## Addendum C: Electrical Engineering (BSEE)

Satisfaction of the following McHenry courses is assumed upon entry into the Electrical Engineering program at MSOE. Any course requirement that is not met must be satisfied at MSOE or with approved transfer credit.

| McHenry Course Number | McHenry Course Name | Equivalent MSOE Course Number |
|---|---|---|
| **Communication & General Education** | | |
| ENG 151<br>(ENG 152 also required for AES degree) | Composition 1 | COM 1001 |
| ANT 170 (suggested) | Introduction to Cultural Anthropology<br>See appendix for more options | ANT 1001<br>Diversity CLO |
| PHI 161 (suggested) | Introduction to Ethics<br>See appendix for more options | HUM 0103<br>Ethical Understanding CLO |
| ECO 251 (suggested) | Microeconomics<br>See appendix for more options | BUS 2221<br>Curiosity CLO |
| General Education Elective | Many Options<br>See appendix for more options | Many Options<br>Choice CLO |
| **Mathematics & Natural Science** | | |
| MAT 175 | Calculus with Analytic Geometry I | MTH 1110 |
| MAT 245 | Calculus with Analytic Geometry II | MTH 1120 |
| MAT 255 | Calculus with Analytic Geometry III | MTH 2130 |
| MAT 260 | Differential Equations | MTH 2140 |
| CHM 165 | General Chemistry I | CHM 1010 |
| PHY 291 | Principles of Physics I | PHY 1110 |
| PHY 292 | Principles of Physics II | PHY 1120 |
| **Electrical Engineering Courses** | | |
| EGR 260 | Circuit Analysis | ELE 2021 |
| **Electrical Engineering Free Elective – Choose 1** | | |
| CSC 121 | Computer Science I | EE Free Elective |
| **Electrical Engineering Technical Elective – Choose 1** | | |
| MTH 203 (suggested) | Linear Algebra | EE Technical Elective (MTH 2340) |
| EGR 251 | Statics | EE Technical Elective (MEC 2010) |

### ADDITIONAL BSEE TRANSFER COURSES AVAILABLE THROUGH McHENRY

| McHenry Course Number | McHenry Course Name | Equivalent MSOE Course Number |
|---|---|---|
| **Communication & General Education** | | |
| ENG 105 | Technical Communication | COM 2001 |
| SPE 151 | Introduction to Speech | COM 3001 |

## Addendum C: Electrical Engineering (BSEE)

Courses remaining in the Electrical Engineering program at MSOE.

*Courses marked with an asterisk are available at McHenry College.

| MSOE Course Number | MSOE Course Name | Semester Credits |
|---|---|---|
| **Communication & General Education** | | |
| *COM 2001 | Writing for the STEM Disciplines | 3 |
| *COM 3001 | Professional Presentations | 3 |
| **Mathematics & Natural Science** | | |
| PHY 3700 | Physics of Electronic Materials & Semiconductor Devices | 4 |
| **BSEE Program** | | |
| ELE 1000 | Introduction to Electrical Engineering | 3 |
| ELE 1601 | Introduction to Programming for EEs | 3 |
| IDS 2020 | Career Development | 0 |
| CPE 1500 | Digital Logic | 4 |
| ELE 2022 | Bridge Electric Circuits | 4 |
| ELE 2610 | Embedded Systems | 4 |
| ELE 3101 | Electronics I | 4 |
| ELE 3900 | Career & Professional Guidance | 1 |
| ELE 3201 | Electromagnetics & Transmission Lines | 4 |
| ELE 3300 | Signals & Systems | 3 |
| ELE 3401 | Electric Power & Machines | 4 |
| ELE 3510 | Digital Systems | 4 |
| ELE 3111 | Electronics II | 3 |
| ELE 3701 | Control Systems | 4 |
| ELE 3320 | Digital Signal Processing | 3 |
| ELE 3310 | Introduction to Probability & Random Processes | 3 |
| ELE 4901 | Senior Design Project I | 3 |
| ELE 4902 | Senior Design Project II | 3 |
| Elective | ECBE or DSAC Technical Elective | 3 |
| Elective | ECBE or DSAC Technical Elective | 3 |

## APPENDIX: GENERAL EDUCATION HUMANITIES & SOCIAL SCIENCE EQUIVALENCIES

MSOE requires courses that fulfill Common Learning Outcome (CLO) categories.
The following four CLO categories can be satisfied with McHenry courses:

- Exhibit Curiosity CLO
- Embrace Diversity CLO
- Demonstrate Ethical Understanding CLO
- Choice of CLO – Select any course listed from the table below

*Note: Each course counts towards only one CLO and the same course cannot fulfill multiple CLO categories.*

**General Education Humanities & Social Science**

| CLO | McHenry Courses | Equivalent MSOE Courses |
|---|---|---|
| Exhibit Curiosity | ANT 170 Intro to Cultural Anthropology | ANT 1001 Cultural Anthropology |
| | ANT 151 Introduction to Anthropology | HUM 0106 Exhibit Curiosity |
| | ECO 251 Microeconomics | BUS 2221 Microeconomics |
| | ECO 252 Macroeconomics | BUS 2222 Macroeconomics |
| | ENG 275 Women's Literature | HUM 0106 Exhibit Curiosity |
| | GER 151 Elementary German I | GER 1001 Elementary German |
| | GER 152 Elementary German II | GER 100 Elementary German |
| | GER 251 Intermediate German I | GER 2001 Intermediate German |
| | GER 252 Intermediate German II | GER 2001 Intermediate German |
| | HIS 170 United States History I | HST 1013 United States History I |
| | HIS 172 United States History II | HST 1014 United States History II |
| | MUS 154 Music Appreciation | HST 2053 Music History |
| | PHI 151 Introduction to Philosophy | PHL 3201 Introduction to Philosophy |
| | PHI 155 Introduction to Logic | PHL 3202 Introduction to Logic |
| | PHI 160 Eastern Philosophy | PHL 3104 Eastern Philosophy |
| | PLT 151 United States Government | PSC 2011 American Government |
| | PSY 151 Introduction to Psychology | PSY 1001 Foundations of Psychology |
| | SOC 151 Introduction to Sociology | SOC 1001 Foundations of Sociology |
| | SPA 151 Elementary Spanish I | SPN 1001 Elementary Spanish |
| | SPA 152 Elementary Spanish II | SPN 1001 Elementary Spanish |
| | SPA 251 Intermediate Spanish I | SPN 2001 Intermediate Spanish |
| | SPA 252 Intermediate Spanish II | SPN 2001 Intermediate Spanish |
| | THE 151 Intro to Theater | FNA 2002 Drama and the Theater |
| Embrace Diversity | ANT 170 Intro to Cultural Anthropology | ANT 1001 Cultural Anthropology |
| | GER 151 Elementary German I | GER 1001 Elementary German |
| | GER 152 Elementary German II | GER 100 Elementary German |
| | GER 251 Intermediate German I | GER 2001 Intermediate German |
| | GER 252 Intermediate German II | GER 2001 Intermediate German |
| | PHI 165 Religions of the World | HUM 0104 Embrace Diversity |
| | SOC 151 Introduction to Sociology | SOC 1001 Foundations of Sociology |
| | SPA 151 Elementary Spanish I | SPN 1001 Elementary Spanish |
| | SPA 152 Elementary Spanish II | SPN 1001 Elementary Spanish |
| | SPA 251 Intermediate Spanish I | SPN 2001 Intermediate Spanish |
| | SPA 252 Intermediate Spanish II | SPN 2001 Intermediate Spanish |
| Other | PHI 161 Introduction to Ethics | HUM 0103 Demonstrate Ethical |