WRIGHT STATE UNIVERSITY

B.S. in Materials Science and Engineering

Program Guide: 2015-2016

Student's Name ______________________________ UID#______________________

First Year			Sem	Grade	(31 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 23 ACT English)	★	a	a
ME	1040	4.0	____	____	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 MPL 07 or A)	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……………………………………..	**16**	**15**	**0**

Second Year			Sem	Grade	(33 credit hours) Pre-requisites	Fa	Sp	Su
ME	2120	3.0	____	____	Statics ………………………………………………………..((EGR 1010 or MTH 2310), 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... (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 (((EGR 1010 or MTH 2300), ENG 1100 & PHY 2400/lab & Note 10) & 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	(32 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	4.0	____	____	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**	**16**	**0**

Fourth Year			Sem	Grade	(29 credit hours)	Pre-requisites	Fa	Sp	Su
____	4910	3.0 iw	____	____	Capstone Design I	(Department Permission and Note 11)	★	•	•
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	3.0 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		**14**	**15**	**0**

TOTAL PROGRAM CREDIT HOURS 125.0

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.
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
9. (MPL 5 or B or ACT Math 25) and Trigonometry in High School
10. A grade of **"C" or higher** is required in the following courses: EGR 1980, EGR 1010 or MTH 2300, ME 2120, and ME 2700 in order to satisfy the designated pre-requisites
11. 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 Engineering Design courses. Open to juniors and seniors who are within 1.5 years of graduating. Minimum prerequisites include: ME 1040, ME 4620 (pre or co-req), EGR 3350, MTH 2320, PHY 2410/2410L, and EE 2010/2010L