

Information Systems (ISYS)

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Information Systems Department Website (<https://walton.uark.edu/departments/information-systems/>)

The curriculum in information systems is designed to prepare graduates for careers in solving business problems with applications of computer technology.

Graduates with a degree in Information Systems are sought by hundreds of companies for many different types of positions, such as programmer, analyst, database administrator, and web developer, among others. Graduates are now programming, analyzing and designing systems, consulting, teaching, and solving business problems across the country.

Three concentrations are offered:

- Blockchain Enterprise Systems
- Business Analytics
- Enterprise Resource Planning

The department also offers three minors: one in business analytics, one in data and cybersecurity management and one in information systems for business students.

The department also offers a certificate of proficiency in cybersecurity and data management, and three microcertificates — Blockchain, Business Analytics and Business Cybersecurity.

Information Systems Major Requirements

The major in Information Systems requires 27 hours of major in the discipline as well as satisfying the other requirements for the B.S.B.A. degree. A maximum of 30 hours is allowed in the Information Systems major or discipline field of study (i.e., core, major, electives) unless the extra courses are part of an interdisciplinary minor. The Information Systems department encourages its majors to seek an interdisciplinary minor. See an adviser for selection of courses.

NOTE: Course requirements in the Information Systems major total 27 credit hours. Because of prerequisites, students should allow two full years (24 months) to complete this coursework. Prerequisites are strictly enforced.

Course Requirements in the Major for All Concentrations 18

ISYS 2263	Principles of Information Systems
ISYS 3293	Systems Analysis and Design
ISYS 3393	Business Application Development Fundamentals
ISYS 4283	Business Database Systems
ISYS 4363	Business Project Development
ISYS 4213	ERP Fundamentals

Note: These required courses represent a common body of knowledge for all information systems majors. Majors must select one of the following concentrations and must complete nine additional hours of coursework in the elected concentration.

Maximum of 30 hours of ISYS courses in department (core, major, elective). More than 27 hours allowed if the extra courses are part of interdisciplinary minor or collateral track.

Junior/Senior Level Business Electives	9
Concentration Courses	9

¹ CSCE 2004 Programming Foundations I is recommended as a general education elective.

Business Analytics Concentration

ISYS 4193	Business Analytics and Visualization	3
ISYS 4293	Business Intelligence	3
3 hour 3000/4000 level ISYS or Business Elective		3

Total Hours 9

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Satisfies General Education Outcome 1.1)	3	
MATH 2053 Finite Mathematics (Satisfies General Education Outcome 2.1)¹	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Satisfies General Education Outcomes 1.2 and 5.1)	3	
WCOB 1111 Freshman Business Connection		1
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003)²		3
ISYS 1123 Business Application Knowledge - Computer Competency		3
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Satisfies General Education Outcome 1.1)		3
ACCT 2013 Accounting Principles		3
WCOB 1033 Data Analysis and Interpretation		3
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Satisfies General Education Outcome 3.3)		3
Natural Science - State Minimum Core (Satisfies General Education Outcome 3.4)		4
Year Total:	16	16

Second Year	Units	
	Fall	Spring
SEVI 2053 Business Foundations	3	
ISYS 2103 Business Information Systems²	3	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) ³	3	
Social Sciences - State Minimum Core (Satisfies General Education Outcomes 3.3 and 4.1, as well as the Social Issues, Multicultural Environment, and Demographic Diversity Requirement) ⁴	3	
Fine Arts/Humanities - State Minimum Core (Satisfies General Education Outcome 3.1 or 3.2) ⁵	3	

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SCMT 2103 Integrated Supply Chain Management²	3	
MGMT 2103 Managing People and Organizations²	3	
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Satisfies General Education Outcome 3.3) ³	3	
ISYS 2263 Principles of Information Systems	3	
Natural Science - State Minimum Core (Satisfies General Education Outcome 3.4)	4	
Year Total:	15	16

Third Year	Units	
	Fall	Spring
FINN 2043 Principles of Finance²	3	
MKTG 3433 Introduction to Marketing²	3	
ISYS 3293 Systems Analysis and Design	3	
Junior/Senior Business Electives	3	
ISYS 3393 Business Application Development Fundamentals	3	
ISYS 4213 ERP Fundamentals	3	
MGMT 3013 (Satisfies General Education Outcome 6.1)	3	
Junior/Senior Business Electives	3	
U.S. History or Government - State Minimum Core (Satisfies General Education Outcome 4.2)	3	
Year Total:	12	15

Fourth Year	Units	
	Fall	Spring
ISYS 4283 Business Database Systems	3	
ISYS 4193 Business Analytics and Visualization	3	
Junior/Senior Business Electives	3	
3 hour 3000/4000 level ISYS or Business Elective	3	
General Education Electives	3	
ISYS 4293 Business Intelligence	3	
ISYS 4363 Business Project Development	3	
Fine Arts/Humanities - State Minimum Core (Satisfies General Education Outcome 3.1 or 3.2) ^{5, 6}	3	
General Education Electives		6
Year Total:	15	15

Total Units in Sequence: 120

¹ Students have demonstrated successful completion of the learning indicators identified for learning outcome 2.1, by meeting the prerequisites for MATH 2053.
² Must be completed prior to MGMT 3013.
³ Must be completed prior to taking any 3000 or 4000 level business courses.

⁴ The Social Sciences Elective courses which satisfy General Education Outcomes 3.3 and 4.1, as well as the Social Issues, Multicultural Environment, and Demographic Diversity Requirement include:
 ANTH 1023, HIST 1113, HIST 1123, SOCI 2013, SOCI 2013H, or SOCI 2033.
⁵ The Fine Arts Elective courses which satisfy the General Education Outcome 3.1 include:
 ARCH 1003, ARHS 1003, COMM 1003, DANC 1003, LARC 1003, MLIT 1003, MLIT 1003H, MLIT 1013, MLIT 1013H, MLIT 1333, THTR 1003, THTR 1013, or THTR 1013H.
⁶ The Humanities Elective courses which satisfy the General Education Outcome 3.2 include:
 AAST 2023, ANTH 1033, ARCH 1013, CLST 1003, CLST 1003H, CLST 1013, COMM 1233, DANC 1003, ENGL 1213, GNST 2003, HIST 1113, HIST 1113H, HIST 1123, HIST 1123H, HIST 2003, HIST 2013, HUMN 1124H, HUMN 2213, LALS 2013, MRST 2013, MUSY 2003, MUSY 2003H, PHIL 2003, PHIL 2003C, PHIL 2003H, PHIL 2103, PHIL 2103C, PHIL 2303, THTR 1003, THTR 1013, THTR 1013H, WLIT 1113, WLIT 1123, or intermediate-level world language (usually 2003-level).

Information Systems Major Requirements

The major in Information Systems requires 27 hours of major in the discipline as well as satisfying the other requirements for the B.S.B.A. degree. A maximum of 30 hours is allowed in the Information Systems major or discipline field of study (i.e., core, major, electives) unless the extra courses are part of an interdisciplinary minor. The Information Systems department encourages its majors to seek an interdisciplinary minor. See an adviser for selection of courses.

NOTE: Course requirements in the Information Systems major total 27 credit hours. Because of prerequisites, students should allow two full years (24 months) to complete this coursework. Prerequisites are strictly enforced.

Course Requirements in the Major for All Concentrations 18

ISYS 2263	Principles of Information Systems	
ISYS 3293	Systems Analysis and Design	
ISYS 3393	Business Application Development Fundamentals	
ISYS 4283	Business Database Systems	
ISYS 4363	Business Project Development	
ISYS 4213	ERP Fundamentals	

Note: These required courses represent a common body of knowledge for all information systems majors. Majors must select one of the following concentrations and must complete nine additional hours of coursework in the elected concentration.

Maximum of 30 hours of ISYS courses in department (core, major, elective). More than 27 hours allowed if the extra courses are part of interdisciplinary minor or collateral track.

Junior/Senior Level Business Electives	9
Concentration Courses	9

¹ CSCE 2004 Programming Foundations I is recommended as a general education elective.

Enterprise Resource Planning Concentration

ISYS 4223	ERP Configuration and Implementation	3
ISYS 4233	Seminar in ERP Development	3

3 hour 3000/4000 level ISYS or Business Elective	3
Total Hours	9

Information Systems B.S.B.A. with Enterprise Resource Planning Concentration Eight-Semester Degree Program:

Students wishing to follow the eight-semester degree plan for Information Systems should see the Eight-Semester Degree Policy (<http://catalog.uark.edu/undergraduatecatalog/academicregulations/eightsemesterdegreecompletionpolicy/>) in the Academic Regulations chapter for university requirements of the program.

Courses in BOLD must be taken in the designated semester. Courses in ITALIC may be taken in varied sequences as long as other designated requirements for these courses are met. Although other courses listed are not required to be completed in the designated sequence, the recommendations below are preferred.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Satisfies General Education Outcome 1.1)	3	
MATH 2053 Finite Mathematics (Satisfies General Education Outcome 2.1)¹	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Satisfies General Education Outcomes 1.2 and 5.1)	3	
WCOB 1111 Freshman Business Connection	1	
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003)²	3	
ISYS 1123 Business Application Knowledge - Computer Competency	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Satisfies General Education Outcome 1.1)		3
ACCT 2013 Accounting Principles	3	
WCOB 1033 Data Analysis and Interpretation	3	
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Satisfies General Education Outcome 3.3)	3	
Natural Science Course State Minimum Core (Satisfies General Education Outcome 3.4)		4
Year Total:	16	16

Second Year	Units	
	Fall	Spring
SEVI 2053 Business Foundations	3	
ISYS 2103 Business Information Systems²	3	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) ³	3	
Social Sciences State Minimum Core (Satisfies General Education Outcomes 3.3 and 4.1, as well as the Social Issues, Multicultural Environment, and Demographic Diversity Requirement) ⁴	3	

Fine Art/Humanities State Minimum Core (Satisfies General Education Outcome 3.1 or 3.2) ^{5, 6}	3	
SCMT 2103 Integrated Supply Chain Management²	3	
MGMT 2103 Managing People and Organizations²	3	
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Satisfies General Education Outcome 3.3) ³	3	
ISYS 2263 Principles of Information Systems	3	
Natural Science Course State Minimum Core (Satisfies General Education Outcome 3.4)		4
Year Total:	15	16

Third Year	Units	
	Fall	Spring
FINN 2043 Principles of Finance²	3	
MKTG 3433 Introduction to Marketing²	3	
ISYS 3293 Systems Analysis and Design	3	
Junior Senior Business Electives	3	
ISYS 3393 Business Application Development Fundamentals		3
ISYS 4213 ERP Fundamentals		3
MGMT 3013 (Satisfies General Education Outcome 6.1)		3
Junior Senior Business Electives		3
U.S. History or Government State Minimum Core (Satisfies General Education Outcome 4.2)		3
Year Total:	12	15

Fourth Year	Units	
	Fall	Spring
ISYS 4283 Business Database Systems	3	
ISYS 4223 ERP Configuration and Implementation	3	
Junior Senior Business Electives	3	
3 hour 3000/4000 level ISYS or Business Elective	3	
General Education Electives	3	
ISYS 4363 Business Project Development		3
ISYS 4233 Seminar in ERP Development		3
General Education Electives		6
Fine Arts/Humanities State Minimum Core (Satisfies General Education Outcome 3.1 or 3.2) ^{5, 6}		3
Year Total:	15	15

Total Units in Sequence: 120

¹ Students have demonstrated successful completion of the learning indicators identified for learning outcome 2.1, by meeting the prerequisites for MATH 2053.

² Must be completed prior to MGMT 3013.

³ Must be completed prior to taking any 3000 or 4000 level courses.

⁴ The Social Sciences Elective courses which satisfy General Education Outcomes 3.3 and 4.1, as well as the Social Issues, Multicultural Environment, and Demographic Diversity Requirement include:

ANTH 1023, HIST 1113, HIST 1123, SOCI 2013, SOCI 2013H, or SOCI 2033.

⁵ The Fine Arts Elective courses which satisfy the General Education Outcome 3.1 include:

ARCH 1003, ARHS 1003, COMM 1003, DANC 1003, LARC 1003, MLIT 1003, MLIT 1003H, MLIT 1013, MLIT 1013H, MLIT 1333, THTR 1003, THTR 1013, or THTR 1013H.

⁶ The Humanities Elective courses which satisfy the General Education Outcome 3.2 include:

AAST 2023, ANTH 1033, ARCH 1013, CLST 1003, CLST 1003H, CLST 1013, COMM 1233, DANC 1003, ENGL 1213, GNST 2003, HIST 1113, HIST 1113H, HIST 1123, HIST 1123H, HIST 2003, HIST 2013, HUMN 1124H, HUMN 2213, LALS 2013, MRST 2013, MUSY 2003, MUSY 2003H, PHIL 2003, PHIL 2003C, PHIL 2003H, PHIL 2103, PHIL 2103C, PHIL 2303, THTR 1003, THTR 1013, THTR 1013H, WLIT 1113, WLIT 1123, or intermediate-level world language (usually 2003-level).

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NOTE: Course requirements in the Information Systems major total 27 credit hours. Because of prerequisites, students should allow two full years (24 months) to complete this coursework. Prerequisites are strictly enforced.

Course Requirements in the Major for All Concentrations 18

ISYS 2263	Principles of Information Systems	
ISYS 3293	Systems Analysis and Design	
ISYS 3393	Business Application Development Fundamentals	
ISYS 4283	Business Database Systems	
ISYS 4363	Business Project Development	
ISYS 4213	ERP Fundamentals	

Note: These required courses represent a common body of knowledge for all information systems majors. Majors must select one of the following concentrations and must complete nine additional hours of coursework in the elected concentration.

Maximum of 30 hours of ISYS courses in department (core, major, elective). More than 27 hours allowed if the extra courses are part of interdisciplinary minor or collateral track.

Junior/Senior Level Business Electives 9

Concentration Courses 9

¹ CSCE 2004 Programming Foundations I is recommended as a general education elective.

Blockchain Enterprise Systems Concentration

ISYS 4173	Blockchain Fundamentals	3
ISYS 4453	Introduction to Blockchain Applications	3
ISYS 4463	Blockchain Enterprise Systems Development	3
Total Hours		9

Information Systems B.S.B.A. with Blockchain Enterprise Systems Concentration Eight-Semester Degree Program:

Students wishing to follow the eight-semester degree plan for Information Systems should see the Eight-Semester Degree Policy (<http://catalog.uark.edu/undergraduatecatalog/academicregulations/eightsemesterdegreecompletionpolicy/>) for university requirements of the program.

Courses in BOLD must be taken in the designated semester. Courses in ITALIC may be taken in varied sequences as long as other designated requirements for these courses are met. Although other courses listed are not required to be completed in the designated sequence, the recommendations below are preferred.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Satisfies General Education Outcome 1.1)	3	
MATH 2053 Finite Mathematics (Satisfies General Education Outcome 2.1)	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Satisfies General Education Outcomes 1.2 and 5.1)	3	
WCOB 1111 Freshman Business Connection	1	
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003)	3	
ISYS 1123 Business Application Knowledge - Computer Competency	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Satisfies General Education Outcome 1.1)		3
ACCT 2013 Accounting Principles		3
WCOB 1033 Data Analysis and Interpretation		3
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Satisfies General Education Outcome 3.3)		3
Natural Science Course State Minimum Core (Satisfies General Education Outcome 3.4)		4
Year Total:	16	16

Second Year	Units	
	Fall	Spring
SEVI 2053 Business Foundations	3	
ISYS 2103 Business Information Systems¹	3	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) ²	3	

Social Sciences Course State Minimum Core (Satisfies General Education Outcomes 3.3 and 4.1, as well as the Social Issues, Multicultural Environment, and Demographic Diversity Requirement)	3	
Fine Art/Humanities Course State Minimum Core (Satisfies General Education Outcome 3.1 or 3.2)	3	
SCMT 2103 Integrated Supply Chain Management¹	3	
MGMT 2103 Managing People and Organizations¹	3	
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Satisfies General Education Outcome 3.3)	3	
ISYS 2263 Principles of Information Systems	3	
Natural Science Course State Minimum Core (Satisfies General Education Outcome 3.4)	4	
Year Total:	15	16

Third Year	Units	
	Fall	Spring
FINN 2043 Principles of Finance²	3	
MKTG 3433 Introduction to Marketing¹	3	
ISYS 3293 Systems Analysis and Design	3	
Junior Senior Business Electives	3	
ISYS 3393 Business Application Development Fundamentals	3	
ISYS 4173 Blockchain Fundamentals	3	
ISYS 4213 ERP Fundamentals	3	
MGMT 3013 (Satisfies General Education Outcome 6.1)	3	
U.S. History or Government State Minimum Core (Satisfies General Education Outcome 4.2)	3	
Year Total:	12	15

Fourth Year	Units	
	Fall	Spring
ISYS 4283 Business Database Systems	3	
ISYS 4453 Introduction to Blockchain Applications	3	
Junior Senior Business Electives	6	
General Education Electives	3	
ISYS 4363 Business Project Development	3	
ISYS 4463 Blockchain Enterprise Systems Development	3	
Fine Arts/Humanities State Minimum Core (Satisfies General Education Outcome 3.1 or 3.2)	3	
General Education Electives	6	
Year Total:	15	15

Total Units in Sequence: 120

¹ Students have demonstrated successful completion of the learning indicators identified for learning outcome 2.1, by meeting the prerequisites for MATH 2053.

- ² Must be completed prior to MGMT 3013.
- ³ Must be completed prior to taking any 3000 or 4000 level business courses.
- ⁴ The Social Sciences Elective courses which satisfy General Education Outcomes 3.3 and 4.1, as well as the Social Issues, Multicultural Environment, and Demographic Diversity Requirement include: ANTH 1023, HIST 1113, HIST 1123, SOCI 2013, SOCI 2013H, and SOCI 2033.
- ⁵ The Fine Arts Elective courses which satisfy the General Education Outcome 3.1 include: ARCH 1003, ARHS 1003, COMM 1003, DANC 1003, LARC 1003, MLIT 1003, MLIT 1003H, MLIT 1013, MLIT 1013H, MLIT 1333, THTR 1003, THTR 1013, or THTR 1013H.
- ⁶ The Humanities Elective courses which satisfy the General Education Outcome 3.2 include: AAST 2023, ANTH 1033, ARCH 1013, CLST 1003, CLST 1003H, CLST 1013, COMM 1233, DANC 1003, ENGL 1213, GNST 2003, HIST 1113, HIST 1113H, HIST 1123, HIST 1123H, HIST 2003, HIST 2013, HUMN 1124H, HUMN 2213, LALS 2013, MRST 2013, MUSY 2003, MUSY 2003H, PHIL 2003, PHIL 2003C, PHIL 2003H, PHIL 2103, PHIL 2103C, PHIL 2303, THTR 1003, THTR 1013, THTR 1013H, WLIT 1113, WLIT 1123, or intermediate-level world language (usually 2003-level).

Business Analytics Minor

The Walton College offers an interdisciplinary minor in Business Analytics.

Analytics are currently used by many companies for applications ranging from strategic management of data to day operations to customer insights to retail analytics to developing and maintaining a competitive edge.

The minor requires completion of 15 hours of study with all of the upper division courses applied toward the minor taken in residence. The 15 hours include:

ISYS 4193	Business Analytics and Visualization	3
ISYS 4293	Business Intelligence	3
ISYS 4393	Seminar in Applied Business Analytics	3
Select two courses (6 hours) from the following:		6
ACCT 3543	Accounting Analytics	
ISYS 4213	ERP Fundamentals	
FINN 3013	Financial Analysis	
ECON 4743	Introduction to Econometrics	
ECON 4753	Forecasting	
MGMT 4243	Ethics and Corporate Responsibility	
MKTG 3633	Marketing Research	
SCMT 3623	PLAN: Inventory and Forecasting Analytics	

Students who desire to earn a Business Analytics minor must notify the Walton College Undergraduate Programs Office of intent to pursue a minor. All requirements for a minor must be completed prior to the awarding of the student's undergraduate degree. All specific course prerequisites must be met. Each student must have a 2.00 cumulative grade-point average in the courses offered for the minor. All upper division minor requirements must be taken in residence.

Data and Cybersecurity Management Minor

The Data and Cybersecurity Management minor in the Information Systems Department of the Walton College of Business is designed to develop graduates able 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. Students will also learn and apply best industry

practices to minimize data collection, protect client and individual privacy, and otherwise further ethical data management. Students will not only learn about cybersecurity, crime, and privacy law, but will also learn about techniques of risk assessment, continuity planning, and threat detection. This will include learning with respect to behavioral aspects, ethics, legal considerations, and best practices in cyber security management. The minor requires completion of 15 hours of study with all of the upper-level courses applied toward the minor in residence. The 15 hours include the following courses:

Required Core Courses (9 hours)		
ISYS 4013	Principles of Data and Cybersecurity	3
ISYS 4023	Network and Data Security in a Changing World	3
ISYS 4043	Cybersecurity, Crime and Data Privacy Law Fundamentals	3
Choose six hours from the following:		6
ISYS 3273	Cryptocurrency	
ISYS 4033	Advanced Information Security Management	
ISYS 4053	Advanced Cybersecurity, Crime and Privacy Law	
ISYS 4173	Blockchain Fundamentals	
MGMT 4243	Ethics and Corporate Responsibility	
Total Hours		15

Students who desire to earn a Data and Cybersecurity Management minor must notify the Walton College Undergraduate Programs Office of intent to pursue a minor. All requirements for the minor must be completed prior to the awarding of the student's undergraduate degree. All specific course prerequisites must be met. Each student must have a 2.00 cumulative grade-point average in the courses offered for the minor.

Information Systems Minor for Business Students

The Department of Information Systems offers a minor for Walton College students desiring more knowledge of information systems to assist them in their careers. The minor requires completion of 15 hours of study with all of the upper level courses applied toward the minor in residence. The 15 hours include the following courses:

ISYS 2263	Principles of Information Systems	3
ISYS 3293	Systems Analysis and Design	3
ISYS 3393	Business Application Development Fundamentals	3
ISYS 4213	ERP Fundamentals	3
Select one of the following:		3
ISYS 4223	ERP Configuration and Implementation	
Any 3-hour Junior/Senior level ISYS course		
Total Hours		15

Students who desire to earn an Information Systems minor must notify the Walton College Undergraduate Programs Office of intent to pursue a minor. All requirements for the minor must be completed prior to the awarding of the student's undergraduate degree. All specific course prerequisites must be met. Each student must have a 2.00 cumulative grade-point average in the courses offered for the minor.

Certificate of Proficiency in Cybersecurity and Data Management

Students pursuing the Certificate of Proficiency in Cybersecurity and Data Management Program in the Information Systems Department of the Sam

M. Walton College of Business must meet the admission requirements for the University of Arkansas and have completed the following courses (or equivalent): ISYS 1123, ECON 2143, ACCT 2013, and WCOB 1033.

Required Core Courses (3 hours)		
ISYS 4013	Principles of Data and Cybersecurity	3
ISYS 4023	Network and Data Security in a Changing World	3
ISYS 4043	Cybersecurity, Crime and Data Privacy Law Fundamentals	3
Elective Courses		6
ISYS 4033	Advanced Information Security Management	
ISYS 4053	Advanced Cybersecurity, Crime and Privacy Law	
ISYS 4173	Blockchain Fundamentals	
ISYS 3273	Cryptocurrency	
MGMT 4243	Ethics and Corporate Responsibility	
Total Hours		15

All specific course prerequisites must be met. Each student must have a 2.00 cumulative grade-point average in the courses offered for the certificate. All upper-division certificate requirements must be taken in residence.

Undergraduate Microcertificates

The undergraduate microcertificates in Information Systems are credentials designed to provide undergraduate business students with a microcertificate in specific IS knowledge areas – Business Analytics, Blockchain, Enterprise Resource Planning (ERP), and Business Cybersecurity. The demand for skilled professionals in information systems continues to outpace the supply of qualified applicants. Each nine-hour microcertificate program is open to individuals with backgrounds in any business discipline.

Blockchain Undergraduate MicroCertificate

Requirements: To receive the undergraduate Blockchain MicroCertificate, students are required to take 9 hours of coursework in the Walton College of Business. Students are advised to check prerequisites prior to enrolling in a course.

Required Courses		
ISYS 4173	Blockchain Fundamentals	3
Select both courses from the following:		6
ISYS 4453	Introduction to Blockchain Applications	
ISYS 4463	Blockchain Enterprise Systems Development	
Or, one from above and one of the following:		
ISYS 3273	Cryptocurrency	
ISYS 4013	Principles of Data and Cybersecurity	
ISYS 4213	ERP Fundamentals	
Total Hours		9

Business Analytics Undergraduate MicroCertificate

Requirements: To receive the undergraduate Business Analytics MicroCertificate, students are required to take 9 hours of coursework in the Walton College of Business. Students are advised to check prerequisites prior to enrolling in a course.

Required Courses		
ISYS 4193	Business Analytics and Visualization	3

ISYS 4293	Business Intelligence	3
Select one of the following:		3
ISYS 4013	Principles of Data and Cybersecurity	
ISYS 4173	Blockchain Fundamentals	
ISYS 4213	ERP Fundamentals	
ISYS 4393	Seminar in Applied Business Analytics	
Total Hours		9

Business Cybersecurity Undergraduate MicroCertificate

To receive the undergraduate Business Cybersecurity MicroCertificate, students are required to take 9 hours of coursework in the Walton College of Business. Students are advised to check prerequisites prior to enrolling in a course:

Required Courses

ISYS 4013	Principles of Data and Cybersecurity	3
ISYS 4023	Network and Data Security in a Changing World	3
Select one course from the following:		3
ISYS 4033	Advanced Information Security Management	
ISYS 4043	Cybersecurity, Crime and Data Privacy Law Fundamentals	
ISYS 4173	Blockchain Fundamentals	
ISYS 4213	ERP Fundamentals	
Total Hours		9

The undergraduate microcertificates in the Information Systems are credentials designed to provide undergraduate business students with MicroCertificate in specific IS knowledge areas — Business Analytics, Blockchain, Enterprise Resource Planning (ERP), and Business Cybersecurity. The demand for skilled professionals in information systems continues to outpace the supply of qualified applicants. Each 9-hour microcertificate program is open to individuals with backgrounds in any business discipline.

Enterprise Resource Planning Undergraduate Microcertificate: (9 hours)

Requirements: To receive the undergraduate ERP Microcertificate, students are required to take 9 hours of coursework in the Walton College of Business. Students are advised to check prerequisites prior to enrolling in a course.

Required Courses		3
ISYS 4213	ERP Fundamentals	
Select both of the following:		6
ISYS 4223	ERP Configuration and Implementation	
ISYS 4233	Seminar in ERP Development	
Or, one from above and one of the following:		
ISYS 4013	Principles of Data and Cybersecurity	
ISYS 4173	Blockchain Fundamentals	
Total Hours		9

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), Professor, 2018.

Liu, Yanran, Ph.D. (Georgia State University), M.M., B.Mgt. (China University of Geosciences), Visiting Assistant Professor, 2021.

Mallampalli, Kamesh, Ph.D. (University of Georgia), M.M. (Indian Institute of Management), B.S. (University of Delhi), Visiting Assistant Professor, 2021.

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.

Pierce, Lisa, M.S. (University of Georgia), B.S. (University of Tennessee), Instructor, 2014.

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.

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

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 Pittsburgh), 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), Assistant Professor, 2018.

Courses

ISYS 1120. Computer Competency Requirement. 0 Hours.

Students entering the Walton College are expected to possess basic competencies in MS Windows, Word, Excel, and PowerPoint. The requirement is expected to be completed in an 8-week session. Deficiencies may be remedied through appropriate self-paced, computer-based instruction and/or alternative courses. Prerequisite: Students must earn a pre-assessment score of 70 or higher and department consent. (Typically offered: Fall, Spring and Summer)

ISYS 1123. Business Application Knowledge - Computer Competency. 3 Hours.

An introduction to computer literacy using information business application software; email/Internet; word processing; spreadsheets; presentation; database; collaborative/groupware; and integration of computer applications. Introduces the student to computer Concepts and Microsoft Office (Word, Excel, Windows, and PowerPoint) to manage finances, work with formulas, charts and graphics, and the development of professional worksheets and presentations. Students learn business computing through appropriate self-paced, computer-based instruction. Non-degree credit for business students; may be used to fulfill ISYS 1120 degree requirement if student earns a grade of C or better. (Typically offered: Fall, Spring and Summer)

ISYS 2001. Principles of Business Application Development. 1 Hour.

An introduction to the principles of business application development and the development process for business applications using a current high level languages such as Python, Swift, etc. Discussions include topics such as development teams, project management, design thinking, coding, and entrepreneurship; essential skill sets for future leaders. Students learn about coding using languages such as Python and Swift while developing their own applications. (Typically offered: Fall and Spring)

ISYS 2103. Business Information Systems. 3 Hours.

This course presents the fundamentals of business information systems (IS) topics essential to today's business graduate. Applied areas of business will be used to provide the context for the IS topics, business applications, and management challenges. The broad objective of this course is to present students with a business and information systems framework that will allow them to envision how business decisions are enabled and empowered by information systems and technology. Prerequisite: WCOB 1033, ACCT 2013 and (ECON 2013 or ECON 2023), all with a grade of C or better. (Typically offered: Fall, Spring and Summer)

ISYS 2103H. Honors Business Information Systems. 3 Hours.

This course presents the fundamentals of business information systems (IS) topics essential to today's business graduate. Applied areas of business will be used to provide the context for the IS topics, business applications, and management challenges. The broad objective of this course is to present students with a business and information systems framework that will allow them to envision how business decisions are enabled and empowered by information systems and technology. Prerequisite: WCOB 1033, ACCT 2013 and (ECON 2013 or ECON 2023), all with a grade of C or better and honors standing. (Typically offered: Fall, Spring and Summer)

This course is equivalent to ISYS 2103.

ISYS 2263. Principles of Information Systems. 3 Hours.

This course presents the fundamental concepts used in developing information systems. It provides a framework for students to use throughout their software development coursework. Also includes management of information systems concepts. This course requires extensive use of computer systems. Prerequisite: ACCT 2013, MATH 2053 and ISYS 2103, each with a grade of C or better. (Typically offered: Fall and Spring)

ISYS 3273. Cryptocurrency. 3 Hours.

This course will focus on topics such as a brief history of money, Bitcoin and the origin of cryptocurrency, blockchain system fundamentals (cryptography and consensus algorithms), real-world application with software clients and wallets, as well as assessing the current regulatory environment, financial applications and exchanges. Upon completion, students will understand what constitutes as digital money and how this phenomenon is currently transpiring within an economic, legal, and financial context; will be prepared to learn more about specific financial industry applications; make judgements on viability of certain crypto projects; and speak to challenges facing the future of cryptocurrency. Prerequisite: ISYS 2103 and ACCT 2013, each with a grade of C or better. (Typically offered: Fall and Spring)

ISYS 3293. Systems Analysis and Design. 3 Hours.

Practice and application of one structured analysis methodology; development of structured analysis specification; exposure to other methodologies; quality assurance and walkthroughs; survey of real systems and their components. Prerequisite: ISYS 2263 or CSCE 2014 with a grade of C or better. (Typically offered: Fall and Spring)

ISYS 3393. Business Application Development Fundamentals. 3 Hours.

Principles of design and development of windows and web applications using cutting edge visual development tools. The programming language will be a modern language used widely in industry, and the focus will be on its use in client-server, web, and/or mobile applications. Pre- or Corequisite: ISYS 3293. Prerequisite: ISYS 2263 or CSCE 2014 with a grade of "C" or better. (Typically offered: Fall and Spring)

ISYS 4013. Principles of Data and Cybersecurity. 3 Hours.

This course provides students with insight into the cybersecurity and data issues surrounding businesses; fundamental concepts of the study of law - enabling students to understand the basics of reading and briefing a case as well as the process of legal analysis and case procedure and discovery; securing organizational data; detecting and responding to cyber-based security breaches; emerging technologies, and ensuring a secured computing environment for safeguarding company information will be explored. Prerequisite: ACCT 2013. (Typically offered: Fall and Spring)

ISYS 4023. Network and Data Security in a Changing World. 3 Hours.

This course explores network and data security in the context of today's digital enterprise. In addition to traditional network protocol and security issues, this course will explore security issues unique to cloud environments, data protection, IoT ecosystems, ERP systems, and Blockchain deployments. Prerequisite: ISYS 4013 with a grade of C or better. (Typically offered: Fall and Spring)

ISYS 4033. Advanced Information Security Management. 3 Hours.

This course provides students with an in-depth, advanced understanding of cybersecurity and data management. Topics include risk assessment, continuity planning, data protection, threat detection, threat/risk mitigation, and recovery issues and techniques. Current topics in data and cybersecurity will also be included. Prerequisite: ISYS 4023 with a grade of C or better. (Typically offered: Fall and Spring)

ISYS 4043. Cybersecurity, Crime and Data Privacy Law Fundamentals. 3 Hours.

This course examines the law governing computer crime, data privacy, and cybersecurity. Substantive crimes such as hacking, identity theft, economic espionage, and online threats are discussed. 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 examined. Prerequisite: ISYS 4013. (Typically offered: Fall and Spring)

ISYS 4053. Advanced Cybersecurity, Crime and Privacy Law. 3 Hours.

The course will explore best practices for data privacy and security protection measures, mitigation techniques for privacy and security threats, and privacy and security law. The importance of informational privacy will be highlight and a high-level overview of U.S. laws and regulations including FTC roles, and government surveillance will be provided. Prerequisite: ISYS 4023 and ISYS 4043. (Typically offered: Fall and Spring)

ISYS 4173. Blockchain Fundamentals. 3 Hours.

This course provides the fundamental concepts underpinning blockchain technologies. This course focuses on blockchain applications for business. Students will learn about the overall blockchain landscape, including the 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 be well-prepared to develop blockchain applications in future courses. Prerequisite: ISYS 2103 and ACCT 2013, each with a grade of C or better, or CSCE 2004 with a grade of C or better. (Typically offered: Fall and Spring)

ISYS 4193. Business Analytics and Visualization. 3 Hours.

Introductory study of business analytics, visualization, and systems to provide analytics-based information derived from data within and/or external to the organization. Business analytics used to support management in the decision making. Application of tools in business analytics, problem solving, visualization, and decision making. Prerequisite: (Non-business majors: (INEG 3313 or STAT 3013 with a grade of C or better)) or (Business majors: (WCOB 1033 with a grade of C or better)). (Typically offered: Fall)

ISYS 4213. 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: ISYS 2103 and ACCT 2013, each with a grade of C or better, or CSCE 2004, with a grade of C or better. (Typically offered: Fall and Spring)

ISYS 4223. 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 R/3 for use. Develop understanding of how the business processes work and integrate. Prerequisite: ISYS 4213 with a grade of "C" or better. (Typically offered: Fall)

ISYS 4233. 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 or ERP systems. Pre- or Corequisite: ISYS 4223 with a grade of "C" or better. (Typically offered: Spring)

ISYS 4243. 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. Prerequisite: Junior standing. (Typically offered: Irregular) May be repeated for up to 6 hours of degree credit.

ISYS 4283. Business Database Systems. 3 Hours.

Introduces student to centralized information system design and implementation for business applications. In-depth study of logical systems modeling; physical file management; and software requirements. Pre- or Corequisite: ISYS 3393. Prerequisite: ISYS 3293 with a grade of C or better. (Typically offered: Fall)

ISYS 4293. Business Intelligence. 3 Hours.

Business intelligence focuses on creating, developing and storing information and knowledge from internal and external sources to better support business decisions. We will consider techniques from machine learning, data mining, and information retrieval to extract useful knowledge from data, which could be used for business intelligence, personalization or user profiling. Prerequisite: ISYS 4193 with a grade of "C" or better. (Typically offered: Spring)

ISYS 4363. Business Project Development. 3 Hours.

Review of fundamentals of application processing systems design and development; implementation of such a system by class. Prerequisite: ISYS 3393 and ISYS 4283 each with a grade of C or better. (Typically offered: Spring)

ISYS 4373. Application Development with Java. 3 Hours.

This course covers object-oriented programming concepts and illustrates them via an appropriate object-oriented programming language. Students will be exposed to the design of software objects, creation of software objects, and the use of objects in constructing an information system. Prerequisite: ISYS 3293 with a grade of C or better. (Typically offered: Fall)

ISYS 4393. Seminar in Applied Business Analytics. 3 Hours.

Application of business analytics, business intelligence, data mining, and data visualization to business problem solving. Business Analytics techniques using current and relevant software are applied to current business problems for presentation to management. Prerequisite: ISYS 4293. (Typically offered: Fall and Spring)

ISYS 4453. Introduction to Blockchain Applications. 3 Hours.

The focus of this course is to expose students to working with mainframe computer systems, large-scale data, and blockchain software & technologies. This course provides the opportunity for students to gain valuable insight into mainframe coding concepts, SQL, and data in a mainframe operating environment. Pre- or corequisite: ISYS 4173. (Typically offered: Fall)

ISYS 4463. Blockchain Enterprise Systems Development. 3 Hours.

Accurately capturing and storing business transactions is an important processing function in many businesses. This course provides students with the necessary understanding and skills to develop blockchain and other large-scale data applications in a mainframe environment with high volume. Prerequisite: ISYS 4173 with a grade of "C" or better. (Typically offered: Spring)

ISYS 450V. Independent Study. 1-3 Hour.

Permits students on individual basis to explore selected topics in data processing and/or Quantitative Analysis. (Typically offered: Fall and Spring)