Information Systems, B.S.I.S.

Degree Offered

- Bachelor of Science

Nature of the Program

The ever increasing use of technology has taken almost every business, non-profit organization, and government agency to a drastically different place from where they were only decades ago. Computers and the Internet have allowed companies to conduct operations, utilize resources, and sell products in almost any area of the world. Information systems specialists analyze the complex operational problems of private and public industry; and design, build, implement, and manage innovative software for improving operations from both a technological and business perspective.

Bachelor of Science in Information Systems (BSIS)

WVU Tech Information Systems program is designed to train highly skilled professionals with expertise in networking, database management, computer systems management, and website development. The program curriculum contains 17 courses taught by Computer Science and Information Systems faculty that are specially developed for Information Systems majors. They include courses such as Database Management, e-Commerce, and Computer Security. Those courses are supplemented by highly specialized Business Management courses such as Visual Basic for Business applications, Business Information Systems, and Business Statistic s. For elective requirements, the department offers a wide variety of courses on computer systems, programming, and special topics such as video game development, artificial intelligence, image processing, and computer graphics. Students have the opportunity to learn more theoretical aspects of computing, other programming languages, advanced programming concepts, or other applications of computing by taking Computer Science electives of their interest.

Program Educational Objectives

In three to five years after graduation, the graduates of the WVU Tech BS degree program in Information Systems will do the following:

- Demonstrate success in the professional practice of Information Systems through recognition of their contributions to an organization or entrepreneurial accomplishments.
- Alternatively or additionally, demonstrate success in the field of computing by continuing formal education through earning post graduate degrees, technical certificates, or other technical training.
- Demonstrate lifelong learning habits either as a professional or a researcher in their field.

General Education Foundations

Please use this link to view a list of courses that meet each GEF requirement. **(**http://registrar.wvu.edu/gef/**)**

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

Code	Title	Hours
General Education Foundations		
F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research	
or ENGL 103	Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Reasoning		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Curriculum Requirements

Code	Title	Hours
University Requirements		25
Program Requirements		23
Information Systems Major Requirements		72
Total Hours		120

University Requirements

Code	Title	Hours
General Education Foundations (GEF) 1, 2, 3, 4, 5, 6, 7, and 8 (31-37 Credits)		
Outstanding GEF Requirements 1, 2, 5, 6, 7, and 8		18
WVUE 191	First Year Seminar	1
General Electives (Students are free to choose any college level course to fulfill this requirement)		6
Total Hours		25

Program Requirements

Code	Title	Hours
Laboratory Science, Students may select any of the two four credit hour BIOL, CHEM, PHSC, or PHYS courses with lab*: (also fulfills GEF 2 and GEF 8)		**8**
WRIT 305	Technical Writing	3
MATH 124	Algebra with Applications (GEF 3)	3
MATH 150	Applied Calculus (GEF 8)	3
ACCT 201	Principles of Accounting 1	3
ECON 202	Principles of Macroeconomics (GEF 4)	3
Total Hours		23

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Department approval is required for four-credit-hour courses with laboratory components from other science disciplines.

Information Systems Major Requirements

Code	Title	Hours
A minimum GPA of 2.0 is required in all CS and ISYS courses.		
CS 121	Computer Science 1	4
CS 122	Computer Science 2	4
CS 222	Intro Software Engineering	3
CS 231	Introduction to Computer Organization	3
CS 321	Introduction to Networking	3
CS 324	Database Management	3
CS 365	Computer Languages	1
CS 480	Capstone Project - Design	2
CS 481	Capstone Project - Implementation	3
CS 491	Professional Field Experience	4
CYBE 465	Cybersecurity Principles and Practice	3
ISYS 101	Introduction to Information Systems 1	3
ISYS 102	Introduction to Information Systems 2	3
ISYS 115	Discrete Structures	3
ISYS 270	Linux	3
ISYS 325	C#	3
ISYS 366	e-Commerce	3
MANG 386	Business Statistics	3
MANG 420	Business Information Systems	3
Minor(s) or Coursework Option *		**15**

Coursework Option:	
Technical Electives - 9 credits (See approved list)	
Six (6) credits of 300-400 Level Electives (Students are free to choose any 300-400 college level courses to fulfill this requirement)	
Total Hours	72

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Minors option: Complete all the requirements of at least one minor available to Information Systems majors.

Approved Technical Electives

Code	Title	Hours
Accounting		
ACCT 201	Principles of Accounting 1	
ACCT 202	Principles of Accounting 2	
ACCT 300-400 Level***		
Biology		
BIOL 111	General Biology **	
BIOL 112	General Biology **	
BIOL 300-400 Level***		
Chemistry		
CHEM 111 & 111L	Survey of General, Organic, and Biological Chemistry 1 and Survey of Chemistry 1 Laboratory **	
CHEM 112 & 112L	Survey of General Organic Biological Chemistry 2 and Survey of Chemistry 2 Laboratory **	
CHEM 115 & 115L	Fundamentals of Chemistry 1 and Fundamentals of Chemistry 1 Laboratory **	
CHEM 116 & 116L	Fundamentals of Chemistry 2 and Fundamentals of Chemistry 2 Laboratory **	
CHEM 300-400 Level***		
Computer Science		
CS 265	C Programming	
CS 300-400 Level***		
Cybersecurity		
CYBE 266	Foundations of Cybersecurity	
CYBE 300-400 level***		
Economics		
ECON 201	Principles of Microeconomics	
ECON 300-400 Level***		
Physical Science		
PHSC 101	Introductory Physical Science 1 **	
PHSC 102	Introductory Physical Science 2 **	
PHSC 300-400 Level***		
Physics		
PHYS 101	Introductory Physics 1 **	
PHYS 102	Introductory Physics 2 **	
PHYS 111	General Physics 1 **	
PHYS 112	General Physics 2 **	
PHYS 300-400 Level***		

**** Unless taken as a science requirement**

Other courses are accepted as technical electives only with advance approval from the department. Most of the 300-400 level ACCT, BCOR, BIOL, CHEM, ECON, FINC, MANG, and PHYS courses are considered acceptable.

*****Department approval required**

Suggested Plan of Study

First Year

Fall	Hours	Spring	Hours
ENGL 101 (GEF 1)	3	ENGL 102 (GEF 1)	3
MATH 124 (GEF 3)	3	MATH 150 (GEF 8)	3
CS 121	4	CS 122	4
ISYS 101	3	ISYS 102	3
WVUE 191	1	Elective	3
	14		16

Second Year

Fall	Hours	Spring	Hours
ACCT 201	3	ECON 202 (GEF 4)	3
CS 231	3	CS 222	3
ISYS 115	3	CS 324	3
Elective	3	ISYS 270	3
GEF 5	3	GEF 6	3
	15		15

Third Year

Fall	Hours	Spring	Hours
CS 321	3	CS 365	1
ISYS 325	3	ISYS 366	3
MANG 386	3	WRIT 305	3
Technical Elective or Minor course	3	Laboratory Science	4
GEF 2	4	GEF 8	3
	16		14

Fourth Year

Fall	Hours	Spring	Hours
CS 480	2	CS 481	3
MANG 420	3	CS 491	4
300-400 Level Elective or Minor course	3	CYBE 465	3
Technical Elective or Minor course	3	300-400 Level Elective or Minor course	3
GEF 7	3	Technical Elective or Minor course	3
	14		16

Total credit hours: 120

Major Learning Outcomes

INFORMATION SYSTEMS

The BS degree in Information Systems at WVU Tech enables students to attain:

- An ability to apply knowledge of computing and mathematics appropriate to the program’s student outcomes and to the discipline.
- An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution.
- An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.
- An ability to function effectively on teams to accomplish a common goal.
- An understanding of professional, ethical, legal, security and social issues and responsibilities.
- An ability to communicate effectively with a range of audiences.
- An ability to analyze the local and global impact of computing on individuals, organizations, and society.
- Recognition of the need for and an ability to engage in continuing professional development.
- An ability to use current techniques, skills, and tools necessary for computing practice.
- An understanding of processes that support the delivery and management of information systems within a specific application environment.