



WRIGHT STATE
UNIVERSITY

B.S. in Materials Science and Engineering

Program Guide: 2017-2018

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 2310), & 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	___	___	Track Course.....	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		Track Course.....(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		Track Course.....(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

Manufacturing Track (Choose 3 of 6)

ISE	2211	3.0		Statistics for Engineers.....(MTH 2300 or EGR 1010)		★	a	a
ME	3870	3.0		Machining.....(ME 2210)		★	•	•
ME	4121/L	4.0		Industrial Controls and Automation.....(ME 1020 and ME 3210)		•	★	•
ME	4180	3.0		Additive Manufacturing.....(ME 2700)		•	•	★
ME	4860	3.0		Metal Forming.....(ME 2700, ME 3120 and Note 13)		•	★	•
ME	4880	3.0		Powder Processing of Materials.....(ME 2700 and (ME 3310 or ME 3750))		★	•	•

General Materials Track

MRE		3.0	(Note 6)		•	★	•
MRE		3.0	(Note 6)		★	•	•
MRE		3.0	(Note 6)		•	★	•

NOTES:

- 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 undergraduate request for registration form is located on the Mechanical and Materials Engineering Department web page at <http://www.cecs.wright.edu/mme/forms>
- In the right hand columns, (★) denotes the model schedule for a full-time student, (a) denotes "tentatively available", and (•) denotes "not available"**
- 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)
- See the Undergraduate Catalog for the Wright State Core requirements
- 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
- (MRE) denotes "Materials Related Elective"** to be selected from an approved list available on the Mechanical and Materials Engineering Department web page or in the department office
- (TE) denotes "Technical Elective"** 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 internship requirements. Courses will not be double counted in the TE and Track course area.
- 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.
- A grade of **"C" or higher** is required in ME 2120 and ME 2700 in order to take follow-up courses.
- 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.
- 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.
- A grade of **"C or higher"** is required in ME 3120 to take ME 4860 (Metal Forming).