

Overview of Graduate Programs

Master's Program

There are three options available, all of which include 1 credit hour of colloquium.

Thesis - 30 credit hours + colloquium

- 24 credit hours coursework
- 6 credit hours thesis research

Project - 33 credit hours + colloquium

- 30 credit hours coursework
- 3 credit hours project work

Courses-only - 33 credit hours + colloquium

- 33 credit hours coursework

We also offer a fully-online MS degree.

For more information, see

<https://graduate.cs.odu.edu/ms/>

PhD Program

Main Requirements

- PhD qualifying process: coursework and either qualifying exam or research event.
- 24 credit hours post-master's coursework
- Candidacy exam (dissertation proposal)
- 24 credit hours dissertation work
- 1 credit hour colloquium
- Dissertation defense

For more information, see

<https://graduate.cs.odu.edu/phd/>

Graduate Certificate Programs

Cybersecurity (*online only*)

- 12 credit hours coursework
- Cybersecurity Fundamentals, Cryptography for Cybersecurity, Networked Systems Security, Information Assurance

Modeling & Simulation (M&S)

- 12 credit hours coursework
- Intro to M&S (required), at most 2 Foundation Electives, at least 1 Advanced Elective

For more information, see

<https://www.cs.odu.edu/>



OLD DOMINION
UNIVERSITY

DEPARTMENT OF COMPUTER SCIENCE

GRADUATE PROGRAM DIRECTORS

GPD for Admissions: Dr. Yaohang Li

GPD for Advising: Dr. Danella Zhao

Contact: csgpd@odu.edu

DEPARTMENT CHAIR

Dr. Ravi Mukkamala
mukka@cs.odu.edu

Department of Computer Science

Old Dominion University

Norfolk, VA 23529-0162

757-683-7740

www.cs.odu.edu

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Graduate Programs

College of Sciences

Graduate Faculty Research Interests

Dr. Vikas Ashok: Human Computer Interaction, Natural Language Processing, Accessible Computing, Machine Learning, Health Informatics.

Dr. Andrey Chernikov: Image Analysis in Medical and Bio-Material Modeling and Simulation, Parallel Computational Geometry with focus on quality mesh generation, High-Performance Scientific Computing

Dr. Nikos Chrisochoides: Medical Image Computing, Scientific Computing, Parallel, Distributed and Cloud Computing

Dr. Shuai Hao: Internet Infrastructure, Security and Privacy of Internet and Networked System, Network Protocols and Systems, Web Security and Privacy, Cybercrime

Dr. Jing He: Computational Biology, Protein Bioinformatics, Image Pattern Recognition

Dr. Shubham Jain: Mobile Sensing, Smart Cities, Cyber-Physical Systems, Scalable Video Analytics, Mobile Vision

Dr. Sampath Jayarathna: Data Science, Neuro-Information Retrieval, Eye Tracking, Human-Computer Interaction, Machine Learning, Digital Libraries

Dr. Yaohang Li: Computational Biology/Bioinformatics, Computational Science, Monte Carlo Methods, High Performance Computing, Big Data Analysis

Dr. Ravi Mukkamala: Cybersecurity, Data Mining, Privacy-Preserving Mining, Distributed Systems, Performance Analysis, Modeling & Simulation

Dr. Michael L. Nelson: Digital Libraries, Web Preservation, Information Retrieval, Web Science, Social Media

Dr. Stephan Olariu: Mobile Computing, Wireless Networks, Parallel Algorithms and Architectures,

Distributed Algorithms, Performance Evaluation

Dr. Desh Ranjan: Algorithms, Bioinformatics, Parallel Computing, Computational Complexity

Dr. Jiangwen Sun: Machine Learning, Computational Systems Medicine, Data Mining, Medical Informatics, Health Informatics

Dr. Cong Wang: Mobile Computing, Cybersecurity, Energy Efficiency, Machine Learning

Dr. Michele C. Weigle: Web Science, Digital Preservation, Social Media, Information Visualization

Dr. Jian Wu: Text Mining, Scholarly Big Data, Digital Libraries, Search Engines, Natural Language Processing, Applied Machine Learning, and Deep Learning

Dr. Steven Zeil: Software Testing, Software Development Environments

Dr. Danella Zhao: Multicore/Many-Core Computing and On-Chip Networking, Heterogeneous System Architecture, Hardware Security, Embedded and Cyber Physical Systems

Dr. Mohammad Zubair: High Performance Computing in the areas of Econometrics, Financial, Bioinformatics, and Scientific Computing

Research Areas

Bioinformatics: He, Li, Ranjan, Sun

Cybersecurity: Hao, Mukkamala, Wang, Zhao

Machine Intelligence and Data Analytics: Ashok, Jain, Jayarathna, Li, Mukkamala, Sun, Zeil, Zhao, Zubair

Medical and Scientific Computing: Chernikov, Chrisochoides, Ranjan, Zubair

Systems (Networks, Mobile Computing): Hao, Jain, Mukkamala, Olariu, Wang

Web Science and Digital Libraries: Jayarathna, Nelson, Weigle, Wu

Recent Course Offerings

MS Courses

- Algorithms and Data Structures
- App Development for Smart Devices
- Computational Geometry
- Computational Methods and Software

- Cryptography for Cybersecurity (*online only*)
- Cybersecurity Fundamentals (*online only*)
- Database Concepts
- Data Visualization
- Foundations of Computing
- Information Assurance (*online only*)
- Introduction to Artificial Intelligence
- Introduction to Data Science
- Introduction to Networks and Communication
- Introduction to Parallel Computing
- Networked Systems Security (*online only*)
- Systems Programming
- Web Programming
- Web Science
- Web Server Design

MS/PhD Courses

- Architectural Support for Cloud Computing
- Applications of Graphs in Bioinformatics
- Blockchain and Cryptocurrencies
- Data Mining and Security
- Design of Network Protocols
- Distributed Systems
- High-Performance Computing and Big Data
- Information Visualization
- Introduction to Bioinformatics
- Introduction to Digital Libraries
- Introduction to Information Retrieval
- Machine Learning
- Monte Carlo Simulation
- Network Security
- Stochastic Modeling
- Wireless Networking and Mobile Computing

We also offer several MS/PhD courses focusing on research interests of individual faculty members.