



**WRIGHT STATE  
UNIVERSITY**

# B.S. in Mechanical Engineering

Program Guide: 2013-2014

Student's Name \_\_\_\_\_

UID# \_\_\_\_\_

First Year	Sem	Grade	(30 semester 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), and CHM 1210L/Rc)	★	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 80 on English placement test or minimum 23 ACT English)	★	a	a
ME 2020	3.0	___	___	Mechanical Drawing, Solid Modeling, and Design .....	★	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)	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
<b>Credit Hours per Semester in the Model Program.....</b>					<b>15</b>	<b>15</b>	<b>0</b>

Second Year	Sem	Grade	(32 semester credit hours)	Pre-requisites	Fa	Sp	Su
ME 2120	3.0	___	___	Statics.....(EGR 1010 or MTH 2310), and PHY 2400)	★	a	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) and Note 10) and EE 2010Lc)	a	★	a
EE 2010L	1.0	___	___	Circuit Analysis I Laboratory .....(EE 2010c)	a	★	a
ME 2210	3.0	___	___	Dynamics .....(ME 1020 and (ME 2120 and Note 10))	a	★	a
ME 3310	3.0	___	___	Thermodynamics I .....((EGR 1010 or MTH 2310), and PHY 2400)	a	★	a
MTH 2350	4.0	___	___	Differential Equations with Matrix Algebra .....(MTH 2310)	a	★	a
EGR 3350	3.0	___	___	Technical Communication for Engineers and Scientists .....(ENG 1100 and full major standing)	a	★	a
<b>Credit Hours per Semester in the Model Program.....</b>					<b>15</b>	<b>17</b>	<b>0</b>

Third Year	Sem	Grade	(30 semester credit hours)	Pre-requisites	Fa	Sp	Su
MTH 2320	4.0	___	___	Calculus III ..... (MTH 2310)	★	a	a
ME 3120	3.0	___	___	Mechanics of Materials .....(ME 1020 and (ME 2120 and Note 10))	★	a	•
ME 3600	3.0	___	___	Exp Measure & Instr ....(EE 2010, EGR 3350, (ME 2120 and Note 10), ME 3600Lc, and MTH 2350)	★	a	•
ME 3350	3.0	___	___	Fluid Dynamics ..... (ME 2210 and (ME 3310 and Note 10))	★	a	•
WSC ___	3.0	___	___	Choose one from Element 3a ..... (Note 4)	★	a	a
ME 3360	3.0	___	___	Heat Transfer .....(ME 3350 and MTH 2350)	•	★	•
ME 3210	3.0	___	___	System Dynamics .....(EE 2010, ME 2210, ME 3120, ME 3350(pre or co-req), and MTH 2350)	a	★	•
ME 4140	3.0	___	___	Mechanical Design I ..... (ME 2700 and ME 3120)	•	★	•
___	2.0	___	___	Technical Elective (replaces ME 1030 in current program) ..... (Note 7)	a	★	a
WSC ___	3.0	___	___	Choose one from Element 3b ..... (Note 4)	a	★	a
<b>Credit Hours per Semester in the Model Program.....</b>					<b>16</b>	<b>14</b>	<b>0</b>

Fourth Year	Sem	Grade	(29 semester credit hours)		Pre-requisites	Fa	Sp	Su
_____	4910	3.0 iw	_____	_____	Capstone Design I ..... (Department Permission and Note 11)	★	•	•
ME	_____	2.0	_____	_____	Senior Lab ..... (Note 12)	★	a	•
ME	_____	3.0	_____	_____	Track Course ..... (Note 6)	★	a	•
ME	_____	3.0	_____	_____	Track Course ..... (Note 6)	★	a	•
_____	_____	3.0	_____	_____	Technical Elective ..... (Note 7)	★	a	a
_____	4920	3.0 iw	_____	_____	Capstone Design II ..... (ME 4910 or EGR 4910)	•	★	•
ME	_____	3.0	_____	_____	Track Course ..... (Note 6)	a	★	•
_____	_____	3.0	_____	_____	Technical Elective ..... (Note 7)	a	★	a
WSC	_____	3.0	_____	_____	Choose one from Element 4 ..... (Note 4)	a	★	a
WSC	_____	3.0	_____	_____	Choose one from Element 5 ..... (Note 4)	a	★	a
<b>Credit Hours per Semester in the Model Program.....</b>						<b>14</b>	<b>15</b>	<b>0</b>

**TOTAL PROGRAM CREDIT HOURS**

**121.0**

**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 undergraduate request for registration form is located on the Mechanical and Materials Engineering Department web page at <http://www.cecs.wright.edu/mme/forms>
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. This 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. Students have the option to choose from the three tracks below. At least one track must be completed in its entirety. Additional courses outside the chosen track may be taken as technical electives.

**Design Track**

ME	4120	3.0	_____	_____	Finite Element Analysis ..... (MTH 2320, (MTH 2350 or (MTH 2330 and MTH 2530)) and ME 3120)	★	•	•
ME	4150	3.0	_____	_____	Mechanical Design II ..... (ME 4140)	★	•	•
ME	4210	3.0	_____	_____	Mechanical Vibrations..... (ME 3210)	•	★	•

**Thermal-Fluids Track**

ME	3320	3.0	_____	_____	Thermodynamics II ..... (ME 1020, (ME 3310 and Note 10))	★	•	•
ME	4010	3.0	_____	_____	Computational Methods for Mechanical Engineers ..... (ME 3210 and ME 3360)	★	•	•
ME	4340	3.0	_____	_____	Simulation of Thermal-Fluids Problems with Advanced Engineering Software ..... (ME 3360)	•	★	•

**Manufacturing Track**

ISE	2211	3.0	_____	_____	Statistical Methods for Testing, Development, and Manufacturing I ..... (MTH 2300 or EGR 1010)	★	•	•
ISE	4850	3.0	_____	_____	Six Sigma for Engineers ..... (ISE 2211)	•	★	•
EE	4120	3.0	_____	_____	Industrial Controls and Automation..... (ME 1020 and ME 3210)	•	★	•

7. **(TE) denotes “Technical Elective,” 8 hours minimum,** to be selected from an approved list available on the Mechanical and Materials Engineering Department web page or in the department office
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 05 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 3310 in order to satisfy the designated pre-requisites
11. Engineering Design, ME 4910 and 4920 or EGR 4910 and 4920 must be taken sequentially (Fall & Spring). In addition, students must pass the integrated writing component of the Capstone Design courses. Open to juniors and seniors who are within 1.5 years of graduating. Minimum prerequisites include: ME 2020, ME 2210, ME 2700, ME 3120, ME 3310, EGR 3350, MTH 2320, MTH 2350, PHY 2410/2410L, and EE 2010/2010L
12. For Senior Lab, one of the two lab courses must be completed: ME 3610 – Mechanical Testing and Metallography Lab (Prerequisites: ME 2700, ME 3120, and ME 3600) or ME 4610 - Thermal-Fluids Lab (Prerequisites: ME 3360 and ME 3600)