

CS@CU MS Orientation

SPRING 2016

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Student Services

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Office Location: 450 Computer
Science Building (Mudd)

- Administrative questions
- Questions about requirements
- General concerns about life at Columbia
- Issues you do not know who to talk to
- Suggestions and recommendations

<http://www.cs.columbia.edu/education/ms>

Program Information



Key Goals of the MS Program



- **Enrich the educational experience**
 - Breadth Requirement - Exposure across broad areas of computer science
 - Tracks: Depth and more advanced study of a specialization area
 - MS thesis research option - Research experience, preparation for R&D career
- **Enrich the extra-curricular experience**
 - Build lifelong relationships
 - Enhance your perspectives

Tracks

- Computational Biology
- Computer Security
- Foundations of Computer Science
- Machine Learning
- Natural Language Processing
- Network Systems
- Software Systems
- Vision and Graphics

Track advisor for every track. Read web pages for detailed descriptions

More Track Options

- **Personalized Track**
 - For unusual cases, not covered by the standard tracks, such as multidisciplinary studies
 - Example: Quantum computing, combining computer science and physics courses
 - Program developed with a personalized track advisor
- **MS Thesis Research Track**
 - Thesis research advisor

Plan Your Program

- You need 30 graduate credits with $\text{GPA} \geq 2.7$
- Program must fulfill the requirements of your track
 - General breadth requirement
 - Track Requirements & Electives
- Draw a plan of study in the first semester (even if tentative for the following semesters), and have it approved by your track advisor.

General Breadth Requirements

- Applies to all MS students in all the tracks
- Choose 4 courses from the following lists – 1 course from each group = 3 courses + 1 course from any of the groups
 - **Group 1 (Systems)**: All CS 41xx courses except 416x, 417x; all 48xx courses; 4340, 4444, 4460
 - **Group 2 (Theory)**: All 42xx courses
 - **Group 3 (AI and Applications)**: All 47xx courses; 416x, 417x

Track Requirements

- **Required Track Courses**

- Each track may require some specific courses
 - ✦ For example, the Network Systems Track requires
 - 4115 (Programming Languages and Translators)
 - 4118 (Operating Systems)
 - 4119 (Network Systems)
 - ✦ The Machine Learning Track requires students to take at least two out of the three courses
 - 4252 (Intro to Computational Learning Theory)
 - 4771 (Machine Learning)
 - 4772 (Advanced Machine Learning)

- **Track Electives**

- **General Electives**

Waiving/Importing Required Courses

- **Can waive required track courses that you have already taken at another institution**
 - Will need evidence that previous course is equivalent in content and level to the required CU course
 - No credit received, but can take another CS course in place of waived requirement
 - Still have to complete a minimum of 30 points to receive your degree
 - *Do this right away in the first semester.*
- **Must have received a B or better**
- **Complete import/waiver request in MICE**
 - Waiver instructions:
<http://www.cs.columbia.edu/education/ms/micemanual/coursewaivers>
 - Request will go to CU instructor for review
 - MICE will send you email to notify the outcome
- **Cannot waive breadth requirements or electives**

Electives

- The rest of the courses chosen from a list of electives for the track and general electives.
- At least 2 courses are required to be at 6000-level (advanced graduate).
- Electives let you direct your studies to a subarea of the track according to your interests.
- Allowed to take up to 3 points of non-tech/non-CS as a general elective – must be advisor-approved

Electives – Research Options

- Can do research in place of some elective courses
 - Project courses (E6901)
 - ✦ Get hands-on research experience
 - ✦ One (usually) or two semesters in length
 - ✦ 1-6 credits; typically 3 credits
- Maximum of 12 research and project credits can be applied to MS degree
- Good way to get to know a research area and faculty (recommendation letters)
- May lead to publications or CS technical report
- January 22 at 11am: Research Project Fair

Fieldwork (COMS 6910)

- Enables students to earn academic credits for the program-relevant work experience
- COMS W6910
- 1pt at a time, up to 3pts
- International students can apply for CPT work authorization after one academic year .
- Detailed instructions are sent via email. Please read carefully and thoroughly.
 - If you have questions, contact Jessica Rosa at jessica@cs.columbia.edu.

Advising

- For help with degree requirements – email gradvisiting@cs.columbia.edu.
 - Include UNI and track in email
 - Advising by tracks
 - × Jessica – Software Systems, Vision and Graphics, Network Systems, Foundations
 - × Kathryn – Machine Learning, NLP, Computational Biology, Computer Security, Thesis, Personalized
- For help with course content and course approval – reach out to your faculty track advisor
 - Forward course approvals (substitutions and non-tech/non-CS) to gradvisiting@cs.columbia.edu.

Progress Check

Computer Science Department
Degree Progress/Graduation Clearance Sheet

Name: _____
ID#: _____
Track: _____

| Course | Required track | Track elective | Breadth | When Requisites | 1000 Level |
|--------|----------------|----------------|---------|-----------------|------------|
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Revised Courses: Instructor: Approved Date: _____

Overall Requirements

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|--|
| 1. Your program should include at least one 3pt course from each breadth group (1, 2, and 3). |
| 2. The 4th breadth course could be a 3pt course from group 1, 2, or 3. |
| 3. Your program must include at least three 1000-level courses (each track has its own requirement on this, so please refer to the track website). |
| 4. Your program can include up to 3pt of non-track with your advisor's written approval. (Download the form from the track website). |

Advisor Approval: _____
Signature

- ← Degree Progress Checklists
 - Located on each track webpage
- Use this to plan/keep track of your degree
- Send completed form to either your track advisor or gradvising@cs.columbia.edu for progress check

Administrative Information

MICE



- Web-based database system for department records
- MICE accounts have been created for you. Check Columbia email for information on how to access account.
- Log-in to MICE at <https://mice.cs.columbia.edu> using your UNI and the initial password
- The menu that you will be using frequently is “Students.” Please try keep your student profile up-to-date.

Select a Track



- Choose a track based on your field of interest.
- Make selection on MICE.
- Once a track has been selected, we will assign you an advisor.
 - <http://www.cs.columbia.edu/education/ms/advisors>
- Can change your track
 - Until beginning of the second semester
 - As long as the change does not require I-20 extension
- Select track by end of change of program period – January 29

Transferring Courses Taken At Columbia

- Through Continuing Education, UG, Special Registration
- Can transfer points up to 15pts provided that you did not use these courses for another degree
- Complete Advance Standing form – can be found at <http://www.cs.columbia.edu/education/ms/regfaq>
- Submit the form to gradvising@cs.columbia.edu

Course Registration

Citizens/PRs

- Full time Status - 12pts
- Part time Status - min. 3pts

International students

- Must be full time - 12pts
- Can be part time in the last semester

Course Registration Via SSOL

Class is full:

- Waiting List

Project:

- Research/Project Fair
 - January 22 from 11:00am-12:30pm; If you are selected to work on faculty research projects, email Kathryn Angeles and cc your project faculty supervisor for registration information.
 - Use the call # to register on SSOL.

Course Registration Via SSOL

Non-Tech Course:

- Up to 3pts
- Columbia grad course
- Must be relevant to the track
- Download Non-tech Elective Approval Form and get advisor approval
 - Forward the form to gradvising@cs.columbia.edu

Non-CS course:

- Business School course – contact Business School
- IEOR course – complete their web form to petition
- Non-CS courses are not available to everyone who wants to take them
- If approved, download Non-tech Elective Approval Form and get advisor approval
 - Forward the form to gradvising@cs.columbia.edu

Registration Dates

- **Next registration dates**
 - January 12-15, 2016
 - ✦ Check SSOL for assigned registration time.
- **Late Registration Fee**
 - You must register for at least one course by Friday, January 15 to avoid a late fee.
- **Change of Program Period**
 - Tuesday, January 19– Friday, January 29
 - Can add/drop classes freely **without financial penalty**
- **Registration changes after the Change of Program Period**
 - **Financial penalty**
 - ✦ **No refund** for the course you are dropping
 - ✦ You will also be **charged for the course you are adding**

Registration Dates

- **Last day to drop classes**
 - March 24– No Refund
 - International students are not allowed to drop courses if registered for 12 pts – must maintain full-time status.
- **Last day to select Pass/Fail option**
 - March 24
 - A course taken as P/F will not count towards your degree.
 - Pass is not calculated into your GPA, but a failing grade will count as a 0.
- **Visit**
<http://registrar.columbia.edu/content/registration-and-enrollment> for more information.

Building Access

- **Your Columbia ID is your access card**
 - **Granted 24/7 access to:**
 - CS Area
 - Clic Lab
 - **Project in CEPSR?**
 - Need to apply for access in MICE
 - Put your project supervisor as your sponsor
- CS Lounge:**
- 24/7 access
 - Keep it clean (Shared space)
 - **Fridge** – Put your name on your food item(s). Remember to throw out your unwanted food
 - Others use the fridge too so please keep it clean.

FYI: Classroom Abbreviations

- **MUD – Mudd Building**
- **SCE – Shapiro (AKA: CEPSR)**
- **HAM – Hamilton Hall**
- **PUP – Pupin**
- **CSC – CS Conference Room**
- **ENG – Engineering Terrace**
- **NWC – Northwest Corner**
- **CSB – Computer Science Building**

Financial Opportunities



COURSE ASSISTANT AND GRA

Course Assistant (CA)



- **Two types**
 - Standard – “grader,” \$2500 stipend (no tuition)
 - × Apply via MICE
 - CA Fellow – after 1st semester, tuition and stipend
 - × Selective, more limited number of opportunities
 - × Requirements: previous CA experience, recommendation letters
 - × For more information, contact Tal Malkin (IA chair) at tal@cs.columbia.edu.
 - Commitment = 10 hours/unit (1 unit is 20-25 students); can only be a CA for up to 2 semesters
 - If you accept a CA position, you cannot have additional employment without talking to Chad and Remi.
 - CAs are chosen every semester.
 - www.ia.cs.columbia.edu

GRA



- Usually funded by individual faculty
- Typically, students start with research projects. If they do well, maybe GRA-ship.

Career Development



CONTACT JESSICA ROSA AT
JESSICA@CS.COLUMBIA.EDU

Resources

- **Center for Career Education**
 - Resume/interview workshops
 - Individual counseling
 - Career Fair
- **Company Information Sessions**
 - Through CCE, Dept, ACM, ADI, WICS
- **Alumni**
 - Networking with Alums
 - LinkedIn Group - CS@CU
 - × Both current students and alums are members of this group.
 - × Search for CS@CU group and request to join.
 - Twitter - @remimoss
 - × For information on events, hack-a-thons, and other items
- **Workshops**
 - Resume workshop
 - Recruiting 101

Tips and Current Student Experiences

CS program is rigorous! - Some tips

- Try to eat well
- “Sleep” is important
- Exercise (Dodge Gym is included in your fees)
- Try to socialize with others – CS Dept and SEAS offer many social events throughout the semester. Look for these events in your email.
 - Facebook group: <https://www.facebook.com/groups/mscscu/>
- Don't know what to do/problems? – We are here for you. Reach out to us.
 - Remi – remimoss@cs.columbia.edu
 - Kathryn – kangeles@cs.columbia.edu
 - Jessica – Jessica@cs.columbia.edu
 - Chad – chad@cs.columbia.edu
 - gradvising@cs.Columbia.edu

MS Student Experiences

- Anthony Dubis (ajd2194@columbia.edu) – graduated in Fall 2015
- Edward Liu (eml2170@columbia.edu) – last semester MS student

Any questions?



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OFFICE LOCATION: 450 COMPUTER SCIENCE BUILDING
(MUDD)

VISIT:
[HTTP://WWW.CS.COLUMBIA.EDU/EDUCATION/MS/NEWSTUDENTS](http://WWW.CS.COLUMBIA.EDU/EDUCATION/MS/NEWSTUDENTS)