

COMPUTER INFORMATION SYSTEMS, PROGRAMMING OPTION, BSCIS

Bachelor of Science in Computer Information Systems, Programming (244302BS)

More on the computing-related majors (<https://www.uakron.edu/computer/>)

Program Description

The Bachelor of Science in Computer Information Systems (CIS) - Programming degree option allows students to attain knowledge of effective software application development, client/server application development, and database application development and management for businesses.

The CIS program provides high level training by introducing students to basic computing concepts while allowing them to develop the applied skills required for the workforce. Courses are taught in cutting edge computer labs so students can learn and practice skills. Schedules offer a range of day and evening classes.

Requirements for Admission

- Admission to The University of Akron.
- A cumulative GPA of 2.0 and a minimum of 15 earned credit hours for transfer students.
- Students must pass a *Computer Literacy Placement test* before taking any required Computer Information Systems core courses or take CISS:105 Introduction to Computers and Application Software, which does not count towards degree requirements.
- Students must attain a C or better in each transferred course in the CIS major area.

Program-Specific Degree Requirements

- **Students must attain a C or better in each course in their major area.**
- A cumulative GPA of 2.0 and a minimum of 15 earned credit hours for Inter- and Intra-College Transfer into all Associate and Bachelor degree programs in Computer Information Systems.
- Prior to enrolling in classes for the BS degree you must contact your academic advisor.

Career Information

Graduates of the associate and bachelor's programs in Computer Information Systems under the Programming option are expected to qualify for such positions as software or applications developers, programmer analysts, software database administrators, database designers, database developers, and database warehouse analysts in government, business, information technology, and other industries.

The following information has official approval of **The Department of Computer Science** and **The College of Engineering and Polymer Science**, but is intended only as a supplemental guide. Official degree requirements are established at the time of transfer and admission to the degree-granting college. Students should refer to the Degree Progress

Report (DPR) which is definitive for graduation requirements. *Completion of this degree within the identified time frame below is contingent upon many factors, including but not limited to: class availability, total number of required credits, work schedule, finances, family, course drops/withdrawals, successfully passing courses, prerequisites, among others.* The transfer process is completed through an appointment with your academic advisor. Transfer students should consult their Advisor to identify courses that are equivalent.

Requirements Summary

Code	Title	Hours
	General Education Requirements (https://bulletin.uakron.edu/undergraduate/general-education/)	36
	Programming Major Core	48
	Programming Technical Electives	9
	Business and Math Courses	27
	Additional Major Electives *	2
Total Hours		122

* This major requires a minimum of 122 completed credit hours.

Recommended General Education Courses

Code	Title	Hours
Students pursuing a bachelor's degree must complete the following General Education coursework. Diversity courses may also fulfill major or Breadth of Knowledge requirements. Integrated and Applied Learning courses may also fulfill requirements in the major.		

Students are not required to enroll in the specific courses listed below. However, to facilitate successful degree completion, the academic department strongly encourages completion of the following recommendations.

Academic Foundations		12
<i>Mathematics, Statistics and Logic: 3 credit hours</i>		
MATH:152	Technical Mathematics II	
& MATH:153	and Technical Mathematics III	
MATH:145	Algebra for Calculus	
<i>Speaking: 3 credit hours</i>		
<i>Writing: 6 credit hours</i>		
Breadth of Knowledge		22
<i>Arts/Humanities: 9 credit hours</i>		
<i>Natural Sciences: 7 credit hours</i>		
<i>Social Sciences: 6 credit hours</i>		
ECON:100	Introduction to Economics	
Diversity		
Domestic Diversity		
Global Diversity		
Integrated and Applied Learning		2
<i>Select one class from one of the following subcategories:</i>		
Complex Issues Facing Society		
Capstone		

Review the General Education Requirements page for detailed course listings.

Total Hours **36**

Programming Major Core

Code	Title	Hours
CISS:121	Introduction of Logic/Programming	3
CISS:134	Cybersecurity Fundamentals	3
CISS:140	Internet Tools	3
CISS:145	Introduction to Unix/Linux	3
CISS:160	JAVA Programming ²	3
CISS:170	Visual BASIC ²	3
CISS:180	Introduction to Database Management ²	3
CISS:210	Client/Server Programming ¹	3
CISS:240	Computer Information Systems Internship ²	3
CISS:241	Systems Analysis & Design ¹	3
CISS:256	C++ Programming ¹	3
CISS:306	Ethics & Law in Information Technology ²	3
CISS:360	Java Programming II ¹	3
or CISS:456	C++ Programming II	
CISS:450	Applied Data Mining ²	3
CISS:451	Senior Programming Projects ²	3
CISS:465	Data Communications & Networking ¹	3
Total Hours		48

Programming Technical Electives

Code	Title	Hours
Complete 9 credits:		9
CISS:321	Server-Side Scripting ²	
CISS:331	Programming for Cybersecurity ²	
CISS:360	Java Programming II ¹	
CISS:388	Advanced UNIX/Linux ²	
CISS:470	Database Management II ¹	
CISS:480	Current Topics in Computer Information Systems	
Total Hours		9

Business and Math Courses

Code	Title	Hours
MATH:154	Technical Mathematics IV (or equivalent)	3
MATH:208	Introduction to Discrete Mathematics	4
MATH:345	Technical Data Analysis	2
COMM:107	Essentials of Management Technology	3
COMM:108	Introduction to Business	3
COMM:202	Elements of Human Resource Management	3
COMM:211	Essentials of Financial Accounting	3
COMM:213	Essentials of Management Accounting	3
or COMM:243	Survey in Finance	
COMM:430	Leading Project Teams	3
Total Hours		27

¹ Traditionally Fall Only (See Program Contact).

² Traditionally Spring Only (See Program Contact).

³ All students pursuing a bachelor's degree at the University of Akron must complete the General Education requirements. For efficient completion of UA General Education requirements, it is recommended that students choose General Education classes that also satisfy the Global Diversity and Domestic Diversity areas as shown.

Note

- Students entering the Computer Information Systems associate's and bachelor's degree options must a *Computer Literacy Placement test* or complete the following bridge course prior to enrolling in the program.
- Bridge Course: CISS:105 Introduction to Computers and Application Software

Recommended Sequence

1st Year

Fall Semester	Hours
First Writing Course	3
MATH:152 Technical Mathematics II & MATH:153 and Technical Mathematics III ⁵	4
COMM:107 Essentials of Management Technology	3
CISS:121 Introduction of Logic/Programming	3
CISS:140 Internet Tools	3
Hours	16

Spring Semester

Second Writing Course	3
CISS:134 Cybersecurity Fundamentals	3
CISS:145 Introduction to Unix/Linux	3
CISS:170 Visual BASIC ²	3
CISS:180 Introduction to Database Management ²	3
Hours	15

2nd Year

Fall Semester	Hours
Speaking Requirement	3
COMM:211 Essentials of Financial Accounting	3
CISS:210 Client/Server Programming ¹	3
CISS:241 Systems Analysis & Design ¹	3
CISS:256 C++ Programming ¹	3
Hours	15

Spring Semester

COMM:108 Introduction to Business	3
COMM:202 Elements of Human Resource Management	3
COMM:213 Essentials of Management Accounting or COMM:243 or Survey in Finance	3
CISS:160 JAVA Programming ²	3
CISS:240 Computer Information Systems Internship ²	3
Hours	15

3rd Year

Fall Semester	Hours
MATH:154 Technical Mathematics IV or MATH:149 or Precalculus Mathematics	3-4
COMM:430 Leading Project Teams	3

CISS:360 or CISS:456	Java Programming II ¹ or C++ Programming II	3
CISS:3xx/4xx	CIS Upper Level Elective - See Program Contact	3
ECON:100	Introduction to Economics ³	3
Hours		15-16
Spring Semester		
	Arts Requirement ³	3
	Natural Science Requirement	3
CISS:306	Ethics & Law in Information Technology ²	3
CISS:3xx/4xx	CIS Upper Level Elective - See Program Contact	3
MATH:208	Introduction to Discrete Mathematics	4
Hours		16
4th Year		
Fall Semester		
	Natural Science with Lab Requirement	4
	Social Science/Domestic Diversity Requirement ³	3
MATH:345	Technical Data Analysis	2
CISS:465	Data Communications & Networking ¹	3
CISS:3xx/4xx	CIS Upper Level Elective - See Program Contact	3
Hours		15
Spring Semester		
	Humanities Requirement ³	3
	Arts/Humanities/Global Diversity Requirement ³	3
	Complex Issues Requirement	3
CISS:450	Applied Data Mining ²	3
CISS:451	Senior Programming Projects ²	3
Hours		15
Total Hours		122-123

Program Notes

- ¹ Traditionally Fall Only (See Program Contact).
- ² Traditionally Spring Only (See Program Contact).
- ³ All students pursuing a bachelor's degree at the University of Akron must complete the General Education requirements. For efficient completion of UA General Education requirements, it is recommended that students choose General Education classes that also satisfy the Global Diversity and Domestic Diversity areas as shown.
- ⁴ Fulfills the Social Science Requirement
- ⁵ MATH:145 Algebra for Calculus may be completed in place of MATH:152 and MATH:153.

Policy Alert: By the end of your first 48 credit hours attempted, you must have completed your required General Education Mathematics, Statistics, and Logic, Writing First Course, and Speaking requirements.

Electives

The CIS Elective may be chosen from the following list:

Code	Title	Hours
CISS:321	Server-Side Scripting	3
CISS:331	Programming for Cybersecurity	3
CISS:360	Java Programming II	3
CISS:388	Advanced UNIX/Linux	3
CISS:470	Database Management II	3
CISS:480	Current Topics in Computer Information Systems	3