Curriculum Map – Physics Area – Computational Physics Track – 2021-22

NOTE: This curriculum map assumes that students have not transferred in any previously completed college level courses.

All baccalaureate degree seeking students must complete a minimum of 33 hours of general education courses which includes:

FYS 101 – First Year Seminar
MATH 123, 131, 135, 152, 174 or 175*
COMS 108 – Fund. Of Speech Communication
Knowledge – Arts & Humanities (HUM)
Knowledge – Social & Behavioral Sciences (SBS)
ENG 100 – Writing I
ENG 200 – Writing II
Knowledge – Natural Science (NSC; select 2)
Global Cultures – Arts & Humanities (HUM)
Ethics & Civil Engagement – Social & Behavioral Sciences (SBS)

The approved NSC, HUM, and SBS course list is located in the current MSU Undergraduate Catalog.
*If applicable, specific mathematics course required for degree shown below.

FIRST YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits	✓	Spring Semester	Code	Credits
	CHEM 111/111L Principles of Chemistry I (Level 2 NSC)	G/R	4		CHEM 112/112L Principles of Chemistry II	R	4
	MATH 175 Calculus I	G/R	4		ENG 100 Writing I	G	3
	MATH 170 Introduction to ComputerScience	R	4		COMS 108 Fundamentals of Speech Communications	G	3
	PHYS 105 Intro to Physics & Engineering Professions	R	1		PHYS 181 Introduction to Scientific Computing	R	3
	FYS 101 First Year Seminar	G	3		MATH 275 Calculus II	R	4
	Total Credit Hours		**16**		**Total Credit Hours**		**17**

SECOND YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits	✓	Spring Semester	Code	Credits
	MATH 276 Calculus III	R	4		MATH 363 Differential Equations	R/U	3
	PHYS 231/231L Eng Physics I	R	5		PHYS 232/232L Eng Physics II	R	5
	ENG 200 Writing II	G	3		MATH 301 Elementary Linear Algebra	R/U	3
	Level 2 NSC	G	3		CIS 205 Intro to Programming – C++	R	3
	Total Credit Hours		**15**		**Total Credit Hours**		**14**

THIRD YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits	✓	Spring Semester	Code	Credits
	PHYS 353 Concepts of Modern Physics I	R/U	4		PHYS 354 Concepts of Modern Physics II	R/U	3
	PHYS 340 Experimental Physics	R/U	3		CS 310 Algorithms & Adv. Data. Str.	R/U	3
	Level 2 SBS	G	3		PHYS 332 Elect and Magnetism	R/U	4
	PHYS 481 Mathematics for Scientists & Engineers	R/U	3		PHYS 381 Computer Solutions to Eng and Science Problems	R/U	3
	CS 303 Data Structures	R/U	3		Level 2 HUM	G	3
	Total Credit Hours		**16**		**Total Credit Hours**		**16**

FOURTH YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits	✓	Spring Semester	Code	Credits
	PHYS 391 Dynamics	R/U	3		PHYS 499D Cap Senior Thesis II	U	1
	PHYS 499C Cap Senior Thesis I	U	2		PHYS 493 Quantum Mechanics	R/U	3
	Level 3 SBS	G	3		CS 420 Data Mining Concepts	R/U	3
	Free Elective	E	3		Level 3 HUM	G	3
	Free Elective	E/U	2		Free Elective	E/U	3
	Total Credit Hours		**13**		**Total Credit Hours**		**13**

(E) Elective, (G) General Education Course (S) Supplemental
(P) Pre-requisite (R) Required Course (U) Upper Division Course 300-400 level (you must have 42 hours)

Revised: 3-10-2021