People
Students

• ~130 graduate students
  – ~90 MS / ~40 PhD

• New in Fall 2016
  – 28 MS
    • 5 in online MS program
  – 5 PhD

• 28 New MS Students
  – 20 male
  – 8 female

  – 16 from India
  – 8 from US
  – 4 from other countries
    (Chile, China, Egypt)
Department Administration

- Dr. Ravi Mukkamala
  - Acting Department Chair
  - Associate Dean, College of Sciences

- Mrs. Janet Brunelle
  - Assistant Chair
  - Chief Departmental Advisor – undergraduates

- Dr. Steven Zeil
  - Assistant Chair
  - Course scheduling, GTA and grader hiring, colloquia

- Dr. Michele Weigle
  - Graduate Program Director (GPD)
  - Advisor for all MS students
  - mweigle@cs.odu.edu
  - E&CS 3214
  - Fall 2016 Office Hours: Tues/Thurs 10-11am

8/23/16

https://graduate.cs.odu.edu/ms/, https://graduate.cs.odu.edu/phd/
Faculty

Tenured/Tenure-Track
- Abdel-Wahab, Hussein
- Chernikov, Andrey
- Chrisochoides, Nikos
- He, Jing
- Li, Yaohang
- Maly, Kurt J.
- Mukkamala, Ravi - Acting Chair
- Nadeem, Tamer
- Nelson, Michael
- Olariu, Stephan
- Ranjan, Desh
- Weigle, Michele – GPD
- Zeil, Steven - Asst. Chair
- Zhao, Danella
- Zubair, M.

Instructors
- Boyle, Christopher
- Brunelle, Janet - Asst. Chair
- Elmesalami, Ayman
- Gupta, Rekha
- Kennedy, Thomas
- Morris, Jay
- Price, G. Hill

http://www.cs.odu.edu/faculty.shtml

8/23/16
Front Office Staff (E&CS 3300)

• Phyllis Woods
  – Chair's Secretary
  – Office Supervisor

• Christy Chavis
  – Fiscal Technician

• Ariel Sturtevant
  – Office Service Asst.
  – Graduate Program Coordinator

http://www.cs.odu.edu/staff.shtml

8/23/16
Systems Staff

• Ajay Gupta - Director of Computing Resources

• Systems Engineers
  – Ryan Knauer
  – Chris Soffos
  – Diamon Wiggins
Email

• Email communications will come either through your @odu.edu or @cs.odu.edu email.
  – make sure that you check *both* of those accounts or have them forwarded to an account that you check regularly.

• If you are taking a graduate level CS course, you will automatically be added to the CS grad student alias (with your @cs.odu.edu address).
  – please let me know if you are not taking any graduate level CS courses this semester, so that we can have you added to the list
Courses
Course Levels

- **100, 200, 300, 400** – undergraduate courses
- **500** – intro Masters level
  - most of these have a 400-level section, too
    - you’ll be in class with undergrads
  - MS students may have extra requirements
  - can take a maximum of 4
- **600** – Masters level
  - typically not taken by PhD students
- **700** – upper Masters level
  - often research-focused or advanced topics
  - cross-listed with 800-level courses
- **800** – PhD level
  - cross-listed with 700-level courses
  - PhD students may have extra requirements
Finding Course Schedules

http://www.cs.odu.edu/

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

https://graduate.cs.odu.edu/phd/
# Course Schedule

## Fall 2015 COMPUTER SCIENCE Course Schedule

<table>
<thead>
<tr>
<th>Seats</th>
<th>CRN</th>
<th>Course#</th>
<th>Title</th>
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[https://graduate.cs.odu.edu/ms/](https://graduate.cs.odu.edu/ms/), [https://graduate.cs.odu.edu/phd/](https://graduate.cs.odu.edu/phd/)
Using the Course Schedule

Filter by category

View seats available or current enrollment
Course Offerings

• Future course offerings are often similar to past course offerings
  – [link](http://webspaces.cs.odu.edu/~ibl/csschedule.php?semester=S)
  – where $S = \{\text{sum, fall, spr}\}YY$
  – examples: sum15, fall15, spr14

• Registering for courses
  – register early
  – if needed, email instructor for override into closed class or waiting list
  – but, don't over-register
Recently Offered 500-Level Courses

**MS Core**
- CS 550 – Database Concepts
- CS 555 – Intro to Networking

**Online Cybersecurity**
- CS 562 – Cybersecurity Fundamentals
- CS 563 – Cryptography
- CS 564 – Networked Systems Security
- CS 565 – Information Assurance

**Other Electives**
- CS 517 – Computational Methods and Software
- CS 518 – Web Programming
- CS 532 – Intro to Web Science
- CS 541 – App Development for Smart Devices
- CS 576 – Systems Programming
- CS 578 – Computational Geometry, Methods, Apps
- CS 580 – Intro to Artificial Intelligence
- CS 586 – Intro to Parallel Computing

*Bold courses are offered Fall 2016*

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[Old Dominion University](https://graduate.cs.odu.edu/ms/), [https://graduate.cs.odu.edu/phd/](https://graduate.cs.odu.edu/phd/)
600-Level and Topics Courses

**MS Core**

- **CS 600**
  - Algorithms

- **CS 665**
  - Computer Architecture

**Seminars and Special Topics**

- **CS 697**
  - Independent Study
  - arrange with individual faculty member

- **CS 791/891**
  - seminar (pass/fail)

- **CS 795/895**
  - topics course
  - may turn into a “regular” course in the future

- **CS 796/896**
  - special topics course
  - mainly for research, PhD students

*Bold courses are offered Fall 2016*

https://graduate.cs.odu.edu/ms/,
https://graduate.cs.odu.edu/phd/
Recently Offered 700/800-Level Electives

- **CS 712/812**
  - Stochastic Modeling
- **CS 714/814**
  - Monte Carlo Simulation
- **CS 722/872**
  - Machine Learning
- **CS 723/823**
  - *Intro to Bioinformatics*
- **CS 724/824**
  - HPC and Big Data
- **CS 725/825**
  - Information Visualization
- **CS 726/826**
  - Applications of Graphs in Bioinformatics
- **CS 734/834**
  - *Intro to Information Retrieval*
- **CS 751/851**
  - Intro to Digital Libraries
- **CS 752/852**
  - Wireless Networking and Mobile Computing
- **CS 772/872**
- **CS 773/873**
  - Data Mining and Security
- **CS 776/876**
  - *Architectural Support for Cloud Computing*
- **CS 779/879**
  - Design of Network Protocols
- **CS 795/895**
  - Topics in .NET Security
  - *has been offered several summers in a row*
Fall 2016 - CS 795/895 Courses

• Advanced Algorithms & Complexity
  – Dr. Ranjan

• Advanced Parallel Computing
  – Dr. Chernikov

• Advanced Systems Programming
  – Dr. Abdel-Wahab

• Advanced Numerical Methods
  – Dr. Chrisochoides
Tips from Current MS Students

Ravi and Hung

With some slides developed by former MS grads: Kayla, Apeksha, Prasanna, Avinash
Things I wish I knew when I started...

• Seriously consider the Thesis or Project option
  – Take initiative to learn about professor’s research
    (they love talking about it!) to get a better idea of
    what you may wish to research

• It is good to listen to seniors’ advice, but take
  it with a grain of salt
  – Sometimes what was right for us, is not right for
    you
  – Some people just give really bad advice
Things I wish I knew when I started...

• Take the courses *you* want
  – Not just the ones everyone else is taking
  – Not just the ones you heard have the least amount of work

• Go to office hours

• Take advantage of making friends that are from a different culture than you!
Tips for becoming a TA

- Keep applying, even if you did not get a position previously

- Make a good impression on your professors

- Constantly work to improve your English
  - Study for the SPEAK test
  - Students often have a hard time understanding accents, especially at first
  - You may also have a hard time understanding their accent
Tips for becoming a RA

• Identify the area of research or development you are interested in.

• Start looking into each professor’s website and look at what they are working on currently.

• If you find something which interests you, go speak to the professor and express your interest. They’d be happy to listen to you.
Tips Especially for Indian Students

• Expect more practical knowledge vs. theory
• Interact with the professor
• Take part in class discussion
• Stay on top of studies so if there are any problems, you can fix them early
Tutorial Websites

• Lynda – Free for ODU Students
• Coursera – Courses from popular universities
• Udacity – Offers Nano Degrees (paid)
• Udemy – Affordable Courses
• Edx - Courses from popular universities
• Tutorials Point
• W3 Schools
Internship

• Job Fair
  – Two major Job Fairs on campus each semester
  – Public job fairs (from other universities)

• Online Websites
  – Company official website (career page)
  – Monster.com, Indeed.com, Dice.com, LinkedIn.com

• References
  – Friends, Alumni, Professors

• Paperwork with VISA office
  – Take 10 business days for approval
  – Pay tuition for 1 credit
  – Participate CPT workshop (required)
Miscellaneous Tips

• Amazon Prime
• Github - https://git-community.cs.odu.edu
• Github Student pack - https://education.github.com/pack
• Bank, SSN, Phone
• Zip Car
Policies
Working in the Department

• GTAs, lab instructors
  – requirements: pass SPEAK test, pass GTA I, have a good GPA

• Grader
  – requirements: pass SPEAK test, have good GPA
  – PhD students have preference

• GRAs (research assistant)
  – arranged with individual faculty members

• Each of these positions comes with some amount of tuition support
  (varies based on salary and MS/PhD)

• There are a few opportunities for graduate assistant positions in other departments
  – these may or may not come with a tuition waiver
Full-Time Requirements

• Full-time is 9 credit hours

• GTA
  – 9 graduate credit hours (prerequisites don't count)

• GRA
  – 6 graduate credit hours
  – international students must complete reduced course load (RCL) form

• Graduating semester
  – # of courses needed to graduate
  – if < 9, must complete M4 form (MS students)
  – if international, must also complete RCL form
International Notes

• Full-time requirement: 9 credit hours

• Exceptions (reduced course load)
  – GRA - 6 credit hours
  – 1st semester (if not GTA) - 6 credit hours
  – graduating semester - # of credit hours needed for graduation

• Only allowed to take 1 online course per semester
  – cannot be your only course
Prerequisites

• Goal is to ensure that you are prepared for graduate work in computer science

• Undergrad courses may be more available during summer

• Ways to complete
  – submit a request to GPD for a waiver (because of previous training)
  – complete an approved online course (e.g., Coursera, Udacity)
  – take the course and make 'B' or better
  – challenge the course (talk to the instructor of the course for requirements, must do at least 'B' level work). The instructor must email the GPD with the results of the challenge.
Need a Form Signed by GPD?

• Submit form to Ariel Sturtevant well in advance of deadline
  – if urgent, submit the form to Ariel and email the GPD

• Come to GPD's posted office hours

• I cannot sign forms on demand
Academic Integrity

• Academic integrity (Honor Code) is taken seriously at ODU

• Typical class policy:
  – All assignments are to be completed on your own.
  – No sharing of code is allowed. This includes discussion about the design of a programming assignment solution.
  – Written assignments are expected to be in your own words.
What is Cheating/Plagiarism?

• Turning in another student's work as your own

• *Giving* unauthorized assistance is just as much of an offense as *receiving* unauthorized assistance.

• For coding
  – copying or sharing source code for assignments
  – obtaining solutions from the Internet and submitting them as your own
What is Cheating/Plagiarism?

• For writing
  – copying material from a source text without proper acknowledgment
  – copying material from a source text, supplying proper acknowledgment, but leaving out quotation marks

• "In your own words" means that the text should be your own and not a paraphrase of others' work

• Just because someone wrote it better than you would have does not make it OK to copy their words.
This is so important, we're going to watch a video

http://www.plagiarism.org/resources/webcasts
You've been warned. You are responsible for knowing the rules or asking for clarification.
Beware the Group Mentality

• Most of your assignments will be individual
  – all of the work must be your own

• Don’t sit next to friends in the lab

• Don’t work problem sets together

• Instructors (and your fellow students) are very good at identifying cheating

• *Cheating can put your graduate assistantship at risk*
Degree Requirements
MS Degree Requirements

• All options
  – attendance at 10 colloquiums and CS 690 (1 CR)
  – at most 4 500-level courses

• Courses-only Option
  – 34 CR (11 courses)
  – written report and oral exit exam

• Project Option
  – 34 CR (10 courses + CS 698)
  – project report and oral presentation

• Thesis Option
  – 31 CR (8 courses + CS 699x2)
  – written thesis document and oral defense

CIS Concentration
• 6 CS courses
  • at least 2 regular at 600 or 700 level
• 5 IT courses

https://graduate.cs.odu.edu/ms/Requirements
Modeling & Simulation (M&S) Certificate

- 4 courses

- **MSIM 601** Introduction to Modeling and Simulation
  - required *(but does not count towards CS MS)*

- **Choose 2** Foundation Electives
  - CS 517 Computational and Software
  - CS 578 Computational Geometry, Methods and Applications
  - CS 586 Intro to Parallel Computing
  - CS 600 Algorithms and Data Structures

- **Choose 1** Advanced Elective
  - CS 712 Stochastic Modeling
  - CS 713 M&S in Computational Bio
  - CS 714 Monte Carlo Simulation
  - CS 715 Medical Image Computing and Simulations
  - CS 716 Communication Networks Simulation and Evaluation
  - CS 722 Machine Learning
  - CS 723 Intro to Bioinformatics
  - CS 724 High Performance Computing with GPUs for Large Scale Simulations
  - CS 725 Information Visualization
  - CS 726 Applications of Graphs in Bioinformatics

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https://graduate.cs.odu.edu/ms/, https://graduate.cs.odu.edu/phd/
Cybersecurity Certificate

• 4 courses, all online

• Fall Offerings
  – CS 562 Cybersecurity Fundamentals
  – CS 563 Cryptography for Cybersecurity

• Spring Offerings
  – CS 564 Networked Systems Security
  – CS 565 Information Assurance

• You may count 5 500-level courses (these + CS 550) towards MS if enrolled in this certificate program.
Online MS

• Exceptions to the core
  – replace CS 555 (Intro to Networking) with CS 562 (Cybersecurity Fundamentals)
  – online viewing of colloquium events

• Implications for on-campus students
  – core courses will often alternate semesters between online and face-to-face (CS 550, CS 600, CS 665)
  – cybersecurity courses are always taught online (CS 562, CS 563, CS 564, CS 565)
  – some electives may only be taught online (CS 723, CS 724, CS 725, CS 773) - up to the instructor
Computer Science MS Advising Worksheet

(Full requirements at https://graduate.cs.odu.edu/ms/)

Name: ________________________________ UIN: __ __ __ __ __ __ __

MS Option

_____ Courses-only (11 courses - 33 cr.)
_____ Project (10 courses - 30 cr. + 3 cr. CS 698)
_____ Thesis (8 courses - 24 cr. + 6 cr. CS 699)

Certificates

_____ Modeling & Simulation - 12 cr.
_____ Cybersecurity* - 12 cr.

Concentration

CS CIS circle the one that applies (general MS is 'CS')

Core Courses

CS 555 – Database Concepts
CS 555 – Intro to Networks and Communications
CS 600 – Algorithms and Data Structures
CS 665 – Computer Architecture

Prerequisites – if applicable

CS 150/250 (CS 333) – Programming
CS 170/270 (CS 334) – Comp. Architec.
CS 350 – Software Eng. (CIS only)
CS 361 – Data Structures
CS 381 – Discrete Structures
CS 471 – Operating Systems (CS only)

Requirements – enter course numbers below

6 CS courses: ______ ______ ______ ______ ______ ______
5 IT courses: ______ ______ ______ ______ ______ ______

Electives (7 for CS courses-only, 6 for CS project, 4 for CS thesis) – enter course numbers below

500-level: ______ ______ ______ ______ ______ ______ (at most 4 500-level total)
600-level: ______ ______ ______ ______ ______ ______
700-level: ______ ______ ______ ______ ______ ______

No more than 3 seminar or independent study courses (CS 697, CS 791, CS 796) will be counted towards the MS course requirements. For CIS concentration, at least 6 of the CS graduate credits must be taken at the 600-level or 700-level from courses other than CS 697, CS 791, and CS 796.

* Cybersecurity certificate - may count 5 500-level courses (cybersecurity + CS 550), CS 562 will count as satisfying the CS 555 core requirement

Other Requirements

• CS 690 – Colloquium (1 cr.) + 10 colloquium sheets
• Oral and Written Comprehensive Exam (exit exam/project/thesis)
• Responsible Conduct of Research Course (for Engineers)

https://graduate.cs.odu.edu/files/MS-advising-worksheet.pdf

https://graduate.cs.odu.edu/ms/
https://graduate.cs.odu.edu/phd/
More MS Info

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

– Essentials
  • Getting Started, Important Dates, Requirements, Start of Semester Checklist, To Do's for Graduating, New Student Resources

– For Prospective Students

– Policies
  • Grading Policy, Academic Integrity, Independent Study, Colloquium, MS Project, MS Thesis
Essential Resources

- Systems Group (aka root at cs.odu.edu) - for CS department computer-related questions/help
  - Create a CS Account - used for @cs.odu.edu email and access to Linux and Windows environments
  - CS Computing Labs

- ODU Graduate Catalog
  - Policies and Procedures
  - Graduate Registration Requirements and Procedures
  - University Requirements for Graduate Degrees, Graduate Catalog

- Graduate Course Descriptions - from CS Dept, from Graduate Catalog
  - Recently Offered Courses - courses offered since Fall 2011
  - Course Schedules - See the Dept of CS page (in the sidebar under Student Resources) or the schedule of all ODU courses

- New Student Resources - resources to help new students prepare for graduate study in the Department of Computer Science
  - Fall 2015 New MS Student Information Packet (pdf)

Please see the pages linked in the sidebar for detailed information about our MS Program. If you have a question that is not answered in these pages, please contact the Graduate Program Director (GPD).

Graduate Student Gatherings

- August 27, 2015 (12:30-1:30pm, E&CS auditorium) - Fall 2015 New MS Student Orientation
- March 2015 - Preview of Fall 2015 Courses (pdf), video
- January 2015 - Overview of Department and MS Program for New Students (pdf)

Department Administration

- Faculty List
- Staff List
PhD Requirements and Advising

• Major requirements
  – 8 800-level courses
    • 4 “regular” courses with 3 different faculty members
  – breadth exam
  – research ability
  – candidacy exam
  – dissertation and defense

• Your research advisor is also your academic advisor
More PhD Info

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

- Admission
- Requirements
- PhD Qualifying Process

- PhD Gathering
  - mandatory monthly gathering
  - either Tues or Thurs, 12:30-1:30pm (activity hour)
  - one PhD student will present their research
  - ask questions about the PhD program and requirements
PhD Requirements

Ph.D. Requirements

A candidate for the doctoral degree in computer science must meet all of the following requirements in addition to the University requirements outlined in the Graduate Catalog:

1. Pass the Ph.D. qualifying process that consists of breadth oral examination, research ability oral examination, and advanced course requirement.
2. A minimum of 72 credit hours beyond the bachelor's degree and 48 credit hours beyond the master's degree.
3. Pass the candidacy examination.
4. Attend at least 10 colloquia - see Colloquium Requirements for more information.
5. Successfully defend the dissertation.

The above must be completed within eight years after admission to the Ph.D. program. Note that students with a degree in a discipline outside of computer science will be required to take prerequisite undergraduate courses that will not be counted towards the 72 credit hours requirement.

Advisor. Upon admission to the Ph.D. program, a faculty advisor will be assigned to the student for general guidance. The student, however, is expected to find a dissertation advisor by the time he or she completes the qualifying process.

Course Requirements. Students with a master's degree in computer science must complete course work as specified below:

1. A minimum of 24 hours of post-master's coursework at 800-level.
2. Complete the dissertation work of 24 credit hours or more.
3. A maximum of six hours may be transferred into the Ph.D. program from post-master's coursework done elsewhere.

Students with an undergraduate degree in computer science must complete course work as specified below:

1. 12 credit hours of core coursework approved by the OPD from a list of courses such as: CS 550, 555, 517, 600, and 665
2. A minimum of 38 credit hours of course work at 600-level or above of which at least 24 credit hours must be at 800-level.
3. Complete the dissertation work of 24 credit hours or more.

Students with an undergraduate or master's degree in a discipline outside computer science must complete the 72 credit hours of course work as specified above. Additionally, these students need to demonstrate proficiency in Problem Solving & Programming, Introduction to Computer Architecture, Advanced Data Structures and Algorithms, Introduction to Theoretical Computer Science, and Operating Systems at an undergraduate level.

Research Guidance Committee. A research guidance committee will be formed after the student has passed the breadth oral examination of the Ph.D. qualifying process.

- The duties of a research guidance committee are:
  - To advise the student on the course preparation, in particular to bring down a 30-credit of subjects.
ACM, ACM-W

- ODU chapter of the international professional organization for computing
- Organizes speakers, hackathons, etc.
- ACM-W – focused on women in computing
- Not just for undergrads – get involved!
- ACM – Joanna Borba (jborb001@odu.edu)
- ACM-W – Sarah Dudley (sdudl001@odu.edu)
Questions / Advising

Dr. Michele Weigle, GPD
mweigle@cs.odu.edu
E&CS 3214