

Information Systems (ISYS)

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Degrees Conferred:

M.I.S. in Information Systems (ISYS)
Ph.D. in Business Administration (BADM)

Graduate Certificate:

Graduate Certificate in Enterprise Systems (ENTSGC)

Program Descriptions: The Master of Information Systems is designed to provide professional preparation for positions in business and government. It provides sufficient flexibility to meet the needs of students with various backgrounds and foster lifelong learning and innovation. Students may concentrate in one of five areas: Cybersecurity Management, Digital Innovation, Enterprise Resource Planning, Information Technology Management, or Software Engineering Management.

The Ph.D. in Business Administration with an area of study in Information Systems is designed to produce a graduate with an understanding of the necessary subject matter required to contribute educational and research expertise to the field of information systems.

The program also offers a graduate certificate in Enterprise Systems to provide graduate students with knowledge and experience in information systems used in modern enterprise environments. The certificate includes four tracks to allow students to focus on one facet of information systems.

Requirements for M.I.S. with Cybersecurity Management Concentration

The Master of Information Systems is designed to provide professional preparation for positions in business and government. It provides sufficient flexibility to meet the needs of students with various backgrounds and foster lifelong learning and innovation. Students may concentrate in one of five areas:

- Information Technology Management,
- Enterprise Resource Planning (ERP) Management,
- Digital Innovation Management,

- Cybersecurity Management,
- Software Engineering Management.

Admission Requirements: Students must apply to and meet the admission requirements (<http://catalog.uark.edu/graduatecatalog/business/>) of the Graduate School of Business and be admitted by the departmental admissions committee.

Academic Standing and Dismissal: Please see the Graduate School of Business policy for more information.

Requirements for the Master of Information Systems

Degree: Students whose previous studies have fulfilled requirements of the common body of knowledge in business and information systems will be required to complete a minimum of 30 hours of graduate work. The required common body of knowledge in Information Systems includes management information systems, systems analysis, analytics, database, and programming languages (such as Python, Java, or other).

Core Courses

ISYS 54203	Seminar in Systems Development	3
ISYS 58303	Data Management Systems	3
ISYS 59403	Management of Information Technology Seminar	3

Areas of Concentration

15

Electives*

6

*Approved electives may be any graduate level course pre-approved by the program director or adviser.

Total Hours 30

M.I.S. (Part-time): The Department of Information Systems also provides an opportunity for professionals in the workplace to complete the program by taking 2 courses per semester for 5 semesters. Contact the department for additional information or visit the Graduate School of Business website (<http://gsb.uark.edu/>).

For the M.I.S. (part-time), approval of the Director is required to enroll in more than six hours per semester.

Additional for the Cybersecurity Management Concentration

ISYS 50103	Data and Cybersecurity	3
ISYS 50203	Data and System Security	3
ISYS 50403	Cybersecurity, Crime, and Data Privacy Law I	3

Select six hours from the following: 6

ISYS 50303	Advanced Data and Cybersecurity Management
ISYS 50503	Cybersecurity, Crime and Privacy Law II
ISYS 51003	Data Analytics Fundamentals
ISYS 52103	ERP Fundamentals
ISYS 51703	Blockchain Fundamentals
ISYS Courses (approved by Director)	

Total Hours 15

Requirements for M.I.S. with Digital Innovation Management

Additional Requirements for Digital Innovation Management Concentration

ISYS 53103	Foundations of Digital Innovation	3
ISYS 53203	Development with Digital Innovations	3

ISYS 53403 Adaptive Cloud Infrastructure and Services	3
Select six hours from the following:	6
ISYS 50103 Data and Cybersecurity	
ISYS 51003 Data Analytics Fundamentals	
ISYS 52103 ERP Fundamentals	
ISYS 55003 Decision Support and Analytics	
ISYS 58403 Seminar in Business Intelligence and Knowledge Management	
Total Hours	15

Requirements for M.I.S. with Emerging Technology Concentration

The Master of Information Systems is designed to provide professional preparation for positions in business and government. It provides sufficient flexibility to meet the needs of students with various backgrounds and foster lifelong learning and innovation. Students may concentrate in one of five areas:

- Information Technology Management,
- Enterprise Resource Planning (ERP) Management,
- Digital Innovation Management,
- Cybersecurity Management,
- Software Engineering Management.

Admission Requirements: Students must apply to and meet the admission requirements (<http://catalog.uark.edu/graduatecatalog/business/>) of the Graduate School of Business and be admitted by the departmental admissions committee.

Academic Standing and Dismissal: Please see the Graduate School of Business policy for more information.

Requirements for the Master of Information Systems

Degree: Students whose previous studies have fulfilled requirements of the common body of knowledge in business and information systems will be required to complete a minimum of 30 hours of graduate work. The required common body of knowledge in Information Systems includes management information systems, systems analysis, analytics, database, and programming languages (such as Python, Java, or other).

Core Courses

ISYS 54203 Seminar in Systems Development	3
ISYS 58303 Data Management Systems	3
ISYS 59403 Management of Information Technology Seminar	3

Areas of Concentration 15

Electives* 6

*Approved electives may be any graduate level course pre-approved by the program director or adviser.

Total Hours 30

M.I.S. (Part-time): The Department of Information Systems also provides an opportunity for professionals in the workplace to complete the program by taking 2 courses per semester for 5 semesters. Contact the department for additional information or visit the Graduate School of Business website (<http://gsb.uark.edu/>).

For the M.I.S. (part-time), approval of the Director is required to enroll in more than six hours per semester.

Emerging Technology Concentration

ISYS 43103 Artificial Intelligence and Tech Ethics	3
ISYS 43203 Infrastructure and Digital Innovation	3
Choose 1 course from the following:	3
ISYS 41703 Blockchain Fundamentals	
ISYS 32803 Opportunities, Risks and Ethics in the Metaverse	
ISYS 32703 Cryptocurrency	
Total Hours	9

Requirements for M.I.S. with Enterprise Resource Planning Management Concentration

The Master of Information Systems is designed to provide professional preparation for positions in business and government. It provides sufficient flexibility to meet the needs of students with various backgrounds and foster lifelong learning and innovation. Students may concentrate in one of five areas:

- Information Technology Management,
- Enterprise Resource Planning (ERP) Management,
- Digital Innovation Management,
- Cybersecurity Management,
- Software Engineering Management.

Admission Requirements: Students must apply to and meet the admission requirements (<http://catalog.uark.edu/graduatecatalog/business/>) of the Graduate School of Business and be admitted by the departmental admissions committee.

Academic Standing and Dismissal: Please see the Graduate School of Business policy for more information.

Requirements for the Master of Information Systems

Degree: Students whose previous studies have fulfilled requirements of the common body of knowledge in business and information systems will be required to complete a minimum of 30 hours of graduate work. The required common body of knowledge in Information Systems includes management information systems, systems analysis, analytics, database, and programming languages (such as Python, Java, or other).

Core Courses

ISYS 54203 Seminar in Systems Development	3
ISYS 58303 Data Management Systems	3
ISYS 59403 Management of Information Technology Seminar	3

Areas of Concentration 15

Electives* 6

*Approved electives may be any graduate level course pre-approved by the program director or adviser.

Total Hours 30

M.I.S. (Part-time): The Department of Information Systems also provides an opportunity for professionals in the workplace to complete the program by taking 2 courses per semester for 5 semesters. Contact the department for additional information or visit the Graduate School of Business website (<http://gsb.uark.edu/>).

For the M.I.S. (part-time), approval of the Director is required to enroll in more than six hours per semester.

Additional Requirements for the Enterprise Resource Planning Management Concentration

Enterprise Resource Planning (ERP) Management Concentration:

ISYS 52103	ERP Fundamentals	3
ISYS 52203	ERP Configuration and Implementation	3
ISYS 52303	Seminar in ERP Development	3
Select six hours from the following:		6
ISYS 51003	Data Analytics Fundamentals	
ISYS 51303	Blockchain and E Business Development	
ISYS 51703	Blockchain Fundamentals	
ISYS 54503	Blockchain and Enterprise Data	
ISYS 55003	Decision Support and Analytics	
ISYS 58403	Seminar in Business Intelligence and Knowledge Management	
Total Hours		15

Requirements for M.I.S. with Information Technology Management Concentration

The Master of Information Systems is designed to provide professional preparation for positions in business and government. It provides sufficient flexibility to meet the needs of students with various backgrounds and foster lifelong learning and innovation. Students may concentrate in one of five areas:

- Information Technology Management,
- Enterprise Resource Planning (ERP) Management,
- Digital Innovation Management,
- Cybersecurity Management,
- Software Engineering Management.

Admission Requirements: Students must apply to and meet the admission requirements (<http://catalog.uark.edu/graduatecatalog/business/>) of the Graduate School of Business and be admitted by the departmental admissions committee.

Academic Standing and Dismissal: Please see the Graduate School of Business policy for more information.

Requirements for the Master of Information Systems

Degree: Students whose previous studies have fulfilled requirements of the common body of knowledge in business and information systems will be required to complete a minimum of 30 hours of graduate work. The required common body of knowledge in Information Systems includes management information systems, systems analysis, analytics, database, and programming languages (such as Python, Java, or other).

Core Courses

ISYS 54203	Seminar in Systems Development	3
ISYS 58303	Data Management Systems	3
ISYS 59403	Management of Information Technology Seminar	3

Areas of Concentration 15

Electives* 6

*Approved electives may be any graduate level course pre-approved by the program director or adviser.

Total Hours 30

M.I.S. (Part-time): The Department of Information Systems also provides an opportunity for professionals in the workplace to complete the program by taking 2 courses per semester for 5 semesters. Contact the department for additional information or visit the Graduate School of Business website (<http://gsb.uark.edu/>).

For the M.I.S. (part-time), approval of the Director is required to enroll in more than six hours per semester.

Additional Requirements for Information Technology Management Concentration

Information Technology Management Concentration:

ISYS 52103	ERP Fundamentals	3
ISYS 55003	Decision Support and Analytics	3
Computing Electives selected from approved ISYS and CSCE		9
Total Hours		15

Requirements for M.I.S. with Software Engineering Management Concentration

The Master of Information Systems is designed to provide professional preparation for positions in business and government. It provides sufficient flexibility to meet the needs of students with various backgrounds and foster lifelong learning and innovation. Students may concentrate in one of five areas:

- Information Technology Management,
- Enterprise Resource Planning (ERP) Management,
- Digital Innovation Management,
- Cybersecurity Management,
- Software Engineering Management.

Admission Requirements: Students must apply to and meet the admission requirements (<http://catalog.uark.edu/graduatecatalog/business/>) of the Graduate School of Business and be admitted by the departmental admissions committee.

Academic Standing and Dismissal: Please see the Graduate School of Business policy for more information.

Requirements for the Master of Information Systems

Degree: Students whose previous studies have fulfilled requirements of the common body of knowledge in business and information systems will be required to complete a minimum of 30 hours of graduate work. The required common body of knowledge in Information Systems includes management information systems, systems analysis, analytics, database, and programming languages (such as Python, Java, or other).

Core Courses

ISYS 54203	Seminar in Systems Development	3
ISYS 58303	Data Management Systems	3
ISYS 59403	Management of Information Technology Seminar	3

Areas of Concentration 15

Electives* 6

*Approved electives may be any graduate level course pre-approved by the program director or adviser.

Total Hours 30

M.I.S. (Part-time): The Department of Information Systems also provides an opportunity for professionals in the workplace to complete the program by taking 2 courses per semester for 5 semesters. Contact the department for additional information or visit the Graduate School of Business website (<http://gsb.uark.edu/>).

For the M.I.S. (part-time), approval of the Director is required to enroll in more than six hours per semester.

Additional Requirements for Software Engineering Management Concentration

Software Engineering Management

ISYS 51303	Blockchain and E Business Development	3
ISYS 55003	Decision Support and Analytics	3
Select nine hours from the following:		9
CSCE 35103	Software Engineering	
CSCE 51703	Formal Languages and Computability	
CSCE 53203	Computer Security	
ISYS or CSCE courses (approved by Director)		
Total Hours		15

Ph.D. in Business Administration (Information Systems)

Information Systems Ph.D. Program Website (<https://walton.uark.edu/graduate-programs/phd-programs/information-systems.php>)

Overview: The objective of the Ph.D. in business administration with a concentration in information systems is to prepare students to conduct quality research in information systems as a faculty member at a research-oriented university school of business. The program is designed to produce a graduate with an understanding of the necessary subject matter required to contribute educational and research expertise to the field of information systems. In addition to preparing students to be world-class researchers, the program seeks to prepare students to teach effectively in an information systems curriculum.

Admission Requirements: Students must apply to the Graduate School of Business and meet the requirements (<http://catalog.uark.edu/graduatecatalog/business/>) of both Graduate School and the Graduate School of Business. Students must be admitted by the departmental admissions committee. Applicants are expected to have a background in information systems via prior courses in topics such as a programming language, systems analysis, design, and development, and database processing. Students without the background may also be admitted but will likely be required to take up to 3 master's level courses to remedy the deficiency.

Requirements for the Ph.D. in Business Administration (Information Systems) include required courses in information systems, research, and supporting fields. These 70 credit hours of courses are taken prior to advancing to candidacy and are broken down as follows: Information Systems required courses (21 hours); research requirements (21 hours) and supporting field courses (10 hours). Following completion of the coursework, students must pass a candidacy examination. The program also requires completion of 1st and 2nd year summer research projects, defense of a dissertation proposal, and successful defense of the dissertation (18 credit hours). Students are also prepared for a career in research through research assistantships, collaborative research projects with faculty members, colloquia, and classroom teaching and support.

Course Requirements

Required Courses		21
ISYS 61303	Survey of IS Research	
ISYS 63703	Social Networks in Information Systems Research	
ISYS 63803	Critical Thinking on the Conduct of IS Research	
ISYS 65303	Information Systems for Managing Organizations and Platforms	
ISYS 67403	Qualitative and Quantitative Methods in Research	
ISYS 67503	Management of Knowledge and Information Systems	
ISYS 68303	Theory Development	
Research Requirements		21
ISYS 6010V	Graduate Colloquium (12 Hours)	
ISYS 57203	Advanced Multivariate Analysis	
6 hours of Research Electives to be chosen in consultation with the Ph.D. Coordinator		
Supporting Fields		10
BUSI 61101	Seminar in Business Administration Teaching I	
9 hours of Electives to be chosen in consultation with Ph.D. Coordinator		
Dissertation		18
ISYS 7000V	Doctoral Dissertation	
Total Hours		70

Alternative courses may be used for substitution upon availability and with coordinator consent.

Candidacy Examination

Students must satisfactorily complete a first and second year summer research project. The candidacy exam comprises two parts: Research tools and Information Systems core. The written exam is administered in the summer after two years of coursework. If she or he fails, the student will have to re-take the exam during the next administration of the exam. This includes students having to re-take only parts of the exam. Students also must satisfactorily pass an oral exam upon successful completion of the written exam. Ordinarily, only one re-take of the written exam (part or whole) and/or oral exam is permitted.

Students must complete a minimum of 72 graduate credit hours beyond the bachelor's degree and 42 graduate credit hours beyond the master's degree. For students who apply to the degree program without a master's degree, a minimum of 2 additional credit hours in consultation with the Ph.D. coordinator will be required to fulfill the full degree requirements to include approved graduate courses. Additional hours may be assessed in individual cases to meet specific coursework deficiencies.

For a complete list of University Graduate School and International Education degree requirements, please visit the Objectives and Regulations section (<http://catalog.uark.edu/graduatecatalog/objectivesandregulations/>).

Graduate Certificate in Enterprise Systems

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Enterprise Systems Graduate Certificate Program Website (<https://gsb.uark.edu/graduate-certificates/>)

The Graduate Certificate in Enterprise Systems is a part-time program offered on campus, blended, and online. It is designed to provide graduate students with knowledge and experience in information systems used in modern enterprise environments. The demand for skilled professionals in information systems continues to outpace the supply of qualified applicants. Students may choose one of three tracks for the Graduate Certificate in Enterprise Systems: Business Analytics, Cybersecurity and Data, or Enterprise Resource Planning. The certificate program is intended to be completed part-time (ordinarily no more than six hours per semester), and is open to individuals with backgrounds in any discipline.

Admission Requirements: The Graduate Certificate in Enterprise Systems is a part-time program open to individuals with backgrounds in any discipline. Students must apply and be admitted to the Graduate School of Business; the GMAT/GRE requirement is waived for the Graduate Certificate in Enterprise Systems degree program. (Students who have earned a GPA 3.5 or better upon completion of the certificate program and subsequently apply to the part-time Master of Information Systems program (Professional M.I.S.) will not be required to submit a test score). Information regarding Graduate School of Business admission requirements can be found earlier in this chapter.

Requirements for the Graduate Certificate in Enterprise Systems: (12 hours)

To receive the Graduate Certificate in Enterprise Systems, students must select one of the tracks below. Students are required to take 9 hours of coursework in the Walton College of Business and 3 hours of electives related to Enterprise Systems in either the Walton College or in another college at the University of Arkansas. Elective courses other than those listed below must be approved by the director of the certificate program. Some elective courses have prerequisites that are not met by courses in the certificate program. Students are advised to check prerequisites prior to enrolling in a course.

Required Course (3 hours)

Choose at least one of the following depending on the track chosen:

ISYS 50103	Data and Cybersecurity
ISYS 51003	Data Analytics Fundamentals
ISYS 52103	ERP Fundamentals

Cybersecurity and Data Track

This track is open to individuals with backgrounds in any discipline and is designed to provide business and non-business graduate students a foundation to help organizations assess and detect threats while securing and protecting data and data-driven systems against a myriad of threats such as malicious software, hacking, insider threats, and other cybercrimes.

Required Courses (9 hours)

ISYS 50103	Data and Cybersecurity	3
ISYS 50203	Data and System Security	3
ISYS 50403	Cybersecurity, Crime, and Data Privacy Law I	3
Students should choose 3 hours of coursework from among the following:		3
ISYS 50303	Advanced Data and Cybersecurity Management	
ISYS 50503	Cybersecurity, Crime and Privacy Law II	

ISYS 5110V	IT Toolkit & Skills Seminar	
ISYS 51003	Data Analytics Fundamentals	
ISYS 52103	ERP Fundamentals	
Total Hours		12

Business Analytics Track

This track is open to individuals with backgrounds in any discipline and is designed to give business and non-business graduate student's knowledge and experience in the management and use of enterprise data for operations and decision-making. The ability to effectively manage and analyze increasingly large and complex sets of data is highly valued among employers in all disciplines, as "business intelligence" becomes a primary source of competitive advantage in many organizations. Students who complete this track will have a foundation in the effective management and use of relational and dimensional data, the application of statistical decision-making theory, and the exploration and exploitation of data using advanced data mining tools and techniques. Students completing this track may be eligible to receive a certificate endorsed by the SAS Institute.

Required Courses (9 hours)

ISYS 51003	Data Analytics Fundamentals	3
ISYS 55003	Decision Support and Analytics	3
ISYS 58303	Data Management Systems	3
Students should choose 3 hours of coursework from among the following:		3
ISYS 5110V	IT Toolkit & Skills Seminar (this course may not be used for the Master of Information Systems degree)	
ISYS 52103	ERP Fundamentals	
ISYS 54203	Seminar in Systems Development	
ISYS 58403	Seminar in Business Intelligence and Knowledge Management	

Total Hours		12
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Enterprise Resource Planning Track

This track is open to individuals with backgrounds in any discipline and is designed to provide business and non-business graduate students a foundation in the effective use, implementation, and customization of Enterprise Resource Planning (ERP) systems. ERP systems support integrated core business processes in nearly every large organization, and knowledge of and experience with these systems are highly valued among employers in all business disciplines. Students who complete this track will have exposure to fundamental principles of ERP and techniques for configuration, implementation, and development of ERP systems. Students completing this track may be eligible to receive a certificate endorsed by SAP America and the SAP University Alliances Program.

Required Courses (9 hours)

ISYS 52103	ERP Fundamentals	3
ISYS 52203	ERP Configuration and Implementation	3
ISYS 52303	Seminar in ERP Development	3
Students should choose 3 hours of coursework from among the following:		3
ISYS 5110V	IT Toolkit & Skills Seminar (recommended)	
ISYS 51003	Data Analytics Fundamentals	

ISYS 58303 Data Management Systems

Total Hours

12

Graduate Microcertificates

The Department of Information Systems offers the following graduate microcertificates.

Graduate Microcertificates in Healthcare Business Analytics

The graduate microcertificates in the Information Systems and Educational Statistics and Research Methods academic programs are part-time credentials, offered via campus, blended, and online instruction. They are designed to provide graduate students with specific Healthcare Business Analytics knowledge in the fundamentals and advanced levels:

- **Healthcare Business Analytics (for those interested in fundamentals)**
- **Advanced Healthcare Business Analytics (for experienced analysts).**

The demand for skilled professionals in healthcare business analytics continues to outpace the supply of qualified applicants. Each six-hour micro certificate program is intended to be completed part-time and is open to individuals with backgrounds in any discipline. Six hours of MicroCertificate course credit with a grade of "B" or better can be used in the Graduate Certificate in Healthcare Business Analytics, Master of Healthcare Business Analytics, and Master of Applied Business Analytics programs as applicable to the respective degree. Coursework may not be transferred from another university to meet the requirements of a MicroCertificate, and retroactive graduate credit is not allowed for a MicroCertificate.

Healthcare Business Analytics Microcertificate

Admission Requirements: The graduate microcertificate credentials are part-time credentials open to individuals with backgrounds in any discipline. Students must apply for the specific microcertificate credential and be admitted to the Graduate School of Business; the GMAT/GRE requirement is waived for the microcertificate credential. (Students who have earned a GPA of 3.5 or better upon completion of the microcertificate and subsequently apply to the part-time Graduate Certificate in Healthcare Business Analytics, Master of Healthcare Business Analytics, and Master of Applied Business Analytics programs will not be required to submit a test score). Information regarding Graduate School of Business admission requirements (<http://catalog.uark.edu/graduatecatalog/business/>) can be found earlier in this chapter.

Healthcare Business Analytics Graduate Microcertificate: (6 hours)

Requirements: To receive the Graduate Healthcare Business Analytics Microcertificate, students are required to take 6 hours of coursework at the University of Arkansas. Students are advised to check prerequisites prior to enrolling in a course.

Required Courses

6

ISYS 55003	Decision Support and Analytics
ESRM 53003	Healthcare Analytics Fundamentals

Total Hours

6

Advanced Healthcare Business Analytics Microcertificate

Admission Requirements: The Graduate MicroCertificate credentials are part-time credentials open to individuals with backgrounds in any discipline. Students must apply for the specific MicroCertificate credential and be admitted to the Graduate School of Business; the GMAT/GRE requirement is waived for the MicroCertificate credential. (Students who have earned a GPA of 3.5 or better upon completion of the MicroCertificate and subsequently apply to the part-time Graduate Certificate in Healthcare Business Analytics, Master of Healthcare Business Analytics, and Master of Applied Business Analytics programs will not be required to submit a test score.) Information regarding Graduate School of Business admission requirements (<http://catalog.uark.edu/graduatecatalog/business/>) can be found earlier in this chapter.

Advanced Healthcare Business Analytics Graduate MicroCertificate: (6 hours)

Requirements: As a prerequisite, students must have successfully completed the Healthcare Business Analytics Graduate MicroCertificate courses ESRM 53003 and ISYS 55003 (or equivalent) and are required to take 6 hours of coursework at the University of Arkansas. Students are advised to check prerequisites prior to enrolling in a course.

Required Course	3
ESRM 58203	Healthcare Business Analytics I
Select one of the following:	3
ISYS 58303	Data Management Systems
ISYS 58403	Seminar in Business Intelligence and Knowledge Management
ESRM 58503	Healthcare Business Analytics II

Total Hours

6

Graduate Microcertificate in Blockchain

The Blockchain Graduate Microcertificate in the Department of Information Systems is offered on campus, in a blended professional format, and online, and is designed to provide graduate students with specific information systems knowledge. The demand for skilled professionals in information systems continues to outpace the supply of qualified applicants. Each six-hour microcertificate program is intended to be completed part-time and is open to individuals with backgrounds in any discipline. Six hours of microcertificate course credit with a grade of "B" or better can be used in the Information Systems Enterprise Systems Graduate Certificate, Master of Information Systems, and Master of Applied Business Analytics programs as applicable to the respective degree. Coursework may not be transferred from another university to meet the requirements of a microcertificate, and retroactive graduate credit is not allowed for a microcertificate.

Admission Requirements: The Department of Information Systems Graduate Microcertificate credentials are credentials open to individuals with backgrounds in any discipline. Students must apply for the specific Microcertificate credential and be admitted to the Graduate School of Business; the GMAT/GRE requirement is waived for the MicroCertificate credential. (Students who have earned a GPA 3.5 or better upon completion of the Microcertificate and subsequently apply to the part-time Graduate Certificate in Enterprise Systems, the Master of Information Systems program (Professional M.I.S.), or Master of Applied Business Analytics program (Professional M.A.B.A) will not be required to submit a test score but must still apply and be admitted to the additional

program). Information regarding Graduate School of Business admission requirements can be found earlier in this chapter.

Requirements for the Blockchain Graduate Microcertificate (6 hours): To receive the Blockchain Graduate Microcertificate, students are required to take 6 hours of coursework in the Walton College of Business. Students are advised to check prerequisites prior to enrolling in a course.

Required Courses

ISYS 51703	Blockchain Fundamentals	3
Select one of the following:		3
ISYS 51303	Blockchain and E Business Development	
ISYS 54503	Blockchain and Enterprise Data	

Total Hours 6

Graduate Microcertificate in Business Analytics

The Business Analytics Graduate Microcertificate in the Department of Information Systems is offered on campus, in a blended professional format, and online, and is designed to provide graduate students with specific IS knowledge. The demand for skilled professionals in information systems continues to outpace the supply of qualified applicants. Each six-hour microcertificate program is intended to be completed part-time and is open to individuals with backgrounds in any discipline. Six hours of microcertificate course credit with a grade of "B" or better can be used in the Information Systems Enterprise Systems Graduate Certificate, Master of Information Systems, and Master of Applied Business Analytics programs as applicable to the respective degree. Coursework may not be transferred from another university to meet the requirements of a MicroCertificate, and retroactive graduate credit is not allowed for a microcertificate.

Admission Requirements: The Department of Information Systems graduate microcertificate credentials are credentials open to individuals with backgrounds in any discipline. Students must apply for the specific microcertificate credential and be admitted to the Graduate School of Business; the GMAT/GRE requirement is waived for the microcertificate credential. (Students who have earned a GPA 3.5 or better upon completion of the MicroCertificate and subsequently apply to the part-time Graduate Certificate in Enterprise Systems, the Master of Information Systems program (Professional M.I.S.), or Master of Applied Business Analytics program (Professional M.A.B.A) will not be required to submit a test score but must still apply and be admitted to the additional program). Information regarding Graduate School of Business admission requirements can be found earlier in this chapter.

Requirements for the Business Analytics Graduate Microcertificate: To receive the Graduate Business Analytics Microcertificate, students are required to take 6 hours of coursework in the Walton College of Business. Students are advised to check prerequisites prior to enrolling in a course.

Required Courses

ISYS 50103	Data and Cybersecurity	3
ISYS 55003	Decision Support and Analytics	3

Total Hours 6

Graduate Certificate in Business Cybersecurity

The Business Cybersecurity Graduate Microcertificate in the Department of Information Systems is offered on campus and in a blended professional format, and it is designed to provide graduate students with specific IS knowledge. The demand for skilled professionals in information systems continues to outpace the supply of qualified applicants. Each six-hour microcertificate program is intended to be completed part-time and is open to individuals with backgrounds in any discipline. Six hours of microcertificate course credit with a grade of "B" or better can be used in the Information Systems Enterprise Systems Graduate Certificate, Master of Information Systems, and Master of Applied Business Analytics programs as applicable to the respective degree. Coursework may not be transferred from another university to meet the requirements of a MicroCertificate, and retroactive graduate credit is not allowed for a microcertificate.

Admission Requirements: The Department of Information Systems Graduate Microcertificate credentials are credentials open to individuals with backgrounds in any discipline. Students must apply for the specific microcertificate credential and be admitted to the Graduate School of Business; the GMAT/GRE requirement is waived for the microcertificate credential. (Students who have earned a GPA 3.5 or better upon completion of the microcertificate and subsequently apply to the part-time Graduate Certificate in Enterprise Systems, the Master of Information Systems program (Professional M.I.S.), or Master of Applied Business Analytics program (Professional M.A.B.A) will not be required to submit a test score but must still apply and be admitted to the additional program). Information regarding Graduate School of Business admission requirements can be found earlier in this chapter.

Requirements for the Business Cybersecurity Graduate

MicroCertificate: To receive the Business Cybersecurity Graduate MicroCertificate, students are required to take 6 hours of coursework in the Walton College of Business. Students are advised to check prerequisites prior to enrolling in a course.

Required Courses

ISYS 50103	Data and Cybersecurity	3
Select one of the following:		3
ISYS 50203	Data and System Security	
ISYS 50403	Cybersecurity, Crime, and Data Privacy Law I	

Total Hours 6

Graduate Faculty

Anand, Abhijith, Ph.D. (University of Waikato), M.I.S. (University of Wollongong), B.E. (K.S. Institute of Technology), Assistant Professor, 2017.

Bristow, Susan E., Ed.D., M.B.A., B.S.B.A. (University of Arkansas), Teaching Associate Professor, 1997, 2020.

Conway, Daniel, Ph.D., M.A. (Indiana University), B.A. (Augustana College), Teaching Professor, 2019.

Cronan, Timothy P., Ph.D. (Louisiana Tech University), M.S. (South Dakota State University), B.S. (University of Southwestern Louisiana), Professor, M.D. Matthews Endowed Chair in Information Systems, 1979.

Dereszynski, Michael, M.I.S. (University of Arkansas), B.S. (Milwaukee School of Engineering), Instructor, 2019.

Freeze, Ron, Ph.D. (Arizona State University), M.B.A. (University of Missouri–Kansas City), B.S. (General Motors Institute), Clinical Professor, 2015, 2021.

Grover, Varun, Ph.D. (University of Pittsburg), M.B.A. (Southern Illinois University), B.S. (Indian Institute of Technology), Distinguished Professor, David D. Glass Chair in Information Systems, 2017.

Hoehle, Hartmut, Ph.D., B.Com. (Victoria University of Wellington), Visiting Professor, 2013, 2022.

Keiffer, Elizabeth, Ph.D., M.A. (University of Arkansas), B.S. (East Central University), Teaching Assistant Professor, 2016, 2019.

Lacity, Mary, Ph.D. (University of Houston), B.S.B.A. (Pennsylvania State University), Distinguished Professor, David D. Glass Chair in Information Systems, 2018, 2022.

Mullins, Jeff, Ph.D., M.A., B.S. (University of Arkansas), Assistant Professor, 2006, 2018.

Nolan, Steve, Ph.D., M.A. (University of Missouri-Columbia), B.A. (Westminster College), Instructor, 2017.

Sabherwal, Rajiv, Ph.D. (University of Pittsburgh), P.G.D.M. (Indian Institute of Management), B.S.E.E. (Regional Engineering College, India), Distinguished Professor, Edwin and Karlee Bradberry Chair, 2011, 2019.

Shook, Carole, M.S.B.A., B.S.B.A. (University of Arkansas), Teaching Associate Professor, 1999, 2023.

Steelman, Zachary R., Ph.D., M.I.S. (University of Arkansas), B.B.A. (Northeastern State University), Associate Professor, 2017, 2022.

Sykes, Tracy Ann, Ph.D. (University of Arkansas), B.S. (University of Maryland-College Park), Associate Professor, 2011, 2016.

Syler, Rhonda A., Ph.D. (Auburn University), M.B.A. (Columbus State University), M.S. (Kansas State University), B.S. (Middle Tennessee State University), Teaching Assistant Professor, 2016.

Weng, Qin, Ph.D. (University of Pittsburg), M.S. (Virginia Commonwealth University), B.A. (Beijing Foreign Studies University), Assistant Professor, 2018.

Young, Amber, Ph.D. (University of Oklahoma), M.B.A. (Oklahoma Christian University), B.S.Ed. (University of Oklahoma), Associate Professor, 2018, 2023.

Courses

ISYS 50103. Data and Cybersecurity. 3 Hours.

This course provides current business cybersecurity and data issues for graduate students to include securing data, detecting and responding to cyber security breaches, cyber-technologies, current security and cryptographic techniques, and ensuring a secured computing environment to safeguard company information. In addition, students will explore cybersecurity strategies and compliance with security standards, as well as data confidentiality, integrity, ethical use, and availability. Prerequisite: Graduate standing and departmental consent. (Typically offered: Fall and Spring)

ISYS 50203. Data and System Security. 3 Hours.

This course involves a comprehensive study of data security and network security in today's digital enterprise. Traditional network protocol and security issues are explored as well as security issues such as cloud environments, data protection, IoT ecosystems, ERP systems, and Blockchain deployments. Prerequisite: ISYS 50103. (Typically offered: Fall and Spring)

ISYS 50303. Advanced Data and Cybersecurity Management. 3 Hours.

This course provides graduate students with an in-depth, advanced understanding of information security and data management. Topics include risk assessment, information systems security, continuity planning, data protection, threat detection, threat/risk mitigation, recovery issues/techniques, and current topics. Prerequisite: ISYS 50203. (Typically offered: Fall and Spring)

ISYS 50403. Cybersecurity, Crime, and Data Privacy Law I. 3 Hours.

This graduate level course in examines applicable cybersecurity, crime, and data privacy law to include the Fourth Amendment, Privacy, the Wiretap Act, and other. Limits on law enforcement that might affect private industry developing surveillance tools used by governments are reviewed. Crimes such as hacking, identity theft, economic espionage, online threats, are also discussed. Prerequisite: ISYS 50103. (Typically offered: Fall and Spring)

ISYS 50503. Cybersecurity, Crime and Privacy Law II. 3 Hours.

The course explores best practices for data, privacy, and security protection measures with respect to privacy and security law, as well as mitigation techniques for privacy and security threats. The importance of informational privacy will be highlighted along with a high-level overview of U.S. laws and regulations including FTC roles and government surveillance. Prerequisite: ISYS 50203 and ISYS 50403. (Typically offered: Fall and Spring)

ISYS 51003. Data Analytics Fundamentals. 3 Hours.

Fundamental knowledge and skills in several major areas of business data analytics. Emphasis on the management and use of data in modern organizations, intermediate & advanced spreadsheet topics; relational databases & SQL; and programming (such as Python). Prerequisite: MIS Director approval. (Typically offered: Fall)

ISYS 5110V. IT Toolkit & Skills Seminar. 1-3 Hour.

Seminar in Information Systems solutions and concepts (such as applications development, VB.NET, analysis of problems and design of solutions via application systems, etc.) designed for students entering the MIS program--may not be used for MIS degree credit. Prerequisite: MIS Director approval. (Typically offered: Irregular) May be repeated for up to 3 hours of degree credit.

ISYS 51303. Blockchain and E Business Development. 3 Hours.

This course explores various blockchain and e-business development technologies and then utilizes these technologies for developing a realistic application. Students will also learn strategies and use a varied web stack to build web pages that interact with blockchain platforms. Prerequisite: ISYS 51703. (Typically offered: Fall)

ISYS 5160V. Independent Study. 1-3 Hour.

Permits students on individual basis to explore selected topics in data processing and/or Quantitative Analysis. Graduate degree credit will not be given for both ISYS 4500V and ISYS 5160V. (Typically offered: Fall and Spring)

ISYS 51703. Blockchain Fundamentals. 3 Hours.

This course provides the fundamental concepts underpinning blockchain technologies. The focus is on blockchain applications for business. Students will learn about the overall blockchain landscape, including investments, the size of markets, major players and the global reach, as well as the potential business value of blockchain applications and the challenges that must be overcome to achieve that value. Students will learn enough about the underlying technologies to speak intelligently to technology experts and will be well-prepared to develop blockchain applications in future courses. Prerequisite: Graduate standing and departmental consent. (Typically offered: Fall, Spring and Summer)

ISYS 52103. ERP Fundamentals. 3 Hours.

An introduction to enterprise resource planning systems. Students should gain an understanding of the scope of these integrated systems that reach across organizational boundaries and can change how a company does business. Implementation issues are covered, including the importance of change management. Prerequisite: Graduate standing. (Typically offered: Fall and Summer)

ISYS 52203. ERP Configuration and Implementation. 3 Hours.

The process of configuring and implementing an enterprise resource planning system. Business process analysis and integration. Students will develop a company and set up several modules in SAP for use. Develop understanding of how the business processes work and integrate. Prerequisite: ISYS 52103 or equivalent. (Typically offered: Fall and Spring)

ISYS 52303. Seminar in ERP Development. 3 Hours.

ERP administration and system development practices. Advanced system support issues related to Enterprise Resource Planning systems that are used in global organizations. Basic ABAP programming. In addition, students will learn how to provide basic systems administration support of the operating system, database, and application systems software levels of ERP systems. Pre- or Corequisite: ISYS 52203. Prerequisite: ISYS 52103. (Typically offered: Spring) May be repeated for up to 6 hours of degree credit.

ISYS 52403. Current Topics in Computer Information. 3 Hours.

Intensive investigation of selected developments in computer information systems hardware, software, and organization having current impact on computer information systems design and application. Offering an extension of lower-level CIS courses through individual student research and faculty team-teaching of advanced topics. Topical selection made with each course offering. Graduate degree credit will not be given for both ISYS 42403 and ISYS 52403. (Typically offered: Irregular) May be repeated for up to 6 hours of degree credit.

ISYS 53103. Foundations of Digital Innovation. 3 Hours.

The aim of the course is to provide business students with ethical frameworks, innovation theories, and management practices to assess the potential business and social value of emerging digital innovations for organizations. Students will learn about the technology hype cycle and management practices to move digital innovations from proof-of-concepts to live production implementations that consider stakeholder consequences. Students will learn about digital innovations from innovators, thought leaders, and each other. Prerequisite: Walton Graduate standing and Graduate Director consent. (Typically offered: Fall and Summer)

ISYS 53203. Development with Digital Innovations. 3 Hours.

This course exposes graduate business students with the ever evolving environment of modern software development. Using a hands-on approach to exploring modern software development tools and techniques students will learn how to conceptualize, design, and implement software product prototypes using a variety of emerging technologies. Students will gain understanding of how to evaluate digital innovations for inclusion into an ever-evolving software development environment to help accelerate development. Skills will focus on providing students the ability to quickly design and implement functional prototypes for business use-cases while exploring the introduction of innovations in the market. Prerequisite: Walton Graduate Standing and Graduate Director Consent. (Typically offered: Fall and Summer)

ISYS 53403. Adaptive Cloud Infrastructure and Services. 3 Hours.

In this dynamic and hands-on course, graduate students will delve into the cutting-edge world of modern infrastructure technologies. Emphasizing real-world applications, this course provides an in-depth exploration of advanced topics such as cloud computing and platform services, equipping students with the skills to design, implement, and manage robust and scalable IT infrastructure solutions. Prerequisite: ISYS 51003, Graduate Director consent, and beginner python programming experience and database querying. (Typically offered: Fall and Spring)

ISYS 5350V. Internship Experience. 1-6 Hour.

This course allows a student to experience an internship within a business and benefit from the work experience. The internship focuses on applications and business problems and is supervised by a faculty member as well as a member of the company/firm. Prerequisite: MIS Director approval is required. (Typically offered: Fall, Spring and Summer) May be repeated for up to 6 hours of degree credit.

ISYS 53603. Business Analytics. 3 Hours.

This course in managerial business analytics provides future managers with the key concepts of decision modeling and information technology management concepts. Students will learn to utilize real time operational business data, as well as quickly process and effectively leverage information. In addition, students will exercise strategic IT deployment skills for supply chain and marketing processes as well as develop strong decision modeling abilities. (Typically offered: Spring)

ISYS 54203. Seminar in Systems Development. 3 Hours.

Advanced study of structured systems development. Emphasis on strategies and techniques of structured analysis and structured design for producing logical systems specifications and for deriving physical systems designs. Coverage of methodologies for dealing with complexity in the development of information systems. Prerequisite: ISYS 5110V. (Typically offered: Fall)

ISYS 54303. Enterprise Systems. 3 Hours.

Enterprise Systems comprises the entire class of information technology and systems that support the mission of the company including decision support and business processes. This managerial enterprise systems course focuses on strategic issues of information technology. Students study the various elements and integration of an organization's business processes; as a result, students gain an understanding and working knowledge of systems used to support these business processes and their use in decision making. In addition, students will study concepts and develop skills needed to utilize decision-centric business intelligence and knowledge management applications. (Typically offered: Spring)

ISYS 54503. Blockchain and Enterprise Data. 3 Hours.

The focus of this course is to expose students to working with distributed and service oriented architectures for different applications as well as the IT infrastructure needed. The course provides the opportunity for students to gain valuable insight into blockchain as a distributed system and cloud architecture platforms with the goal of developing enterprise applications. Prerequisite: ISYS 51303. (Typically offered: Spring)

ISYS 55003. Decision Support and Analytics. 3 Hours.

Analysis of the highest level of information support for the manager-user. A study of systems providing analytics-based information derived from databases within and/or external to the organization and used to support management in the decision making. Application of tools in business analytics, problem solving, and decision making. Prerequisite: MIS Director approval. (Typically offered: Fall)

ISYS 56003. Analytics and Visualization. 3 Hours.

This course focuses on how to discern and tell your story visually using data based on traditional graphical data representation as well as the latest data and information technologies. Coverage includes both visualization theory and hands-on exercises using appropriate computing tools. The course will also include visualization of predictive, clustering, and association models. The opportunities and challenges of Big Data visualization will be explored. Corequisite: Lab component. Prerequisite: (ISYS 55003) or (ISYS 51303 and departmental consent). (Typically offered: Fall)

ISYS 57103. Seminar in IS Topics. 3 Hours.

Intensive seminar in selected information systems topics. Topical selection made with each course offering. Prerequisite: ISYS 5110V or MIS Director approval. (Typically offered: Irregular) May be repeated for up to 9 hours of degree credit.

ISYS 57203. Advanced Multivariate Analysis. 3 Hours.

Factor analysis and other advanced techniques. (Typically offered: Irregular)

ISYS 58303. Data Management Systems. 3 Hours.

Investigation and application of advanced database concepts include database administration, database technology, and selection and acquisition of database management systems. Data modeling and system development in a database environment. Prerequisite: ISYS 51003. (Typically offered: Spring)

ISYS 58403. Seminar in Business Intelligence and Knowledge Management. 3 Hours.

Business intelligence focuses on assessing and creating information and knowledge from internal and external sources to support business decision making process. In this seminar, data mining and information retrieval techniques will be used to extract useful knowledge from data, which could be used for business intelligence, and knowledge management. Pre- or Corequisite: ISYS 58303 or equivalent. Prerequisite: ISYS 55003 or equivalent. (Typically offered: Spring)

ISYS 58603. Advanced Data Management. 3 Hours.

Advanced Data Management offers an in-depth exploration of modern data management practices. This course equips students with practical skills in programming to acquire, analyze, and host data solutions. Topics include data collection, preparation, analysis, their practical applications in data-driven environments, among others. Pre- or Corequisite: ISYS 58303. Prerequisite: ISYS 51003. (Typically offered: Fall and Summer)

ISYS 5930V. Global Technology and Analytics Seminar. 1-3 Hour.

This course is designed to provide an updated, comprehensive, and rigorous treatment of emerging global topics. Includes, but is not limited to, global study experiences, business insights, and foundational perspectives; examines significant issues from global perspectives. Prerequisite: Department Consent, Graduate standing, and MIS Director approval. (Typically offered: Summer) May be repeated for up to 3 hours of degree credit.

ISYS 59403. Management of Information Technology Seminar. 3 Hours.

Presented in a way that allows you to play an active role in the design, use, and management of information technology. Using IT to transform the organization, as competitive strategy, and creating new relationship with other firms is included. Pre- or Corequisite: ISYS 58303. Prerequisite: ISYS 54203. (Typically offered: Spring)

ISYS 5990V. Practicum Seminar. 1-6 Hour.

This course is designed to introduce and engage the student in the practice, application, and problem solving in the business environment. Hands-on application of a business problem. Students will gain experience working on, making decisions about, and developing solutions for business applications. Topics include but not limited to analytics, data, and information technology. Prerequisite: Graduate standing and MIS Director approval. (Typically offered: Fall, Spring and Summer) May be repeated for up to 6 hours of degree credit.

ISYS 6010V. Graduate Colloquium. 1-6 Hour.

Presentation and critique of research papers and proposals. (Typically offered: Fall and Spring) May be repeated for up to 12 hours of degree credit.

ISYS 61303. Survey of IS Research. 3 Hours.

This is an introductory seminar in information systems research for doctoral students. Its objective is to introduce participants to major streams of IS research and discuss many of the important roles and responsibilities of an IS researcher. Also, this course will play the important role of introducing participants to the research of the current IS faculty. (Typically offered: Fall)

ISYS 6360V. Special Problems. 1-6 Hour.

Independent reading and research under supervision of senior staff member. (Typically offered: Irregular) May be repeated for up to 6 hours of degree credit.

ISYS 63703. Social Networks in Information Systems Research. 3 Hours.

This is an introductory course in social networks for doctoral students. The course will be structured to be suitable to participants from a broad array of social and behavioral sciences. The study of social networks has emerged as an important stream with many fields, ranging from mathematics to organizational behavior to information systems to sociology. Although much of the early development took place in the analysis and methods to study social networks, more recently, a great deal of theory has been developed related to help better understand nomological networks related to social networks (and associated constructs). Prerequisite: Graduate standing and permission of the ISYS PhD Coordinator. (Typically offered: Irregular)

ISYS 63803. Critical Thinking on the Conduct of IS Research. 3 Hours.

This course is designed to enhance the critical thinking skills of Information Systems PhD students as they advance the development of their research agenda. The course will require deep thinking about critical issues in the field and, specifically, how they influence the development of research projects in a rapidly changing technological environment. Students will need to navigate the abstraction scale as they engage in broad debates regarding the field, information technology, and how it specifically impacts the conduct of research. This requires the course to have a pragmatic slant with an emphasis on how such critical thinking can be applied in the development of research projects. Prerequisite: Walton doctoral standing. (Typically offered: Fall Even Years)

ISYS 65303. Information Systems for Managing Organizations and Platforms. 3 Hours.

The goal of this seminar is to provide an understanding of the issues related to the organizational impacts of information technologies, the processes to create value by using information technologies, and the strategic and competitive dynamics related to information technologies in organizations. Students will read and discuss various theories, conceptual issues, and empirical papers pertaining to research on these topics of inquiry. Prerequisite: Graduate standing and permission of the ISYS PhD Coordinator. (Typically offered: Irregular)

ISYS 67303. Emerging Topics. 3 Hours.

Various emerging topics, such as RFID applications and RFID supply chain, ethical decision models, behavioral modeling, piracy and privacy issues, and virtual worlds. (Typically offered: Irregular) May be repeated for up to 15 hours of degree credit.

ISYS 67403. Qualitative and Quantitative Methods in Research. 3 Hours.

This seminar focuses on the study of processes, such as those associated with adoption and diffusion of technologies, the organizational impacts of technologies, and decision-making and planning by individuals and groups. Prerequisite: Graduate standing and permission of the ISYS PhD Coordinator. (Typically offered: Irregular)

ISYS 67503. Management of Knowledge and Information Systems. 3 Hours.

This seminar focuses on research related to the management of two key resources: (a) information systems (IS); and (b) knowledge. The course aims to help prepare students to become good researchers on management of IS and knowledge. Prerequisite: Graduate standing and permission of the ISYS PhD Coordinator. (Typically offered: Irregular)

ISYS 68303. Theory Development. 3 Hours.

To acquire theory development and writing skills, to understand challenges in developing and writing theory sections of papers, and to discuss approaches to writing good empirical journal articles. This course is suited for all social sciences students and is particularly appropriate for students conducting behavioral research in the business disciplines. (Typically offered: Irregular)

ISYS 7000V. Doctoral Dissertation. 1-18 Hour.

Doctoral Dissertation. Prerequisite: Candidacy. (Typically offered: Fall, Spring and Summer) May be repeated for degree credit.