

# CONCENTRATION IN COMPUTER SCIENCE (AST2)(PLAN CODE: PHST2AS, SUBPLAN CODE: COMPUTRSCI)

Academic Plans, known as programs, include an overview description and a summary of program requirements. You can search the online catalog via the Academic Plan links on the right for a desired program or a specific course information.

Requires students to complete minimum of 90 quarter hours of transferable credit/units with a cumulative grade point average of at least 2.00. In order for a student to be junior ready in Computer Science at specific transfer institutions, there are additional credits/units beyond the AST2 credit/unit requirements for this degree that a student need to consider. Please consult your faculty adviser to learn more and to develop your education plan ([www.engrcs.com/schedule](http://www.engrcs.com/schedule)). The minimum required credits/units are distributed as follows:

Code	Title	Credits/ Units
<b>General Education Requirements</b>		
<i>Communication Skills</i>		
ENGL& 101	English Composition I	5
<i>Quantitative Skills</i> <sup>1</sup>		
MATH& 151	Calculus I	5
MATH& 152	Calculus II	5
<i>Humanities &amp; Social Science</i> <sup>2</sup>		
15		
Coursework should be planned with the help of an advisor based on the requirements of the specific discipline at the baccalaureate institution the student selects to attend		
Humanities Course Options ( <a href="https://catalog.clark.edu/degree-certificate-requirements/transfer-degree-distribution-list/#humanities">https://catalog.clark.edu/degree-certificate-requirements/transfer-degree-distribution-list/#humanities</a> )		
Social Science Course Options ( <a href="https://catalog.clark.edu/degree-certificate-requirements/transfer-degree-distribution-list/#social-sciences">https://catalog.clark.edu/degree-certificate-requirements/transfer-degree-distribution-list/#social-sciences</a> )		
Additional 5 (five) credits/units in either Humanities or Social Science		
<b>Pre-Major Program Requirements (minimum of 25 credits/units)</b>		<b>25</b>
Any 5 (five) credit/unit Biology (BIOL/BIOL&) Class with Lab <sup>3</sup>		
MATH& 153	Calculus III	
PHYS& 241 & PHYS& 231	Engineering Physics I and Engineering Phys Lab I <sup>4</sup>	
PHYS& 242 & PHYS& 232	Engineering Physics II and Engineering Phys Lab II <sup>4</sup>	
PHYS& 243 & PHYS& 233	Engineering Physics III and Engineering Phys Lab III <sup>4</sup>	
<b>Remaining Credits/Units (minimum of 35 credits/units)</b>		<b>35</b>

The remaining credits/units should be planned with the help of an advisor based on the requirements of the specific discipline at the baccalaureate institution the student selects to attend

CSE 101	Engineering and Computer Science Orientation
CSE 120	Introduction to Electrical/Computing
CSE 121	Introduction to C
CSE 215	Discrete Structures
CSE 222	Introduction to Data Structures
CSE 223	Data Structures & Object-Oriented Programming
CSE 224	Programming Tools
ENGR 250	Digital Logic Design
ENGR 270	Digital Systems and Microprocessors
MATH 215	Linear Algebra
MATH& 254	Calculus IV
ENGL& 235	Technical Writing

**Total Credits/Units** **90**

<sup>1</sup> Calculus I (MATH& 151) requires the successful completion of both Trigonometry (MATH 103) and College Algebra (MATH 110/MATH 111) or recommending score on an approved placement test prior to registration.

<sup>2</sup> WS 101, ECON& 202 and HIST& 128 are recommended

<sup>3</sup> Any 5 Credit/Unit Biology course with Lab - BIOL& 175 and BIOL& 100 are recommended.

<sup>4</sup> Requires concurrent enrollment in PHYS 94/PHYS 95/PHYS 96

## Program Outcomes

Program outcomes are overarching skills that are emphasized and reinforced throughout several courses in a specific program; they are measurable statements that define what students should know or be able to do by the end of a certificate or degree at Clark College. After successful completion of this program, students will be able to:

- Demonstrate understanding of the derivative as an instantaneous rate of change and the definite integral as a limit of a sum.
- Apply fundamental principles and relationships from the Natural Sciences to analyze technological or scientific problems.
- Apply scientific and technological knowledge and methodologies to creatively solve technological or scientific problems.
- Demonstrate progress toward healthier behaviors. (GE)
- Obtain, evaluate, and ethically use information. (GE)
- Acquire scientific and technological information from appropriate sources to examine issues, claims or situations.
- Analyze and solve multi-step problems using techniques through single-variable calculus.
- Articulate well-considered ideas and written claims to an academic audience, using effective rhetorical techniques, properly credited evidence, and a command of Standard English. (GE)
- Interpret the human experience, within appropriate global and historical contexts, through evaluation, analysis, creation, or performance. (GE)
- Evaluate, analyze, and explain events, behaviors, and institutions using perspectives and methods in the Social Sciences. (GE)
- Analyze patterns of power, privilege, and inequity in the United States. (GE)
- Analyze and interpret quantitative information presented verbally, graphically, numerically, and/or symbolically. (GE)
- Apply communication theory to demonstrate effective oral communication skills. (GE)

- Demonstrate and clearly explain an effective strategy to solve a quantitative problem. (GE)

Program maps are a suggested academic plan and should not be used in the place of regular academic advising appointments. Your student entry method, placement, course availability, and program requirements are subject to change and transfer credit(s) may change your map/plan.

To view the current suggested map for your program please visit our website <https://programmap.clark.edu/academics> (<https://programmap.clark.edu/academics/>)