

# Engineering Science Curriculum

Total credits: 128

<i>First Semester</i>			<i>Second Semester</i>		
APMA 1110	Single Variable Calculus	4	APMA 2120	Multivariate Calculus	4
CHEM 1610	Intro Chemistry for Engineers I	3	PHYS 1427	General Physics I	3
CHEM 1611	Intro Chemistry Lab	1	PHYS 1429	Physics Workshop	1
ENGR 1620	Intro to Engineering	4	CS 1110	Intro to Programming	3
STS 1010	Engineering, Technology, Society	3		Science elective I <sup>(1)</sup>	3
				HSS elective <sup>(2)</sup>	3
		15			17
<i>Third Semester</i>			<i>Fourth Semester</i>		
APMA 2130	Ordinary Differential Equations	4		Advanced Math/CS elective <sup>(5)</sup>	3
PHYS 2415	General Physics II	3		Science elective II <sup>(6)</sup>	4
PHYS 2419	Physics Workshop	1		Primary minor elective <sup>(3)</sup>	3
	Primary minor elective <sup>(3)</sup>	3		Secondary minor elective <sup>(4)</sup>	3
	Secondary minor elective <sup>(4)</sup>	3	STS	STS 2XX/3XX elective	3
	HSS elective <sup>(2)</sup>	3			
		17			16
<i>Fifth Semester</i>			<i>Sixth Semester</i>		
	Primary minor elective <sup>(3)</sup>	3		Primary minor elective <sup>(3)</sup>	3
	Secondary minor elective <sup>(4)</sup>	3		Secondary minor elective <sup>(4)</sup>	3
	Area of concentration <sup>(7)</sup>	3		Area of concentration <sup>(7)</sup>	3
	Advanced elective <sup>(9)</sup>	3		Advanced elective <sup>(9)</sup>	3
	HSS elective <sup>(2)</sup>	3		Unrestricted elective <sup>(8)</sup>	3
	Unrestricted elective <sup>(8)</sup>	3			
		18			15
<i>Seventh Semester</i>			<i>Eighth Semester</i>		
STS 4010	Western Technology and Culture	3	STS 4020	The Engineer, Ethics and Society	3
	Advance project <sup>(10)</sup>	3		Advance project <sup>(10)</sup>	3
	Primary minor elective <sup>(3)</sup>	3		Primary minor elective <sup>(3)</sup>	3
	Secondary minor elective <sup>(4)</sup>	3		Secondary minor elective <sup>(4)</sup>	3
	Area of concentration <sup>(7)</sup>	3		Unrestricted elective <sup>(8)</sup>	3
		15			15

(1) Science elective I: Chosen from ECE 2066; BIOL 2010, 2020; MSE 2090; CHEM 1620; PHYS 2620 or advisor-approved 2xxx SEAS technical elective.

(2) HSS electives are chosen from the approved list available in A122 Thornton Hall.

(3) **Primary minor** electives must be chosen so as to earn an approved SEAS technical minor. Once minor requirements are satisfied, any 2xxx or higher technical SEAS course is acceptable.

(4) **Secondary minor** electives must be chosen so as to earn an approved technical minor in SEAS, mathematics, or a natural science. Students pursuing the *Interdisciplinary Engineering* Option must select an approved technical minor in SEAS. Once minor requirements are satisfied, any 2xxx or higher technical SEAS, mathematics, or natural science course is acceptable.

(5) Advanced math/CS elective: One 3xxx-level or higher mathematics courses in SEAS or CLAS; or one 2xxx-level or higher course in computer science.

(6) Science elective II: Either CHEM 1620 with lab or PHYS 2620 with workshop is required.

(7) Area of concentration: Courses are chosen so as to provide identity and depth to the student's major field. Advisor approval is required.

(8) Unrestricted electives may be chosen from any graded course in the University except mathematics courses below MATH 1310, including STAT 1110 and STAT 1120, and courses that substantially duplicate others used for the student's degree.

(9) Advanced elective: 3xxx level or higher course in natural sciences or SEAS. The course must have science or mathematics prerequisites.

(10) Advanced projects is a graded research, independent study, or design course intended to supplement the student's thesis work. Individual or group projects are possible. Engineering in Context (EIC) courses may substitute, upon advisor approval.