Columbia University

<http://www.cs.columbia.edu/education/admissions#msadmissions>

[**Undergraduate**](http://www.cs.columbia.edu/education/admissions#undergrad)[**Masters**](http://www.cs.columbia.edu/education/admissions#msadmissions)[**Ph.D.**](http://www.cs.columbia.edu/education/admissions#phd)[**Professional**](http://www.cs.columbia.edu/education/admissions#prof)

**UNDERGRADUATE**

Columbia University has 4 major undergraduate schools:

* [**Columbia College**](http://www.columbia.edu/cu/college/)
* [**Barnard College**](http://www.barnard.columbia.edu/)
* the [**School of Engineering and Applied Science**](http://www.engineering.columbia.edu/),
* and the [**School of General Studies**](http://www.gs.columbia.edu/)

Each school has its own application procedure, however online information is centralized under[**Applying to Columbia**](http://www.columbia.edu/cu/admissions). Most (but by no means all) of the CS majors are from the School of Engineering and Applied Science.

**MASTERS**

The Master of Science (MS) program is intended for professionals who wish to broaden and deepen their understanding of computer science. Columbia University and the New York City environment provide excellent career opportunities with multiple industries. The program provides a unique opportunity to develop leading-edge in-depth knowledge of specific computer science disciplines.

MS applicants whose primary interests include software engineering, theory, AI, machine learning, vision/graphics, natural language processing, or other core CS areas should apply to the[**Computer Science MS Program**](http://www.cs.columbia.edu/education/ms).

MS applicants whose primary interests include computer architecture, parallel systems, embedded systems, or digital/VLSI design should apply to the [**Computer Engineering MS Program**](http://www.compeng.columbia.edu/).

Please note that the deadline to submit a completed application to the MS program is Feb. 15 for September admission and **Oct. 1 for January admission.**

[**CS MS Application FAQ**](http://www.cs.columbia.edu/education/ms/appfaq) - Answers to common questions about the application process.

[**MS Application System**](https://mice.cs.columbia.edu/recruit/recruitRegister.php?no_header=1&new=1) - To apply to the MS program.

Every MS student completes a 12-credit core requirement taking four courses from the following six:

COMS W4115 Programming Languages & Translators  
COMS W4118 Operating Systems   
COMS W4156 Advanced Software Engineering  
COMS W4231 Analysis of Algorithms   
COMS W4701 Artificial Intelligence  
COMS W4824 Computer Architecture

and completes an 18-credit concentration track. Students can choose from one of the following tracks:

[**Computational Biology**](http://www.cs.columbia.edu/education/ms/computationalBiology)  [**Computer Security**](http://www.cs.columbia.edu/education/ms/newcomputerSecurity) [**Foundations of Computer Science**](http://www.cs.columbia.edu/education/ms/foundationsOfCS) [**Machine Learning**](http://www.cs.columbia.edu/education/ms/machineLearning) [**Network Systems**](http://www.cs.columbia.edu/education/ms/networkSystems) [**Natural Language Processing**](http://www.cs.columbia.edu/education/ms/nlp) [**Software Systems**](http://www.cs.columbia.edu/education/ms/softwareSystems) [**Vision and Graphics**](http://www.cs.columbia.edu/education/ms/visionAndGraphics) [**Personalized**](http://www.cs.columbia.edu/education/ms/MSPersonalized) [**MS Thesis**](http://www.cs.columbia.edu/education/ms/MSThesis)

**DUAL MS IN JOURNALISM AND COMPUTER SCIENCE**

Admitted students will enroll for a total of five semesters — approximately three in The Fu Foundation School of Engineering and Applied Science and two in the Journalism School. In addition to taking classes already offered at the Journalism and Engineering schools, students will attend a seminar and workshop designed specifically for the dual degree program. The seminar will teach students about the impact of digital techniques on journalism; the emerging role of citizens in the news process; the influence of social media; and the changing business models that will support newsgathering. In the workshop, students will use a hands-on approach to delve deeply into information design, focusing on how to build a site, section or application from concept to development, ensuring the editorial goals are kept uppermost in mind. For more information, please visit the [**program website**](http://www.cs.columbia.edu/education/ms/journalism).

Deadline to apply is February 15, 2012.

**PH.D.**

The Columbia University Department of Computer Science is looking for top-quality students to join its PhD program. The department hosts exciting projects in a growing number of research areas. (See below.) Columbia University is located in New York City, one of the cultural, financial, and communications capitals of the world. This central location makes it possible for the members of the Department of Computer Science to have close ties with the nearby research labs of AT&T, Google, IBM (T. J. Watson), Alcatel-Lucent, NEC, Siemens, Telcordia Technologies, Verizon, and Yahoo!, as well as with a number of major companies including financial companies of Wall Street.

**OVERVIEW OF THE PH.D. PROGRAM**

A small number of highly qualified students are admitted each year to the Ph.D. program in Computer Science. Admission is very competitive, based primarily on research-oriented reference letters, subject and general GRE scores, and academic grades. Applicants need not already hold a master's degree; bachelor's degree level applicants are also encouraged to apply.

Most admitted students receive full financial support through Graduate Research Assistantships or Teaching Assistantships, which consist of a monthly stipend plus full tuition exemption (continuation of support is, of course, contingent upon the students' satisfactory progress in the Ph.D. program and availability of funding).  In addition, the Fu Foundation School of Engineering and Applied Sciences awards a small number of prestigious "Presidential Distinguished Fellowships," while the Department of Computer Science also awards selective "Departmental Fellowships."  These fellowships provide full financial support to their recipients.  Applicants are strongly encouraged to seek external funding, such as government and industry fellowships. Also, Columbia rents low-cost subsidized apartments near campus for both single students and students with families.

All Ph.D. students are expected to participate in departmental and laboratory activity **full-time on-campus**throughout the program, except possibly for summer internships elsewhere. Therefore the department does not normally consider admission of [**part-time students**](http://www.cs.columbia.edu/education/phd/hidden/part-time). Also, note that it is**not** possible to participate in the Ph.D. program through the [**Columbia Video Network**](http://www.cvn.columbia.edu/About_CVN/Student_Guide/Student_Status/student_status.html).

**HOW AND WHEN TO APPLY TO THE PH.D. PROGRAM**

**All applications to our Ph.D. Program must be made electronically**. No paper-based applications will be accepted. Unfortunately, we cannot make any exceptions to this rule. The online application system is available at [**https://mice.cs.columbia.edu/recruit**](https://mice.cs.columbia.edu/recruit). The deadlines for the submission of your **fully completed application** are:

* **To start the Ph.D. program in the Spring semester: apply by October 1 of the previous year.**
* **To start the Ph.D. program in the Fall semester:**apply by December 15 of the previous year.

You can still apply after these deadlines. However, be aware that applications are usually reviewed soon after the deadline, so late applications may not be processed as quickly or have the best chance of getting funding from our department.

**HOW TO GET MORE INFORMATION**

Please check the answers to our comprehensive [**frequently asked questions (FAQ's)**](http://www.cs.columbia.edu/education/phd/faqs/applying), as well as our [**online application system**](https://mice.cs.columbia.edu/recruit/recruitRegister.php?no_header=1&new=1); they both contain detailed information about all aspects of the application process.

You are also encouraged to investigate the research conducted in the Department of Computer Science prior to application. In particular, think about which [**faculty members**](http://www.cs.columbia.edu/people/faculty) share your research interests, and also look at the [**research group homepages**](http://www.cs.columbia.edu/research/areas). Feel free to contact potential faculty advisors by email to request information about their recent research and publications, and to ask about opportunities in their research groups or labs.

Finally, you should become familiar with our [**Ph.D. degree requirements**](http://www.cs.columbia.edu/education/phd/requirements).

**QUESTIONS?**

We receive an enormous volume of email with application-related questions, so we ask that you**please read this website**carefully**before sending us email**. If you do not find an answer to your question, then contact us by [**email**](mailto:%20%3cemail%20%3cphd-admissions@lists.cs.columbia.edu%3e%3e). Questions about particular research groups and/or individual faculty members should be directed to the appropriate faculty members by email.

**PROFESSIONAL DEGREE ADMISSIONS**

The professional degree in computer science, called the Computer Systems Engineer (CSE) degree, is for people who already hold a master's degree in computer science and who wish to develop further their knowledge of the area. The course of study entails the equivalent of two full time semesters. There are no specific course requirements, but an independent project is required. Applicants must submit brief (about 1 page long) essays outlining the general areas in which they propose to do their project work as well as the name of the faculty member that has agreed to supervise this project work. A listing of current faculty members and their research interests is available in the the Computer Science Department's [**Faculty Research Guide**](http://www.cs.columbia.edu/people/faculty).

**Total of 30 credits required for completion of degree (please see below for breakdown of the 30 credits)**

*Course Requirements*

Students must complete at least 24 credits of graduate coursework. At least 9 of these credits must be regular computer science courses at the 6000 level (not including project or seminar courses). Up to 12 credits of project or research courses may be taken, INCLUDING the project discussed below. The program can include courses in departments other than COMS, such as ELEN, IEOR, MATH, etc., provided that a total of at least 15 credits (including the project) are COMS courses.

All courses credited towards the degree must be taken for regular credit; they cannot be satisfied via auditing (R-credit) or with courses taken on a pass/fail basis.

*The Project*

In addition to the 24 credits specified above, students are required to carry out an independent project under the supervision of a faculty member on a topic chosen jointly by the student and the faculty member. This culminates in a formal report and counts for 6 course credits.

*Program Approval*

All CSE candidates must complete a Program Approval Form listing those courses to be credited toward the degree. Usually, the student's advisor helps formulate it. This must be submitted for approval by the Department and the Dean, either after completion of 15 points or prior to the start of the last full semester before graduation, whichever is sooner.

*Scholastic Average*

A minimum gradepoint average of at least 3.0 must be maintained.

*Time Limit*

All degree requirements must be completed within 5 years of the beginning of the first course credited toward the degree.

*Award of the Degree*

The candidate must file an application for the degree with the Registrar several months before the expected date of the award; see the Academic Calendar for deadlines.

*Financial Aid*

The Department of Computer Science has no tuition scholarships and only very limited financial support available for CSE candidates in the form of research or teaching assistantships. The competition for these positions is very high and there is no guarantee that they will be available. There are, however, opportunities for part-time employment either on campus or with nearby organizations.

*Application Deadlines*

The deadline for submission of COMPLETED applications to the CSE program in Computer Science is February 15 for September admission and October 1 for January admission.