



Columbus State Community College – Associate of Science (AS)
Systems Engineering Bachelor's Degree Transfer Major to
Otterbein University – Bachelor of Science (BS)
Major: Mechanical Engineering
Sample Plan of Study



Freshman Year (CSCC)

| Autumn Semester | | Spring Semester | |
|---|----|--|----|
| ENGL 1100 Composition I [INST 1500, WI] | 3 | ENGL 2767 Comp II: Writing About Science & Technology [ENGL 1192, WI, DS]* | 3 |
| MATH 1151 Calculus I** [MATH 1700] | 5 | MATH 1172 Engineering Mathematics A** [MATH 1800] | 5 |
| ENGR 1181 Fundamentals of Engineering I** [ENGR 1000 & ENGR 1001] | 3 | ENGR 1182 Fundamentals of Engineering II** [ENGR 1010 & ENGR 1011] | 3 |
| PHYS 1250 Calculus-Based Physics I** [PHYS 1500, DS] | 5 | PHYS 1251 Calculus-Based Physics II** [PHYS 1600, DS] | 5 |
| COLS 1100 First Year Experience Seminar | 1 | ASC 1190 Critical Thinking in Arts/Sciences | 1 |
| Total Hours | | Total Hours | |
| | 17 | | 17 |

Sophomore Year (CSCC)

| Autumn Semester | | Spring Semester | |
|---|----|---|----|
| MATH 2173 Engineering Math B** [MATH 2700] | 5 | MATH 2174 Linear Algebra Differential Equations for Engineering** [MATH 2500] | 5 |
| ENGR 2040 Statics & Intro to Mechanics of Materials** [ENGR 2000] | 4 | ENGR 2030 Dynamics** [ENGR 2100] | 4 |
| HUM 1160 Music & Art Since 1945 [INST 2600] | 3 | Social & Behavioral Sciences* | 3 |
| GEOG 2400 Economics and Social Geography [INST 2000] | 3 | Historical Study*[INST 2800] | 3 |
| Total Hours | | Total Hours | |
| | 15 | | 15 |

*List of courses that meet this requirement can be found after notes **Courses must be completed with a grade of C or higher to transfer to the Engineering major at Otterbein.

Courses number in [brackets] is the Otterbein equivalent course. WI=Writing Intensive; three are required for an Otterbein degree DS=Disciplinary Skills- 8-9 hours required for an Otterbein degree.

Junior Year (Otterbein)

| Autumn Semester | | Spring Semester | |
|---|-------|---|----|
| FYS First Year Seminar or TYS Transfer Year Seminar | 2-3 | MENG 2000/2001 Thermodynamics & Lab | 4 |
| MENG 3000 Machine Design I | 3 | ENGR 3010/3011 Electrical System II & Lab | 4 |
| ENGR 3100/3101 Production Processes & Lab | 4 | ENGR 3500 Statistics & Quality Control | 3 |
| ENGR 3200 Materials Engineering | 3 | MENG 3100 Machine Design II | 3 |
| CHEM 1700/1710 Engineering Chemistry & Lab | 4 | INST 2200 <u>or</u> 2400 (choose one) | 3 |
| Total Hours | | Total Hours | |
| | 16/17 | | 17 |

Senior Year (Otterbein)

| Autumn Semester | | Spring Semester | |
|---|----|---|----|
| MENG 4100 Fluid Dynamics | 3 | MENG 4000 Heat Transfer | 3 |
| ENGR 4100/4101 Automated Systems & Lab | 4 | MENG 4001 Thermal Sciences Lab | 1 |
| MATH 3100 Ordinary Differential Equations | 3 | ENGR 4999 Major Elective Course | 2 |
| LFW Lifestyle Fitness & Wellness | 1 | ENGR 4999 Major Elective Course | 2 |
| INST 2200 <u>or</u> 2400 (choose one) | 3 | INST 3000 Integrative Seminar | 3 |
| | | MENG 4800 Senior Capstone Design Project (WI) | 3 |
| | | SYE Senior Year Experience | 3 |
| Total Hours | | Total Hours | |
| | 14 | | 17 |

- At Otterbein, at least 36 credit hours of coursework must be taken in Otterbein classes. Of these hours: at least 9 credit hours must be taken in each of a student's majors at the 3000 level or above, at least 5 credit hours (any level) must be taken in each minor, and at least one INST 2XXX thread course, INST 3XXX, and an SYE course must be taken at Otterbein. Otterbein requires 120 credit hours to complete the bachelor's degree with an overall GPA of 2.0 or higher.
- ****Students must earn a C or higher in all prerequisite course work for the Mechanical Engineering major at Otterbein.** Classes denoted by the double asterisk are prerequisite courses for the Mechanical Engineering major. Students must complete BOTH ENGR 1181 and 1182 to receive credit for ENGR 1000/1001 and 1010/1011 at Otterbein, both prerequisites for higher ENGR course work. Students are encouraged to meet with an Otterbein advisor regarding their major course work and general education course work meant to satisfy Otterbein's general education or INST requirement.
- Students in the Mechanical Engineering Major at Otterbein will need to purchase a specific laptop computer with required identified software prior to enrolling in engineering classes at Otterbein (ENGR and/or MENG courses). The laptop and software may be purchased through Otterbein. Please contact the Engineering Department at Otterbein to clarify the specifications and software needs prior to purchase.
- **ENGR 4999 Major Elective Course:** Students must complete 4 hours of ENGR 4999 course work to graduate with degree at Otterbein. Students should consult with their Otterbein academic advisor on appropriate 4999 courses to complete when enrolling at Otterbein.
- ***Columbus State Course Options:** For the Intermediate Composition requirement for the AS degree, ENGL 2767: Comp II: Writing about Science and Technology is suggested, but other 2X67 (except ENGL 2267) courses will meet AS degree requirement. For Social and Behavioral Science course, a student can choose from any published option on the Associate of Science curriculum (except for additional courses in the Geography department [GEOG]) or from the recommended courses on the Systems Engineering Bachelor's Degree Transfer Major plan of study.
- **CSCC Degree Plan:** This Sample Plan of Study was created with the assumption that students would complete the Systems Engineering Bachelor's Degree Transfer Major before transferring into the stated bachelor's degree. Completing the general Associate of Science degree is also an option and this document can still be used for degree planning. If you have questions, contact a Columbus State Arts and Sciences Academic Advisor and an advisor at Otterbein University.

For the Historical Study requirement, please choose from the courses below: [INST 2800]

| | |
|-----------|----------------------------------|
| HIST 1111 | European History to 1648 |
| HIST 1112 | European History since 1648 |
| HIST 1181 | World Civilization I to 1500 |
| HIST 1182 | World Civilization II since 1500 |
| HIST 2715 | Western Medicine I to 1700 |
| HIST 2716 | Western Medicine II since 1700 |

Intermediate Composition

It is recommended that students complete ENGL 2767 for this requirement. However, students may choose from any of the additional options below to complete this requirement instead of ENGL 2767:

| | |
|-----------|--|
| ENGL 2367 | Composition II |
| ENGL 2467 | Composition II: Race & Ethnicity |
| ENGL 2567 | Composition II: Gender & Identity |
| ENGL 2667 | Composition II: Working Class Identity |