



Alignment of Degree Programs

CIP Code & Title: 52.1201 Management Information Systems, General

Level: Bachelor's

Area of Strategic Emphasis: STEM

PROGRAM DESCRIPTION:

The Business Analytics and Information Systems (BAIS) major provides the skills and knowledge necessary to enter the rapidly changing world of business analytics and information systems. Potential career paths include data analyst, business intelligence analyst, business analyst, consulting, systems analyst, database administrator, project manager or a myriad of technology management roles in business.

CURRICULUM:

A. Student Learning Outcomes:

Goal 1: Discipline Specific Content

- 1a. Outcome: Students should be able to identify the basic mechanisms for organizing, developing, and debugging programs.
- 1b. Outcome: Students should be able to analyze a business case narrative and select an appropriate descriptive model; identify the concepts and processes in the life-cycle of information systems with an emphasis on analysis and design.
- 1c. Outcome: Students should be able to describe the concepts and processes involved in designing, developing, implementing, maintaining, using, and managing database systems and how to apply them in business situations.

Goal 2: Communication Skills

- 2a. Outcome: Students should be able to create and deliver effective oral presentations
- 2b. Outcome: Students should demonstrate effective written communication skills.

Goal 3: Critical Thinking Skills

- 3a. Outcome: Students should be able to describe the evolution of the role of information systems in contemporary organizations.

B. Admission Standards for the Program:

B1. Limited Access:

Students who transfer to the USF Muma College of Business must meet the following admission guidelines below:

1. Minimum of 60 semester hours of college credit earned.
 2. Minimum cumulative grade point average of 2.50 on all college-level work and a minimum of 2.00 on all credit attempted at USF, including any prior to renewal.
 3. Completion of all state mandated prerequisite courses with a grade of C- or better in each course and an overall 2.00 GPA in all seven (7) courses. The courses are:
 - a. Financial Accounting: ACG X021/ACG X022 (or ACG X001 & ACG X011)*
 - b. Managerial Accounting: ACG X071 (or ACG X301)*
 - c. Computers in Business: CGS X100 (or acceptable substitute)
 - d. Principles of Macroeconomics: ECO X013
 - e. Principles of Microeconomics: ECO X023
 - f. Elementary Calculus: MAC X233 or MAC 2230
 - g. Statistics: QMB X100 or STA X023 or STA X122
- *Accounting majors must earn a C not C- in ACG 2021 & ACG 2071.

B2. University Admissions:

Admission to the program is based on the University's Undergraduate Admission Requirements that may be found by clicking on the following urls:

- **Freshman:** <https://www.usf.edu/admissions/freshmen/admission-information/requirements-deadlines.aspx>
- **Transfer:** <https://www.usf.edu/admissions/transfer/admission-information/index.aspx>
- **International:** <https://www.usf.edu/admissions/international/admission-information/index.aspx>

C. Graduation Requirements for the Program:

Satisfactory completion of the following requirements:

- General Education Program (36 credit hours), including State Core General Education Requirements;
- State Computation (6 credit hours);
- State Communication (6 credit hours, in addition to ENC 1101 and ENC 1102);
- Minimum of 120 unduplicated credit hours;
- A minimum adjusted grade point average (GPA) of 2.0 on all coursework taken at USF and an overall 2.0 GPA average on all college-level coursework;
- Major and college requirements in a chosen degree program;
- Nine credit hours of coursework taken during the summer term(s) (if entered USF with less than 60 credit hours);
- Registration and successful completion of at least thirty (30) of the last sixty (60) credit hours;
- 42 credit hours of upper-level coursework;
- Civics Literacy;
- Foreign language admissions coursework.

D. Curricular Framework:

D1. State Mandated Common Prerequisites:

State Mandated Common Prerequisite	Credits	USF Course	Credits
Financial Accounting: ACG X021 or ACG X022 Financial Accounting or (ACG X001 & ACG X011)*	3	ACG 2021 Principles of Financial Accounting (3)	3
Managerial Accounting: ACG X071 Managerial Accounting or ACG X301*	3	ACG 2071 Principles of Managerial Accounting (3)	3
Computers in Business: CGS X100 Computers in Business or CGS X100C or CGS X530 or CGS X570 or CGS X060 or CGS X531 or CGS X000 or ISM X000 or CGS X518	3-4	CGS 2100 Computers in Business (3)	3
Principles of Macroeconomics: ECO X013 Principles of Macroeconomics	3	ECO 2013 Economic Principles (Macroeconomics) (3)	3
Principles of Microeconomics: ECO X023 Principles of Microeconomics	3	ECO 2023 Economic Principles (Microeconomics) (3)	3
Elementary Calculus: MAC X233 Elementary Calculus or MAC X230	3-4	MAC 2233 Business Calculus (3)	3
Statistics I: STA X023 Introductory Statistics or QMB X100 or STA X122	3	QMB 2100 Business and Economic Statistics I (3)	3
Total Credit Hours	21-23	Total Credit Hours	21

D2. Required Courses: (51 credit hours)

D2a. Supporting Required Courses: 3 courses; 9 credit hours

A minimum grade of C- in each Supporting course is required.

- SPC 2608 Public Speaking (3) or COM 3110 Communications for Business and Professions (3)
- ENC 3250 Professional Writing (3) or ENC 3310 Expository Writing (3)
- Contemporary International Topics Course (3)

D2b. Business Foundation Courses (required of ALL Business majors): 9 courses; 27 credit hours

A minimum grade of C- in each Foundation course with an overall 2.0 GPA is required.

- BUL 3320 Law and Business I (3)
- FIN 3403 Principles of Finance (3)
- GEB 3033 Business Workplace Skills and Best Practices (3)
- ISM 3011 Information Systems in Organizations (3)*
- QMB 3200 Business and Economic Statistics II (3)
- MAN 3025 Principles of Management (3)
- MAN 4504 Operations Management: A Systems Approach (3)
- MAR 3023 Basic Marketing (3)

- GEB 4890 Strategic Management and Decision Making (3)
- *BAIS majors must earn a C and not a C- in ISM 3011.

D2c. Major Core Courses: 2 courses; 6 credit hours

- ISM 3232 Business Application Development (3)
- ISM 4212 Database Design and Administration (3)

D2d. Major Other Required Courses: 3 courses; 9 credit hours

- ISM 3113 Systems Analysis and Design (3)
- ISM 4300 Managing Information Resources (3)
- ISM 4402 Business Intelligence (3) or ISM 4220 Business Data Communications (3)

D3. Major (Restricted) Electives: (9 credit hours)

Students complete a BAIS program of study or complete one of two (2) concentrations: Cybersecurity or Healthcare Business.

D3a. General Business Analytics and Information Systems Major Electives: (3 courses; 9 credit hours)

Select three courses from the following list of courses:

- ISM 4041 Global Cyber Ethics (3)
- ISM 4141 Java Programming (3)
- ISM 4153 Enterprise Resource Planning Systems (3)
- ISM 4234 Object-Oriented Design and Development (3)
- ISM 4252 Mainframe Technologies (3)
- ISM 4314 Project Management (3)
- ISM 4323 Information Security and IT Risk Management (3)
- ISM 4381 Information Systems for Healthcare Analytics (3)
- ISM 4382 Global Information Systems (3)
- ISM 4432 Software Testing (3)
- ISM 4480 Electronic Commerce Systems (3)
- ISM 4542 Statistical Programming for Business Analytics (3)
- ISM 4571 Cybersecurity Cases (3)
- ISM 4930 Selected Topics in MIS (3)
- ISM 4940 Business Analytics & Information Systems Internship (3)
- MAN 4505 Healthcare Operations Management (3)
- XXX XXXX Other Approved ISM Electives (ISM 4905 will not count as an ISM elective)

D3b. Cybersecurity Concentration: 3 courses; 9 credit hours

Concentration Core (1 course; 3 credit hours)

- ISM 4323 Information Security and IT Risk Management (3)

Electives: (2 courses; 6 credit hours)

Select 2 courses from the following list of courses:

- ISM 4220 Business Data Communications (3)***
- ISM 4402 Business Intelligence (3)***
- ISM 4041 Global Cyber Ethics (3)
- ISM 4432 Software Testing (3)
- ISM 4571 Cybersecurity Cases (3)

- ISM 4940 Business Analytics & Information Systems Internship (3)
***If this course is used to satisfy the major requirements, it cannot be used to fulfill the elective requirements.

D3c. Healthcare Business Concentration: 3 courses; 9 credit hours

Concentration Core (1 course; 3 credit hours)

- ISM 4381 Information Systems for Healthcare Analytics (3)

Electives: (2 courses; 6 credit hours)

Select 2 courses from the following list of courses:

- BCH 3053 General Biochemistry (3)
- ISM 4402 Business Intelligence (3)
- ISM 4542 Statistical Programming for Business Analytics (3)***
- ISM 4940 Business Analytics & Information Systems Internship (3)+
- LIS 4477 Clinical Decision Support (3)
- MAN 4505 Healthcare Operations Management (3)***

***If this course is used to satisfy the major requirements, it cannot be used to fulfill the elective requirements.

+Internship location should be in a healthcare related field.

D4. Sequenced Course of Study:

- An exclamation mark (!) is indicated for any course and/or placeholder that must be taken in sequence and/or in the semester listed.
- Course Type refers to how the course is utilized in the degree program, e.g., Supporting, Major Core, Business Foundation, etc. It also includes “placeholder” information such as: Civics Literacy Test, Apply for Graduation.
- General Education Course Type refers to the General Education core area the course meets.

D4a. 8-Semester Plan for FTIC Students

Fall 1						
!	Current Course Prefix and Number	Course Type	State Mandated Common Prerequisite	Enhanced General Education Requirement	Course Attribute	Total
!	ENC 1101		No	Yes	State Core General Education Communication	3
!	MAC 2233		Yes	Yes	State Core General Education Mathematics	3
!	CGS 2100		Yes	Yes	Enhanced General Education Information and Digital Literacy	3
	SPC 2608 or COM 3110	Supporting	No	Yes		3
	XXX XXXX	Non-Business Elective	No	No		3
Total Semester Credit Hours:						15

Spring 1						
!	Current Course Prefix and Number	Course Type	State Mandated Common Prerequisite	Enhanced General Education Requirement	Course Attribute	Total
!	ENC 1102		No	Yes	Enhanced General Education ENC 1102	3
!	ECO 2013		Yes	Yes	State Core General Education Social Sciences	3
	XXX XXXX		No	Yes	State Core General Education Natural Sciences	3
	XXX XXXX		No	Yes	State Core General Education Humanities	3
	XXX XXXX	General/Unrestricted Elective	No	No		3
		Take Civics Literacy Exam				
Total Semester Credit Hours:						15

Summer 1						
!	Current Course Prefix and Number	Course Type	State Mandated Common Prerequisite	Enhanced General Education Requirement	Course Attribute	Total
Total Term Credit Hours:						0

Fall 2						
!	Current Course Prefix and Number	Course Type	State Mandated Common Prerequisite	Enhanced General Education Requirement	Course Attribute	Total
!	ACG 2021		Yes	No		3
!	ECO 2023		Yes	Yes	Enhanced General Education Creative Thinking	3
	XXX XXXX	Non-Business Elective	No	No		3
	XXX XXXX	Non-Business Elective	No	No		3
	XXX XXXX	Non-Business Elective	No	No		3
Total Semester Credit Hours:						15

Spring 2						
!	Current Course Prefix and Number	Course Type	State Mandated Common Prerequisite	Enhanced General Education Requirement	Course Attribute	Total
!	ACG 2071		Yes	No		3

!	QMB 2100		Yes	Yes	State Computation	3
!	ISM 3011	Business Foundation	No	No		3
	GEB 3033	Business Foundation	No	No		3
	XXX XXXX	Non-Business Elective	No	No		3
Total Semester Credit Hours:						15

Summer 2						
!	Current Course Prefix and Number	Course Type	State Mandated Common Prerequisite	Enhanced General Education Requirement	Course Attribute	Total
!	ISM 3232	Major Core	No	No		3
	MAN 3025	Business Foundation	No	No		3
Total Term Credit Hours:						6

Fall 3						
!	Current Course Prefix and Number	Course Type	State Mandated Common Prerequisite	Enhanced General Education Requirement	Course Attribute	Total
!	ISM 3113	Major Other Required	No	No		3
!	XXX XXXX	Major Elective or Concentration	No	No		3
	QMB 3200	Business Foundation	No	No		3
	MAR 3023	Business Foundation	No	No		3
	ENC 3250 or ENC 3310	Supporting	No	No		3
Total Semester Credit Hours:						15

Spring 3						
!	Current Course Prefix and Number	Course Type	State Mandated Common Prerequisite	Enhanced General Education Requirement	Course Attribute	Total
!	ISM 4212	Major Core	No	No		3
!	XXX XXXX	Major Elective or Concentration	No	No		3
	FIN 3403	Business Foundation	No	No		3
	XXX XXXX	Non-Business Elective	No	No		3
Total Semester Credit Hours:						12

Summer 3						
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!	Current Course Prefix and Number	Course Type	State Mandated Common Prerequisite	Enhanced General Education Requirement	Course Attribute	Total
	MAN 4504	Business Foundation	No	No		3
Total Term Credit Hours:						3

Fall 4						
!	Current Course Prefix and Number	Course Type	State Mandated Common Prerequisite	Enhanced General Education Requirement	Course Attribute	Total
!	ISM 4220 or ISM 4402	Major Other Required	No	No		3
!	XXX XXXX	Major Elective or Concentration	No	No		3
	XXX XXXX		No	Yes	Enhanced General Education High Impact Practice Internship	3
	BUL 3320	Business Foundation	No	Yes	Enhanced General Education Human and Cultural Diversity	3
		Apply for Graduation				
Total Semester Credit Hours:						12

Spring 4						
!	Current Course Prefix and Number	Course Type	State Mandated Common Prerequisite	Enhanced General Education Requirement	Course Attribute	Total
!	ISM 4300	Major Other Required	No	No		3
!	GEB 4890	Business Foundation	No	No		3
	XXX XXXX		No	Yes	Enhanced General Education Ethical Reasoning and Civic Engagement Capstone	3
	XXX XXXX	Contemporary International Topics	No	No		3
Total Semester Credit Hours:						12

Total Degree Program Credit Hours:	120
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D4b. 4-Semester Plan for FCS AA Transfer Students

Fall 1						
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!	Current Course Prefix and Number	Course Type	State Mandated Common Prerequisite	Enhanced General Education Requirement	Intentionally Left Blank	Total
!	ISM 3011	Business Foundation	No	No		3
!	ISM 3232	Major Core	No	No		3
	GEB 3033	Business Foundation	No	No		3
	MAR 3023	Business Foundation	No	No		3
	BUL 3320	Business Foundation	No	No		3
Total Semester Credit Hours:						15
Spring 1						
!	Current Course Prefix and Number	Course Type	State Mandated Common Prerequisite	Enhanced General Education Requirement	Intentionally Left Blank	Total
!	ISM 3113	Major Other Required	No	No		3
!	XXX XXXX	Major Elective or Concentration	No	No		3
	MAN 3025	Business Foundation	No	No		3
	ENC 3250 or ENC 3310	Supporting	No	No		3
	QMB 3200	Business Foundation	No	No		3
Total Semester Credit Hours:						15
Summer 1						
!	Current Course Prefix and Number	Course Type	State Mandated Common Prerequisite	Enhanced General Education Requirement	Intentionally Left Blank	Total
!	ISM 4212	Major Core	No	No		3
	FIN 3403	Business Foundation	No	No		3
Total Term Credit Hours:						6
Fall 2						
!	Current Course Prefix and Number	Course Type	State Mandated Common Prerequisite	Enhanced General Education Requirement	Intentionally Left Blank	Total
!	XXX XXXX	Major Elective or Concentration	No	No		3
!	ISM 4220 or ISM 4402	Major Other Required	No	No		3
	MAN 4504	Business Foundation	No	No		3
	SPC 2608 or COM 3110	Supporting	No	No		3
		Apply for Graduation				
Total Semester Credit Hours:						12
Spring 2						
!	Current Course Prefix and Number	Course Type	State Mandated Common Prerequisite	Enhanced General Education Requirement	Intentionally Left Blank	Total

!	ISM 4300	Major Other Required	No	No		3
	XXX XXXX	Major Elective or Concentration	No	No		3
	GEB 4890	Business Foundation	No	No		3
	XXX XXXX	Contemporary International Topics	No	No		3
Total Semester Credit Hours:						12
Total Credit Hours:						60

ADDITIONAL REQUIREMENTS:

- Students must earn a 2.0 GPA on all major coursework at USF and have an overall 2.0 major GPA, including any applicable transfer work.
- In computing entry grade point average, all business and economics courses taken for S or U grades will be converted to C or F, respectively.
- Grade forgiveness may be used for only one upper-level major course.
- It is recommended that ISM 3232 be taken concurrently with ISM 3011.
- ISM 4402 is recommended for students interested in mainstream business analytics careers, while ISM 4220 is recommended for students interested in cyber security career.
- ISM 4905 will not count as an ISM elective.
- Within the 120 credit hour program, students must complete a minimum of 24 hours of upper-level Business Analytics and Information Systems coursework with a grade of C not C- in all courses, including ISM 3011. BAIS courses taken by BAIS majors on an S/U basis will not be counted toward the 120-hour graduation requirement.
- All students entering USF for the first time in Fall 2017 or later, who subsequently earn three (3) D and/or F grades in any or any combination of the following courses at USF will be required to change their major to a major more appropriate to their goals and academic performance and to a major not conferred by the Muma College of Business. The courses are: ACG 2021, ACG 2071, CGS 2100, ECO 2013, ECO 2023, MAC 2233 (or equivalent), and QMB 2100 (or equivalent).
- Major residency: Students must complete 18 hours of upper-level Business Analytics and Information Systems requirements in residency at USF.
- College residency: Muma College of Business residency requirements for graduation exceed the minimum requirements established for USF. Students are required to complete satisfactorily at USF a minimum of 50 percent (30-33 credit hours depending on major) of required Business courses, including 12-18 credit hours in the major field. Normally, independent study and independent research courses do not fulfill this requirement.

NOTES:

- No changes in the State Mandated Common Prerequisite courses.
- Post consolidation, only the B.S. will be offered. Pre-consolidation, the only difference between the B.S. and B.A. degrees was the Foreign Language Exit Requirement.
 - Students currently enrolled or accepted in the B.A. programs prior to Summer 2020 will have an opportunity to complete the B.A. program.
- The undergraduate Business Analytics and Information Systems programs were Limited Access on each campus.

- Do not anticipate any significant increase in enrollment and the student to faculty ratio post-consolidation is expected to be stable.