

# MILLERSVILLE UNIVERSITY

Student Name: \_\_\_\_\_ Student I.D.# \_\_\_\_\_

DEGREE: BS  
MAJOR: CSCI  
OPTION:

## MAJOR REQUIREMENTS FOR A BS DEGREE IN COMPUTER SCIENCE

Total credit hours required: 120.0 minimum

### REQUIREMENTS AND POLICIES FOR THE BS COMPUTER SCIENCE MAJOR

#### A. Policies for Admission to the Major

1. New students (freshmen and transfers) must be admitted to the Computer Science major by the Office of Admissions upon admission to the University.
2. Admission into the Computer Science major from other departments is upon approval of the chairperson of the Computer Science Department.
3. Non-degree and continuing education students must be admitted to the Computer Science major by the Office of Admissions.

#### B. Policies for Retention in the Major

1. University requirements for retention.

#### C. Policies for Completion of the Major

1. Completion of all University curricular requirements.
2. English 312, Technical Writing or English 319, Science Writing is required as the upper-level writing course under the General Education Curriculum.

**Note to the student:** *This form is provided as a guide. It is your responsibility to consult regularly with your advisor to be aware of changes and curriculum details which are not incorporated on this form.*

## MAJOR SEQUENCE AND DEGREE REQUIREMENTS

Major: **BS COMPUTER SCIENCE**

Option:

Major Field Requirements: **52.0 credits**

Other Requirements: **20.0-25.0 credits**

When applicable, up to six of the **REQUIRED RELATED** courses may be credited toward the Liberal Arts Core subject to normal distribution rules.

Course No.	Short Title	C.H.	Grade	Course No.	Short Title	C.H.	Grade
<b>REQUIRED CSCI COURSES (40.0 credits)</b>				<b>REQUIRED RELATED (20.0 credits)</b>			
CSCI 140	Discrete Structures	4.0	_____	<b>Mathematics (14.0 - 15.0 credits)</b>			
CSCI 161	Intro to Programming I	4.0	_____	MATH 161	Calculus I	4.0	_____
CSCI 162	Intro to Programming II	4.0	_____	MATH 235	Survey of Statistics	3.0	_____
CSCI 330	Programming Languages	4.0	_____	MATH 304	Matrix Algebra and Applications	4.0	_____
CSCI 340	Computational Models	4.0	_____	MATH 211	Calculus II	4.0	_____
CSCI 362	Data Structures	4.0	_____	---- OR ----			
CSCI 366	Database Systems	4.0	_____	MATH 236	Survey of Statistics II	3.0	_____
CSCI 370	Computer Architecture	4.0	_____	---- OR ----			
CSCI 380	Operating Systems	4.0	_____	PHIL 312	Mathematical Logic	3.0	_____
CSCI 420	Software Engineering	4.0	_____	<b>Natural/Physical Sciences (6.0 - 10.0 credits)</b>			
<b>REQUIRED CSCI ELECTIVES (12.0 credits)</b>				<b>Natural/Physical Sciences (6.0 - 10.0 credits)</b>			
Select three courses from the following:				At least 6 s.h. of Natural/Physical science courses must be taken. Choose two of the following courses:			
CSCI 375	Computer Graphics	4.0	_____	BIOL 100	General Biology	3.0	_____
CSCI 395	Computer Networks	4.0	_____	BIOL 211	Concepts of Zoology	4.0	_____
CSCI 415	Computer & Network Security	4.0	_____	BIOL 221	Concepts of Botany	4.0	_____
CSCI 419	Mobile Device App Development	4.0	_____	CHEM 111	Introductory Chemistry I	4.0	_____
CSCI 421	Web Application Development	4.0	_____	CHEM 112	Introductory Chemistry II	4.0	_____
CSCI 425	Human-Computer Interaction	4.0	_____	ESCI 221	Physical Geology	4.0	_____
CSCI 435	Compiler Construction	4.0	_____	ESCI 222	Historical Geology	4.0	_____
CSCI 450	Artificial Intelligence	4.0	_____	ESCI 241	Meteorology	4.0	_____
CSCI 452	Data Mining	4.0	_____	ESCI 245	Environmental Meteorology	3.0	_____
CSCI 453	Lg. Scale Data Analytics & Viz.	4.0	_____	ESCI 261	Introduction to Oceanography	4.0	_____
CSCI 456	Robotics & Computer Vision	4.0	_____	PHYS 131	Physics I with Algebra	4.0	_____
CSCI 467	Design & Analysis of Algorithms	4.0	_____	---- OR ----			
CSCI 475	3D Game Programming	4.0	_____	PHYS 231	Physics I with Calculus	5.0	_____
CSCI 476	Parallel Programming	4.0	_____	PHYS 132	Physics II with Algebra	4.0	_____
CSCI ___	Co-op (300 or 400)	4.0	_____	---- OR ----			
Approval of the following courses as CSCI Electives is by departmental approval based on course content:				PHYS 232	Physics II with Calculus	5.0	_____
CSCI 406	Topics in Computer Science	4.0	_____	Note: ENGL 312 or ENGL 319 is required as the upper-level writing course under the General Education Curriculum.			
CSCI 498	Independent Study	1.0-4.0	_____	<b>General Electives (as necessary)</b>			
CSCI 489	Honors Independent Study	1.0-2.0	_____	_____	_____	_____	_____
CSCI 499	Honors Thesis	1.0-2.0	_____	_____	_____	_____	_____
				_____	_____	_____	_____
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				_____	_____	_____	_____