

COLLEGE OF SCIENCE & MATHEMATICS

MAJOR: COMPUTER SCIENCE & PHYSICS

ACADEMIC YEAR: 2013-2014

DEGREE TYPE: B.A. or B.S.

REQUIRED DEGREE CREDITS TO GRADUATE: 134

GENERAL EDUCATION REQUIREMENTS – 40 CREDITS

Lower Division Requirements – 37 Credits

First Year Experience (F) - 1 Credit

UNIV	189	Skills for Academic Success	1 cr
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Students transferring in 24 or more credits do not need to take UNIV 189.

Communication (C) - 9 Credits

ENGL	110	College Composition I	3 cr
ENGL	120	College Composition II	3 cr
COMM	110	Fund of Public Speaking	3 cr

Quantitative Reasoning (R) - 3 Credits

MATH	165	Calculus I	4 cr
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Science & Technology (S) - 10 Credits

PHYS	251/L	University Physics I/Lab	4/1 cr
PHYS	252/L	University Physics II/Lab	4/1 cr

Humanities & Fine Arts (A) - 6 Credits

Select from current general education courses www.ndsu.edu/registrar/gened/

Social & Behavioral Sciences (B) - 6 Credits

Select from current general education courses www.ndsu.edu/registrar/gened/

Wellness (W) - 2 Credits

Select from current general education courses www.ndsu.edu/registrar/gened/

Cultural Diversity (D)

Select from current general education courses www.ndsu.edu/registrar/gened/

Global Perspectives (G)

Select from current general education courses www.ndsu.edu/registrar/gened/

Upper Division Requirements - Writing – 3 Credits

Select from current general education courses www.ndsu.edu/registrar/gened/

COMPUTER SCIENCE MAJOR REQUIREMENTS – 35 CREDITS

- A grade of 'C' or better is required for all CSCI prefix courses.

CSCI	160	Computer Science I	4 cr
CSCI	161	Computer Science II	4 cr
CSCI	213	Modern Software Development	3 cr
CSCI	336	Theoretical Computer Science I	3 cr
CSCI	366	Files for Database Systems	3 cr
CSCI	372	Comparative Programming Languages	3 cr
CSCI	374	Computer Organization & Architecture	3 cr
CSCI	467	Algorithm Analysis	3 cr
CSCI	474	Operating Systems Concepts	3 cr
CSCI		Electives*	6 cr

*CSCI 313 and/or any 400-level CSCI course that is not already used.

PHYSICS MAJOR REQUIREMENTS – 43- 45 CREDITS (includes PHYS 251/L and 252/L)

- A grade of 'C' or better is required for all PHYS and AST prefix courses.

PHYS	171	Introductory Projects in Physics	1 cr
PHYS	251R	Univ. Physics I Recitation	1 cr
PHYS	252R	Univ. Physics II Recitation	1 cr
PHYS	350	Modern Physics	3 cr
PHYS	360	Modern Physics II	3 cr
PHYS	361 or 370	Electromagnetic Theory (MSUM)	3 or 4 cr
PHYS	370	Intro to Computational Physics	3 cr
PHYS	455 or 330	Classical Mechanics (MSUM)	3 or 4 cr
PHYS	462	Heat & Thermodynamics	3 cr
PHYS	485	Quantum Mechanics I	3 cr
PHYS	486	Quantum Mechanics II	3 cr
PHYS		Electives**	6 cr

**Choose from: PHYS 215, 411, 413, 415, 463, 481, 489 (unless used to satisfy project requirement) OR MSUM AST courses with departmental permission.

RELATED REQUIRED COURSES – 19- 20 CREDITS

MATH	129 or 429	Basic Linear Algebra	2 or 3 cr
MATH	166	Calculus II	4 cr
MATH	265	Calculus III	4 cr
MATH	266	Introduction to Differential Equations	3 cr
CSCI	222 or MATH 270	Discrete Mathematics	3 cr
CSCI	445 or PHYS 489	Introduction to Abstract Math	3 cr
		Software Projects	3 cr
		Physics Projects	3 cr

DEPARTMENT AND COLLEGE REQUIREMENTS:

- Except for courses offered only as pass/fail grading, no course may be taken Pass/Fail.

Bachelor of Science (BS) Degree – An additional 6 credits in Humanities or Social Sciences***

Bachelor of Arts (BA) Degree – An additional 12 credits Humanities and Social Sciences*** and proficiency at the second year level in a modern foreign language.

***Humanities and Social Sciences may be fulfilled by any course having the following prefix: ADHM, ANTH, ARCH, ART, CJ, CLAS, COMM, ECON, ENGL, FREN, GEOG, GERM, HDFS, HIST, LA, LANG, MUSC, PHIL, POLS, PSYC, RELS, SOC, SPAN, THEA, WGS, or any course from the approved list of general education courses in humanities and social sciences (general education categories A and B). These credits must come from outside the department of the student's major.