

## Wheaton College - Northern Illinois University (NIU) Program Plan

THIS PROGRAM PLAN IS FOR GUIDANCE ONLY. GRADUATION REQUIREMENTS ARE FOUND IN CATALOGS.

Engineering Major  
General Education

### Mechanical Engineering

|              |              | Fall Semester                               |      |    |
|--------------|--------------|---|------|----|
| Sem          | Code         | Name  | Hrs. |    |
| 1            | MATH 235     | Calculus I                                  | 4    |    |
|              | PHYS 231     | Introductory Physics I                      | 4    |    |
|              | ENGR 101     | Introduction to Engineering                 | 1    |    |
|              | CORE 101     | First Year Seminar                          | 4    |    |
|              | CORE 131     | Holistic Human Flourishing                  | 1    |    |
|              | LANG         | World Languages                             | 4    |    |
| <i>Total</i> |              |   | 18   |    |
|              |              |   |      |    |
| 3            | MATH 237     | Calculus III                                | 4    |    |
|              | ENGR 211     | Engineering Mechanics I - Statics           | 3    |    |
|              | ENGR 334     | Computer Modeling of Physical Systems       | 2    |    |
|              | LANG         | World Languages                             | 4    |    |
|              | SELECT       | Thematic Core (1 of 3)                      | 4    |    |
|              | <i>Total</i> |   |      | 17 |
|              |              |   |      |    |
| 5            | ENGR 313     | Mechanics of Materials                      | 3    |    |
|              | CHEM 231     | General Chemistry I                         | 4    |    |
|              | CORE 3xx     | Advanced Seminar (with 1 Thematic Core tag) | 4    |    |
|              | SELECT       | Thematic Core (2 of 3)                      | 4    |    |
|              | <i>Total</i> |   |      | 15 |

years 1 - 3 credit hours = 98

|              |              | Spring Semester   |      |    |
|--------------|--------------|---|------|----|
| Sem          | Code         | Name  | Hrs. |    |
| 2            | MATH 236     | Calculus II   | 4    |    |
|              | PHYS 232     | Introductory Physics II                                 | 4    |    |
|              | ENGR 132     | Engineering Graphics and CAD                            | 3    |    |
|              | COMM         | Oral Communication (0-2)                                | 2    |    |
|              | BITH         | Old Testament Literature                                | 4    |    |
| <i>Total</i> |              |   | 17   |    |
|              |              |   |      |    |
| 4            | MATH 333     | Differential Equations                                  | 4    |    |
|              | ENGR 212     | Engineering Mechanics II - Dynamics                     | 3    |    |
|              | ENGR 214     | Innovative Design in Engineering (NIU Tech. Elective 1) | 3    |    |
|              | BITH         | New Testament Literature                                | 4    |    |
|              | SELECT       | Visual & Performing Arts (1 of 2)                       | 2    |    |
|              | <i>Total</i> |   |      | 16 |
|              |              |   |      |    |
| 6            | ENGR 235     | Materials Science for Engineering                       | 3    |    |
|              | ENGR 494     | Engineering Ethics Capstone                             | 2    |    |
|              | BITH         | Christian Thought                                       | 4    |    |
|              | SELECT       | Thematic Core (3 of 3)                                  | 4    |    |
|              | SELECT       | Visual & Performing Arts (2 of 2)                       | 2    |    |
| <i>Total</i> |              |   | 15   |    |

All courses below this line are based on completion at NIU

|              |                |  |    |  |
|--------------|----------------|--|----|--|
| 7            | MEE 320        | Mechanism design and analysis                    | 3  |  |
|              | MEE 321        | Mechanical vibrations I                          | 3  |  |
|              | MEE 340        | Fluid Mechanics                                  | 3  |  |
|              | ELE 210 & 210U | Engineering Circuit Analysis                     | 4  |  |
|              | ISYE 220       | Engineering Economy                              | 3  |  |
| <i>Total</i> |                |  | 16 |  |
|              |                |  |    |  |
| 9            | MEE 352        | Heat transfer                                    | 3  |  |
|              | MEE 380        | Computational methods in engineering design      | 3  |  |
|              | MEE 390        | Experimental Methods in mechanical engineering I | 3  |  |
|              | MEE 430        | Computer aided design and manufacturing          | 3  |  |
|              | MEE 485        | Senior Mechanical Engineering Design I           | 1  |  |
|              | TE             | Technical Elective 2                             | 3  |  |
| <i>Total</i> |                |  | 16 |  |

years 4 - 5 credit hours = 57

TOTAL credit hours = 155

|              |         |   |    |  |
|--------------|---------|---|----|--|
| 8            | MEE 322 | Dynamic systems and control I                         | 3  |  |
|              | MEE 331 | Manufacturing processes                               | 3  |  |
|              | MEE 350 | Engineering Thermodynamics                            | 3  |  |
|              | MEE 383 | Engineering Analysis                                  | 3  |  |
|              | MEE 470 | Design of machine elements                            | 3  |  |
| <i>Total</i> |         |   | 15 |  |
|              |         |   |    |  |
| 10           | MEE 452 | Design of thermal systems                             | 3  |  |
|              | MEE 486 | Senior Mechanical Engineering Design II               | 3  |  |
|              | MEE 494 | Mechanical engineering competency                     | 1  |  |
|              | TE      | Technical Elective 3                                  | 3  |  |
|              | Exam    | Fundamentals of Engineering (Passing is not required) | 3  |  |
| <i>Total</i> |         |   | 10 |  |

last updated 8/7/2024

# Wheaton College - NIU Mechanical Engineering

Updated August 2024

All courses after Semester 6 are taken at NIU.

