3229. Business Data Communications and Information Security. (3) ~~Prerequisite~~Pre or co-requisites: INFO 3130 with grade of C or above. A study of the current and potential impact of computer data communications technologies and information security on business operations and productivity. Topics include: designing, planning and implementing solutions in such areas as local area networks, networked applications, and information assurance. *(Fall, On demand)*

3230. Enterprise Systems. (3) Prerequisites: INFO 2130 with grade of C or above; and Junior Standing or permission of department. A problem-solving based overview of enterprise systems. Through experiential learning, students understand how business processes such as sales, logistics, production, procurement, finance, accounting and human resources are supported in ERP software. Students also learn how to configure an ERP system to meet best practices. *(Spring, On demand)*

INFO 3231. Business Applications Development. (3) Prerequisites: ~~INFO 3130~~INFO 2130 with grade of C or above; and Junior Standing or permission of department. A study in the development of business applications software. Course emphasizes graphical user interface development using object-oriented, event-driven programming methods and techniques with a high-level development tool such as Visual Basic or Java. *(Spring, On demand)*

INFO 3233. Data and Information Management. (3) ~~Prerequisite~~Pre or co-requisites: INFO 3130 with grade of C or above; and Junior standing or permission of department. A study of ~~the effective management and utilization of organizational data resources in order to design and implement database management systems (DBMS) and implementation of databases~~ for business applications. Exploration of basic concepts of ~~database systems and use of the computer to build~~ design and the use of SQL to create and manipulate corporate databases. *(Fall, Spring)*

INFO 3234. Business Information Systems Analysis and Design. (3) Prerequisites: INFO 3231 and Pre or co-requisite: INFO 3233 with grade of C or above. Examination of business information systems from the perspective of the systems analyst to provide an understanding of concepts, processes and techniques as they are applied to the systems development life cycle. Emphasis on the use of structured and object-oriented techniques to manage the complexities involved in the analysis phase of systems development. (*Fall, Spring*)

~~**INFO 3235. Advanced Business Information Systems Development. (3)** Prerequisites: INFO 3234 with grade of C or above. Development of Business Information Systems. Emphasis on the development of computer applications as products of the systems development life cycle including the design and implementation phases of systems development, as accomplished through a major course project. (*On demand*)~~

INFO 3236. Business Analytics. (3) Prerequisites: Junior or Senior standing; and ~~MIS, OSCM, Economics, or Marketing~~ College of Business major or minor in good standing; or permission of department. Various data mining and business intelligence methods, such as rule-based systems, decision trees, and logistic regression. Query and reporting, online analytical processing (OLAP) and statistical analysis. Issues relating to modeling, storing, securing, and sharing the organizational data resources. (*Fall, On demand*)

~~**INFO 3238. Current Issues in The Management of Information Systems. (3)** Prerequisites: INFO 3130 and MGMT 3140 with grades of C or above. Information systems and the management of information in an organization to provide exposure to the decision challenges presented to the corporate manager by the rapid development of information technology and to suggest useful constructs for dealing with them. An integrated, interactive approach to decision making. (*On demand*)~~

INFO 3240. eBusiness Systems. (3) Pre- or corequisite: INFO 3234 with grade of C or above. A study of the evolving information technologies facilitating electronic business (eBusiness) and the business practices and strategies used to compete in the new wired global marketplace. Topics include: the infrastructure for eBusiness, new business strategies and models, web design, and management strategies, and an exploration of a variety of technologies involved in eBusiness. (*Spring, On demand*)

~~**INFO 3241. Information Audit, Control, and Risk Management. (3)** Prerequisite: INFO 3130 with grade of C or above. This course examines information systems auditing as an organizational function that evaluates asset safeguarding, data integrity, system effectiveness and efficiency. IT risk management, IT controls, legal issues, security and privacy, and related concepts will also be explored. (*On demand*)~~

INFO 3400. Management Information Systems Internship. (1-6) Prerequisite: Junior or Senior in good standing and department approval. Full- or part-time academic year internship in areas complementary to the concentration area of studies and designed to allow theoretical and course-based practical learning to be applied in a supervised industrial experience. Requires 50 hours of supervised employment per hour of credit. Each student's internship program must be approved by the supervising faculty. A proposal form must be completed and approved prior to registration and the commencement of the work experience. A mid-term report and a final report to be evaluated by the supervising faculty are required. Grading will be by the supervising faculty and could be in consultation with off-campus supervisor at the internship organization. *Graded on a Pass/No Credit basis.* A student who is employed with applying for this Management Information Systems internship may not earn internship credit through work for the current employer. May be used to meet requirements of a major elective, up to a maximum of three credit hours. (*Fall, Spring, Summer*)

INFO 3401. Management Information Systems Internship. (1-6) Prerequisite: Junior or Senior in good standing and department approval. Full- or part time academic year internship in areas complementary to the concentration area of studies and designed to allow theoretical and course-based practical learning to be applied in a supervised industrial experience. Requires 50 hours of supervised employment per hour of credit. Each student's internship program must be approved by the supervising faculty. A proposal form must be completed and approved prior to registration and the commencement of the work experience. A mid-term report and a final report to be evaluated by the supervising faculty are required. Grading will be by the supervising faculty and could be in consultation with off-campus supervisor at the internship organization. *Graded as a letter grade.* A student who is employed with applying for this Management Information Systems internship may not earn internship credit through work for the

current employer. May be used to meet requirements of a major elective, up to a maximum of three credit hours. (Fall, Spring, Summer)

INFO 3500. Management Information Systems Cooperative Education and 49ership Experience. (0) Prerequisite: Management Information Systems major. Enrollment in this course is required for the department's cooperative education and 49ership/service 49ership students during any semester they are working in a position. Acceptance into the Experiential Learning Program by the University Career Center is required. Participating students pay a course registration fee for transcript notation (49ership and co-op) and receive full-time student status (co-op only). Assignments must be arranged and approved in advance. *Course may be repeated. Graded on a Satisfactory/Unsatisfactory basis.* Only open to undergraduate students; graduate level students are encouraged to contact their academic departments to inquire about academic or industrial internship options for credit. For more information, contact the University Career Center. (Fall, Spring, Summer)

INFO 3800. Directed Study. (1-6) Prerequisites: Permission of department and Junior standing. Enrollment granted only by permission of the faculty with whom the work will be performed. The student's work assignments will be designed by the student and faculty member who will oversee the project of study. The credit hours will be determined prior to enrollment and will be based on the particular project undertaken. (On demand)

Operations Management (OPER)

OPER 3000. Topics in Operations Management. (3) Prerequisite: OPER 3100 with grade of C or above. Topics from the areas of Operations Management. The course *May be repeated for credit.* (On demand)

OPER 3100. Operations Management. (3) Prerequisites: ACCT 2121, 2122; ECON 2101, 2102; INFO 2130; MATH 1120; and STAT 1220 with grades of C or above; Junior standing. Introduction to and development of the management functions in manufacturing and non-manufacturing organizations. A systems approach to the organizational environment, the basic operating functions, the problems and decisions a manager encounters and solution techniques and models. Computer application are included where appropriate. (Fall, Spring, Summer) (Evenings)

OPER 3201. ~~Advanced Operations Management~~ Operations Planning and Control. (3) Prerequisite: OPER 3100 with grade of C or above. An in-depth study of production planning and control activities in an enterprise resource planning context. Topics covered include: forecasting, operations and capacity planning, master production scheduling, material requirements planning, production activity control, inventory management, and Just-in-Time inventory systems. The use of software to manage operations and the interactions between operations and other functional areas of a business will be emphasized. (Fall)

OPER 3203. Decision Modeling and Analysis. (3) Prerequisite: OPER 3100 with grade of C or above. Analytical approach to understanding the management process and solving management problems with emphasis on model formulation, solution techniques, and interpretation of results. Specific topics covered in this course include: techniques such as linear, integer, goal and multi objective programming; queuing theory and applications; decision support via Monte Carlo simulation; decision making under uncertainty and risk; decision trees; and multi-criteria decision making. Excel is the main analytical tool.. (Fall)

OPER 3204. Management of Service and Project Operations. (3) Prerequisite: OPER 3100 with grade of C or above. Examines both strategic and operational decision making in service management with emphasis on the latter. Topics include: service strategy, designing new services, assessing and improving service quality, improving the efficiency and effectiveness of service processes, service process design and service facility location, managing waiting lines, managing service projects, and the integration of technology into service operations. (Spring)

OPER 3206. Quality Assurance and Management. (3) Prerequisite: OPER 3100 with grade of C or above. A study of management philosophy, practices and analytical processes implemented in quality planning and administration of products and services. Topics include: corporate culture, quality design, human factors and motivation, quality cost analyses and auditing, service quality, quality assurance, quality circles, and conformance to design. (Spring)

OPER 3208. Supply Chain Management. (3) Prerequisite: OPER 3100 with grade of C or above. Supply chain management is concerned with all of the activities performed from the initial raw materials to the ultimate consumption of the finished product. From a broad perspective, the course is designed to examine the major aspects of the supply chain: the product flows; the information flows; and the relationships among supply chain participants. The course content is interdisciplinary in nature and will cover a variety of topics such as supply chain information technologies, supply chain design, strategic alliances between supply chain participants and supply chain initiatives. *(Spring, On demand)*

OPER 3400. Operations and Supply Chain Management Internship. (1-6) Prerequisites: Junior or Senior in good standing and department approval. Full- or part-time academic year internship in areas complementary to the concentration area of studies and designed to allow theoretical and course-based practical learning to be applied in a supervised industrial experience. Requires 50 hours of supervised employment per hour of credit. Each student's internship program must be approved by the supervising faculty. A proposal form must be completed and approved prior to registration and the commencement of the work experience. A mid-term report and a final report to be evaluated by the supervising faculty are required. Grading will be by the supervising faculty and could be in consultation with off-campus supervisor at the internship organization. *Graded on a Pass/No Credit basis.* A student who is employed with applying for this Management Information Systems internship may not earn internship credit through work for the current employer. May be used to meet requirements of a major elective, up to a maximum of six credit hours. *(Fall, Spring, Summer)*

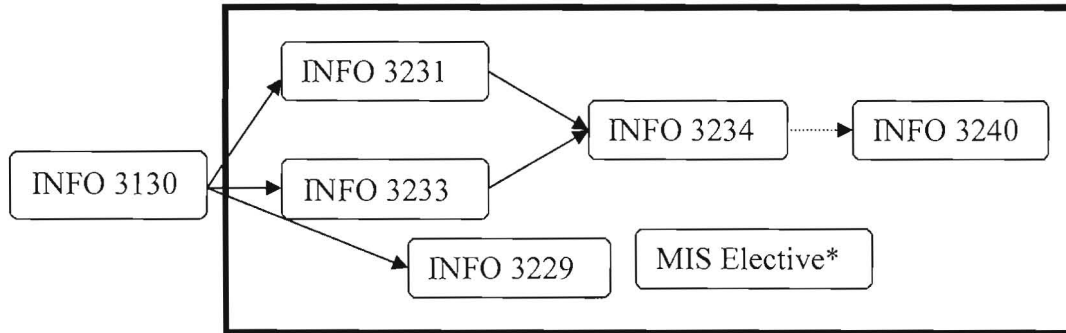
OPER 3401. Operations and Supply Chain Management Internship. (1-6) Prerequisite: Junior or Senior in good standing and department approval. Full- or part-time academic year internship in areas complementary to the concentration area of studies and designed to allow theoretical and course-based practical learning to be applied in a supervised industrial experience. Requires 50 hours of supervised employment per hour of credit. Each student's internship program must be approved by the supervising faculty. A proposal form must be completed and approved prior to registration and the commencement of the work experience. A mid-term report and a final report to be evaluated by the supervising faculty are required. Grading will be by the supervising faculty and could be in consultation with off-campus supervisor at the internship organization. *Graded as a letter grade.* A student who is employed with applying for this Management Information Systems internship may not earn internship credit through work for the current employer. May be used to meet requirements of a major elective, up to a maximum of six credit hours. *(Fall, Spring, Summer)*

OPER 3500. Operations and Supply Chain Management Cooperative Education and 49ership Experience. (0) Prerequisite: Operations and Supply Chain Management major. Enrollment in this course is required for the department's cooperative education and 49ership/service 49ership students during each semester they are working in a position. Acceptance into the Experiential Learning Program by the University Career Center is required. Participating students pay a course registration fee for transcript notation (49ership and co-op) and receive full-time student status (co-op only). Assignments must be arranged and approved in advance. *Course may be repeated.* *Graded on a Satisfactory/Unsatisfactory basis.* Only open to undergraduate students; graduate level students are encouraged to contact their academic departments to inquire about academic or industrial internship options for credit. For more information, contact the University Career Center. *(Fall, Spring, Summer)*

OPER 3800. Directed Study. (1-6) Prerequisites: Permission of department and Junior standing. Enrollment granted only by permission of the faculty with whom the work will be performed. The student's work assignments will be designed by the student and faculty member who will oversee the project of study. The credit hours will be determined prior to enrollment and will be based on the particular project undertaken. *(On demand)*

Comparison of Current MIS Major and the New MIS Major and Concentrations

Current Required Courses for MIS Major (5 Required + 1 Elective)

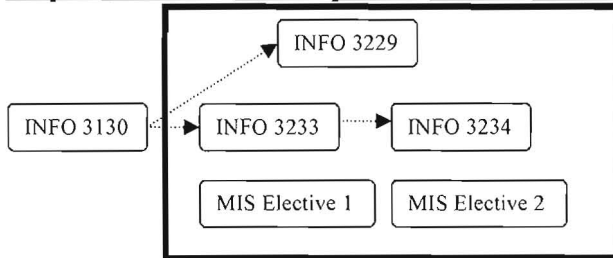


→ Prerequisite

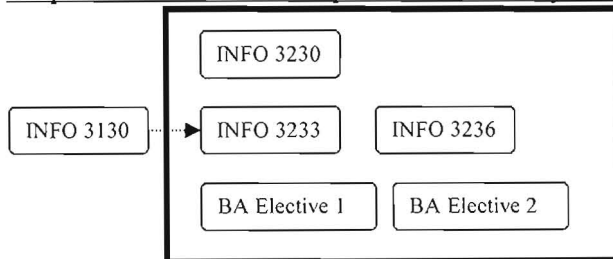
 → Co-requisite

* Currently INFO 3236 is the only regularly offered INFO elective course.

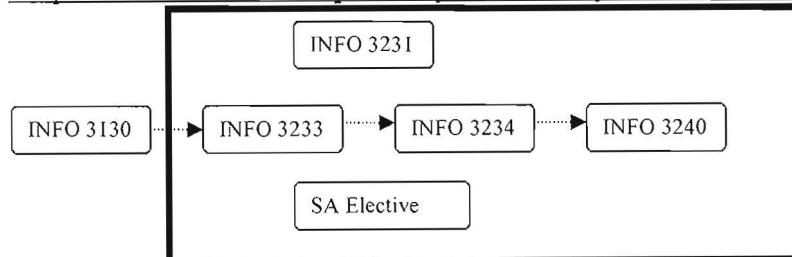
Required Courses for Proposed General MIS Concentration (3 Required + 2 Elective)



Required Courses for Proposed BI & Analytics Concentration (3 Required + 2 Elective)



Required Courses for Proposed Systems Analysis Concentration (4 Required + 1 Elective)



PROGRAM SUMMARY

- **Credit Hours:** 120 hours
- **Concentrations:** Management Information Systems, Business Intelligence and Analytics, and Systems Analysis
- **Declaring the Major:** Admission to the major is competitive. Students must have junior standing (60 earned hours), an overall GPA of 2.5 in all University courses, and completed the Progression Courses: ACCT 2121, ACCT 2122, BUSN 1101, ECON 2101, ECON 2102, INFO 2130, MATH 1120, STAT 1220 with a minimum 2.5 GPA (4 Bs and 4 Cs within 2 attempts). Students should seek admission to the Pre-Business program as freshmen and sophomores 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. 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 C's or better (within 2 attempts) in all business coursework. GPA of 2.0 in the major and all University coursework required for graduation.
- **Teacher Licensure:** No
- **Evening Classes Available:** Yes, but limited
- **Weekend Classes Available:** No
- **Other Information:** Business Honors Program, Business Learning Community, Association for Information Systems, Internships, Study Abroad, Student Center for Professional Development
- **Contacts(s):** Belk College of Business Advising Center, 368 Friday Bldg., (704) 687-7585 or stadvise@uncc.edu

PROGRAM REQUIREMENTS

Entering students are designated as Pre-Business (PBUS). Once students have attained certain course requirements during the Junior year (see above), they may officially declare a major program in the Belk College. To declare a major, students will complete a Curriculum Guide and Change of Major form with their assigned Academic Advisor.

The Management Information Systems (MGIS) major has three concentrations: Management Information Systems, Business Intelligence and Analytics, and Systems Analysis. Management Information Systems is a very structured program of courses that are completed in the junior and senior years after admission to the major.

Areas	Credit Hours	Description
Pre-Major/ Prerequisites	24	ACCT 2121, ACCT 2122, BUSN 1101, ECON 2101, ECON 2102, INFO 2130, MATH 1120 and STAT 1220. Students must have a C or better for all courses and a minimum combined GPA of 2.5 (or 4 Bs and 4 Cs). Students may not exceed two attempts for these courses.
Major (Mgmt Info Sys. Concentration)	42	Includes courses in Management Information Systems and required Business Core courses in the Belk College.
Major (Bus. Intel. & Analytics)	42	Includes courses in Business Intelligence and Analytics and required Business Core courses in the Belk College.
Major (Sys. Analysis Concentration)	42	Includes courses in Systems Analysis and required Business Core courses in the Belk College.
General Education (not satisfied by other major requirements)	31	UWRT 1101 and UWRT 1102 satisfy the First Year Writing requirement. ECON 2101, MATH 1120 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	-	
Electives	23	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 coursework may be used to satisfy 50%.
Total Credit Hours	120	

SUGGESTED PLAN OF STUDY – CONCENTRATION IN MANAGEMENT INFORMATION SYSTEMS

Freshman Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
<i>Fall Semester</i>					
UWRT 1101	Writing and Inquiry in Academic Contexts I	3	X		
MATH 1100	College Algebra and Probability	3	X		
XXXX XXXX	Natural Science w / Lab	4	X		
LBST 11XX	LBST 1100 Series: Arts and Society	3	X		
BUSN 1101	Introduction to Business & Professional Development	3			Progression Course
<i>Spring Semester</i>					
UWRT 1102	Writing and Inquiry in Academic Contexts II	3	X		
MATH 1120	Calculus	3	X		Progression Course
INFO 2130	Introduction to Business Computing	3			Progression Course
LBST 2101	Western Cultural and Historical Awareness	3	X		
XXXX XXXX	Non-Business Elective	3			
31 Credit Hours for Year					

Sophomore Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
<i>Fall Semester</i>					
ACCT 2121	Principles of Accounting I	3			Progression Course
ECON 2101	Principles of Economics - Macro	3	X		Progression Course
STAT 1220	Elements of Statistics	3	X		Progression Course
XXXX XXXX	Natural Science	3	X		
LBST 2102	Global and Intercultural Connections	3	X		
<i>Spring Semester</i>					
ACCT 2122	Principles of Accounting II	3			Progression Course
ECON 2102	Principles of Economics - Micro	3			Progression Course
XXXX XXXX	Writing Intensive Course	3	X	W	
LBST 22XX	LBST 2200 Series: Ethical Issues and Cultural Critique	3	X		
XXXX XXXX	Non-Business Elective	3			
30 Credit Hours for Year					

Junior Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
<i>Fall Semester</i>					
INFO 3130	Management Information Systems	3			
INFO 3229	Data and Information Management	3			
OPER 3100	Operations Management	3			
COMM 3160	Business Communications	3	X	W,O	
XXXX XXXX	Non-Business Elective	3			
<i>Spring Semester</i>					
INFO 3233	Data and Information Management	3			
FINN 3120	Financial Management	3			
MKTG 3110	Marketing Concepts	3			
XXXX XXXX	MIS Elective	3			
XXXX XXXX	Non-Business Elective	3			
30 Credit Hours for Year					

Senior Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
<i>Fall Semester</i>					
INFO 3234	Business Information Systems Analysis and Design	3			
BLAW 3150	Business Law I	3			
ECON 3125	Managerial Economics	3			
MGMT 3140	Management and Organizational Behavior	3			
XXXX XXXX	Non-Business Elective	3			
<i>Spring Semester</i>					
XXXX XXXX	General Elective	3			
XXXX XXXX	MIS Elective	3			
MGMT 3280	Strategic Management	3			
XXXX XXXX	General Elective	3			
XXXX XXXX	General Elective	3			
30 Credit Hours for Year					

ADVISING RESOURCES

- General Education Requirements for ALL Students: ucol.uncc.edu/general-education
- Undergraduate Catalog: catalog.uncc.edu
- Central Advising website: advising.uncc.edu
- Belk College of Business advising website: belkcollege.uncc.edu/undergraduate-programs/advising
- University Advising Center website: advisingcenter.uncc.edu

SUGGESTED PLAN OF STUDY- CONCENTRATION IN BUSINESS INTELLIGENCE AND ANALYTICS

Freshman Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
<i>Fall Semester</i>					
UWRT 1101	Writing and Inquiry in Academic Contexts I	3	X		
MATH 1100	College Algebra and Probability	3	X		
XXXX XXXX	Natural Science w / Lab	4	X		
LBST 11XX	LBST 1100 Series: Arts and Society	3	X		
BUSN 1101	Introduction to Business & Professional Development	3			Progression Course
<i>Spring Semester</i>					
UWRT 1102	Writing and Inquiry in Academic Contexts II	3	X		
MATH 1120	Calculus	3	X		Progression Course
INFO 2130	Introduction to Business Computing	3			Progression Course
LBST 2101	Western Cultural and Historical Awareness	3	X		
XXXX XXXX	Non-Business Elective	3			

31 Credit Hours for Year

Sophomore Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
<i>Fall Semester</i>					
ACCT 2121	Principles of Accounting I	3			Progression Course
ECON 2101	Principles of Economics - Macro	3	X		Progression Course
STAT 1220	Elements of Statistics	3	X		Progression Course
XXXX XXXX	Natural Science	3	X		
LBST 2102	Global and Intercultural Connections	3	X		
<i>Spring Semester</i>					
ACCT 2122	Principles of Accounting II	3			Progression Course
ECON 2102	Principles of Economics - Micro	3			Progression Course
XXXX XXXX	Writing Intensive Course	3	X	W	
LBST 22XX	LBST 2200 Series: Ethical Issues and Cultural Critique	3	X		
XXXX XXXX	Non-Business Elective	3			

30 Credit Hours for Year

Junior Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
<i>Fall Semester</i>					
INFO 3130	Management Information Systems	3			
INFO 3233	Data and Information Management	3			
OPER 3100	Operations Management	3			
COMM 3160	Business Communications	3	X	W, O	
XXXX XXXX	Non-Business Elective	3			
<i>Spring Semester</i>					
INFO 3230	Enterprise Systems	3			
XXXX XXXX	MIS Elective	3			
FINN 3120	Financial Management	3			
MKTG 3110	Marketing Concepts	3			
XXXX XXXX	Non-Business Elective	3			

30 Credit Hours for Year

Senior Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
<i>Fall Semester</i>					
INFO 3236	Business Analytics	3			
BLAW 3150	Business Law I	3			
ECON 3125	Managerial Economics	3			
MGMT 3140	Management and Organizational Behavior	3			
XXXX XXXX	Non-Business Elective	3			
<i>Spring Semester</i>					
XXXX XXXX	General Elective	3			
XXXX XXXX	MIS Elective	3			
MGMT 3280	Strategic Management	3			
XXXX XXXX	General Elective	3			
XXXX XXXX	General Elective	3			

30 Credit Hours for Year

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- University Advising Center website: advisingcenter.uncc.edu

SUGGESTED PLAN OF STUDY- CONCENTRATION IN SYSTEMS ANALYSIS

Freshman Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
Fall Semester					
UWRT 1101	Writing and Inquiry in Academic Contexts I	3	X		
MATH 1100	College Algebra and Probability	3	X		
XXXX XXXX	Natural Science w / Lab	4	X		
LBST 11XX	LBST 1100 Series: Arts and Society	3	X		
BUSN 1101	Introduction to Business & Professional Development	3			Progression Course
Spring Semester					
UWRT 1102	Writing and Inquiry in Academic Contexts II	3	X		
MATH 1120	Calculus	3	X		Progression Course
INFO 2130	Introduction to Business Computing	3			Progression Course
LBST 2101	Western Cultural and Historical Awareness	3	X		
XXXX XXXX	Non-Business Elective	3			
31 Credit Hours for Year					

Sophomore Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
Fall Semester					
ACCT 2121	Principles of Accounting I	3			Progression Course
ECON 2101	Principles of Economics - Macro	3	X		Progression Course
STAT 1220	Elements of Statistics	3	X		Progression Course
XXXX XXXX	Natural Science	3	X		
LBST 2102	Global and Intercultural Connections	3	X		
Spring Semester					
ACCT 2122	Principles of Accounting II	3			Progression Course
ECON 2102	Principles of Economics - Micro	3			Progression Course
XXXX XXXX	Writing Intensive Course	3	X	W	
LBST 22XX	LBST 2200 Series: Ethical Issues and Cultural Critique	3	X		
XXXX XXXX	Non-Business Elective	3			
30 Credit Hours for Year					

Junior Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
Fall Semester					
INFO 3130	Management Information Systems	3			
INFO 3233	Data and Information Management	3			
OPER 3100	Operations Management	3			
COMM 3160	Business Communications	3	X	W,O	
XXXX XXXX	Non-Business Elective	3			
Spring Semester					
INFO 3231	Business Applications Development	3			
XXXX XXXX	MIS Elective	3			
FINN 3120	Financial Management	3			
MKTG 3110	Marketing Concepts	3			
XXXX XXXX	Non-Business Elective	3			
30 Credit Hours for Year					

Senior Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
Fall Semester					
INFO 3234	Business Information Systems Analysis and Design	3			
BLAW 3150	Business Law I	3			
ECON 3125	Managerial Economics	3			
MGMT 3140	Management and Organizational Behavior	3			
XXXX XXXX	Non-Business Elective	3			
Spring Semester					
INFO 3240	eBusiness Systems	3			
XXXX XXXX	General Elective	3			
MGMT 3280	Strategic Management	3			
XXXX XXXX	General Elective	3			
XXXX XXXX	General Elective	3			
30 Credit Hours for Year					

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