

# Computer Systems Analysis Major

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A major in Computer Systems Analysis prepares students to apply programming and systems analysis principles to the selection, implementation, and troubleshooting of customized computer and software installations across the systems development life cycle. It includes instruction in computer hardware and software; the compilation, composition, execution, and operation of information systems; low- and high-level programming languages; programming and debugging techniques; installation and maintenance testing and documentation; process, data flow, and user needs analyses and documentation; cost-benefit analyses; and specification design. Focus is on the entire systems development life cycle including requirements gathering, feasibility analyses, project estimation, system design, quality assurance, implementation, integration, security, documentation, and testing. Established quantitative metrics will be used for identifying project objectives and ensuring quality throughout the systems development life cycle. Students will learn to apply project management principles to a variety of computer-based information systems projects.

The course offerings in Computer Systems Analysis serve majors as well as students majoring in other fields. The lower-level courses present an introduction to information systems concepts and to structured programming. The advanced courses are designed for extended study and include exploration of the theoretical and technical aspects of Computer Systems Analysis.

All courses are taught in a computer laboratory setting, permitting experimentation with the practical application of theoretical concepts. Students also present their work in written, electronic, and verbal formats. In addition to the technical focus, students in the major are provided opportunities to practice techniques to develop professional skills related to becoming successful leaders in a wide variety of organizations. Student learning is achieved by applying a problem-based approach focusing on critical thinking, technological understanding, and interpersonal communications.

This major will serve students who are interested in computer systems analysis, software development, computer programming, and/or information systems development. It will also serve students who are more interested in the other aspects of systems development including requirements gathering, design, system testing, project management, and quality control.

The Computer Systems Analysis major will prepare students for either immediate employment or graduate study. Graduates with this major typically pursue a career as a systems analyst, business systems analyst, requirements engineer, software developer, programmer, quality assurance engineer, or project manager in a wide variety of business, non-profit, and industry organizations.

Students will also be prepared to enter a wide range of graduate programs in related computing disciplines. It is recommended that students planning graduate study in a computing discipline consider taking additional courses in mathematics. Majors must earn a grade of C- or better in all courses for the major.

**ACADEMIC REQUIREMENTS SUMMARY SHEET**

**ACADEMIC YEAR 2024-2025**

Major: COMPUTER SYSTEMS ANALYSIS MAJOR

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Student's Last Name First Name Middle Initial

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Advisor Date Major Declared

Course Code	Title	Hours	Semester	Grade
CBR 220	Information Security	3		
CDT 101	Computing Across the Disciplines	1		
CSA 104	Programming Logic and Design	3		
CSA 250	IT Infrastructure	4		
CSA 304	Structured Programming	4		
CSA 321	Python Programming	3		
CSA 327	Database Systems	3		
CSA 351	Project Management	3		
CSA 390	Object-Oriented Programming	3		
CSA 404	Data Structures	4		
CSA 470	Computer Systems Analysis Capstone I	3		
CSA 480	Computer Systems Analysis Capstone II	3		
DIG 200	Media Design and Human Behavior	3		
DIG 250	Web Page Design	3		
<b>Total Hours Required for the Major</b>		<b>42</b>		

If any substitutions or waivers of requirements are allowed, please list below and initial.

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Advisor Signature

Department Chair Signature