



## Computer Science PhD Student Orientation

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The Volgenau School of IT & Engineering

Fall 2009  
<http://cs.gmu.edu>



### Goals

- Meet colleagues and faculty
- Intro to CS Department
- Resources
- PhD Degree Requirements
- General Tips



## Computer Science @ GMU

- Department of Computer Science
  - 44 faculty members
  - Wide range of research interests and expertise
- Programs
  - Undergraduate
    - BS-CS and BS-ACS (Applied CS)
  - Graduate
    - Four Masters programs, 550 students
      - MSCS, MS-ISA, MS-SWE, MS-INFS
    - Two PhD programs
      - CS PhD and IT PhD
      - Over 100 students in CS PhD
      - 22 new students

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## Key People

- Director, PhD CS program and Chair of the Computer Science Dept
  - Prof. Gomaa
- Associate Director, PhD CS program
  - Prof. Motro
- Associate Chair, CS Dept
  - Prof Setia
- Your academic advisor
  - Assigned to you based on the areas you said you were interested in
  - Not your dissertation (research) advisor
- CS Office staff
  - Therese Michael (PhD program specialist)
  - Nooshi Mohebi (office manager)

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## CS Department Faculty

- 44 Full-time Faculty
  - 14 Full Professors
    - Barbara, J. Chen, DeJong, Goma (chair), Kerschberg, Menasce (Associate Dean), Motro, Offutt, Pullen, Sibley, Setia, Sood, Tecuci, Wechsler
  - 13 Associate Professors
    - Ammann, Aydin, Brodsky, Carver, Domeniconi, Duric, Kosecka, Luke, Richards, Simon, P. Wang, White, Wijesekera
  - 12 Assistant Professors
    - Allbeck, S. Chen, Li, Lien, Lin, Malek, Rangwala, Shehu, Sousa, Stavrou, X. Wang, Zhong
  - 4 Instructional Faculty
    - Fleck, Heishman, T. Maddox, Nordstrom
  - 1 Visiting Faculty
    - Locasto
- 26 Adjunct Faculty



## CS PhD Degree Requirements

- GMU Catalog is the official source
- Lots of information on CS web site
  - CS Information Wiki has a section on PhD student topics
- Degree requirements
  - Course work
  - Qualifying Exams
  - Oral Comprehensive Exam
  - Dissertation Proposal
  - Dissertation



## Degree Requirements Cont'd

- ❑ 72 credits (GMU requirement) post Bachelor's degree
- ❑ Up to 30 credits for an approved MS degree
- ❑ 42 credits post-Masters
  - CS 700 (3 credits) - Quantitative Methods and Experimental Design in Computer Science
  - 4 advanced graduate courses (12 credits)
    - Course must have approved graduate pre-requisite
    - Advanced 600 level and above
  - CS 800 (2 x 1 credits) - CS Colloquium
  - CS 990 (1 credit) - CS Proposal Preparation
  - At least 24 (12 + 12)
    - CS 998 (proposal) and CS 999 (dissertation)

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## Qualifying Exams

- ❑ Qualifying exams test your knowledge in four different areas of CS
- ❑ Need to pass exams in four areas
  - Foundations of CS + any 3 out of 8 areas (software construction, software modeling, OS, networks, languages & compilers, AI, information security, databases)
  - Primary graduate course for each CS area
    - Two courses for Foundations of CS
    - If you have MS degree, you may already have taken appropriate course(s)
- ❑ Exams offered in August and January
  - Two chances to pass four exams
  - Recommend you take qualifying exams as soon as possible

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## Dissertation Committee

- ❑ Each student must form a dissertation committee
- ❑ Four or five individuals.
  - Three members must be tenured or tenure-track faculty in CS Department.
  - One member from outside CS Department
  - Chair of the dissertation committee is your dissertation advisor
    - Must be tenured or tenure-track faculty in the Volgenau School.
  - Committee must be approved by the director of the CS PhD program.

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## Comprehensive Exam

- ❑ Students must pass an oral comprehensive exam
  - Typically two hours
- ❑ Demonstrate depth of knowledge in intended area of research, and ability to perform original research in that area.
- ❑ Scope of oral exam is defined by a reading list prepared by the student and dissertation director.
  - Includes research papers and textbooks that cover
    - Basic tools used in the research area
    - Fundamentals of the research area, and
    - State-of-the-art in the specific focus of research.
- ❑ Reading list must be accompanied by a one-page description of intended research

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## Dissertation Proposal

- ❑ Each student must prepare written dissertation proposal.
- ❑ Student enrolls in CS 998 Doctoral Dissertation Proposal.
- ❑ Proposal must be presented to and approved by dissertation committee.
- ❑ Committee determines:
  - Whether the proposal has merit,
  - Can lead to significant research contributions
  - If student has knowledge and skills to complete proposed work successfully, and in timely manner.
- ❑ Upon completing proposal successfully, student is advanced to candidacy for the PhD degree.

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## Dissertation Preparation and Defense

- ❑ While preparing dissertation, the candidate enrolls in CS 999 Doctoral Dissertation.
- ❑ When the work is complete, the dissertation is defended.
- ❑ Public defense is preceded by a pre-defense meeting
  - Candidate meets with dissertation committee members and Director of CS PhD program (or his representative).
- ❑ If the committee approves, the candidate may then schedule the final public defense.
- ❑ At least one month between the pre-defense and defense

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## Dissertation Defense

- ❑ Dissertation must be available to committee at least two weeks before defense.
- ❑ Dissertation Defense is oral and open to all
- ❑ Dissertation
  - must make significant contributions to its area
  - be publishable in refereed journals or conferences
- ❑ Pass defense ->
  - Make final changes to dissertation if needed
  - Awarded PhD CS
- ❑ Fail defense ->
  - candidate may request a second defense

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## Progress in PhD CS

- ❑ **Annual Progress Report**
  - Submit report by the end of **September** every year
- ❑ **Time frames for Graduation**
  - Maximum time allowed from starting PhD program to being advanced to candidacy - 6 years
  - Maximum time allowed from being advanced to candidacy to completing/defending dissertation - 5 years

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## Succeeding in Graduate School

- Do well in courses
- Finding a research advisor
  - Take courses on topics of interest
  - Attend seminars
  - Look at faculty web pages
  - Figure out what you are interested in
- Many resources online
  - Will have links on CS wiki

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## International Students

### Students with F-1 or J-1 visas:

- Must be full-time students
  - At least 9 credit hours per semester
  - 6 credit hours for GTAs and GRAs
- Cannot switch to part-time status
- Must have degree status versus non-degree
- See Prof. Motro or your Academic Advisor if you have a problem



## Logistics & Computing Resources

- ❑ GMU Email
- ❑ IT&E Computing Labs
  - <http://labs.ite.gmu.edu>
  - Online procedure for obtaining accounts - once you have your GMU email id
- ❑ Space in Research labs and GTA labs for full-time PhD students
  - To be assigned soon
  - Access to computing resources of the lab
- ❑ GTA Room access
  - Details at orientation this afternoon

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## Miscellaneous

Various forms can be found in the department web page at <http://cs.gmu.edu>

- ❑ Labor Day-University Closed, **September 7**
- ❑ First day of classes is **August 31**
- ❑ Last day to drop with no tuition penalty **September 15**
- ❑ Last day to add classes is **September 15**
- ❑ Last day to drop classes **October 2**
- ❑ Columbus Day Recess -**October 12**
- ❑ Thanksgiving Recess - **November 25-November 29**
- ❑ Reading Day- **Not Scheduled**
- ❑ Please keep the department informed of any name, address or phone changes by sending email to [csadmin@cs.gmu.edu](mailto:csadmin@cs.gmu.edu)



## Tuition Policy

Please register by Sunday, August 30, 2009 and pay tuition by 4:30pm Monday, August 31, 2009 to avoid late fees

New Tuition Payment Policy as of Fall 2005

*On-time Registrations.* Registrations are considered on-time prior to the first day of the semester. The payment due date for all on-time registrations is the first day of the semester. A late payment fee of 10% or \$250 (whichever is less) will be added to all balances from on-time registrations after the first day of classes.

*Late Registrations.* Registrations on or after the first day of the semester are late. A late registration fee of \$250 will be charged for all initial registrations occurring on or after the first day of the semester. Late registration fees are nonrefundable. The payment due date for all late registrations from **August 31 to September 15** is five business days after registration. A late payment fee of 10% or \$250 (whichever is less) will be added after the 5th business day. All late registrations require prepayment of the \$250 late registration fee, plus all tuition and fees.

*Registrations will not be canceled for nonpayment.* Classes will not be cancelled for nonpayment. Students are responsible for dropping by the billing due date all classes, including waitlisted classes, they do not plan to complete.

*Late Payments.* A late payment fee of 10% or \$250 (whichever is less) would be added to unpaid registrations after the 5th business day. If the registration is late, the late payment fee is charged in addition to the late registration fee. The late payment fee applies to all registrations added and not paid within five business days.

Questions? Call Student Accounts at 993-2484.



## Honor Code Provisions

- The Honor Code of GMU deals specifically with:
  - Plagiarism
  - Cheating and attempted cheating
  - Lying and
  - Stealing
- Plagiarism encompasses the following:
  - Presenting as one's own the words, the work, or the opinions of someone else without proper acknowledgement. **This includes material appearing on the Internet**
  - Borrowing the sequence of ideas, the arrangement of material, or the pattern of thought of someone else without proper acknowledgement
  - Students are advised to check the Honor Code provisions on the syllabus of each class for further elaboration provided by the instructor



Questions??



- For more information, see:  
<http://www.cs.gmu.edu/programs/phd/cs/>

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