|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **FALL YEAR ONE** | | | | |
| Complete | Course Number | Course Title | Prerequisites | Credits |
|  | ENGL 1010 | English Composition I | ENGL 0040 \* | 3 |
|  | ENGR 1010 | Introduction to Engineering |  | 2 |
|  | MATH 1110 | College Algebra | MATH0084 \* | 4 |
|  | MECT 1150 | Fundamentals of Engineering Design |  | 2 |
|  | MFGT 1110 | Manufacturing Processes |  | 3 |
|  |  |  | **Semester Credit Hours** | **14** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SPRING YEAR ONE** | | | | |
| Complete | Course Number | Course Title | Prerequisites | Credits |
|  | CHEM 1030 | Chemistry | High School Chemistry (minimum grade of C-) or CHEM 1010 (minimum grade of C-) | 3 |
|  | ENRD 2150 | Computer Aided Design I |  | 3 |
|  | MATH 1130 | Trigonometry | MATH1110 (minimum grade of C-) | 4 |
|  | MECT 1750 | Hydraulics and Pneumatics |  | 3 |
|  | MECT 1910 | Introduction to Design Project | ENGR1010 | 1 |
|  | PHYS 1110 | General Physics I | MATH1130c (minimum grade of C-) | 4 |
|  |  |  | **Semester Credit Hours** | **18** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **FALL YEAR TWO** | | | | |
| Complete | Course Number | Course Title | Prerequisites | Credits |
|  | MATH 1150 | Calculus I | MATH 1130 (minimum grade of C-) | 5 |
|  | MECT 2230 | Engineering Materials |  | 3 |
|  | MECT 2330 OR  MECT 2335 | Statics  OR  Engineering Statics | PHYS1110c | 3 |
|  | MECT 2905 | Design Project I | MECT1750, MECT1910 | 1 |
|  | PHYS 1130 | General Physics II | PHYS 1110 (minimum grade of C-), MATH1051 | 4 |
|  |  |  | **Semester Credit Hours** | **16** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SPRING YEAR TWO** | | | | |
| Complete | Course Number | Course Title | Prerequisites | Credits |
|  | ENGR 2010 | Engineering Programming, Robotics, and PLC | ENGR1010 or ENGR1910 | 3 |
|  | ENGR 2850 | Engineering Economics & Organization | MATH1110 | 3 |
|  | MATH 1151 | Calculus II | MATH1150 (minimum grade of C-) | 5 |
|  | MECT 2440 | Strength of Materials | MECT2330 | 3 |
|  | MECT2910  OR  ENGR 2980  AND  ENGR 2990 | Mechanical Design Project  OR  Cooperative Work Experience  AND  Cooperative Work Experience Seminar | MECT2905 or MECT 2440 (c)  ENGR2990m, and 20 credit hours of Engineering classes with a grade of C- or better, and permission of the instructor.  ENGR2980m  **NOTE**: *The Cooperative Work Experience and the Seminar may be taken during Spring or Summer of Year Two or Fall of Year Three. The student may choose to take either MECT2950 and MECT3910 (Fall Year Three) or the Cooperative Work Experience and the Seminar* | 1  OR  1  1 |
|  | PSYC 1010 | Introduction to Psychology |  | 3 |
|  |  |  | **Semester Credit Hours** | **18-19** |
|  |  |  |  |  |

c = Can be concurrent m = Must be concurrent

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **FALL YEAR THREE** | | | | |
| Complete | Course Number | Course Title | Prerequisites | Credits |
|  | ELET 1510 | DC Electricity | MATH1110 | 3 |
|  | ENGL 1030 | English Composition II | ENGL1010 | 3 |
|  | MECT 3010 | Applied Dynamics | MATH1151, MECT2330 | 3 |
|  | MECT 3031 | Technical Thermodynamics | MATH1151, PHYS1130 | 3 |
|  | MECT 3910 | Design Project II | MECT 2905  **NOTE**: *Only required for students NOT completing the Cooperative Work Experience (ENGR 2980 & ENGR 2990)* | (1) |
|  | MFGT 1640 | Computer Aided Manufacturing | MFGT1110 | 2 |
|  |  |  | **Semester Credit Hours** | **15-16** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SPRING YEAR THREE** | | | | |
| Complete | Course Number | Course Title | Prerequisites | Credits |
|  | ENGR 3030 | Measurement & Instrumentation | MATH 1130 | 3 |
|  | MECT 3050 | Mechanical Design I | MECT2440, MECT3010 | 3 |
|  | MECT 3171 | Applied Thermodynamics | MATH1151, MECT3030 | 3 |
|  | MECT 3950  OR  ENGR 3980  AND  ENGR 3990 | Design Project III  OR  Cooperative Work Experience  AND  Cooperative Work Experience  Seminar | MECT 3910 or ENGR 2980  ENGR 3990m, and 20 credit hours of Engineering classes with a grade of C- or better, and permission of the instructor.  ENGR 3980m  **NOTE**: *The Cooperative Work Experience and the Seminar may be taken during Spring or Summer of Year Three or Fall of Year Four. The student may choose to take either MECT3950 and MECT4910 (Fall Year Three) or the Cooperative Work Experience and the Seminar* | 1  OR  1  AND  1 |
|  | ELET 1520 | AC Electricity | ELET 1510 | 3 |
|  | PHIL 1010 | Western Philosophy |  | 3 |
|  |  |  | **Semester Credit Hours** | **17-18** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **FALL YEAR FOUR** | | | | |
| Complete | Course Number | Course Title | Prerequisites | Credits |
|  | MECT 4010 | Applied Fluid Mechanics | MATH1151, MECT1750 | 4 |
|  | MECT 4050 | Mechanical Design II | MECT3050, MECT2230 | 3 |
|  | MECT 4910 | Design Project IV | MECT 3950  **NOTE***: Only required for students NOT completing the Cooperative Work Experience (ENGR 3980 & ENGR 3990)* | (1) |
|  | PHIL 1110 | Ethics |  | 3 |
|  | SOCY 1010 | Introduction to Sociology |  | 3 |
|  |  |  | **Semester Credit Hours** | **13-14** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SPRING YEAR FOUR** | | | | |
| Complete | Course Number | Course Title | Prerequisites | Credits |
|  | ENGR 4010 | Advanced PLC and Robotics | ENGR 2010 | 3 |
|  | ENGR 4050 | Senior Technology Capstone | Complete 90 credit hours, MECT4050, MECT4910 or ENGR3980 | 3 |
|  | ENGR 4210 | Design of Engineering  Experiments | MATH1151 | 3 |
|  | SOCY 2010 | Cultural Diversity and Racism |  | 3 |
|  |  |  | **Semester Credit Hours** | **12** |
|  |  |  | **TOTAL SEMESTER HOURS** | **125** |

c = Can be concurrent m = Must be concurrent

\* All incoming students will be required to provide ACT scores or take a placement test. Based on their scores, students will be placed in appropriate English and mathematics courses. Successful completion of developmental English, and mathematics prerequisites require a grade of C- or above in the course. Developmental English and mathematics course prerequisites can also be attained through placement testing. See the [Standardized Testing Cutoff Scores](https://www.ncstatecollege.edu/cms/media-custom/PDF/_Fdrive/Policies%20Manual/Final%20PDFs/14-202.pdf) for specific tests and test scores.

The College strongly recommends that students be covered by hospitalization insurance, which can be purchased through a private carrier. To obtain a brochure regarding insurance, contact the Student Success Center. (Rm 103 Kee Hall) or call toll free 888-755-4899, ext. 4761 or locally 419-755-4761.