Advice for 3-2 Combined Plan CS Students

Stephen A. Edwards

Columbia University

Fall 2025

Advising

I am the CS advisor for Combined Plan students

Email me with questions

sedwards@cs.columbia.edu

Advising

I am the CS advisor for Combined Plan students

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Your “class dean” at the Center for Student Advising (CSA) can advise on non-CS class questions

I know remarkably little about, e.g., English classes

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The CS Advising Team can help with other bureaucracy

ug-advising@cs.columbia.edu

Time is of the Essence

You have exactly two years here

You must take 60 points at Columbia

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Typical class is 3 points

60 ÷ 3 ÷ 4 = 5 classes per semester

“Fifteen (15) to Finish”

Typical load: 4 CS + 1 elective

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Flaking out on classes, for whatever reason, is the number one problem of combined plan students

Extending your time here is nearly impossible

The Degree Program Quick Guide

CS website → Academics → Undergraduate Programs → BS in Computer Science (SEAS)

career interest by pursuing additional programs in business administration, medicine, or other professional studies.

DEGREE PROGRAM QUICK GUIDES

BS in Computer Science (SEAS)

- New BS Curriculum Quick Guide – Students declaring in Fall 2023 or later ***must*** follow this.
- Old BS Curriculum Quick Guide – Those who declared prior to Fall 2023, may choose to follow the new curriculum or the old Tracks.
- SEAS Bulletin – Please refer to this for more details on the SEAS school policies and important exceptions.

Note: One grade of D is permitted

BS in Computer Engineering (SEAS)

@CU COMPUTER SCIENCE

BS CURRICULUM

SEAS Students who declare a CS major in Fall 2023 and beyond are required to follow the new curriculum. SEAS Students who declared a CS major before Fall 2023 can follow the new CS Curriculum or continue with the old CS Curriculum.

PREREQUISITES

- SEAS Prerequisites and ENGI E1006: Computing for EAS

CS CORE

- The following 6 courses must be taken:
  - COMS W1004 Intro to CS
  - COMS W3134 Data Structures
  - COMS W3157 Advanced Programming
  - COMS W3203 Discrete Math
  - COMS W3261 CS Theory
  - CSEE W3827 Fundamentals of Computer Systems
- Select 1 Linear Algebra course
  - COMS W3251, APMA E3101, APMA E2101, MATH UN2010, or MATH UN2015
- Select 1 Probability course (new)
  - STAT UN1201, STAT GU4001, STAT GU4203, IEOR 3658, or MATH UN2015
    - MATH UN2015 can double count for Linear Algebra and Probability requirements. This is the ONLY instance a course can double-count

IMPORTANT NOTES

GTE APPROVALS NOT NEEDED

AREA FOUNDATION COURSES

PROBABILITY REQUIREMENT

NO MORE TRACKS

IMPORTANT EXCEPTIONS

- No more than 6 points of project/thesis courses (COMS W3902, W3998, W4901, W6901) and equivalent project/research courses from other departments can count toward the major.
- COMS W3999 Fieldwork cannot be used as a CS Elective.
- No more than one course from each set below may be applied to the major
  - IEOR E3658, STAT UN1201, STAT GU4001, MATH UN2015
  - MATH UN2015, MATH UN2010, APMA E3101, COMS W3251
  - COMS W4771, COMS W4721, STAT GU4241

AREA FOUNDATION COURSES (AFC)

- Select 4 courses from the following list:
  - COMS W4111 Introduction to Databases
  - COMS W4113 Distributed Systems Fundamentals
  - COMS W4115 Programming Languages and Translators
  - COMS W4118 Operating Systems
  - CSEE W4119 Computer Networks
  - COMS W4152 Engineering Software-as-a-Service
  - COMS W4156 Software Engineering
  - COMS W4160 Computer Graphics
  - COMS W4167 Computer Animation
  - COMS W4170 User Interface Design
  - COMS W4181 Security 1
  - CSOR W4231 Analysis of Algorithms
  - COMS W4236 Introduction to Computational Complexity
  - COMS W4701 Artificial Intelligence
  - COMS W4705 Natural Language Processing
  - COMS W4731 Computer Vision
  - COMS W4733 Computational Aspects of Robotics
  - CBMF W4761 Computational Genomics
  - COMS W4771 Machine Learning
  - CSEE W4824 Computer Architecture
  - CSEE W4868 System-on-Chip Platforms

CS ELECTIVES

- 4 COMS courses or jointly listed CS courses such as CSXX/ XXCS that are at the 3000- level or higher, and are at least 3-points

GENERAL TECHNICAL ELECTIVES (GTE)

- 4 courses from the following Columbia or Barnard departments that are 3-point courses, and at the 3000 level or above:
  - Any SEAS department
  - Astronomy
  - Biomedical Informatics
  - Biological Sciences
  - Chemistry
  - Earth and Environmental Sciences
  - Ecology, Evolution and Environmental Biology
  - Mathematics
  - Physics
  - Psychology
  - Statistics
  - Economics

QUESTIONS? Email CS Advising: ug-advising@cs.columbia.edu

CS Degree Requirements

CS Core

24 points

All are required:

1. Intro to CS (COMS 1004)*
2. Data Structures (COMS 3134)*
3. Advanced Programming (COMS 3157)
4. Discrete Math (COMS 3203)*
5. CS Theory (COMS 3261)
6. Fundamentals of Computer Systems (CSEE 3827)

7. Linear Algebra (COMS 3251, . . . , or MATH UN2015)
8. Probability (STAT UN1201, . . . , or MATH UN2015)

*You already took these three to enter the 3-2 program

CS Degree Requirements

CS Core 24 points

Area Foundation Courses (AFC) 12 points

Select 4 from

COMS W4111 Intro. Databases
COMS W4113 Dist. Systems
COMS W4115 Prog Lang Trans
COMS W4118 Operating Systems
CSEE W4119 Computer Networks
COMS W4152 Engineering SaaS
COMS W4156 Software Engin.
COMS W4160 Computer Graphics
COMS W4167 Comp. Animation
COMS W4170 UI Design
COMS W4181 Security 1
CSOR W4231 Analysis Algo.
COMS W4236 Comp. Complexity
COMS W4701 AI
COMS W4705 Natural Lang Proc.
COMS W4731 Computer Vision
COMS W4733 Robotics
CBMF W4761 Comp. Genomics
COMS W4771 Machine Learning
CSEE W4824 Comp. Architecture
CSEE W4868 SoC Platforms

No substitutions

CS Degree Requirements

CS Core — 24 points

Area Foundation Courses (AFC) — 12 points

Select 4 from

CS Electives — 12 points

4 3000+ COMS / CSXX / XXCS courses, 3+ points

COMS 4995 and COMS 6998 are “topics” courses

Each section is a unique topic

You may take multiple 4995s or 6998s with different topics

CS Degree Requirements

CS Core — 24 points

Area Foundation Courses (AFC) — 12 points

Select 4 from

CS Electives — 12 points

4 3000+ COMS / CSXX / XXCS courses, 3+ points

General Tech. Electives (GTE) — 12 points

4 3000+ courses from these departments (3+ points)

Any SEAS department
Astronomy
Biomedical Informatics
Biological Sciences
Chemistry
Earth and Environ. Sciences
Eco, Evo. and Env. Biology
Mathematics
Physics
Psychology
Statistics
Economics

Course Names

COMS W4115 001 Programming Languages and Translators	
COMS:	Computer Science
CSEE:	Joint Computer Science and Electrical Engineering
EECS:	Joint EE and CS
CSOR:	Joint CS and Operations Research
W:	Can be ignored, along with “E”
3xxx:	Introductory undergraduate level
4xxx:	Advanced undergraduate, MS, and PhD
6xxx:	Graduate level; undergraduates need instructor permission
001:	Section number

Registering For CS Classes

4000- and 6000-level CS Courses are waitlist-only

Everybody joins the department- or instructor-managed waitlist

Students are enrolled based on need, not order in line

3-2 students often get priority because they are under significant time pressure

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Students are enrolled based on need, not order in line

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“Open/Full”: you may be able to enroll or join the waitlist

“Blocked”: you likely won’t ever be allowed to enroll

Waiving Core Classes

If you took an acceptable equivalent course elsewhere, you can have the requirement waived for

- Linear Algebra
- Probability
- CS Theory (COMS 3261)
  DFAs, NFAs, CFGs, Turing Machines, O(), P vs NP
- Fundamentals of Computer Systems (CSEE 3827)
  Digital Design and Computer Architecture
  Often separate classes elsewhere
- Advanced Programming COMS 3157
  Systems Programming in C/Unix: threads, sockets

Waivers do not affect the 60 point requirement

You already have Intro to CS, Data Structures, and Discrete Math waived

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Waivers do not affect the 60 point requirement

- Submit import requests through `http://mice.cs.columbia.edu` (accounts coming)
- For help, email ug-advising@cs.columbia.edu

Double-Majoring and Minoring

In a word: don’t

3-2 students don’t have the time to complete another program’s requirements

Future employers and graduate schools don’t care

Do well in your CS courses; take electives for the rest

Better to do an independent project with a professor whom you can impress

Degree Progress Clearance Forms

CS website → Academics → Undergraduate Programs → BS in Computer Science (SEAS) Clearance Form

DEGREE PROGRESS CLEARANCE FORMS

BS in Computer Science (SEAS) Clearance Form

Access the Clearance Form via Google Docs. Make a copy of this form and enter your completed and/or planned courses. Name the file "Your Name UNI – SEAS BS Graduation Clearance Form" **Share with Lionmail so your advisors can review it.** Email ug-advising@cs.columbia.edu or your Faculty Advisor the link!

You can use this same form to check progress prior to graduation and update it each semester.

- SEAS BS Clearance Form – Spring 2024 and beyond
- SEAS BS Clearance Form – Tracks (Pre 2024)
- OLD Excel Progress Checklist

SEAS BS Graduation Clearance Form (2024 - New Curriculum)

File Edit View Tools Help

- New
- Open Ctrl+O
- Make a copy
- Share
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- Rename
- Move
- Add shortcut to Drive
- Move to trash
- Version history
- Make available offline

omputer Science

AS BS Graduation Clearance Form

me:

ll:

Core Requirements:

rse	Semester and year	Grade
GI E1006 computing for EAS		
MS W1004/1007: Intro CS or Honors		
MS W3134/3137: Data Structures		
MS W3157: Adv Programming		
MS W3203: Discrete Math		
ear Algebra Requirement: Select		
MS W3261: Comp Sci Theory		
E W3827: Fund Computer Systems		
obability Requirement: Select		

: *Math 2015 Linear Algebra and Probability* may simultaneously satisfy both linear
e additional classes thus reducing the total number of points required.

Area Foundation Courses

Computer Science

May 2025

SEAS BS Graduation Clearance Form

2022-2023 Bulletin

Name: Stephen Edwards
UNI: se2007

CS Core Requirements:

Course	Semester and year	Grade	Substitution or Waiver *(specify course & faculty who approved)*
ENGI E1006 computing for EAS			Waived for 3-2
COMS W1004/1007: Intro CS or Honors			Smith College CS 101 (3-2)
COMS W3134/3137: Data Structures			Smith College CS 102 (3-2)
COMS W3157: Adv Programming	Fall 2025		
COMS W3203: Discrete Math			Smith College MA 105 (3-2)
Linear Algebra Requirement: Select			Smith College MA 103 (Edwards)
COMS W3261: Comp Sci Theory			
CSEE W3827: Fund Computer Systems	Spring 2025	A-	
Probability Requirement: Select			

NOTE: *Math 2015 Linear Algebra and Probability* may simultaneously satisfy both linear algebra and probability requirements without the need to take additional classes thus reducing the total number of points required.

4 Area Foundation Courses

Select from the dropdown menus, then enter the semester taken and grade earned.	Semester Completed	Grade
Select		
Select		

Internships and International Students

Curricular Practical Training (CPT) is an employment authorization that allows you to accept off-campus internships.

Ultimately, only the International Students & Scholars Office (ISSO) approve CPT applications, but CS Advising and I will help.

After all the approvals, you will enroll in one-point section of my Fieldwork (COMS 3999) class, but follow the procedure:

CS website $\rightarrow$ Advising & Student Services $\rightarrow$ Fieldwork/CPT FAQs

https://www.cs.columbia.edu/cpt-faqs/