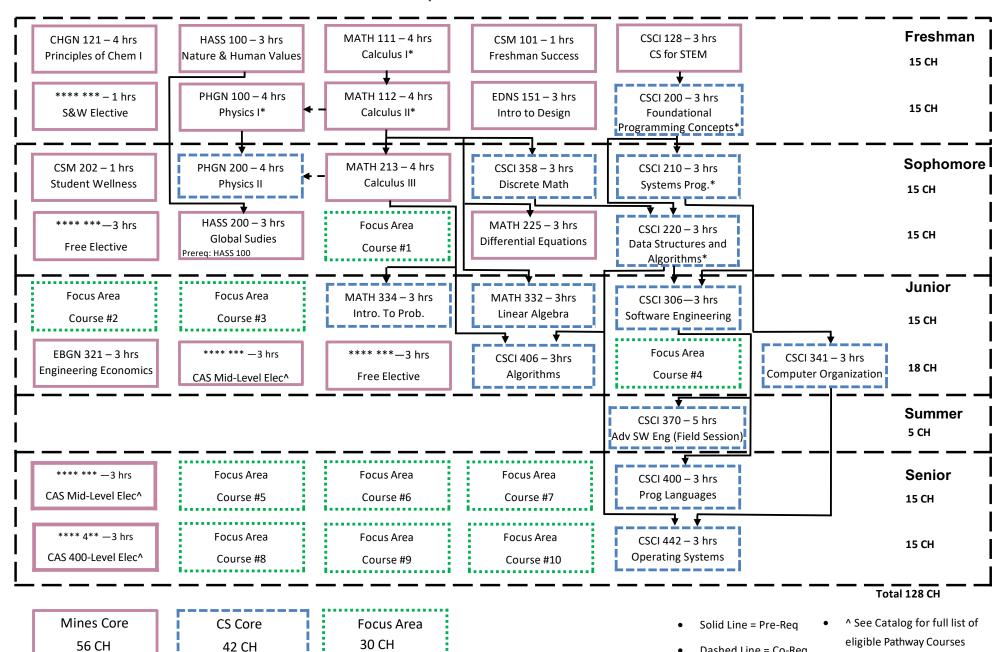


2023-2024 Computer Science Curriculum Flowchart



* C- or higher is required

Dashed Line = Co-Req

CS@Mines Focus Area Courses

	Computer Science	CS + Business	CS + Computer Engineering	CS + Data Science	CS + Robotics and Intelligent Systems	CS + Space	CS + Research Honors
1	Free Elective	CSCI 303 P: CSCI 128	EENG 281^{#&} P: PHGN 200	CSCI 303 P: CSCI 128	EENG 281 ^{#&} P: PHGN 200	EENG 281 ^{#&} P: PHGN 200	Free Elective
2	CSCI 403 P: CSCI 200	CSCI 403 P: CSCI 200	EENG 284 # P: CSCI 200 C: EENG 281	CSCI 403 P: CSCI 200	Free Elective	CSCI 303 or 404 or 475	CSCI 403 P: CSCI 200
3	Free Elective	BS Elective#	EENG 383 P: EENG 281 & EENG 284	MATH 201 P: MATH 111	EENG 307 P: EENG 281 & MATH 225	Free Elective	HASS 360
4	CS Elective [^]	BS Elective#	CS Elective [^]	MATH 335 P: MATH 334	CSCI 404 P: CSCI 220 & MATH 201	MEGN 455	CS Elective [^]
5	CS Elective [^]	BS Elective [#]	CSCI 475 P: CSCI 210 & CSCI 220 & CSCI 341	MATH 324 P: MATH 201	MEGN 441 P: CSCI 220 & EENG 281	EENG 284 # P: CSCI 200 C: EENG 281	CSCI 480 P: CSCI 306
6	CS Elective [^]	CSCI 475 P: CSCI 220 & CSCI 274 & CSCI 341	CSCI 471 P: CSCI 210 & CSCI 220	CSCI 470 P: CSCI 128 & MATH 201 & MATH 332	CSCI 437 or 473	MEGN 458	CSCI 5***
7	Free Elective	CS Elective [^]	CSCI 403 or 440 or 474	MATH 432 or 436 or 437 or 438 or 439	CSCI 470 or 534	CSCI 423 or 440 or 471	CS Elective [^]
8	CS Elective [^]	BS Elective#	CS Elective or EENG 4**	CSCI 404 or 423 or 440 or 474 or 475	CSCI 432 or 436	EENG 383 P: EENG 281 & EENG 284	CSCI 480 P: CSCI 306
9	CS Elective [^]	CSCI 445 or 446 or 448	Free Elective	CS Elective [^]	CSCI 432 or 436 or 437 or 470 or 473 or 534	MEGN 456	CSCI 5** [%]
10	Free Elective	Free Elective	Free Elective (1.0 CH)	Free Elective	CS Elective [^]	CS Elective [^]	CS Elective [^]
Notes		# Four unique business electives must be chosen from EBGN 230, 320, 321, 345, 346, 360, 425, 460, or 485	* PHGN 215 + PHGN 317 can be substituted with pre-approval & EENG 282 may be substituted for EENG 281		#PHGN 215 can be substituted with preapproval. EENG 282 may be substituted.	# PHGN 215 + PHGN 317 can be substituted with pre-approval & EENG 282 may be substituted for EENG 281	% CS Honors Elective may be any CSCI 500 level course approved by adviser

[^] CS Electives may be chosen from any CSCI 400-level course, any CSCI 500-level course (with approval), MATH 307, or EENG 383. EDNS 491 and EDNS 492, when taken together, can both be counted as a CS Elective. A course required for a focus area cannot also be counted for a CS Elective.



2023-2024 Computer Science Curriculum Flowchart

CHGN 121 – 4 hrs Principles of Chem I	HASS 100 – 3 hrs Nature & Human Values	MATH 111 – 4 hrs Calculus I*	CSM 101 – 1 hrs Freshman Success	CSCI 128 – 3 hrs CS for STEM		Freshman 15 CH
**** *** – 1 hrs S&W Elective	PHGN 100 – 4 hrs Physics I* Coreq: MATH 112	MATH 112 – 4 hrs Calculus II* Prereq: MATH111	EDNS 151 – 3 hrs Intro to Design	CSCI 200 – 3 hrs Foundational Programming Concepts* Prereq: CSCI128		15 CH
CSM 202 – 1 hrs Student Wellness	PHGN 200 – 4 hrs Physics II	MATH 213 – 4 hrs Calculus III	CSCI 358 – 3 hrs Discrete Math	CSCI 210 – 3 hrs Systems Prog.*		Sophomor
Student Weinless	Coreq: MATH 213 Prereq: PHGN 100	Prereq: MATH112	Prereq: MATH112	Prereq: CSCI200		15 CH
**** ***—3 hrs Free Elective	HASS 200 – 3 hrs Global Sudies Prereq: HASS 100	Focus Area Course #1	MATH 225 – 3 hrs Differential Equations Prereq: MATH112	CSCI 220 – 3 hrs Data Structures and Algorithms* Prereq: CSCI200, CSCI358		15 CH
Focus Area	Focus Area	MATH 334 – 3 hrs	MATH 332 – 3hrs	0001000		Junior
Course #2	Course #3	Intro. To Prob. Coreq: MATH 213	Linear Algebra Prereq: MATH112	CSCI 306—3 hrs Software Engineering Prereq: CSCI210, CSCI220		15 CH
EBGN 321 – 3 hrs	**** *** —3 hrs	**** ***—3 hrs	CSCI 406 – 3 hrs Algorithms	Focus Area	CSCI 341 – 3 hrs Computer Organization	18 CH
Engineering Economics	CASS Mid-Level Elec^	Free Elective	Prereq: CSCl220, CSCl358. MATH213	Course #4	Prereq: CSCI210	10 (
CSCI 370 Advanced Software Eng _{ereg:} CSCI 306						Summer 5 CH
**** *** —3 hrs	Focus Area	Focus Area	Focus Area	CSCI 400 – 3 hrs		Senior
CAS Mid-Level Elec^	Course #5	Course #6	Course #7	Prog Languages Prereq: CSCI306, CSCI358		15 CH
**** 4** —3 hrs CAS 400-Level Elec^	Focus Area Course #8	Focus Area Course #9	Focus Area Course #10	CSCI 442 – 3 hrs Operating Systems Prereq: CSCI210, CSCI220, CSCI341		15 CH

Mines Core 56 CH CS Core 42 CH

Focus Area 30 CH • ^ See Catalog for full list of eligible Pathway Courses

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CS@Mines Focus Area Courses

	Computer Science	CS + Business	CS + Computer Engineering	CS + Data Science	CS + Robotics and Intelligent Systems	CS + Space	CS + Research Honors
1	Free Elective	CSCI 303 P: CSCI 128	EENG 281^{#&} P: PHGN 200	CSCI 303 P: CSCI 128	EENG 281 ^{#&} P: PHGN 200	EENG 281 ^{#&} P: PHGN 200	Free Elective
2	CSCI 403 P: CSCI 200	CSCI 403 P: CSCI 200	EENG 284 # P: CSCI 200 C: EENG 281	CSCI 403 P: CSCI 200	Free Elective	CSCI 303 or 404 or 475	CSCI 403 P: CSCI 200
3	Free Elective	BS Elective#	EENG 383 P: EENG 281 & EENG 284	MATH 201 P: MATH 111	EENG 307 P: EENG 281 & MATH 225	Free Elective	HASS 360
4	CS Elective [^]	BS Elective#	CS Elective [^]	MATH 335 P: MATH 334	CSCI 404 P: CSCI 200 & MATH 201	MEGN 455	CS Elective [^]
5	CS Elective [^]	BS Elective [#]	CSCI 475 P: CSCI 210 & CSCI 220 & CSCI 341	MATH 324 P: MATH 201	MEGN 441 P: CSCI 220 & EENG 281	EENG 284 # P: CSCI 200 C: EENG 281	CSCI 480 P: CSCI 306
6	CS Elective [^]	CSCI 475 P: CSCI 220 & CSCI 274 & CSCI 341	CSCI 471 P: CSCI 210 & CSCI 220	CSCI 470 P: CSCI 128 & MATH 201 & MATH 332	CSCI 437 or 473	MEGN 458	CSCI 5***
7	Free Elective	CS Elective [^]	CSCI 403 or 440 or 474	MATH 432 or 436 or 437 or 438 or 439	CSCI 470 or 534	CSCI 423 or 440 or 471	CS Elective [^]
8	CS Elective [^]	BS Elective#	CS Elective or EENG 4**	CSCI 404 or 423 or 440 or 474 or 475	CSCI 432 or 436	EENG 383 P: EENG 281 & EENG 284	CSCI 480 P: CSCI 306
9	CS Elective [^]	CSCI 445 or 446 or 448	Free Elective	CS Elective [^]	CSCI 432 or 436 or 437 or 470 or 473 or 534	MEGN 456	CSCI 5** [%]
10	Free Elective	Free Elective	Free Elective (1.0 CH)	Free Elective	CS Elective [^]	CS Elective [^]	CS Elective [^]
Notes		# Four unique business electives must be chosen from EBGN 230, 320, 321, 345, 346, 360, 425, 460, or 485	* PHGN 215 + PHGN 317 can be substituted with pre-approval & EENG 282 may be substituted for EENG 281		#PHGN 215 can be substituted with preapproval. EENG 282 may be substituted.	# PHGN 215 + PHGN 317 can be substituted with pre-approval & EENG 282 may be substituted for EENG 281	% CS Honors Elective may be any CSCI 500 level course approved by adviser

[^] CS Electives may be chosen from any CSCI 400-level course, any CSCI 500-level course (with approval), MATH 307, or EENG 383. EDNS 491 and EDNS 492, when taken together, can both be counted as a CS Elective. A course required for a focus area cannot also be counted for a CS Elective.