Computer Science Department Graduate Programs Info Session

Dr. Nahapetian (Dr. N)

csgrad@csun.edu

http://www.ecs.csun.edu/csgrad

Plan for Today

- Program Requirements
- Thesis Work
- Funding Opportunities
- Admissions Information
- Program Prerequisites
- Q/A Session

Computer Science MS

Breadth Requirement– Choose 4

- COMP 529/L Advanced Network Topics and Lab
- COMP 610 Data Structures and Algorithms
- COMP 615 Advanced Topics in Computation Theory
  OR COMP 630 Formal Semantics of Programming Languages
- COMP 620 Computer System Architecture
- COMP 680 Software Engineering

Computer Science MS

Electives - Choose 4

- Computer Science 400, 500, or 600- level
- 400-level courses must say "approved for graduate credit" in the University Catalog.
- Excluding COMP 450, 480/L, 482, 490/L, 491/L, 492 494, 496ALG, 499, 502, 696, 698 and 699
- **At most** 2 of the courses can be 400-level

Thesis

- COMP 696C Directed Graduate Research
- COMP 698C Thesis or Graduate Project

Software Engineering MS – New Catalog

Breadth Requirement– Choose 5

- COMP 582 Requirements Analysis and Specification Formerly 682)
- COMP 583 Software Engineering Management (Formerly 686)
- COMP 587 Software Verification and Validation
- COMP 589 Software Engineering Metrics
- COMP 680 Advanced Topics in Software Engineering
- COMP 684 Software Architecture and Design

Thesis

- COMP 696C Directed Graduate Research
- COMP 698C Thesis or Graduate Project

Software Engineering MS – New Catalog

SW Engineering Electives - Choose 1

- COMP 584 Advanced Web Engineering
- COMP 585 Graphical User Interfaces
- COMP 586 Object-Oriented Software Development
- COMP 587 Software Verification and Validation
- COMP 589 Software Engineering Metrics

Free Electives- Choose 2

- Computer Science 400, 500, or 600- level
- Excluding COMP 450, 480/L, 482, 490/L, 491/L, 492, 494, 496ALG, 499, 502, 696, 698 and 699

Software Engineering MS – Pre-Fall 2024 Catalog

Breadth Requirement– All 4

- COMP 582 Requirements Analysis and Specification Formerly 682)
- COMP 583 Software Engineering Management (Formerly 686)
- COMP 680 Advanced Topics in Software Engineering
- COMP 684 Software Architecture and Design

Thesis

- COMP 696C Directed Graduate Research
- COMP 698C Thesis or Graduate Project

Software Engineering MS – Pre-Fall 2024 Catalog

SW Engineering Electives - Choose 2

- COMP 584 Advanced Web Engineering
- COMP 585 Graphical User Interfaces
- COMP 586 Object-Oriented Software Development
- COMP 587 Software Verification and Validation
- COMP 589 Software Engineering Metrics

Free Electives- Choose 2

- Computer Science 400, 500, or 600- level
- Excluding COMP 450, 480/L, 482, 490/L, 491L, 494, 496ALG, 499, 502, 696, 698 and 699

Starting Your Thesis Work

1. Find an adviser
2. Complete and submit an R-form
3. Wait for an email with permission number to enroll in COMP 696C
4. Follow adviser’s direction
5. Find committee members
6. Complete “planning form” on ETD

Finishing Your Thesis

1. Enroll in COMP 698C, by completing another R-form
2. Submit draft to adviser regularly
3. Submit draft to committee members
4. Submit draft via ETD for formatting review
5. Schedule your defense
6. Complete defense
7. Submit from draft of thesis via ETD

Faculty Research – Selecting an Adviser

http://www.ecs.csun.edu/csgrad/research.html

- **Marjan Asadinia - Advanced computer architecture, Memory system architectures, Next-generation storage systems, Systems-on-Chip (SoC) and Networks-on-Chip (NoC), Interconnection networks, and deep learning.**
- Richard Covington - Graphical user interfaces; Computer architectures; Simulation and performance analysis. *Fall only*
- **Kyle Dewey - Compilers and programming languages; Automated test case generation; software testing; Computer Science education.**
- **Mahdi Ebrahimi - Big data management with the focus on large-scale scientific workflows; Big data workflow scheduling; Cloud computing.**
- **Rashida Hasan - Data Mining, Machine Learning, Deep Learning, Feature Engineering, Data Preprocessing-Feature selection, feature extraction, and Anomaly/outlier detection.**
- Wen-Chin (Amy) Hsu - Computer Science education; Human-computer interaction; Computing with human factors; Data analysis/science.
- **Maryam Jalalitabar - Network Function Virtualization(NFV); Software Defined Networking(SDN); Virtual Network Embedding(VNE).**
- **Xunfei Jiang - Energy-efficient storage system; Thermal-aware resource management; Parallel and Distributed Computing; Cloud computing; Spatial database systems; Data Science.**
- Adam Kaplan - High-performance Computing, Cloud Performance vs. Cost Tradeoff, Embedded/Low-Power Machine Learning.
- **Li Liu - Accessible Computing, Assistive Technology, Data Visualization and Explainable AI, Human-machine Teaming.**
- **Robert McIlhenny - High-speed architectures.**
- **Katya Mkrtchyan - Computer Vision and Image Processing.**
- **Alex Modarresi - Computer networking and security, IoT and smart systems, Software Define Networking (SDN), and ad-hoc routing protocol.**
- Ani Nahapetian - Mobile and wearable computing; User interface design; Mobile and hardware security; Algorithm design for embedded systems.
- **John Noga - Design and analysis of algorithms.**
- **Ruobin Qi – Machine Learning, Deep Learning.**
- **Abhishek Verma - Data Science, Big Data Computing, Deep Learning, Computer Vision, Machine Learning, Artificial Intelligence, Robotics, Data Mining, Biometrics.**
- **George (Taehyung) Wang - Artificial Intelligence, Deep Learning, Semantic Computing, Data Mining.**
- Jeffrey Wiegley - Automated assembly path planning; Geometric shape analysis; Embedded systems; Software and infrastructure applications design.

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Funding

- RA positions available occasionally – talk to faculty members
- Grader positions – reach out to Department office
- Fellowships and Scholarships
  - CECS yearly scholarships
  - Graduate Studies scholarships and funding opportunities
  - University scholarships
- Honors Co-op, TechFest
- Tutoring jobs - http://www.csun.edu/~cecsssc/Tutorial.htm
- Campus student /graduate assistant jobs (including IT) - http://www.csun.edu/usu/jobs/taleo
- Federal Funding Opportunities: https://stemgradstudents.science.gov/
- NSF Graduate Student Fellowship: http://www.nsf.gov/grfp

Admissions Requirements

- **GPA:** Undergraduate grade point average (GPA) of at least 3.0 or a GPA of at least 3.0 from your last 60 units
- **Graduate Record Examination (GRE):** Expect GRE scores in all three sections to be at least or above the 50th percentile
- **Statement of Purpose/Resume:** Optional

Program Prerequisites

- Undergraduate coursework for students without BS in Computer Science
- 100-level and 200-level prerequisites should be completed before applying
- Options:
  - 100-level and 200-level prerequisite courses offered at community colleges

  http://www.assist.org
  - Open University

MS Data Science

- New Program in Fall 2025
- Program Prerequisites:
  - MATH 150A, Math 150B,
  - COMP 110/L, COMP 182/L,
  - MATH 262,
  - COMP 282 or COMP 482,
  - MATH 340

Data Science MS

Breadth Requirement

- COMP 502 Programming for Data Science and Analytics **OR** COMP 541 Data Mining
- COMP 639 Probability and Statistics for Data Science
- COMP 641 Fundamentals of Data Science
- COMP 542 Machine Learning
- COMP 644 Big Data

Thesis

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- COMP 698C Thesis or Graduate Project

Free Electives- Choose 1

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Data Science MS

Elective – Choose 1

- COMP 502 Programming for Data Science and Analytics *
- COMP 541 Data Mining *
- COMP 640 Database System Design
- COMP 642 Advanced Databases and Data Visualization
- COMP 643 Deep Learning

Elective – Choose 1

- COMP 502 Programming for Data Science and Analytics *
- COMP 535/L Parallel and Distributed Computing
- COMP 541 Data Mining *
- COMP 545 Cloud Computing
- COMP 569 Artificial Intelligence
- COMP 640 Database System Design *
- COMP 642 Advanced Databases and Data Visualization *
- COMP 643 Deep Learning *

Questions

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