# CONCENTRATION IN CIVIL ENGINEERING (AST2/MRP) (PLAN CODE: MEEMCAS, SUBPLAN CODE: CIVILENGR)

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.

| Code | Title | Credits/ Units |
|---|---|---|
| **Basic Requirements** | | |
| *Communication Skills* | | |
| ENGL& 101 | English Composition I | 5 |
| *Mathematics* | | |
| MATH& 151 | Calculus I [1] | 5 |
| MATH& 152 | Calculus II | 5 |
| MATH& 153 | Calculus III | 5 |
| MATH 215 | Linear Algebra | 5 |
| MATH 221 | Differential Equations [2] | 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* | | *5* |
| Course Options (https://catalog.clark.edu/degree-certificate-requirements/transfer-degree-distribution-list/#humanities) | | |
| Social Sciences [3] | | 5 |
| Course Options (https://catalog.clark.edu/degree-certificate-requirements/transfer-degree-distribution-list/#social-sciences) | | |
| Additional Credits in either Humanities or Social Sciences | | 5 |
| **Physics [4]** | | |
| *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 |
| CHEM& 142 & CHEM& 152 | General Chemistry II and General Chemistry Laboratory II | 5 |
| **Additional Requirements** | | |
| ENGR& 214 | Statics | 5 |
| ENGR& 215 | Dynamics | 5 |
| ENGR& 225 | Mechanics of Materials | 5 |
| **Math/Engineering Electives** | | |
| Select a minimum of 4 specialization courses in consultation with an Engineering Advisor as appropriate for intended transfer institution | | 15-21 |
| BIOL& 100 | Survey of Biology (Select a minimum of 4 specialization courses in consultation with an Engineering Advisor as appropriate for intended transfer institution) | |
| BIOL& 222 | Majors Cell/Molecular | |
| BIOL& 260 | Microbiology | |
| ENGL& 235 | Technical Writing | |
| ENGR 105 | Wheeler Innovation Lab Qualifications | |
| ENGR 109 | Introduction to Engineering | |
| ENGR 113 | Engineering Sketching and Visualization | |
| ENGR 121 | Field Survey I | |
| ENGR 140 | Basic Autocad | |
| ENGR 150 | Basic Solidworks | |
| ENGR 221 | Materials Science | |
| ENGR& 224 | Thermodynamics | |
| ENGR& 240 | Engineering Computations | |
| MATH& 254 | Calculus IV | |
| **Total Credits/Units** | | **100-106** |

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. Clark requires concurrent enrollment or completion of MATH& 254 with a grade of "C" or higher.
3. ECON& 201 or ECON& 202 is recommended, but not required.
4. 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:

- Analyze and solve multi-step problems using techniques through single-variable calculus.
- Demonstrate understanding of the derivative as an instantaneous rate of change and the definite integral as a limit of a sum.
- Acquire scientific and technological information from appropriate sources to examine issues, claims or situations.
- 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.

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