# CONCENTRATION IN COMPUTER ENGINEERING (AST2)(PLAN CODE: EECCEAS, SUBPLAN CODE: COMPTRENGR)

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.

In order for a student to be junior ready in Computer Engineering at specific transfer institutions, there are additional credits beyond the AST2 credit 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).

| Code | Title | Credits/ Units |
|---|---|---|
| **Basic Requirements** | | |
| *Communication Skills* | | |
| ENGL& 101 | English Composition I | 5 |
| *Mathematics* [1] | | |
| MATH& 151 | Calculus I | 5 |
| MATH& 152 | Calculus II | 5 |
| MATH& 153 | Calculus III | 5 |
| MATH 215 | Linear Algebra | 5 |
| MATH 221 | Differential Equations | 5 |
| *Distribution Requirements* | | |
| 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 (https://catalog.clark.edu/degree-certificate-requirements/transfer-degree-distribution-list/#humanities) | | 5 |
| *Social Sciences* [2] | | |
| Course Options (https://catalog.clark.edu/degree-certificate-requirements/transfer-degree-distribution-list/#social-sciences) | | 5 |
| *Minimum of additional 5 credits in either Humanities or Social Sciences* | | *5* |
| *Physics* [3] | | |
| Complete the following 3-term physics sequence with the required concurrent enrollment: | | |
| Sequence One: | | |
| PHYS& 241 & PHYS& 231 | Engineering Physics I and Engineering Phys Lab I | 5 |
| Sequence Two: | | |
| PHYS& 242 & PHYS& 232 | Engineering Physics II and Engineering Phys Lab II | 5 |
| Sequence Three: | | |
| PHYS& 243 & PHYS& 233 | Engineering Physics III and Engineering Phys Lab III | 5 |
| *Chemistry with Lab* | | |
| CHEM& 141 & CHEM& 151 | General Chemistry I and General Chemistry Laboratory I | 5 |
| *Required Major Courses* | | |
| ENGR& 204 | Electrical Circuits | 5 |
| CSE 121 | Introduction to C | 5 |
| **Specialization Courses** | | |
| Select Minimum of four (4) specialization courses (minimum 15-20 15-20 units) as appropriate for intended major and intended baccalaureate institution: | | |
| CSE 222 | Introduction to Data Structures | |
| CSE 223 | Data Structures & Object-Oriented Programming | |
| CSE 224 | Programming Tools | |
| ENGL& 235 | Technical Writing | |
| ENGR 101 | Engineering and Computer Science Orientation | |
| ENGR 120 | Intro to Electrical/Computer Sci & Engineering | |
| ENGR 252 | Electrical Circuits and Signals | |
| ENGR 250 | Digital Logic Design | |
| ENGR 253 | Signals and Systems | |
| ENGR 270 | Digital Systems and Microprocessors | |
| MATH& 254 | Calculus IV | |
| **Total Credits/Units** | | **90-95** |

1 MATH 103 and MATH 111/MATH 110 are required prerequisites for MATH& 151 that may be needed if calculus placement is not met
2 WGES 101, ECON& 202 and HIST& 128 are recommended
3 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.
- 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.

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