

MS PROGRAM REQUIREMENT HI-LIGHTS

This is a summary of the Masters program requirements found at:

<http://www.cs.columbia.edu/ms-program.html>

Breadth Requirements

If you re missing a breadth requirement, we allow you to “kill two birds with one stone” by taking substitutes at the masters level for some courses. Instructor approval is still required to let you take the advanced version without having taken the pre-requisite.

Probability & Statistics (SIEO W3600 or SIEO W4150)

Data Structures and Algorithms (COMS W3137 or COMS W3139)

SUBSTITUTE: analysis of algorithms (COMS W4231)

Advanced Programming (COMS W3157)

SUBSTITUTE: see advisor

Computer Organization (COMS W3824)

SUBSTITUTE: computer architecture (COMS W4824)

Computability and Models of Computation (COMS W3261)

SUBSTITUTE: computation complexity (COMS W4236)

Programming Languages and Translators (COMS W4115) **[no substitute]**

Artificial Intelligence (COMS W4701)

[no substitute]

Scientific Computation (COMS W3251)

SUBSTITUTE: numerical algorithms and complexity (COMS W4241)

Course Requirements

Basically you need a total of **30 units** minimum of Columbia credit.

12 units must be at the 6000 level (research projects do count!).

15 units must be “official” Computer Science courses, which **also include** the following Electrical Engineering courses:

ELEN E6718, ELEN E6761, ELEN E6763, and ELEN E6768

You must accumulate a total of **30 graduate units**; these are courses that are listed as 4000 or higher, **except for** Artificial Intelligence (COMS W4701) and Programming Languages and Translators (COMS 4115) which don't count.

What if you haven't previously taken Artificial Intelligence and/or Programming Languages and Translators? You must take the missing course or courses. However, you are allowed to count **previous graduate-level courses** as graduate credit when taking your missing requirement. For example, if you took a CS graduate during your undergrad degree at Iceland Institute of Technology but you have never taken Artificial Intelligence you may take 4701 from us along with 27 additional Masters level units, and count your Icelandic course for the remaining 3 units of graduate work. This procedure is referred to as “**advanced standing**.” Consult with your advisor to determine what previous courses are considered appropriate for advanced standing.

Previous Columbia Courses

Did you take any grad-level courses at Columbia, which did not apply to any degree? You can apply up to **15 units** to the MS degree. This includes courses during your undergraduate studies that were above and beyond the undergraduate requirements.

Elective Courses

You are allowed **3 units of pure graduate-level elective courses** (e.g. Advanced French Literature) as well as **3 units of marginally technical electives** (e.g. Computational Finance) for a total of 6 elective units.

Research and Projects

No research is required to complete the Masters Program. If you are interested in doing research you can take up to **12 units** worth of research courses, **9 units** of which can be devoted to a Masters Thesis.

You can find out about our research possibilities from:

www.cs.columbia.edu/~project/