



**WRIGHT STATE
UNIVERSITY**

**B.S. in Materials Science
and Engineering**
Program Guide: 2009-2010

Student's Name _____ UID# _____

| First Year | Qtr | Grade | (51 credit hours) | Pre-requisites | Fa | Wi | Sp | Su |
|--|-----|-------|-------------------|---|-----------|-----------|-----------|----------|
| CHM 121 | 3.0 | ___ | ___ | General Chemistry I.....(CHM 101, MTH 127, CHM 125c) | X | a | • | a |
| CHM 125 | 2.0 | ___ | ___ | General Chemistry Laboratory I.....(CHM 101, MTH 127, CHM 121c) | X | a | • | a |
| EGR 101 | 5.0 | wi | ___ | Intro Mathematics for Engineering Appl(MTH 131 or Note 9 or EGR 100/199 and Note 12) | X | a | a | • |
| ME 102 d | 4.0 | ___ | ___ | Engineering Programming With Matlab (EGR 101) | a | X | a | • |
| ENG 101 | 4.0 | ___ | ___ | Composition I..... | X | a | a | a |
| ENG 102 | 4.0 | ___ | ___ | Composition II.....(ENG 101) | a | X | a | a |
| ME 199 d | 3.0 | ___ | ___ | Engineering Design: Intro (Note 8) | a | a | X | • |
| ME 202 | 4.0 | ___ | ___ | Mechanical Drawing, Solid Modeling, and Design..... | a | a | X | a |
| MTH 229 | 5.0 | ___ | ___ | Calculus I.....(MTH 131 or level 7 on math placement test) | a | X | a | a |
| PHY 240 | 4.0 | ___ | ___ | General Physics I.....(EGR 101 or MTH 229, PHY 200c, PHY 240Rc) | a | • | X | • |
| PHY 200 | 1.0 | ___ | ___ | General Physics I Laboratory.....(PHY 240c) | a | • | X | • |
| GEN ED | 4.0 | ___ | ___ | Choose one from Area II.....(Note 10) | a | a | X | a |
| GEN ED | 4.0 | ___ | ___ | Choose one from Area III.....(Note 10) | X | a | a | a |
| GEN ED | 4.0 | ___ | ___ | Choose one from Area III.....(Note 10) | a | X | a | a |
| Credit Hours Per Quarter in the Model Program | | | | | 18 | 17 | 16 | 0 |

| Second Year | Qtr | Grade | (51 credit hours) | Pre-requisites | Fa | Wi | Sp | Su |
|--|-----|-------|-------------------|---|-----------|-----------|-----------|----------|
| ME 212 d | 4.0 | ___ | ___ | Statics.....(EGR 101 or MTH 231, PHY 240) | X | a | a | a |
| ME 213 d | 4.0 | ___ | ___ | Dynamics.....(ME 102, ME 212 and Note 12) | a | X | a | a |
| ME 313 d | 4.0 | ___ | ___ | Strength of Materials.....(ME 102, ME 212 and Note 12) | a | a | X | • |
| ME 370 | 4.0 | ___ | ___ | Materials Engineering Science: Intro.....(CHM 121, PHY 244) | a | a | X | • |
| MTH 230 | 5.0 | ___ | ___ | Calculus II.....(MTH 229) | X | a | a | a |
| MTH 231 | 5.0 | ___ | ___ | Calculus III.....(MTH 230) | a | X | a | a |
| MTH 235 | 5.0 | ___ | ___ | Differential Equations with Matrix Algebra.....(MTH 231) | a | a | X | a |
| EE 301 d | 4.0 | ___ | ___ | Circuit Analysis I.....(EGR 101 or MTH 230, PHY 242, EE302c) | a | a | X | a |
| EE 302 d | 1.0 | ___ | ___ | Circuit Analysis I Laboratory.....(EE 301c) | a | a | X | a |
| PHY 242 | 4.0 | ___ | ___ | General Physics II.....(MTH 230c, PHY 240, PHY 202c, PHY 242Rc) | X | a | • | • |
| PHY 202 | 1.0 | ___ | ___ | General Physics II Laboratory.....(PHY 242c) | X | a | • | • |
| PHY 244 | 5.0 | ___ | ___ | General Physics III.....(MTH 230, PHY 240, PHY 204c, PHY 244Rc) | • | X | a | • |
| PHY 204 | 1.0 | wi | ___ | General Physics III Laboratory.....(PHY 244c) | • | X | a | • |
| GEN ED | 4.0 | ___ | ___ | Choose one from Area II.....(Note 10) | X | a | a | a |
| Credit Hours Per Quarter in the Model Program | | | | | 18 | 15 | 18 | 0 |

| Third Year | Qtr | Grade | (47 credit hours) | Pre-requisites | Fa | Wi | Sp | Su |
|--|-----|-------|-------------------|---|-----------|-----------|-----------|----------|
| MTH 232 | 5.0 | ___ | ___ | Calculus IV.....(MTH 231) | X | a | a | a |
| ME 314 | 4.0 | ___ | ___ | Experimental Measurements and Instr.....(EE 301, ME 199, ME 213, ME 314Lc, MTH 235) | X | a | a | • |
| ME 315 | 4.0 | ___ | ___ | Thermodynamics I.....(EGR 101 or MTH 231, PHY 240) | X | a | a | a |
| ME 371 d | 3.0 | ___ | ___ | Structure & Properties of Engineering Materials.....(ME 313, ME 370) | X | a | a | • |
| ME 375 d | 4.0 | ___ | ___ | Thermodynamics of Materials.....(ME 315, ME 371c) | • | X | • | • |
| ME 376 | 3.0 | ___ | ___ | Physical Metallurgy.....(ME 375) | • | • | X | • |
| ME 496 d | 2.0 | ___ | ___ | Engineering Mechanics Lab.....(Department Permission, ME 313, ME 314, ME 371c) | • | X | a | • |
| ME 497 d | 2.0 | ___ | ___ | Materials Lab I.....(Department Permission, ME 370) | X | a | • | • |
| ME 470 d | 4.0 | ___ | ___ | Failure Analysis.....(ME 313, ME 371) | • | X | • | • |
| ME 472 | 4.0 | ___ | ___ | Structure & Properties of Engineering Polymers.....(ME 370) | • | X | • | • |
| ME 479 d | 4.0 | ___ | ___ | Materials Corrosion.....(ME 315, ME 371) | • | • | X | • |
| _____ | 4.0 | ___ | ___ | Materials Related Elective.....(Note 7) | a | a | X | • |
| GEN ED | 4.0 | ___ | ___ | Choose one from Area IV.....(Note 10) | a | a | X | a |
| Credit Hours Per Quarter in the Model Program | | | | | 18 | 14 | 15 | 0 |

| Fourth Year | Qtr | Grade | (45 credit hours) | Pre-requisites | Fa | Wi | Sp | Su |
|--------------|-------|-------|-------------------|----------------|---|--|----|----|
| ME 477 | d | 4.0 | _____ | _____ | Mechanical Behavior of Materials..... | (ME 313, ME 371) | | |
| ME 480 | | 4.0 | _____ | _____ | X-Ray Methods in Materials Science..... | (ME 376) | | |
| ME 483 | | 3.0 | _____ | _____ | Introduction to Ceramics..... | (ME 375) | | |
| ME _____ | d | 4.0 | _____ | _____ | Processing Course | (Note 11) | | |
| ME _____ | d | 4.0 | _____ | _____ | Processing Course | (Note 11) | | |
| ME 492 | d | 4.0 | wi | _____ | Materials Engineering Design..... | (Department Permission, ME 376, ME 496, Note 13) | | |
| ME 493 | d | 4.0 | wi | _____ | Materials Engineering Design..... | (ME 492) | | |
| _____ | _____ | 4.0 | _____ | _____ | Materials Related Elective | (Note 7) | | |
| _____ | _____ | 3.0 | _____ | _____ | Materials Related Elective | (Note 7) | | |
| _____ | _____ | 3.0 | _____ | _____ | Materials Related Elective | (Note 7) | | |
| GEN ED _____ | | 4.0 | _____ | _____ | Choose one from Area II, III, or IV | (Note 10) | | |
| GEN ED _____ | | 4.0 | _____ | _____ | Choose one from Area II, III, or IV | (Note 10) | | |

Credit Hours Per Quarter in the Model Program 16 14 15 0

Please note: As of fall 2012, Wright State University will officially be on semesters. Any student beginning fall 2009 or later will be transitioned through this period. An individualized advising plan will also be created for every student in the program. Students may choose to transition to the new program to ensure a timely graduation. The semester curriculum has not been finalized and will not be published until official approval has been granted. The current availability of courses will not be valid for fall 2012 or subsequent semesters, and the new availability will be posted as soon as it is determined.

TOTAL PROGRAM CREDIT HOURS

194.0

NOTES:

- Quarterly advising is mandatory in order to assure timely completion of the program.** Please see a department advisor as soon as possible to ensure enrollment in the proper courses.
- In the right hand columns, (X)** denotes the typical schedule for a full-time student, (a) denotes "tentatively available", and (•) denotes "not available".
- The course number in parentheses denotes a prerequisite course.** Such a number followed by "c", such as (PHY ###c), denotes a co-requisite (taken at the same time).
- Courses with "d" designations contain design,** the process of devising a system, component, or process to meet some desired need. The course work provides experience in open-ended problem solving by combining decision making and creative thought with basic and engineering sciences. The design experience is incorporated across a variety of subject areas and increases in amount and complexity.
- Students admitted or readmitted Fall 1996 or later are subject to **Writing Across the Curriculum (WAC)** regulations. Refer to the university catalog for additional information. WAC courses are indicated by "wi." In addition to ENG 101 and 102, 4 general education courses must be Writing Intensive. These may include the "wi" courses EGR 101 and PHY 204.
- Substitutions: None**
- (MR) denotes "Materials Related Elective," 14 hours minimum,** to be selected from approved list on the Mechanical and Materials Engineering Department web page at <http://www.engineering.wright.edu/mme>.
- Open to Freshman/Sophomore students only. Junior/Senior students replace with additional Materials Related Electives.
- (MPL 5 or ACT Math 25) and Trigonometry in High School.
- See the Undergraduate Catalog for General Education requirements http://www.wright.edu/admissions/gen_ed/geprog.html.
- Processing Courses include ME 485, 486, 487, 488, and 489.** At least two are required. Those taken beyond these two may count towards the MR requirement in note 7.
- A grade of **"C" or higher** is required in the following courses: EGR 100/199, ME 212, ME 315 in order to satisfy the designated pre-requisites.
- Engineering Design, ME 492 and 493, must be taken sequentially (Fall & Winter or Winter & Spring).