

The schedule below is a typical schedule for students who major in Physics. Minor variations are possible, especially in years 3 and 4, but prerequisites **must** be satisfied. Other optional physics courses are recommended for students who are planning to go to graduate school. **Students must acquire 120 credits to receive a degree from Michigan State University.**

Freshman Year			
Fall		Spring	
MTH 132	3	CEM 141	4
PHY 170	3	MTH 133	4
PHY 183 or PHY 193H	4	PHY 184 or PHY 294H	4
WRA 110	4	other	
other			
total	~15	total	~13

Sophomore Year			
Fall		Spring	
CEM 142 + 161	4	MTH 235	3
MTH 234	4	PHY 192	1
PHY 191	1	PHY 321	3
PHY 215	3	ISS 3xx level	4
other		other	
ISS 2xx level	4	Elective	3
total	~16	total	~14

Junior Year			
Fall		Spring	
PHY 415	4	MTH 314	3
PHY 471	3	PHY 410	3
PHY 431 or PHY 440	3	PHY 440	4
IAH 201-210	4	Biology requirement	
other		other	
total	~15	total	~15

Senior Year			
Fall		Spring	
Capstone course	3	Capstone course	3
PHY 481	3	PHY 482	3
PHY 451	3	Electives	9 cr
IAH 211+	4		
other		other	
total	~15	total	~15

Capstone courses: You are required to complete 2 of the 3 capstone courses listed below

**PHY 491** - Intro to Solid State Physics - Fall

**PHY 492** - Intro to Nuclear Physics - Spring

**PHY 493** - Intro to Elementary Particle Physics - Spring

Other required courses:

IAH (2 courses)

ISS (2 courses)

Biology (1 course)

Electives (any number of courses)

Optional physics courses:

PHY 170

PHY 422, PHY 472, PHY 482

PHY 480

Courses	cr	Course Title/topic	Prerequisites
CEM 141 or 151	4	Chemistry I - fall & spring	MTH - 103,110,116,124,132 or placement test all concurrently
CEM 142 or 152	3	Chemistry II - fall & spring	CEM 141 or 151
CEM 161	1	Chemistry Lab - fall & spring	CEM 141 or 151 - both are concurrently
MTH 132	3	Calculus I - all semesters	MTH 103 & 114 -or- MTH 116 or placement
MTH 133	4	Calculus II - all semesters	MTH 132 or MTH 152H
MTH 234	4	Multivariable Calc - all	MTH 133 or MTH 153H
MTH 235	3	Differential Equations - all	MTH 234 or MTH 254H
MTH 3xx or 4xx	3	Advanced math courses	depends on course selected
MTH 3xx or 4xx	3	Advanced math courses	depends on course selected

Suggest to take PHY 415, MTH 314 to avoid taking the new math requirement of MTH 299 which does **NOT** count towards one of your 300+ level MTH courses

Introductory Physics			
PHY 183	4	Physics I - all semesters	MTH 132 -or- concurrently
PHY 184	4	Physics II - all semesters	MTH 133 -or- concurrently
PHY 193H	3	Honors Physics I - fall only	MTH 132 -or- concurrently
PHY 294H	3	Honors Physics II - spring only	MTH 133 -or- concurrently
Introductory Laboratory Courses			
PHY 191	1	Physics Lab I - fall only	PHY 183 -or- concurrently
PHY 192	1	Physics Lab II - spring only	PHY 184 -or- concurrently <b>and</b> 191
Intermediate Physics			
PHY 215	3	Thermo and Modern Physics - all	PHY 184/PHY 294H or concurrently
PHY 321	3	Classical Mechanics I - fall/spring	PHY 184, 215 or concurrently and MTH 234
Advanced Lecture Courses			
PHY 410	3	Statistical Physics - spring only	PHY 471
PHY 471	3	Quantum Theory I - fall only	PHY 215 and 321 and MTH 235
PHY 481	3	Electricity and Magnetism I - fall	PHY 184 and 321 and MTH 234
PHY 491	3	Intro to Solid State - fall	PHY 471 and 410 and Tier 1 writing
PHY 492	3	Intro to Nuclear Physics - Spring	PHY 471 and Tier 1 writing
PHY 493	3	Intro to Elem Particle Physics - spring	PHY 471 and Tier 1 writing
Advanced Laboratory Courses			
PHY 431	3	Optics - fall only	PHY 192 & 215 & MTH 235 or concurrently
PHY 440	4	Electronics - fall & spring	PHY 192 & 215 & MTH 235 or concurrently
PHY 451	3	Advanced Lab - fall & spring	PHY 440
Optional Physics Courses			
PHY 170	3	Investigations (Fr only)	
PHY 415	4	Methods of Theoretical Physics	MTH 235 or concurrently & PHY 184
PHY 422	3	Classical Mechanics II - fall	PHY 321
PHY 472	3	Quantum Theory II -spring	PHY 471
PHY 482	3	Electricity and Magnetism II	PHY 481
PHY 480	3	Computational Physics	PHY 102 and advanced PHY