

**Department of Mechanical Engineering and Applied Mechanics ~ North Dakota State University  
Curriculum for the Coatings & Polymeric Materials Option ~ Effective Fall 2009**

Name \_\_\_\_\_ ID# \_\_\_\_\_ Advisor \_\_\_\_\_

**NO GRADES LESS THAN A "C" WILL BE ACCEPTED TO FULFILL A COURSE REQUIREMENT**

| FALL                |                      |                                       |           | SPRING             |                      |                                  |           | Gen. Ed. Electives [category] |                                |            |            |            |
|---------------------|----------------------|---------------------------------------|-----------|--------------------|----------------------|----------------------------------|-----------|-------------------------------|--------------------------------|------------|------------|------------|
| Course              | Course Title         | Cr.                                   | Gr.       | Course             | Course Title         | Cr.                              | Gr.       |                               |                                |            |            |            |
| <b>BASIC</b>        | MATH 165             | Calculus I*                           | 4         |                    | MATH 166             | Calculus II                      | 4         |                               | Humanities/Fine Arts [A]       |            |            |            |
|                     | ENGL 110 [C]         | College Composition I*                | 3         |                    | ENGL 120             | College Composition II*          | 3         |                               | *                              |            |            |            |
|                     | CHEM 121             | General Chemistry I*                  | 3         |                    | CHEM 122             | General Chemistry II*            | 3         |                               | Social/Behavioral Sciences [B] |            |            |            |
|                     | ME/UNIV 189 [F]      | Skills for Academic Success*          | 1         |                    | ME 212               | Fund. Visual Communications      | 3         |                               | *                              |            |            |            |
|                     | Hum. Elect. [A]      | *                                     | 3         |                    | ME 221               | Engineering Mechanics I          | 3         |                               | *                              |            |            |            |
|                     | Soc. Sci. Elect. [B] | *                                     | 3         |                    | Wellness [W]         | *                                | 2         |                               | *Global Perspective [G] ●      |            |            |            |
|                     |                      |                                       | <b>17</b> |                    |                      |                                  | <b>18</b> |                               | *Cultural Diversity [D] ■      |            |            |            |
|                     | MATH 129             | Basic Linear Algebra                  | 2         |                    | MATH 266             | Intro/Differential Equations     | 3         |                               | <b>Extra Courses</b>           |            | <b>Cr.</b> | <b>Gr.</b> |
|                     | MATH 259             | Multivariate Calculus                 | 3         |                    | COMM 110             | Fundamentals of Public Speaking* | 3         |                               |                                |            |            |            |
|                     | IME 330              | Manufacturing Processes               | 3         |                    | PHYS 252             | University Physics II*           | 4         |                               |                                |            |            |            |
|                     | ME 222               | Engineering Mechanics II              | 3         |                    | PHYS 252L            | University Physics Lab II*       | 1         |                               |                                |            |            |            |
|                     | ME 223               | Mechanics of Materials                | 3         |                    | ME 213               | Modeling of Engineering Systems  | 3         |                               |                                |            |            |            |
|                     | Hum. Elect. [A]      | *                                     | 3         |                    | ME 351               | Thermodynamics I                 | 3         |                               |                                |            |            |            |
|                     |                      |                                       | <b>17</b> |                    |                      |                                  | <b>17</b> |                               |                                |            |            |            |
| <b>PROFESSIONAL</b> | ECE 301              | Electrical Engineering I              | 3         |                    | ECE 303              | Electrical Engineering II        | 3         |                               |                                |            |            |            |
|                     | ENGL 321             | Writing in the Technical Professions* | 3         |                    | ECE 306              | Electrical Engineering Lab I     | 1         |                               |                                |            |            |            |
|                     | CHEM 341             | Organic Chemistry I                   | 3         |                    | CHEM 342             | Organic Chemistry II             | 3         |                               |                                |            |            |            |
|                     | CHEM 341L            | Organic Chemistry Lab I               | 1         |                    | ME 361               | Intro to Mech. Engr. Profession  | 1         |                               |                                |            |            |            |
|                     | ME 331               | Materials Science and Engineering     | 4         |                    | ME 442               | Machine Design I                 | 3         |                               |                                |            |            |            |
|                     | ME 352               | Fluid Dynamics                        | 3         |                    | ME 454               | Heat & Mass Transfer             | 3         |                               |                                |            |            |            |
|                     | CPM 451              | Lab, Chem, Radiation, & Biol Safety   | 1         |                    | Technical Elective   | ^                                | 3         |                               |                                |            |            |            |
|                     |                      |                                       |           |                    | Soc. Sci. Elect. [B] | *                                | 3         |                               |                                |            |            |            |
|                     |                      |                                       | <b>18</b> |                    |                      |                                  | <b>20</b> |                               |                                |            |            |            |
|                     | ENGR 402             | Engineering Ethics/Social Respon.     | 1         |                    | CPM 475              | Coatings II                      | 3         |                               |                                |            |            |            |
|                     | CPM 474              | Coatings I                            | 3         |                    | ME 412               | Engineering Measurements         | 3         |                               |                                |            |            |            |
|                     | CPM 484              | Coatings I Lab                        | 2         |                    | ME 421               | Theory of Vibrations             | 3         |                               |                                |            |            |            |
|                     | ME 443               | Machine Design II                     | 3         |                    | ME 462               | Design Project II                | 3         |                               |                                |            |            |            |
|                     | ME 457               | Thermal Systems Laboratory            | 3         |                    | ME 433/474           | Composite Materials Elective     | 3         |                               |                                |            |            |            |
| ME 461              | Design Project I     | 3                                     |           | Technical Elective | ^                    | 3                                |           | Total Credits                 |                                | <b>143</b> |            |            |
| ME 473              | Polymer Engineering  | 3                                     |           |                    |                      |                                  |           | <b>GPA</b>                    |                                |            |            |            |
|                     |                      | <b>18</b>                             |           |                    |                      | <b>18</b>                        |           |                               |                                |            |            |            |

**Key:**  
 "T" indicates requirement satisfied with transfer course.  
 "IP" indicates a course currently in progress.  
 \* Course fulfills a general education requirement.

**GPA:**  
 GPA for basic program entry: 2.8  
 GPA for professional program entry: 2.8  
 GPA for graduation: 2.5

BS: \_\_\_\_\_  
 FEE: \_\_\_\_\_

[ ] General education category - see academic bulletin for details.

[C] First year students with a composite ACT ≥ 21 may register for Engl 120. A passing grade will be awarded for 110 by completing 120 with a "C" or better.

[F] Students earning ≥ 24 transfer credits are not required to take ME/UNIV 189.

^ No more than six credits of approved Technical Electives may be taken outside the ME department.