



Bachelors of Science in Civil Engineering 4-Year Curriculum Map for 2020-2021 – Transfer Students

The page represents a flowchart of required courses arranged in vertical boxes. There are 3 wider vertical boxes, the first of which represents a list of transfer courses an incoming student with an AA degree should have completed, the second and third wider boxes represent a year and contains two columns representing two semesters within each year. The two narrower boxes represent summer terms. Semesters are identified by number indicated by labels at the bottom of each column. From left to right:

- The first column lists the transfer courses that an incoming student should already have completed.
- The second column represents Summer 1
- The third column represents Year 1 and contains 2 columns of courses for Semester 1 and Semester 2 respectively
- The third column represents Summer 2
- The third column represents Year 2 and contains 2 columns of courses for Semester 3 and Semester 4 respectively

Each box in the flowchart represents a single course, and contains the course prefix and number, number of credit hours and an abbreviated course title. Lines between the boxes define the relationship between courses (pre-requisite, co-requisite, or non-engineering general education course). A legend is provided to explain how colored lines (red and green) are used to indicate a prerequisite vs co-requisite relationship. The relationship indicated by the lines and their colors fully described below:

Incoming Students with an AA Degree should have competed the following courses:

- CHM 2045 – General Chemistry I (3 credit hours)
- CHM 2045L – General Chemistry I Lab (1 credit hour)
- PHY 1041 – Physics for Engineers I (3 credit hours)
- PHY 2048L – Calculus-based Physics I Lab (1 credit hour)
- PHY 2042 – Physics for Engineers II (3 credit hours)
- PHY 2049L – Calculus-based Physics II Lab (1 credit hour)
- MAC 2311 – Calculus I (4 credit hours)
- MAC 2312 – Calculus II (4 credit hours)
- MAC 2313 – Calculus III (4 credit hours)
- MAP 2302 – Ordinary Differential Equations (3 credit hours)
- EGN 3311 - Statics (3 credit hours)
- CGN 3322C – Geomatics (4 credit hours)

Courses in Summer 1:

- EGN 1001C – Introduction to Engineering I (2 credit hours)
 - Co-requisite course MAC 1147 (Precalculus) or any higher-level MAC course (2xxx)
- CES 3104 or EGN 3331 – Mechanics of Materials or Strength of Materials (Both 3 credit hours)
 - Prerequisite EGN 3311 (Statics)
- EGN 3321 – Dynamics (3 credit hours)
 - Prerequisite MAC 2313 (Calculus III)
 - Prerequisite PHY 2042 (Physics for Engineers II)
 - Prerequisite EGN 3311 (Statics)
- STA 3032 – Probability and Statistics for Engineers (3 credit hours)
 - Prerequisite MAC 2312 (Calculus II)

- Taught by another department

Courses in Year 1, Semester 1:

- TTE 4004 – Transportation Engineering (3 credit hours)
 - Prerequisite CGN 3322C (Geomatics)
 - Prerequisite STA 3032 (Probability and Statistics for Engineers)
- CES 3100 – Analysis of Structures (3 credit hours)
 - Prerequisite CES 3104 or EGN 3331 (Mechanics of Materials or Strength of Materials)
- CGN 3501C – CE Materials (4 credit hours)
 - Prerequisite EGN 3311 (Statics)
- CWR 3201 – Fluid Mechanics (3 credit hours)
 - Prerequisite EGN 3321 (Dynamics)
- ENV 3001C – Environmental Engineering (3 credit hours)
 - Prerequisite CHM 2045 (General Chemistry I),

Courses in Year 1, Semester 2:

- CES 4702C – Design of Reinforced Concrete (3 credit hours)
 - Prerequisite CES 3100 (Analysis of Structures)
 - Prerequisite CGN 3501C (CE Materials)
- CEG 3011C – Geotechnical Engineering (4 credit hours)
 - Prerequisite CES 3104 or EGN 3331 (Mechanics of Materials or Strength of Materials)
 - Prerequisite CWR 3201 (Fluid Mechanics)
- CWR 3561 – Numerical Methods & Computing in CE (3 credit hours)
 - Prerequisite MAP 2302 (Ordinary Differential Equations)
- CWR 4001 – Port and Coastal Engineering (3 credit hours)
 - Prerequisite PHY 2042 (Physics for Engineers II)
- Natural Science Elective Requirement, non-engineering course (3 credit hours)
 - Taught by another department – see degree evaluation for details

Courses in Summer 2:

- CGN, CWR, CES, TTE, ENV, CEG XXXX – Technical Elective 1 (3 credit hours)
 - See course catalog for details
- ENC 3246 – Professional Communications for Engineers (3 credit hours)
 - Taught by another department
- CGN, CWR, CES, TTE, ENV, CEG XXXX – Technical Elective 2 (3 credit hours)
 - See course catalog for details

Courses in Year 2, Semester 1:

- CGN 4151 – Engineering Management (3 credit hours)
- CGN 4803 – Senior Capstone Design I (2 credit hours)
 - Prerequisite TTE 4004 (Transportation Engineering)
 - Prerequisite CES 4702C (Design of Reinforced Concrete)
 - Prerequisite CEG 3011C (Geotechnical Engineering)
 - Co-requisite CWR 4202C (Hydraulic Engineering)
- CWR 4202C – Hydraulic Engineering (4 credit hours)
 - Prerequisite CWR 3201 (Fluid Mechanics)
- CGN 4935 – FE Exam Review Seminar (1 credit hour)
- CGN, CWR, CES, TTE, ENV, CEG XXXX – Technical Elective 3 (3 credit hours)
 - See course catalog for details

Courses in Year 2, Semester 2:

- CGN 4804 – Senior Capstone Design II (3 credit hours)
 - Prerequisite CGN 4803 (Senior Capstone Design I)
- CGN, CWR, CES, TTE, ENV, CEG XXXX – Technical Elective 4 (3 credit hours)
 - See course catalog for details