

CONCENTRATIONS (QUANTUM INFORMATION or AI) WITHIN PHYSICS BS DEGREE

Suggested Schedule for Freshman Start

	Fall		Spring	
Freshman	MATH-112 PHYS-151	Calculus II Physics I	MATH-211 PHYS-152	Multivariable Calculus Physics II
Sophomore	MATH-212 PHYS-220 PHYS-253	Differential Equations Math for Science & Eng. Modern Physics	PHYS-212 PHYS-365	Computational Modeling Electricity & Magnetism
Junior	PHYS-361 PHYS-421	Classical Mechanics Thermo. & Stat. Mech	PHYS-461 PHYS-444/445	Quantum Mechanics Adv./Mat. & Quant. Lab
Senior	PHYS-436	Adv. Comput. Phys.	PHYS-422* PHYS-463* PHYS-437	Modern Materials Quant. Comp. & Info. Physics of AI

Note: These are merely suggested, sample schedules. The one above is quite accelerated. Others, like the one below, reflect a gentler first two years. And more tailoring to your individual situation is possible too...please feel free to reach out to your advisor and/or the physics department's Director of Undergraduate Studies.

Be mindful that most core physics courses are only offered once per year (either always in Fall or always in Spring).

- PHYS 444 is offered every semester, while PHYS 445 is only offered in the Spring.
- PHYS 422 / PHYS 463 only require PHYS 253 / PHYS 220 respectively & can be taken earlier than the senior year if desired
- PHYS 436 requires PHYS 212 and PHYS 220 as pre-requisites, PHYS 437 requires PHYS 421 and PHYS 436

Suggested Schedule for Sophomore Start

	Fall		Spring	
Freshman	MATH-111	Calculus I	MATH-112	Calculus II
Sophomore	PHYS-151 MATH-211	Physics I Multivariable Calculus	PHYS-152 MATH-212 PHYS-212	Physics II Differential Equations Computational Modeling
Junior	PHYS-253 PHYS-220	Modern Physics Math for Science & Eng.	PHYS-365 PHYS-444/445	Electricity & Magnetism Adv./Mat. & Quant. Lab
Senior	PHYS-361 PHYS-421 PHYS-436	Classical Mechanics Thermo. & Stat. Mech. Adv. Comput. Phys.	PHYS-461 PHYS-437 PHYS-422* PHYS-463*	Quantum Mechanics Physics of AI Modern Materials Quant. Comp. & Info

Schedule for Junior Start (First two years at Oxford or elsewhere)

*Note: PHYS 151, 152, 253, and 212 are all offered at Oxford
(as are MATH 111, 112, 211, and 212)*

and could be completed in a student's freshman and sophomore years there.

	Fall		Spring	
Freshman	MATH-111	Calculus I	MATH-112	Calculus II
Sophomore	PHYS-151 MATH-211	Physics I Multivariable Calculus	PHYS-152 MATH-212	Physics II Differential Equations
Junior	PHYS-220 PHYS-253 PHYS-361	Math for Science & Eng. Modern Physics Classical Mechanics	PHYS-212 PHYS-365 PHYS-444/445	Computational Modeling Electricity & Magnetism Adv./Mat. & Quant. Lab
Senior	PHYS-421 PHYS-436	Thermo. & Stat. Mech.. Adv. Comput. Phys.	PHYS-461 PHYS-437 PHYS-422* PHYS-463*	Quantum Mechanics Physics of AI Modern Materials Quant. Comp. & Info.

**semesters these are offered can change year to year, but usually PHYS 422,463 are both offered in the Spring*