MENG
Computer Science

New Student Orientation

AUGUST 20, 2020

COLLEGE OF ENGINEERING
COMPUTER SCIENCE
VIRGINIA TECH.

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Agenda

- Intro to the Department
- Into to the Graduate School
- Who to contact
- MEng program requirements
- Student progress
- Things To Do

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COVID-19

- Review https://ready.vt.edu/ if you have not already done so

- VT is going to great lengths to prepare classrooms and campus buildings

- If you are on any of the campuses, you need to be wearing a mask

Getting help

- You cannot "just know it", nobody expects you to

- Part of this orientation is to tell you about where to get various types of help

- Good idea to find some continuing students in CS Dept.
  - So you can ask questions if you need to!!
  - There are lots of VT-specific mechanical things that you need to know, that senior students can help with.

- CS Grad Council in particular is a good informal resource
  - https://csgrad.cs.vt.edu/

Your new best friend…

CS@VT

Graduate Program Website

https://cs.vt.edu/Graduate.html

MENG-CS@VT - Graduate Program people

Dr. Hooshangi

MEng Program Director

Paperwork Approvals
Academic Advising

Samantha Pipkin

Day-to-day

Dr. Shaffer

Associate Department Head for Graduate Studies

Sharon Kinder-Potter
Program Coordinator-Blacksburg

Dr. Ribbens

Department Head

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Graduate School vs CS Department

Graduate School

Admissions

Policies

Minimum requirements

Award Degrees

CS Department

Teaching

Advising

Supervising research

Local requirements

Graduate Life Center (GLC)- Blacksburg

- http://www.graduatelifecenter.vt.edu/
- Next to Squires on campus
- Location of Graduate School Offices
- Lots of spaces for graduate students use only
- Au Bon Pain
- Computer Lab, reading lounge, etc.
- Offices for Graduate Student Association

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Graduate School- GWMDC (formally NCR)

- Falls Church campus
    - Classes and spaces to study
    - Library in the basement (where you get your ID)

- Orientation on Saturday morning
    - Should have received an invitation to register
    - If not, email Samantha

- You will be added to their email list
    - Weekly newsletter and lots of useful information from them

Point of contact- CS Department

- Your first point of contact for day to day requests

  - Samantha Pipkin, Samanthap@vt.edu

- Academic advising

  - Dr. Hooshangi

- Start by emailing Samantha and she can forward it to us if needed

  - Really not necessary to copy a whole lot of people on your email. Samantha is your go to person and she can find the right person for you.

Point of contact-Graduate School: Blacksburg

- grads@vt.edu
  - Many folks check this email. No single person
- Cook Counseling Center
  - for wellness, academic skills
- Graduate Student Ombudsperson
  - Bryan Hanson
  - For a safe place to be heard (confidential)
- Plenty of other administrative offices throughout the university (check the website)

Point of contact-Graduate School: DC

GRADUATE STUDENT SERVICES Office (GSSO)
Full service, gssoncr@vt.edu or (703) 538-8327

Primary graduate school contact →

Corinne Julien
Graduate Application & Academic Advisor
Room 409, corinne3@vt.edu or (703)538-8439

VT Graduate School in the DC Metro Region

Kenneth H. Wong
Associate Dean for Graduate Education
And Director of the Northern Virginia Center
Room 412, khwong@vt.edu or (703) 538-8312

Susan Merten
Assistant to the Associate Dean and Director
Room 410, smerten@vt.edu or (703) 538-8310

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Point of contact- International students

- https://international.vt.edu/
- Blacksburg
  - Cranwell International Center (international@vt.edu)
  - CS-Advisor: Karen Wills kewills@vt.edu
- NCR
  - Jessica Mullins: intlncr@vt.edu

Karen Wills
Senior International Student Advisor

Harper Hall, Suite 1025   kewills@vt.edu
240 West Campus Dr.   Direct: 540.231.8522
Blacksburg, VA 24061
540.231.6527

Jessica Mullins
International Student Advisor
Room 411, mullins1@vt.edu or (703) 538-8326

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Where to find people in Blacksburg…

- Knowledge Works II (KWII) – off campus
  - Main CS Office, Primarily HCI (downstairs) and Systems/SE (upstairs)
  - Dept Head (Ribbens), Grad Coord (Kinder-Potter)
- McBryde (MCB) – on campus
  - Mostly undergraduate facilities
  - Classes might be there
- Torgersen Hall – on campus
  - Assoc. Dept. Head (Shaffer)
  - CS Seminar Class, other CS labs and centers

Where to find people in NCR…

- Falls Church (not quite this year but on a usual semester)
  - CS NCR Offices, on 3rd and 4th floor
  - Dr. Hooshangi and Samantha
  - All classes are held here in a normal semester
  - NCR Graduate School on the 4th floor
- Arlington Campus
  - A few of our faculty have their offices there
    - Dr. Reddy, Dr. Ramakrishnan, Dr, Luther
  - No classroom- restricted access
- Innovation Campus (not built until 2024 !)
  - Everyone will eventually move there

CS@VT by the numbers

- 47 tenure track faculty (40 Bburg, 7 NCR); 10 teaching faculty/instructors
- >1500 students in CS@VT
  - CS Undergrads : 1200+ (Fall 2019)
  - CS MEng students Bburg/NCR: ~50
  - CS MS students Bburg/NCR: ~100
  - CS PHD students Bburg/NCR ~175
- Fall 2020 Grad admissions
  - ~900 applications (total), ~100 new students
- FY20 research expenditures ~$11.7M
- About $11.8M in new grants in FY20
- ~90 industrial partner companies in CS|Source

University identification

- Two flavors: PID (**VT User ID**) and Hokie Passport identification number

- PID is a string of characters (PUBLIC)
  - Also your email: PID@vt.edu
  - Example: PID=shoosh, email: shoosh@vt.edu

- Student ID or Hokie Passport has a 9-digit code start with 9 (PRIVATE)

- It is a unique number that identifies your records at the university

- Example: 9xxx-x4354

  IMPORTANT: DO NOT SEND YOURS OR ANYONE ELSE'S ID # VIA EMAIL!!!

  Use LAST 4 DIGITS ONLY in communications

Email (and CS account)

- Everyone at VT will assume that you read email at PID@vt.edu

- **Forward email as needed!**

- You could get a CS account (@cs.vt.edu)

- Go to https://admin.cs.vt.edu on CS Intranet
  - Create an account using your PID Account information
  - Includes web hosting access

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Listservs & social media

- You will be automatically subscribed to some listservs
  - gradstudents@cs.vt.edu, bburg-gradstudents, nvc-gradstudents
- MENG-CS will have a listserv in the next few weeks
- VT CS Graduate Students on Facebook
  - http://www.facebook.com/groups/2444792373/
- LinkedIn Group
  - http://www.linkedin.com/groups?gid=3691280
- Slack: CS@VT

Master of Engineering requirements

- Course-only master's degree
- 30 credit hours = 10 courses
  - 3 credit hours of ethics (1 course)
  - 3 credit hours of capstone (1 course)
  - 9 credit hours in one concentration area (3 courses)
  - 5 additional courses * (CS-5040 included if undergrad degree is not in CS)
- No "external" requirements (seminars, projects, etc.)

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CS-5040

- Exempt if have taken a data structures course before (CS-3 level course)
  - If you have an undergraduate degree in CS
  - If you have an undergraduate minor in CS
  - You just happened to have taken lots of CS courses
  - Took CS-3114 at VT
- Otherwise you must take CS-5040 in your first/second term
  - Some courses in the software engineering concentration have CS-5044 (equivalent to CS-5040) as pre-req
  - Don't sign-up for courses that you don't have the pre-req for, even if the system lets you **(BAD IDEA)**

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Ethics/Diversity training requirements

- Graduate Honor Code requires
  - All graduate students exercise honesty and ethical behavior in all their academic pursuits here at Virginia Tech, whether these undertakings pertain to study, course work, research, extension, or teaching
  - See more at: https://graduateschool.vt.edu
- Grad School requires that all students receive instruction in Ethics, and also in Diversity and Inclusion
- These requirements are satisfied by taking
  - CS5024 Ethics and Professionalism in CS

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Capstone requirement

- You must complete a Capstone Project course

- Hands-on, project-based course
  - Use agile methodology to design, build, test and deploy a functioning system
  - This is a semester long group project

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How many courses should I take?

- Full-time
  - >=9 hrs (Three or four courses)
  - Recommended number is 9 hrs if you are not sure
- Part-time
  - <= 6 hrs (One or two courses)

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Typical duration

- If you are fresh out of bachelor's in CS – Full-time student
  - Accelerated UG/G (VT only) : 1 year
  - Accelerated : 1-1.5 years
  - Typically 2 years
- If changing majors or careers – Full-time student
  - 2 years
- If you are a working professional – Part-time student
  - 3-4 years on a part-time schedule

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Concentrations

- Data analytics and machine learning

- Computer security

- Artificial intelligence

- Software engineering

- Internet software development

- Human-computer interaction

*Course areas can be found at
https://cs.vt.edu/Graduate/Degrees/MENG.html

Which courses?

- Follow your Plan of Study (POS)
- Satisfy
  - Requirements (ethics, capstone, 5040)
  - Concentration
    - 6 different areas
- Min and max constraints
  - 5000 level, 4000 level (You can take up to two 4xxx courses)
- Cognate courses
  - Max 1 course outside the department

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Graduate Handbook

https://cs.vt.edu/Graduate.html

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Sample 1- MEng Semester 1

- Need CS-5040:
  - CS 5040- Intermediate Data Struct/Algorithm
  - CS 5024- Ethics & Professionalism in CS
  - CS 5614- Database Management Systems

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Sample 2 & 3- MEng Semester 1

- Software concentration
  - CS 5704- Software Engineering
  - CS 5024- Ethics & Professionalism in CS
  - CS-5774- User Interface Software

- Security concentration
  - CS 5024- Ethics & Professionalism in CS
  - CS 5560 Fundamentals Info Security
  - CS 5565 Network Architecture & Protocols I

Course sampling…

Research Methods in CS
Algorithms and Theory
Systems
Programming Languages and Compilers
Numerical and Scientific Computing
Computer Networks
Data and Information
Software Engineering
Human-computer Interaction
User Interface Software
Intelligent Systems
Computational Biology and Bioinformatics

Computational Cell Biology
Programming Massively Parallel Hardware
Video Games
Advanced Distributed Systems
Algorithm Visualization
Software Systems Evolution
Embodied Interaction
Distributed Coordinated Behavior
Media Spaces
Genome Bioinformatics

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Signing up for classes

- Course Number vs Course Request Number (CRN)
  - "CS 5204" vs "91860"
  - CRN identifies the particular section
    - Super important to register for your campus section
  - https://cs.vt.edu/Graduate/Courses.html - listing of courses
- Timetable of Classes
  - http://www.registrar.vt.edu/
  - Not all courses on timetable are available to you
  - Not all classes on the course list are taught each semester

Force-Adds

- What if a course is full? Or you are blocked from registering for some reason?
  - You may still be able to get a slot

- Check https://docs.google.com/document/d/1xe4uX2pl4hArPkhmq8txpOLfJSzqsZzPApKAt-p8LNU/edit?usp=sharing, if your class not there then email the instructor

- Be prepared for a "no" answer for "popular" classes

- Respect instructor's wishes, if they say no, then it is no; don't try to change their minds

- Classes start on Monday!

Special Topics courses for Fall 2020

See: http://people.cs.vt.edu/~barnette/grad/courses/

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What can I transfer?

- Specific courses (e.g., CS 5804)

- If equivalent to an existing CS course

- If equivalent to an existing non-CS course

- If it "sort of" looks like a grad course that we might offer if we had the right faculty in that area (general electives)

Who decides on transfers?

- When transferring as specific courses
  - Any faculty member who teaches that course here on a periodic basis
- When transferring as generic courses
  - Any faculty member who has some expertise in that area
- What do faculty members look for?
  - Web sites, homeworks, textbook, whatever you can lay your hands on
  - The more the better here

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When to transfer?

- Earlier is better…but,
- Not right now! Not next week either!
  - Give the faculty a chance to get the semester rolling
  - Consider that this will go on your Plan of Study and you won't file that until second or third semester

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Student progress

- 9-12 credits/semester (if full time)
  - More than 3 courses is hard- These are grad level courses
  - Pay attention to pre-requisites

- Maintain overall GPA of 3.0

- File Plan Of Study (POS) by the end of 2nd semester
  - You can update later if you change your plans

- File Student Activity Report or Survey **every year**
  - Details for MEng are being worked out

Your TODO list:

- Tonight: Get your cs.vt.edu account:
  - https://admin.cs.vt.edu
- Tonight: Email forwarding (<PID>@vt.edu, <PID>@cs.vt.edu)
- Begin memorizing the grad program rules
  - https://cs.vt.edu/Graduate.html
- Check your schedule and zoom link on Canvas for next week classes

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