

Computer Science and Physics

Department Information

- **Department Web Site:**
www.ndsu.edu/cs/ (<http://www.ndsu.edu/cs/>)
- **Credential Offered:**
B.S.; B.A.
- **Official Program Curriculum:**
catalog.ndsu.edu/undergraduate/program-curriculum/computer-science-physics/ (<http://catalog.ndsu.edu/undergraduate/program-curriculum/computer-science-physics/>)

Since the dawn of the computer age, Computer Science and Physics have been closely intertwined disciplines. Computational physics is now an established branch of physics, complementing experiment and theory, that develops and applies computer modeling approaches to the solution of a wide range of physical problems. At the same time, software development (e.g., for graphics and data mining applications) is increasingly inspired by physics. Computer modeling, including simulation and numerical analysis, is an essential component of modern research and development. Correspondingly, the demand is growing for scientists with multidisciplinary training that combines fundamental knowledge of physics and computer science with practical skills in programming and computation.

The Computer Science and Physics dual major program is designed to allow students to complete one degree and the core requirements of both majors. Graduates of the program will have a unique background qualifying them to work in industry or to pursue graduate studies in physics, computer science, engineering, or other technical fields.

Sample Program Guide

IMPORTANT DISCLAIMER: This guide is not an official curriculum. This guide is a sample four-year degree plan of how students might plan this major with other degree requirements to complete their education in four years. Student plans will vary from this sample due to a variety of factors, such as, but not limited to, start year, education goals, transfer credit, and course availability. To ensure proper degree completion, enrolled students should utilize Degree Map (<https://www.ndsu.edu/registrar/degree-map/>) and Schedule Planner (<https://www.ndsu.edu/onestop/degree-map-and-planning/>) in Campus Connection and consult regularly with academic advisors to ensure graduation requirements are being met.

Freshman			
Fall	Credits	Spring	Credits
PHYS 171		1 ENGL 120	3
MATH 165		4 PHYS 251 & 251L	5
CSCI 160		4 MATH 129 or 329	3
ENGL 110		3 MATH 166	4
Wellness Gen Ed		2 CSCI 161	4
		14	19
Sophomore			
Fall	Credits	Spring	Credits
PHYS 252 & 252L		5 PHYS 350	3
MATH 265		4 MATH 266	3
CSCI 213		3 COMM 110	3
MATH 270		3 CSCI 336	3
		Humanities/Fine Arts Gen Ed	3
		15	15
Junior			
Fall	Credits	Spring	Credits
PHYS 360		3 PHYS 370	3
CSCI 366		3 ENGL 324	3
PHYS 355		3 PHYS 361	3

Social/Behavioral Sci and Cult Diversity Gen Ed	3	CSCI 372	3
Humanities/Fine Arts & Global Perspectives Gen Ed	3	CSCI 374	3
		15	15
Senior			
Fall	Credits	Spring	Credits
PHYS 462		3 PHYS 489	2
Physics Elective		3 CSCI 467	3
CSCI 474		3 PHYS 486	3
CSCI 4XX Computer Science Elective		3 CSCI 313	3
PHYS 485		3 or CSCI 4XX Computer Science Elective	
PHYS 488		1 Humanities/Fine Arts Gen Ed	3
		Social/Behavioral Science Gen Ed	3
		16	17
Total Credits: 126			