

Concurrent Degree Pre-Med Program Biomedical Sciences and Business Analytics and Information Systems, with a Concentration in Healthcare Business

The concurrent degree program in Biomedical Sciences (BMS) and Business Analytics and Information Systems (BAIS), with a concentration in Healthcare Business (HCBC) meets the needs of the marketplace for medical professionals who are well versed in the use of information technology. Combining a Business degree with a focus in analytics with a traditional Pre-Med Biomedical Science degree gives students the skills needed to manage a private practice or medical research program that involves data analytical skills.

While MBA programs are very popular among physicians, there are few programs in the country that allow prospective physicians the opportunity to obtain business knowledge before starting an MD program. This concurrent degree program is expected to attract high achieving Pre-Med students to USF.

Initial Eligibility Requirements

Admission to the Muma College of Business as a first-year student (FTIC):

- 3.8 weighted high school grade point average (GPA), as calculated by USF's Office of Undergraduate Admissions;
- Comprehensive SAT score of 1300 or an ACT composite score of 27, with a minimum a 600 SAT math or 27 ACT math score;
- Upon acceptance to USF, declare intent to obtain dual degrees in Business Analytics and Information System, with a concentration in Healthcare Business and Biomedical Sciences by completing the intent form with both advising areas.

Continuation requirements

- At the end of the summer semester of Year 1, students must attain both an overall and science/math grade point average (GPA) of 3.60 or higher, without the use of grade forgiveness. If students transfer in a GPA from concurrent enrollment or transient coursework completed at another institution, the overall and science/math GPAs from all coursework completed at USF must also be 3.60 or higher.
- Completion of first year science requirements by the summer of the first year.
- Students who do not meet progression requirements must exit the concurrent degree program and will be directed to academic advising in the appropriate discipline.

Exam Credit/Concurrent Enrollment Coursework

- Students admitted into this concurrent program are expected to have completed 17-26 credit hours through exam credit and/or dual enrollment coursework (e.g., AP, IB, dual enrollment or other mechanisms) prior to starting their degree program at USF.
 - For example, if the student plans to start in the fall, courses may be completed in the summer if needed. These courses meet requirements for the business degree and/or the MCAT.
 - Note: College credit for science courses obtained through the International Baccalaureate (IB) or the Advanced International Certificate of Education (AICE) may need to be repeated for consideration of admission into a medical school program because medical schools generally do not accept exam credit scores in place of science coursework.

Course ¹	Credits
ENC 1101 Composition I (e.g., AP English Literature/English Language, score of 3 or above)	3
ENC 1102 Composition II (e.g., AP English Literature/English Language, score of 4 or above)	3
MSC 2311 Calculus I (e.g., AP Calculus AB, score of 3 or above) OR MAC 1147 Precalculus Algebra and Trigonometry (e.g. Mathematics, score of 3 or above) (May be waived with an SAT Math score of 650 or higher, and/or an ACT Math score of 29 or higher)	4
CHM 2045/L General Chemistry I with Laboratory (e.g., AP Chemistry, score of 4 or above)	4
BSC 2010/L Cellular Process with Laboratory (e.g., AP Biology, score of 4 or above)	4
ECO 2013 Economic Principles (Macroeconomics) (e.g., Economics: Macro score of 3 or above)	3
ECO 2023 Economic Principles (Microeconomics) (e.g., Economics: Micro score of 3 or above)	3

¹ <http://www.ugs.usf.edu/credit-by-exam/?page=exam&exam=AP>

Total	24
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Semester Plan

		Year 1		
		Fall (16 credits hours)	Spring (15 credits hours)	Summer (10 credit hours)
	CHM 2046 and CHM 2046L (CANP)	CHM 2210 and CHM 2210L	PHI 2010 (SGEH and 6ACT)	
	MAC 2241 (CAMA and 6AMT)	BSC 2011 and BSC 2011L (CANL)	ENC 3250 or ENC 3310 (WRIN)	
	SPC 2608 (CAHU)	ANT 2410 (CAGC)	MCB 3020 and MCB 3020L	
	ACG 2021	ACG 2071		
	CGS 2100			
Extra-Curricular Activities	Shadow, volunteer and/or work in healthcare	Shadow, volunteer and/or work in healthcare	Participate in a research or healthcare experience	
	Explore alternative healthcare careers	Explore alternative healthcare careers		
	Read current events on healthcare topics	Read current events on healthcare topics		
	Begin to get involved in community service, leadership and/or research opportunities	Continue your involvement in various community service, leadership and/or research opportunities		
		Optional: Submit application for summer experience		
		Year 2		
		Fall (15 credit hours)	Spring (16 credit hours)	Summer (9 credit hours)
	CHM 2211 and CHM 2211L	BCH 3053	QMB 3200	
	PHY 2053 and PHY 2053L (SGEN and CANP)	PHY 2054 and PHY 2054L (CANP)	ISM 3232	
	PSY 2012 (SGES)	IDS 4930 ST: Bio-Psycho-Social Aspects of Medicine	HUM 1020 (CAFA)	
	SYP 2000 (CASB)	QMB 2100 (CAQR and 6AMT)		
		ISM 3011		
Extra-Curricular Activities	Shadow, volunteer and/or work in healthcare	Shadow, volunteer and/or work in healthcare	Participate in a research or healthcare experience Begin studying for the MCAT	
	Read current events on healthcare topics	Read current events on healthcare topics		
	Continue your involvement in various community service, leadership and/or research opportunities	Continue your involvement in various community service, leadership and/or research opportunities		
		Optional: Submit application for summer experience		

Year 3 (Most Crucial: Application Year)			
	Fall (16 credit hours)	Spring (14 credit hours)	Summer (9 credit hours)
	PCB 3023	PCB 4744	MAN 3025
	PCB 3063	PCB 3063L	ISM 3113
	PSB 4404C	ANT 3101 (CAGC and HHCP)	GEB 3033
	PHZ 4702	CHM 3120C	
	IDS 4930 ST: Health Portfolio/MCAT Prep	BUL 3320	
Extra-Curricular Activities	Attend workshops offered by USF's Division of Health Professions Advising	Attend workshops offered by USF's Division of Health Professions Advising	April/May/June: Take MCAT
	Study for the MCAT	Register to take the MCAT (and continue studying)	May: Begin application for AACOMAS and/or AMCAS
	Begin researching which individual schools you wish to apply to	Decide which individual schools you plan to apply to	June: Submit AMCAS and/or AACOMAS application- can submit without MCAT score
	Continue involvement in healthcare experiences and other extra-curricular activities	Continue involvement in healthcare experiences and other extra-curricular activities	
	Identify potential letter writers	Early Spring: begin writing personal statement	
Year 4 – Year after application is submitted			
	Fall (15 credit hours)	Spring (15 credit hours)	Summer
	<i>Complete any remaining prerequisites for the specific programs where you applied</i>	<i>Complete any remaining prerequisites for the specific programs where you applied</i>	<i>Complete any remaining prerequisites for the specific programs where you applied</i>
	ISM 4381	ISM 4402	
	FIN 3403	ISM 4300	
	MAR 3023	MAN 4504 or MAN 4505	
	ISM 4212	GEB 4890 (CPST)	
	ISM 4382	ISM Elective	
Extra-Curricular Activities	Continue involvement in healthcare experiences and other extra-curricular activities	Continue involvement in healthcare experiences and other extra-curricular activities	Prepare to begin medical school
	Submit secondary applications	If applicable: prepare for interviews	
	Prepare for interviews	If needed: discuss back-up plan with pre-health advisor	

The following are the minimum courses required to present for a competitive score on MCAT 2015.

1. BSC 2010/L Cellular Process with Laboratory (General Biology I)
2. BSC 2011/L Biodiversity with Laboratory (General Biology II)
3. PCB 3063 Genetics
4. PCB 3023 Cell Biology
5. PCB 4744 Biomedical Physiology or PCB 3712 General Physiology
6. CHM 2045/L General Chemistry I with Laboratory
7. CHM 2046/L General Chemistry II with Laboratory
8. CHM 2210/L Organic Chemistry I with Laboratory
9. CHM 2211/L Organic Chemistry II with Laboratory
10. BCH 3023 Introductory Biochemistry
11. PHY 2053/L General Physics I with Laboratory
12. PHY 2054/L General Physics II with Laboratory
13. MAC 1147 Precalculus Algebra and Trigonometry
14. ECH 4931 Special Topics in Chemical Engineering II: Research Design, Methods and Interpretation
15. PSY 2012 Introduction to Psychological Science

16. PSB 4004 Physiological Psychology
17. SYG 2000 Introduction to Sociology
18. HUMANITIES: This must be a HUM XXXX course, but not necessarily an FKL Humanities course

*Strongly recommended FKLs and General Education Core Courses for Pre-Med students:

1. ENC 1101 Composition I
2. ENC 1102 Composition II
3. PSY 2012 Introduction to Psychological Science (CASB and State Core Social & Behavioral)
4. HUM 1020 Introduction to Humanities (CAFA and State Core Humanities)
5. LIT 2000 Introduction to Literature (CAHU, 6aCT and State Core Humanities)
6. PHI 2010 Introduction to Philosophy (CAHU, 6ACT and State Core Humanities)
7. HUM 2230 European Humanities: Renaissance-20th Century (CAHU and HHCP)
8. HUM 2250 Studies in Culture: The Twentieth Century (CAHU and HHCP)
9. AMS 2270 Twentieth Century Culture (CAHU and HHCP)

See the [MCAT Guide](#) for additional recommendations

Important Reminders:

- This plan is for pre-health advisement ONLY and may vary.
- Students should plan to meet with a Health Professions advisor and Business advisor each semester to confirm accuracy and receive individual recommendations.
- Students are responsible for verifying that the courses indicated above meet the requirements of their specific programs of interest.
- In addition to meeting with a Health Professions Advisor, students should meet with their Academic Advisor (for their major) each semester to ensure they are also meeting graduation requirements.

• B.S. - BIOMEDICAL SCIENCES (BMS) (CIP = 26.0102)
TOTAL DEGREE HOURS: 120

<http://chemistry.usf.edu/undergraduate/degree/biomed/>

The Biomedical Sciences degree serves as a gateway into a variety of health-professional programs such as Medicine, Pharmacy, Dentistry, and Physical Therapy. Required courses include Biology, Chemistry, Math and Physics. This degree provides the flexibility to choose advanced-level science coursework based on academic and professional interests. Students contemplating graduate study should pursue a major in the discipline of their interest, such as Biology, Chemistry, or Microbiology.

STATE MANDATED COMMON COURSE PREREQUISITES

Students wishing to transfer to USF should complete an A.A. degree at a Florida College System institution. Some courses required for the major may also meet General Education requirements thereby transferring maximum hours to the university.

If a student wishes to transfer without an A.A. degree and has fewer than 60 semester hours of acceptable credit, the student must meet the university's entering freshman requirements including ACT or SAT test scores, GPA, and course requirements.

Transfer students are also required to comply with the immunization, foreign language, and continuous enrollment policies of the university.

Students should complete the following prerequisite courses at the lower level prior to entering the university. If these courses are not taken at a Florida College System institution, they must be completed before the degree is granted.

Unless stated otherwise, a grade of C is the minimum acceptable grade in prerequisite courses.

- BSC X010 & BSC X010L Biology I & Lab or BSC X010C
- BSC X011 & BSC X011L Biology II & Lab or BSC X011C
- CHM X045 & CHM X045L General Chemistry I & Lab or CHM X045C
- CHM X046 & CHM X046L General Chemistry II & Lab or CHM X046C
- CHM X210 & CHM X210L Organic Chemistry I & Lab or CHM X210C
- CHM X211 & CHM X211L Organic Chemistry II & Lab or CHM X211C
- PHY X053 & PHY X053L General Physics I & Lab and PHY X054 & PHY X054L General Physics II & Lab **OR**
 - PHY X053C and PHY X054C **OR**
 - PHY X048 & PHY X048L General Physics I & Lab and PHY X049 & PHY X049L General Physics II & Lab **OR**
 - BSC X093C Human Anatomy & Physiology I and BSC X094C Human Anatomy & Physiology II **OR**
 - BSC X093 & BSC X093L and BSC X094 & BSC X094L
- MAC X241 Life Sciences Calculus **or** MAC X281 **or** MAC X311
- MAC X242 Life Sciences Calculus II **or** MAC X282 **or** MAC X312 **or** STA X023 **or** STA X024

REQUIREMENTS FOR THE MAJOR IN BIOMEDICAL SCIENCES
TOTAL MAJOR HOURS: 61-62

Major requirements for the B.S. Degree:

Major Core (40 hours)

Tier 1

Required Biology Courses (8 credit hours):

- BSC 2010 Cellular Processes
- BSC 2010L Cellular Processes Laboratory
- BSC 2011 Biodiversity
- BSC 2011L Biodiversity Laboratory

Required Chemistry Courses (18 credit hours):

- CHM 2045 General Chemistry I
- CHM 2045L General Chemistry I Laboratory
- CHM 2046 General Chemistry II
- CHM 2046L General Chemistry II Laboratory
- CHM 2210 Organic Chemistry I
- CHM 2210L Organic Chemistry I Laboratory
- CHM 2211 Organic Chemistry II
- CHM 2211L Organic Chemistry II Laboratory

Required Mathematics Courses (6 credit hours):*

- MAC 2241 Life Sciences Calculus I
 - MAC 2311 and MAC 2281 are also acceptable for the major.
- MAC 2242 Life Sciences Calculus II or STA 2023 Introductory Statistics I
 - MAC 2312 and MAC 2282 are also acceptable for the major.

Required Physics Courses (8 credit hours):*

- PHY 2053 General Physics I
- PHY 2053L General Physics I Laboratory
- PHY 2054 General Physics II
- PHY 2054L General Physics II Laboratory
 - PHY 2048, PHY 2048L General Physics I and Lab and PHY 2049, PHY 2049L General Physics II and Lab are also acceptable for the major
 - Students may substitute Human Anatomy or Physiology I and II (BSC 2093C & BSC 2094C or BSC 2085, BSC 2085L & BSC 2086, BSC 2086L) for Physics I & II.

Major Electives (21-22 hours)

Tier 2

Required Biomedical Electives: Total 7-8 credit hours of required courses:

- BCH 3053 General Biochemistry
- MCB 3020 and MCB 3020L General Microbiology and Laboratory
 - **or** chose one lecture: PCB 3063 or PCB 3023 **and** one lab: PCB 3063L, PCB 3023L or BCH 3023L

Minimum of 14 credits from the following to include:

- Upper-level Biology course (3 hour minimum lecture course)
- Upper-level Chemistry course (3 hour minimum lecture course)
- Upper-level Chemistry or Biology course (3 hour minimum lecture course)
- Upper-level Chemistry or Biology Lab (1 hour minimum)
- Upper-level Additional Biomedical electives (4 hours minimum)

Biology Courses:

- BOT 3850 Medical Botany
- MCB 4115 Determinative Bacteriology
- MCB 4115L Determinative Bacteriology Lab
- MCB 4404 Microbial Physiology and Genetics
- MCB 4404L Microbial Physiology and Genetics Laboratory
- MCB 4503 Virology
- MCB 5206 Public Health and Pathogenic Microbiology
- MCB 5815 Medical Mycology
- MCB 3410 Cell Metabolism
- PCB 3023 Cell Biology
- PCB 3023L Cell Biology Laboratory
- PCB 3063 General Genetics
- PCB 3063L Genetics Laboratory
- PCB 3712 General Physiology
- PCB 3713L General Physiology Laboratory
- PCB 4234 Principles of Immunology**
- PCB 4522C Experimental Genetics and Cell Biology
- PCB 4723 Animal Physiology
- PCB 4723L Animal Physiology Laboratory
- PCB 4744 Biomedical Physiology
- PCB 4843 Principles of Neuroscience
- ZOO 3713C Comparative Vertebrate Anatomy
- ZOO 4753 Human Histology & Molecular Pathology of Disease
- ZOO 4753L Human Histology & Molecular Pathology of Disease Lab

Chemistry Courses:

- BCH 3023L Basic Biochemistry Laboratory
- BCH 4033 Advanced Biochemistry I
- BCH 4034 Advanced Biochemistry II
- CHM 3120C Elementary Analytical Chemistry
- CHM 3610 Intermediate Inorganic Chemistry
- CHM 3610L Intermediate Inorganic Chemistry Laboratory

- CHM 3941 Peer Leading in Chemistry
- CHM 4410 Physical Chemistry I
- CHM 4410L Physical Chemistry Laboratory
- CHM 4411 Physical Chemistry II
- CHM 4413 Biophysical Chemistry
- CHM 4300 Biomolecules I
- CHM 4230 Spectroscopic Analysis of Organic Compounds
- CHM 4274 Introduction to Drug Discovery
- CHM 4292 Introduction to Medicinal Chemistry
- CHM 4307 BioOrganic Chemistry
- CHM 4455 Chemistry of High Polymers
- CHM 4932 Selected Topics in Chemistry*
- CHS 4300 Fundamentals of Clinical Chemistry
- CHS 4301L Clinical Laboratory

*Contact Advisor for approval of CHM 4932 Courses

Other Courses:

- CHM 4060 Use of Chemical Literature
- HSC 4504 Foundations of Public Health Immunology**
- PHZ 4702 Applications of Physics to Biology & Medicine I
- PHZ 4703 Applications of Physics to Biology & Medicine II

**Students may not use both HSC 4504 and PCB 4234 to meet Tier 2 required Biomedical Electives requirements.

General Electives. Courses over and above the required courses should be taken to complete a 120 hour program. Additional courses in computer programming, economics, management, engineering, statistics, writing, and other applied disciplines are strongly recommended to strengthen the degree for subsequent professional employment.

Transfer Credit: It is strongly recommended that students transferring from community/state colleges to the University of South Florida complete whole sequences of chemistry courses, such as general and organic chemistry, before they transfer. Even though courses may carry the same common course number, topics covered may vary significantly from school to school.

D/F Policy: The following three departments, the Department of Chemistry, the Department of Cell Biology, Microbiology and Molecular Biology and the Department of Integrative Biology have instituted a procedure to provide students with the best opportunity to progress toward their degree requirements.

Effective Fall 2009, the following D and/or F grade rules apply for students to continue in all of the following majors:

- Biomedical Sciences
- Biology (including the marine science concentration)
- Microbiology
- Chemistry (BA, BS)
- Interdisciplinary Natural Sciences (INS)
- Medical Technology and
- Pre-medical sciences students (PMS) who have not yet declared a major

All students entering USF for the first time, in Fall 2009 or later, who subsequently earn three (3) D and/or F grades in applicable USF science and math coursework for their major (i.e. Math, Biology, Chemistry and Physics) will be required to change their major to a major more appropriate to their goals and academic performance, and to a major that is not conferred by the Department of Chemistry, Department of Integrative Biology or Department of Cell Biology, Microbiology, and Molecular Biology.

All continuing USF students who entered USF prior to Fall 2009 and who have not earned any D or F grades in USF science and math coursework for their major (i.e. Math, Biology, Chemistry and Physics) before Fall 2009, will also be redirected after earning three (3) D and/or F grades in subsequent terms. Upon earning the 3rd D and/or F grade, students will be required to choose another major more appropriate to their goals and academic performance, and to one that is not conferred by the Department of Chemistry, Department of Integrative Biology or Department of Cell Biology, Microbiology, and Molecular Biology.

All continuing USF students who entered USF prior to Fall 2009 and who have earned one (1) or more D or F grades in USF science and math coursework for the major (i.e. Math, Biology, Chemistry and Physics) prior to Fall 2009, will be allowed to count all previous D/F grades as one (1) D/F grade. After Fall 2009, students who earn two (2) additional D and/or F grades (resulting in three (3) total D/F grades) in subsequent terms will be required to choose another major more appropriate to their goals and academic performance, and to one that is not conferred by the Department of Chemistry, Department of Integrative Biology or Department of Cell Biology, Microbiology, and Molecular Biology.

Lab only courses are not counted towards the total number of D/F grades earned for the policy. Grade Forgiveness will NOT apply to the mandated requirement of changing majors.

If a student is in violation of the D/F policy, regardless of major, they will no longer be able to take any courses offered by the Department of Chemistry, Department of Integrative Biology or Department of Cell Biology, Microbiology, and Molecular Biology.

Grading Requirement

A grade of C or better is required for science and mathematics courses and each supporting course for the Major. All courses in any chemistry major must be taken with letter grade (A, B, C, D, F, I) except those courses which are graded S/U only.

Residency Requirement

Chemistry residency requirement: Seven (7) credits of Chemistry coursework, upper or lower level, must be completed at USF.

Upper-level residency requirement: 12 credit hours of major-applicable, upper-level natural science courses must be completed at USF.

Other Requirements

No duplicate credit allowed.

• B.S. - BUSINESS ANALYTICS AND INFORMATION SYSTEMS (BAIS) (CIP = 52.1201)

TOTAL DEGREE HOURS: 120

<http://www.usf.edu/business/undergraduate/major-mis.aspx>

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.

LIMITED ACCESS - THIS MAJOR HAS ADDITIONAL ADMISSIONS REQUIREMENTS AS LISTED IN THIS SECTION.

Admission to the Muma College of Business is based upon availability of faculty and space within each discipline. The Muma College of Business is an upper-level, limited access college, which means that it has admission requirements in addition to those of the University in general. Students interested in pursuing a degree in the areas offered by the Muma College of Business must complete the required prerequisites for entering the College in addition to other related criteria listed below.

Students must satisfy the following criteria:

- Minimum of 60 semester hours of college credit earned.
- Minimum of a cumulative grade point average of 2.5 on all college-level work and a minimum of 2.0 on all credit attempted at USF, including any prior to renewal. NOTE: Beginning Fall 2013 the Muma College of Business will establish each fall a new minimum overall GPA required to satisfy the limited access GPA admission requirement. The minimum overall GPA will range between a 2.5 with a maximum required GPA of a 2.75. Students will be notified each fall as to the minimum entrance GPA required for the following fall semester. Notification will occur through Canvas and updated at the following link: <http://www.usf.edu/business/undergraduate/requirements-general.aspx>.
- 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.
- A minimum score of 550 on paper and pencil or 213 on computerized TOEFL is required, when applicable.

STATE MANDATED COMMON COURSE PREREQUISITES

Transfer credits will be accepted from accredited institutions; however, all hours earned may not be applied toward USF business degree requirements. Individual courses will be evaluated by an academic advisor and appropriately credited toward requirements in the student's program at USF.

Florida public state or community college students enrolled in an Associate of Arts (AA) program should normally complete the general education requirements and the State Mandated Common Prerequisites at a Florida College System institution. As a rule, AA students should avoid taking any business courses at the state or community college that are listed as 3000- and 4000-level courses at USF. Normally, courses in finance, marketing, management, and accounting, as well as other business administration courses, taken at the lower division level that are offered as upper division courses at USF will not be accepted for upper division credit in business administration. In general, business courses taken at the lower level, at technical schools, or as part of professional or military training, are not applicable

to the degree programs of the Muma College of Business. Exceptions to this policy will be made only upon proper validation of such courses. Validation consists of successfully completing specified advanced courses in the discipline.

Florida College System students pursuing an Associate of Science (AS) program in Business Administration are fully admissible to USF. Please see a business advisor to determine the articulation courses, discuss admission to the Muma College of Business and prepare a program plan for degree completion. Students transferring to the Muma College of Business with an A.S. in Business Administration may earn a major in General Business Administration only.

Florida College System students pursuing an Associate of Science (A.S.) program in any other discipline should contact the Transitional Advising Center, SVC 2043, (813) 974-2645, for information regarding course transferability and degree articulation.

Completion of the following State Mandated Common Prerequisites (or equivalents) with a grade of C- or higher in each course and an overall 2.0 GPA:

- *ACG X021/ACG X022 Financial Accounting (or ACG X001 & ACG X011)
 - *ACG X071 Managerial Accounting (or X301)
 - CGS X100 Computers in Business (or acceptable Substitute, i.e., CGS X100C, CGS X530, CGS X570, CGS X531, CGS X000, MAN X812)
 - ECO X013 Principles of Macroeconomics
 - ECO X023 Principles of Microeconomics
 - MAC X233 Elementary Calculus or MAC 2230
 - STA X023 Introductory Statistics or QMB X100 or STA X122 although STA X023 and QMB X100 are preferred).
- *Accounting majors must earn a C not C- in ACG 2021 & ACG 2071

REQUIREMENTS FOR THE MAJOR IN BUSINESS ANALYTICS AND INFORMATION SYSTEMS TOTAL MAJOR HOURS: 120

Major requirements for the B.S. Degree:

Major Core (15 hours)

Within the 120-semester-hour program, students must complete a set of 6 required courses and 3 approved electives.

Students choose to enroll as either:

- a Business Analytics and Information Systems major or
- a Business Analytics and Information Systems major with a concentration in Cybersecurity or
- a Business Analytics and Information Systems major with a concentration in Healthcare Business

Students must have a 2.0 or higher GPA in the major; they can use grade forgiveness for only one upper-level course. A grade point average of 2.0 or higher must be achieved in all major course work at USF and an overall 2.0 GPA including transfer work. BAIS majors must earn a "C" or higher (not C-) in ISM 3011 and the six required courses. At least 18 hours must be taken in residence at USF Tampa.

- ISM 3232 Business Application Development*
- ISM 3113 Systems Analysis and Design*
- ISM 4212 Database Design and Administration
- ISM 4402 Business Intelligence or ISM 4220 Business Data Communications**
- ISM 4300 Managing Information Resources

*ISM 3232 (Business Application Development) is recommended to be taken before, or concurrently with, ISM 3113 (Systems Analysis and Design).

**ISM 4402 is recommended for students interested in mainstream business analytics careers, while ISM 4220 is recommended for students interested in mainstream careers in Management Information Systems. Students can always take both these courses and have the second one count as an elective (see below).

Major Electives (9 hours)

- ISM 4041 Global Cyber Ethics
- ISM 4141 Web Application Development/Java
- ISM 4153 Enterprise Resource Planning Systems
- ISM 4220 Business Data Communications**
- ISM 4234 Object-Oriented Design and Development
- ISM 4252 Mainframe Technologies
- ISM 4314 Project Management
- ISM 4323 Information Security and IT Risk Management
- ISM 4382 Global Information Systems

- ISM 4402 Business Intelligence**
- ISM 4432 Software Testing
- ISM 4480 Electronic Commerce Systems
- ISM 4930 Selected Topics in MIS
- ISM 4571 Cybersecurity Cases
- ISM 4542 Statistical Programming for Business Analytics
- ISM 4381 Information Systems for Healthcare Analytics
- ISM 4940 Business Analytics and Information Systems Internship
- MAN 4505 Healthcare Operations Management

***No more than three hours of ISM 4950 (Independent Research) can be counted as MIS electives. (ISM 4905 (Independent Study) will not count as an elective.)

Students should see an advisor for a list of other approved upper-level area elective courses.

GPA Requirements

Students must have a 2.0 or higher GPA in the major; they can use grade forgiveness for only one upper-level course. A grade point average of 2.0 or higher must be achieved in all major coursework at USF and an overall 2.0 GPA including transfer work.

Grading Requirement

BAIS majors must earn a "C" or higher (not C-) in ISM 3011 and the five required Business Analytics and Information Systems (BA&IS) courses.

Residency Requirement

At least 18 hours must be taken in residence at USF Tampa.

HEALTHCARE BUSINESS (HCBC)

The Healthcare Business concentration in Business Analytics and Information Systems focuses on the growing need to prepare students for successful careers in healthcare business field.

REQUIREMENTS FOR THE CONCENTRATION IN HEALTHCARE BUSINESS

TOTAL CONCENTRATION HOURS: 24

Major requirements for the B.S. Degree:

Major Core - 15 Hours

Required Business Analytics and Information Systems Courses (15 credit hours):

- ISM 3113 Systems Analysis and Design*
- ISM 3232 Business Application Development*
- ISM 4212 Database Design and Administration
- ISM 4300 Managing Information Resources
- ISM 4402 Business Intelligence or ISM 4220 Business Data Communications**

*ISM 3232 (Business Application Development) is recommended to be taken before, or concurrently with, ISM 3113 (Systems Analysis and Design).

**ISM 4402 is recommended for students interested in mainstream business analytics careers, while ISM 4220 is recommended for students interested in mainstream careers in Management Information Systems. Students can always take both these courses and have the second one count as an elective (see below).

Major Core (3 hours)

A student may choose to major in Business Analytics and Information Systems only or may choose to major in Business Analytics and Information Systems with a concentration in Healthcare Business.

Required Healthcare Business Concentration Course (3 credit hours):

- ISM 4381 Information Systems for Healthcare Analytics

Major Electives (6 hours)

Choose 6 credits from the following elective courses:

- ISM 4402 Business Intelligence***
- ISM 4542 Statistical Programming for Business Analytics

- ISM 4940 Business Analytics and Information Systems Internship
- LIS 4477 Clinical Decision Support
- MAN 4505 Healthcare Operations Management

***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

Students should see an advisor for a list of other approved upper-level area elective courses.

GPA Requirements

Students must have a 2.0 or higher GPA in the major; they can use grade forgiveness for only one upper-level course. A grade point average of 2.0 or higher must be achieved in all major coursework at USF and an overall 2.0 GPA including transfer work.

Grading Requirement

Students in the major must earn a "C" or higher (not C-) in ISM 3011 and the six required courses.

Residency Requirement

At least 18 hours must be taken in residence at USF Tampa.