JOIN OUR COMMUNITY OF SCHOLARSHIP AND RESEARCH

Join the Department of Computing Sciences to update your skills and advance your career. Our graduate programs are designed for people who wish to update their skills and advance their careers as computing professionals, or for students who wish to complete a master’s degree and matriculate to a doctoral degree at another university.

CHOOSE YOUR GRADUATE COURSE OF STUDY

Master of Science in Computer Science
The MS in Computer Science provides expertise in applied and basic computing through its course offerings in computer systems, theory, languages and algorithms. Students pursue this degree for many reasons, including:
- Expanding on their undergraduate preparation and enhancing their career options
- Acquiring formal credentials in computing when a career path has changed focus and requires more preparation
- Updating an old undergraduate degree and bringing skills and knowledge up to date with the industry
- Preparing for a doctoral program at another university

Master of Science in Software Engineering
The MS in Software Engineering is designed to address the increased interest in advanced computing education specifically directed to the ability to specify, design, develop, and maintain software systems. This degree program:
- Prepares students for a career in software engineering or for advanced study in the field
- Is frequently viewed by industry as a minimum requirement for leadership in the field of software engineering
- Provides practical and theoretical knowledge and experience
- Includes courses on software design and evolution, database systems, user/system interface design, and others

IMMERSIVE TECHNOLOGY AND RESEARCH FACILITIES
Our National Science Foundation-funded virtual reality CAVE facility uses immersive video for telepresence applications as well as:
- Computer-generated graphics for 3D visualization
- Object capture facilities
- Google Glass application development
- Oculus Rift application development
- Leap Motion application development
- 3D printing facility

gradartsci.villanova.edu
EXPLORE OUR CURRICULUM
A complete listing of courses, degree and certificate offerings is available at csc.villanova.edu.

Special Topics:
Recent offerings include Agile Project Management and Development; Web and Mobile Technology; Software Entrepreneurship; Knowledge Based Systems; Web Centric Development; SOA Design and Implementation; Text Mining; Cybersecurity; Cloud Computing; Digital Forensics; Health IT and eHealth Systems.

DISTINGUISHED FACULTY
All full-time faculty have doctoral degrees in computing science or a related field, and are joined by qualified adjunct faculty who bring the perspective of current industry trends.

Research Areas
Artificial Intelligence
- Expert Systems
- Text Mining
- Computer Vision
- Machine Learning

Database Systems
- Data Modeling
- Data Mining
- Data Warehousing

Distributed Systems and Networks
- Cloud Computing
- Wireless Networks
- High Performance Computing

Graphics and Immersive Systems
- Computer Graphics
- Virtual Reality
- Game Design and Applications

Information Systems
- Digital Libraries
- Visualization
- Information Metrics
- Multimedia
- Ontologies
- Semantic Web
- Health IT

Programming Languages and Implementations
- Compiler Optimization
- Nanocompilers

Software Engineering
- Human-Computer Interaction
- Object-oriented Modeling
- Security, Privacy and Ethics
- Software Process Improvement

Systems Modeling and Simulation
- Biological Systems
- Networks Modeling
- Colored Petri Nets
- Process Modeling

Theory
- Algorithms
- Computational Geometry
- Computability
- Logic

FOR MORE INFORMATION OR TO APPLY:
610.519.7310
gradcomputing@villanova.edu
csc.villanova.edu

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