The Graduate Program
2016 Orientation

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Agenda

• Objective
  ♦ Get you started on course selection and planning for your degree program

• Topics
  ♦ MS and PhD program highlights
  ♦ Graduate program administration
  ♦ Course selection
  ♦ Advising and advice
  ♦ Online materials
Curricular Goals

• Accommodate diverse backgrounds

• Accommodate diverse goals

• Focus on research experiences
  ♦ Both for MS and PhD
MS and PhD programs

• Entering students are enrolled in either the MS or the PhD program
  ♦ Depends on what program you applied to
  ♦ little practical significance to this initial classification
  ♦ both degrees possible from either starting point

• To proceed to a PhD requires formal admission to the PhD program
Graduate Programs Highlights

- Course requirements
- Background requirements
- Admission to PhD program

*Department rules are not absolute! You may petition for exemptions.*
Course Requirements

M.S. Degree

- Breadth Courses (9 hrs)
- Other CS Courses (9 hrs)
  - Background, electives
  - Up to 6 hrs transferred from previous grad work
- Other courses (≤ 12 hrs)
  - Research topic courses
  - Courses outside dept

Total: 30 credit hours

Ph.D. Degree

- Breadth Courses (up to 18 hrs)
- Primary Concentration (9-12 hrs)
  - can use courses taken elsewhere
  - no fixed credit hour requirement
COMP 991/992: Research Topics

• Independent study with a faculty member

• For PhD intending
  ♦ Show your research potential
  ♦ Explore a research area with or without a research assistantship

• For MS students
  ♦ Explore areas of interest in depth
  ♦ Get research experience
  ♦ COMP 992 (Masters project) or COMP 993 (MS Thesis) is required
  ♦ COMP 992 (993) confer full time status
COMP 991 and Research Assistantships

• Talk to faculty about available positions and COMP 991 topics
  ♦ You can also propose COMP 991 topics yourself

• Research fair
  ♦ This afternoon
  ♦ Faculty present available RA positions and pitch research topics/areas for COMP 991

• COMP 991 and RA simultaneously
  ♦ Individual objectives for each
Background Requirements

• Background requirements worksheet
  ♦ determine missing background
    • two missing courses is typical
  ♦ make a plan with your adviser

• Ways to make up missing background
  ♦ Complete the missing course
  ♦ complete a more advanced course that subsumes the missing content
  ♦ arrange an independent study (if you are missing a small amount of the content)
    • With credit: variable credit graduate module course
    • Without credit – at the discretion of your adviser / course instructor
Breadth Requirement*

**Category**
- Formal
- Systems
- Applications

**M.S.**
- one from each

**Ph.D.**
- at least one from each

External to CS

3 Total

6 Total

You may use grad courses taken elsewhere*

* There are additional rules. Read them!

*The UNIVERSITY of NORTH CAROLINA at CHAPEL HILL*
Expectation for admission to PhD Program

• During the first two years, students should
  ♦ Get started on research
  ♦ Find a research adviser
  ♦ Demonstrate ability to conduct independent research (e.g. literature survey, analytical & formal thinking, creativity, integration of concepts, etc)
  ♦ Demonstrate writing and oral presentation skills
Demonstrating Research Skills

• Research paper and public presentation
  ♦ Preliminary research presentation (PRP) in the department
    • Evaluated by panel of 3 faculty members
    • May be attempted twice (3rd and 4th semester)
      - forfeit does not count as a failure

OR

♦ Published paper with external review and public presentation
  • Supervised by a department faculty member
Admission to PhD program

- By vote of full faculty based on consideration of
  - PRP or waiver
  - Research potential and accomplishments in research topic course(s)
    - Adviser testimonial
  - Course grades
    - overall average closer to “H” rather than “P” expected but not required
  - Performance on assistantships and COMP 991 topics
Graduate Program Administration

• Student Services Manager
  ♦ Jodie Turnbull
    • your friend and connection to the graduate school

• Your adviser
  ♦ Academic adviser initially
  ♦ Research-area adviser or PhD adviser later

• Graduate Studies Committee
  ♦ Director of Graduate Studies (me) + 5 faculty members
  ♦ Review individual programs of study

• Department Registrar
  ♦ Jodie Turnbull
Course Selection

- Register online
  - http://connect.carolina.unc.edu
  - Login with your onyen

- Keep in mind
  - Research focus / research experience
  - Course requirements

- Get advice
  - Academic adviser
  - Fellow students: incoming and returning students
  - Course syllabi and web pages
  - Director of graduate studies: prins@cs.unc.edu
Course selection deadlines!

• Initial registration
  ♦ By Monday Aug 22 5pm
  • If you miss this deadline, there is a late fee

• Adding courses
  ♦ By Monday Aug 29 5pm
  ♦ You cannot add classes after this date!

• Dropping courses
  ♦ By Tuesday Sep 6 with tuition adjustment
  ♦ By Tuesday Nov 22 without tuition adjustment*
    * No tuition charged for overload (> 3 courses)
Constraints

• Full-time registration
  ♦ 9 hours (typically 3 courses)
  ♦ Required for RA/TA appointees
  ♦ Required for those holding student visas
  ♦ Serious complications if required but not met
Graduate Program Materials

• Online at
  Department Home → Academics → Graduate Programs
  ♦ Requirements and rules
    1. Graduate Program Requirements Summary
    2. Master of Science Official Degree Requirements
       Doctor of Philosophy Official Degree Requirements
  ♦ Student progress forms
  ♦ CS course listings (current and historical offerings by semester)
  ♦ Course home pages
  ♦ PRP registration system

... and lots more
Announcements

• Graduate students blog at
  http://unc-CS-gradannouncements.blogspot.com/

• Also jobs blog at
  http://unc-CS-gradjobs.blogspot.com/
Advice

• Familiarize yourself with the program requirements and deadlines
  ♦ Pencil in your plans on forms CS-01 (background) and either CS-03 (MS) or CS-06 (PhD) (in “student progress forms” on academics section of department pages)

• Take responsibility for tailoring the program to your interests and goals
  ♦ Start research courses early

• Course selection
  ♦ If unsure, register for >3 classes, attend some lectures, and drop back to final course selection

• Seek out and talk with your colleagues: fellow students, faculty, and staff
Advising

• Meet with your adviser as soon as possible

• Tricky questions, second opinions, adviser unavailable, etc.
  ♦ meet with DGS (me)
    • email prins@cs.unc.edu for meeting time Thu or Fri morning
Questions?
Best wishes for your journey through the program!
Background Courses

- **Computer Science**
  - COMP 410 Data Structures
  - COMP 411 Computer Organization
  - COMP 455 Models of Languages and Computation
  - COMP 550 Algorithms and Analysis
  - COMP 524 Programming Language Concepts
  - COMP 541 Digital Logic and Computer Design
  - Any **two** of the following
    - COMP 521 Files and Databases
    - COMP 520 Compilers
    - COMP 530 Operating Systems

- **Mathematics and Statistics**
  - MATH 233 Calculus of Functions of Several Variables
  - MATH 381 Discrete Mathematics
  - MATH 547 Linear Algebra
  - MATH 566 Numerical Analysis or Numerical Methods
  - STAT 435 Probability
Exam structure

**M.S. Degree**

M.S. Thesis Substitute – one of
- Refereed Publication(s)
- Research Report
- Comprehensive Survey & Synthesis Paper

**OR**

M.S. Thesis

**OR**

M.S. Comprehensive Oral Exam

**Ph.D. Degree**

Research Report

Preliminary Research Presentation

admission to Ph.D. candidacy

(Dissertation proposal)

Doctoral oral examination

Final oral examination (“Defense”)