KENTUCKY STATE UNIVERSITY

MINORS IN COMPUTER SCIENCE

The School of Mathematics and Computer Science offers minors in Computer Science (p. 1), Computer Information Systems (p. 1), and Computer Gaming (p. 1), providing students from any major the opportunity to broaden their technical skills and explore the growing impact of technology across disciplines. These minors are designed to complement a wide range of degree programs by introducing core concepts in programming, data management, and digital innovation. Whether students are interested in software development, information systems management, or the creative and technical aspects of game design, these minors offer valuable knowledge and practical experience to enhance career readiness and interdisciplinary learning.

The Computer Science Minor, offered by the School of Mathematics and Computer Science, consists of 24 to 26 credit hours and provides students with a rigorous introduction to the foundational concepts and practical skills of modern computing. This minor is designed for students who wish to develop strong computational thinking, problem-solving abilities, and proficiency in programming—skills that are increasingly valuable across a wide range of disciplines and careers.

The curriculum typically includes core courses in programming fundamentals, data structures and algorithms, computer organization, and software development. Depending on course selections, students may also explore electives such as web development, databases, artificial intelligence, operating systems, or computer networks. The program emphasizes both theoretical foundations and hands-on experience with current tools, languages, and development environments.

This minor is an excellent complement to majors in mathematics, engineering, natural sciences, economics, digital media, and many other fields where computational methods play a key role. Students will gain not only technical skills, but also a deeper understanding of how software and systems are designed, built, and maintained.

Whether you're looking to strengthen your programming abilities, broaden your career opportunities, or prepare for graduate study in computer science or related areas, the Computer Science Minor offers a flexible and intellectually rewarding path into the world of computing.

All courses must be passed with a “C” or better. Specific course requirements include:

Course	Title	Hours
Year 1		
COS 107	Prob Solving, Logic & Design	3
COS 108	Prin Computer Science I	4
COS 109	Prin Computer Sci II	4
COS 301	Computer Organization	4
COS 310	Discrete Computing Structures	3
COS 340	Data Struc Algorithm Analy	3
Guided Elective		3
	Hours	**24**
	Total Hours	**24**

The Computer Information Systems Minor, offered by the School of Mathematics and Computer Science, consists of 19 to 20 credit hours and is designed to provide students with a strong foundation in the practical applications of computing in business, government, and organizational environments. This minor focuses on the intersection of technology, information management, and business processes. Students will learn how to analyze, design, and implement information systems that support decision-making, operations, and innovation within organizations. Core topics typically include programming fundamentals, database management, systems analysis and design, and networking concepts. Depending on course selections, students may also explore cybersecurity, enterprise systems, or web development.

The CIS minor is ideal for students majoring in business, finance, healthcare, social sciences, or other non-technical fields who want to enhance their technological proficiency and improve their competitiveness in the job market. It equips students with valuable skills in problem-solving, system thinking, and the use of software tools that are widely used in today's professional environments.

Whether you're interested in managing IT projects, supporting data-driven decisions, or integrating technology into your field of study, the Computer Information Systems Minor offers a flexible and career-relevant pathway to expand your expertise.

All courses must be passed with a “C” or better. Specific course requirements include:

Course	Title	Hours
Year 1		
COS 107	Prob Solving, Logic & Design	3
or COS 108 Principles of Computer Science I		
COS 200	Computer Information Systems	3
COS 300	System Design/Development	3
COS 364	Data Storage and Data Mining	3
COS 410	Database Management Systems	3
COS 464 or CIT 370 or MIS 300	Mgt of Computer Info Systems or Information Tech Project Mgt or Management Info Systems	3
	Hours	**18**
	Total Hours	**18**

The Computer Gaming Minor, offered by the School of Mathematics and Computer Science, consists of 20 to 21 credit hours and is designed to provide students with a strong foundation in the principles and practices of game development. The program integrates coursework from computer science, mathematics, and digital media to give students both the technical skills and creative insight necessary to succeed in the gaming industry.

Students in the minor will take core courses in areas such as game programming, computer graphics, game engine architecture, and interactive media. Elective options may include topics like artificial intelligence for games, virtual and augmented reality, mobile game development, and game design theory.

The minor emphasizes hands-on, project-based learning, enabling students to build their own games and interactive applications using industry-standard tools and platforms. It is an ideal complement to majors such as Computer Science, Software Engineering, Mathematics,

and Digital Arts, and equips students with the practical experience needed for careers in video game development, simulation design, educational technology, and more.

Whether your interest lies in coding, design, storytelling, or system architecture, the Gaming Minor offers a flexible and immersive curriculum tailored to the evolving demands of the interactive entertainment industry.

All courses must be passed with a “C” or better. Specific course requirements include:

Course	Title	Hours
Year 1		
COS 107	Prob Solving, Logic & Design	3
or COS 108 Principles of Computer Science I		
COS 275	Game Programming Foundation I	4
COS 300	System Design/Development	3
COS 375	Game Programming Foundation II	3
COS 385	Gaming and Computer Graphics	4
COS 475	Game Design and Development	3
	Hours	**20**
	Total Hours	**20**