

Haverford/U. Penn 4+1 Computer and Information Science Sample Schedules

The following sample schedules could be undertaken by a student who begins work in Computer Science 105 in the fall of freshman year and continues through the [Major in Computer Science](#) at Haverford and the [Master of Science in Engineering in Computer and Information Science](#) at U. Penn. (see requirements [here](#) and course prerequisite information [here](#)) as part of the [Haverford/Penn 4+1 program](#).

On each example schedule, appropriate CIS courses at U. Penn., or those that serve as prerequisites for such courses, are emphasized with hyperlinks. Note that the actual details will depend on each student's interests and on the schedule of the biennial course offerings, and in some cases (marked with asterisks) on other prerequisite courses a student may or may not have taken.

A student in an **odd-year graduating class** (e.g., class of 2017, starting in the fall of 2013) with an **interest in systems** topics (e.g. software development, languages, architecture) might take:

	Fall	Spring
Freshman	CMSC 105: Intro CS	CMSC 106: Intro Data Struct.
Sophomore (e.g. Fall 2014/Spr. 2015)	CMSC 231: Discrete Math CMSC 240: Comp. Org.	CMSC 356: Co&Co in O.S. additional CMSC elective
Junior (e.g. Fall 2015/Spr. 2016)	CMSC 245: Prog. Lang. CIS 501: Comp. Arch. or CIS 505: Software Systems	CMSC 350: Compiler Design CMSC 345: Theory of Comp.
Senior (e.g. Fall 2016/Spr. 2017)	CMSC 399: Thesis CIS 552: Advanced Prog. or CIS 500: Softwr Foundations*	CMSC 340: Analysis of Alg. CMSC 399: Thesis one CIS, e.g. 540 Embedded Comp , 553: Networkd sys , 535 Bioinfo. or 500: SW Fnd*
M.S.E. candidate at U. Penn	4 additional CIS courses	3 additional CIS courses

* Note that CIS 500: Software Foundations requires mathematical background in addition to the specific courses listed above.

A student in an **odd-year graduating class** (e.g. class of 2017, starting in the fall of 2013) with an **interest in theoretical foundations** might take the following:

	Fall	Spring
Freshman	CMSC 105: Intro CS	CMSC 106: Intro Data Struct.
Sophomore (e.g. Fall 2014/Spr. 2015)	CMSC 231: Discrete Math CMSC 245: Prog. Lang.	CMSC 340: Analysis of Alg. additional CMSC elective
Junior (e.g. Fall 2015/Spr. 2016)	CMSC 240: Comp. Org. CIS 502: Analysis of Alg.	CMSC 345: Theory of Comp. CMSC 356: Co&Co in O.S.
Senior (e.g. Fall 2016/Spr. 2017)	CMSC 399: Thesis CIS 511: Theory of Comp.	CMSC 399: Thesis one CIS, e.g. 518 Logic & Computability*, 521 AI* , 535 Bioinfo. or 500: SW Foundations*
M.S.E. candidate at U. Penn	4 additional CIS courses	3 additional CIS courses

* Note that CIS 518: Logic & Computability, CIS 521: Artificial Intelligence, and CIS 500: Software Foundations require mathematical background in addition to the specific courses listed above.

Sample schedules for students in **even-year graduating classes** (e.g., class of 2018, starting in 2014) will be added as we gain experience with the above schedules.

Students with questions should email [Dave Wonnacot \(dwonnaco@haverford.edu\)](mailto:dwonnaco@haverford.edu).