



**WRIGHT STATE
UNIVERSITY**

B.S. in Materials Science and Engineering

Program Guide: 2016-2017

Student's Name _____ UID# _____

First Year	Sem	Grade	(30 credit hours)	Pre-requisites	Fa	Sp	Su
CHM 1210	3.0	_____	_____	General Chemistry I.....((CHM 1010 or H.S. Chem), (MTH 1280 or MPL 04 or C), and CHM 1210Lc)	★	a	a
CHM 1210L	2.0	_____	_____	General Chemistry Laboratory I(CHM 1210c)	★	a	a
EGR 1010	4.0 iw	_____	_____	Intro Mathematics for Engineering Appl.....(MTH 1350 or Note 9 or (EGR 1980 and Note 10))	★	a	a
ENG 1100	3.0	_____	_____	Composition I.....(Level 86 on English placement test or minimum 21 ACT English)	★	a	a
ME 1040	3.0	_____	_____	Engineering Design and Solid Modeling	★	a	a
ME 1020	3.0	_____	_____	Engineering Programming With MATLAB.....(EGR 1010)	a	★	a
MTH 2300	4.0	_____	_____	Calculus I(MTH 1350 or ALEKS 76)	a	★	a
PHY 2400	4.0	_____	_____	General Physics I.....((EGR 1010 or MTH 2300), PHY 2400Lc, and PHY 2400Rc)	a	★	a
PHY 2400L	1.0	_____	_____	General Physics I Laboratory(PHY 2400c)	a	★	a
WSC _____	3.0	_____	_____	Choose one from Element 5..... (Note 4)	a	★	a
Credit Hours per Semester in the Model Program.....					15	15	0

Second Year		Sem	Grade	(33 credit hours)	Pre-requisites	Fa	Sp	Su
ME	2120	3.0	_____	_____	Statics(ME 2120Rc, (EGR 1010 or MTH 2310), ME 1040 and PHY 2400)	★	a	a
ME	2600	1.0	_____	_____	Metallography (ME 2700 pre or co-req)	★	a	•
ME	2700	3.0	_____	_____	Structure and Properties of Materials I.....(ME 2700Rc, CHM 1210 and PHY 2400)	★	a	•
MTH	2310	4.0	_____	_____	Calculus II(MTH 2300)	★	a	a
PHY	2410	4.0	_____	_____	General Physics II.....(MTH 2310c, PHY 2400, PHY 2410Lc, and PHY 2410Rc)	★	a	a
PHY	2410L	1.0	_____	_____	General Physics II Laboratory.....(PHY 2410c)	★	a	a
EE	2010	3.0	_____	_____	Circuit Analysis I(((ENG 1100 and MTH 2300), & PHY 2410/Lc & Note 11) & EE 2010Lc)	a	★	a
EE	2010L	1.0	_____	_____	Circuit Analysis I Laboratory.....(EE 2010c)	a	★	a
EGR	3350	3.0	_____	_____	Technical Communication for Engineers and Scientists.....(ENG 1100 and full major standing)	a	★	a
ME	3120	3.0	_____	_____	Mechanics of Materials(ME 1020 and (ME 2120 and Note 10))	a	★	•
MTH	2350	4.0	_____	_____	Differential Equations with Matrix Algebra..... (MTH 2310)	a	★	a
WSC	_____	3.0	_____	_____	Choose one from Element 3a..... (Note 4)	a	★	a
Credit Hours per Semester in the Model Program						16	17	0

Third Year		Sem	Grade	(30 credit hours)	Pre-requisites	Fa	Sp	Su
MTH	2320	4.0	_____	_____	Calculus III..... (MTH 2310)	★	a	a
ME	3600	3.0	_____	_____	Exp Measure & Instr ... (EE 2010, EGR 3350, (ME 2120 and Note 10), MTH 2350, and ME 3600Lc)	★	a	•
ME	3750	3.0	_____	_____	Thermodynamics of Materials.....(ME 2700 and Note 10)	★	•	•
ME	4720	3.0	_____	_____	Engineering Polymers(ME 2700 and Note 10)	★	•	•
WSC	_____	3.0	_____	_____	Choose one from Element 3b (Note 4)	★	a	a
ME	3760	3.0	_____	_____	Diffusion and Kinetics(ME 3750)	•	★	•
ME	4750	2.0	_____	_____	Materials Characterization (ME 2600 and (ME 2700 and Note 10))	•	★	•
_____	_____	3.0	_____	_____	Materials Related Elective (Note 6)	a	★	•
_____	_____	3.0	_____	_____	Technical Elective (Note 7)	a	★	a
WSC	_____	3.0	_____	_____	Choose one from Element 4..... (Note 4)	a	★	a
Credit Hours per Semester in the Model Program						16	14	0

Fourth Year		Sem	Grade	(27 credit hours)		Pre-requisites	Fa	Sp	Su
_____	4910	2.0 iw	_____	_____	Capstone Design I.....(Department Permission and Note 12)		★	•	•
ME	4730	3.0	_____	_____	Engineering Ceramics(ME 2700 and Note 10)		★	•	•
ME	4770	3.0	_____	_____	Mechanical Behavior of Metals ((ME 2700 and Note 10), and ME 3120)		★	•	•
_____	_____	3.0	_____	_____	Materials Related Elective (Note 6)		★	a	•
ME	4620	2.0	_____	_____	Mechanical Testing Lab.....(ME 2700, ME 3120, and ME 3600)		★	a	•
_____	4920	2.0 iw	_____	_____	Capstone Design II..... (ME 4910 or EGR 4910)		•	★	•
ME	4700	3.0	_____	_____	Structure and Properties of Materials II.....((ME 2700 and Note10), MTH 2320, and MTH 2350)		•	★	•
_____	_____	3.0	_____	_____	Technical Elective (Note 7)		a	★	a
ME	4740	3.0	_____	_____	Materials Selection and Failure Analysis (ME 2700, ME 3120, and 4620c)		•	★	•
WSC	_____	3.0	_____	_____	Choose one from Element 5..... (Note 4)		a	★	a
Credit Hours per Semester in the Model Program.....							13	14	0

TOTAL PROGRAM CREDIT HOURS

120.0

NOTES:

1. **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. The request for registration form is located on the Mechanical and Materials Engineering Department web page at <http://www.engineering.wright.edu/mme/current-students.shtml>
2. **In the right hand columns, (★) denotes the model schedule for a full-time student, (a) denotes "tentatively available", and (•) denotes "not available"**
3. **The course number in parentheses denotes a prerequisite course.** A course number followed by "c", such as (PHY ####c), denotes a co-requisite (can or must be taken at the same time)
4. See the Undergraduate Catalog for the Wright State Core requirements
5. In addition to ENG 1100 and EGR 3350, all students are required to complete two Integrated Writing "iw" courses from the Wright State Core. These may include the "iw" course EGR 1010. Students must also complete two Multicultural Competence courses "MC" courses from the Wright State Core. Refer to the university catalog for additional information
6. **(MRE) denotes "Materials Related Elective," 6 hours minimum,** to be selected from an approved list available on the Mechanical and Materials Engineering Department web page or in the department office
7. **(TE) denotes "Technical Elective," 6 hours minimum,** to be selected from an approved list available on the Mechanical and Materials Engineering Department web page or in the department office. It is acceptable to take an additional MRE course to fulfill the TE requirement. It is possible to use an internship to replace one TE course. Please see your advisor for requirements.
8. Students must meet full major requirements (24+ credit hours completed, 2.25 cumulative grade point average, C or higher in ENG 1100, (PHY 2400/2400L or CHM 1210/1210L), (EGR 1010 or MTH 2300), and ME 1020 before being allowed to complete junior or senior level coursework (ALEKS Score of 40 or ACT Math 25) and Trigonometry in High School.
10. A grade of "**C**" or **higher** is required in ME 2120 and ME 2700 in order to take follow-up courses.
11. A C or higher grade is required in ENG 1100 and MTH 2310 to take EE 2010. PHY 2410/lab can be a pre- or co-requisite course.
12. Engineering Design, ME 4910 and 4920 or EGR 4910 and 4920 must be taken sequentially. In addition, students must pass the integrated writing component of the Capstone Design courses. Open to seniors during their final year of coursework. Minimum prerequisites include: ME 1040, ME 3600, ME 3760, ME 4620 (pre or co-req), ME 4720, MTH 2320, MTH 2350, and PHY 2410/2410L.