



WRIGHT STATE
UNIVERSITY

B.S. in Mechanical Engineering

Program Guide: 2024-2025

Student's Name _____

UID# _____

First Year	Sem	Grade	(30 semester credit hours)	Pre-requisites	Fa	Sp	
CHM 1210	3.0	___	___	General Chemistry I..... (C required) ((CHM 1010 or H.S. Chem), MPL 25, & CHM 1210L)	★	a	
CHM 1210L	2.0	___	___	General Chemistry Laboratory I (C required) (CHM 1210c)	★	a	
EGR 1010	4.0 iw	___	___	Intro Mathematics for Engineering Appl.....(MTH 1350)	★	a	
ENG 1100	3.0	___	___	Composition I (C required)(Level 40 on English placement test or minimum 21 ACT English)	★	a	
ME 1040	3.0	___	___	Engineering Design and Solid Modeling.....	★	a	
ME 1020	3.0	___	___	Engineering Programming With MATLAB (C required) (EGR 1010)	a	★	
MTH 2300	4.0	___	___	Calculus I..... (MTH 1350 or MPL 50)	a	★	
PHY 2400	4.0	___	___	General Physics I (C required) ((EGR 1010 or MTH 2300), PHY 2400Lc, and PHY 2400Rc)	a	★	
PHY 2400L	1.0	___	___	General Physics I Laboratory (C required) (PHY 2400c)	a	★	
WSC	3.0	___	___	Choose one from Element 5.....(Note 4)	a	★	
Credit Hours per Semester in the Model Program.....						15	15

Second Year	Sem	Grade	(32 semester credit hours)	Pre-requisites	Fa	Sp	
ME 2120	3.0	___	___	Statics (C required)((EGR 1010 or MTH 2300) and PHY 2400 and Note 3)	★	a	
ME 2700	3.0	___	___	Structure and Properties of Materials I (C required)(CHM 1210 and PHY 2400)	★	a	
MTH 2310	4.0	___	___	Calculus II(MTH 2300)	★	a	
PHY 2410	4.0	___	___	General Physics II.....(MTH 2310c, PHY 2400, PHY 2410Lc, and PHY 2410Rc)	★	a	
PHY 2410L	1.0	___	___	General Physics II Laboratory..... (PHY 2410c)	★	a	
EE 2010	3.0	___	___	Analog Circuit Theory((MTH 2300 or EGR 1010) and EE 2010Lc)	a	★	
EE 2010L	1.0	___	___	Analog Circuit Theory Laboratory.....(EE 2010c)	a	★	
ME 2210	3.0	___	___	Dynamics.....(ME 1020 and ME 2120)	a	★	
ME 3310	3.0	___	___	Thermodynamics I (C required)(EGR 1010 and PHY 2400 and Note 3)	a	★	
MTH 2350	4.0	___	___	Differential Equations with Matrix Algebra(MTH 2310)	a	★	
EGR 3350	3.0	___	___	Technical Communication for Engineers and Scientists(ENG 1100 and full major standing)	a	★	
Credit Hours per Semester in the Model Program.....						15	17

****Students must meet full major requirements (24+ credit hours completed, 2.25 grade point average in courses specifically numbered on the program guide, and receive a C or higher in ENG 1100, PHY 2400/2400L, CHM 1210/1210L, (EGR 1010 or MTH 2300), ME 1020, and ME 1040) before being allowed to complete junior or senior level ME coursework.****

Third Year	Sem	Grade	(31 semester credit hours)	Pre-requisites	Fa	Sp	
MTH 2320	4.0	___	___	Calculus III.....(MTH 2310)	★	a	
ME 3120	3.0	___	___	Mechanics of Materials(ME 1020 and ME 2120)	★	a	
ME 3600	3.0	___	___	Exp Measure & Instr .. (EE 2010/L, EGR 3350, (ME 2120 and Note 9), ME 3600Lc, and MTH 2350)	★	a	
ME 3350	3.0	___	___	Fluid Dynamics(ME 2210 and ME 3310)	★	a	
WSC	3.0	___	___	Choose one from Element 3a(Note 4)	★	a	
ME 3360	3.0	___	___	Heat Transfer.....(ME 3350 and MTH 2350)	a	★	
ME 3210	3.0	___	___	System Dynamics..... (EE 2010/L, ME 2210, ME 3120, ME 3350, and MTH 2350)	a	★	
ME 4140	3.0	___	___	Mechanical Design I.....(ME 2700 and ME 3120)	a	★	
___	3.0	___	___	Technical Elective.....(Note 6)	a	★	
WSC	3.0	___	___	Choose one from Element 3b(Note 4)	a	★	
Credit Hours per Semester in the Model Program.....						16	15

Fourth Year	Sem	Grade	(27 semester credit hours)	Pre-requisites	Fa	Sp	
4910	3.0 iw	___	___	Capstone Design I.....(Department Permission and Note 7)	★	a	
ME	2.0	___	___	Senior Lab.....(Note 8)	★	a	
ME	3.0	___	___	Track Course.....(Note 5)	★	a	
ME	3.0	___	___	Track Course.....(Note 5)	★	a	
___	3.0	___	___	Technical Elective.....(Note 6)	★	a	
4920	3.0 iw	___	___	Capstone Design II.....(ME 4910)	a	★	
ME	3.0	___	___	Track Course.....(Note 5)	a	★	
___	3.0	___	___	Technical Elective.....(Note 6)	a	★	
WSC	3.0	___	___	Choose one from Element 4.....(Note 4)	a	★	
WSC	3.0	___	___	Choose one from Element 5.....(Note 4)	a	★	
Credit Hours per Semester in the Model Program.....						14	15

TOTAL PROGRAM CREDIT HOURS

122.0

NOTES:

1. **Advising is mandatory in order to assure timely completion of the program.** Please see an advisor as soon as possible to ensure enrollment in the proper courses. **Students are expected to take courses sequentially and in the term listed on the program guide.**
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). A grade of "C" or higher is required in ME 2120 and ME 3310 in order to take follow-up courses. **Pre-requisites can change over time and after a grace period, you may be required to meet the new pre-req requirements. Meeting with your advisor regularly and checking your WSU email will keep you informed of changes.**
4. See the Undergraduate Catalog for the Wright State Core requirements.
5. Students have the option to choose from the four tracks below. At least one track must be completed in its entirety. Additional courses outside the chosen track may possibly be taken as technical electives. See the department Technical Elective list for eligible courses.

Mechanics 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 and ME 3310)
**Note: ME 3320 is a required course in the Thermal-Fluids Track. Students should then pick two of the three courses below to complete the track.					
ME	4010	3.0	___	___	Computational Methods for Mechanical Engineering..... (ME 3210 and ME 3360)
ME	4330	3.0	___	___	Compressible Fluid Flow..... (ME 3350)
ME	4340	3.0	___	___	Simulation of Thermal Fluids Problems with Advncd EGR Software.....(ME 3360)
ME	4350	3.0	___	___	Mechanics of Viscous Fluids.....(ME 3350)

Manufacturing Track (Choose 3 of 6)

ISE	2211	3.0	___	___	Statistics for Engineers.....(MTH 2300 or EGR 1010)
ME	3870	3.0	___	___	Machining.....(ME 2210)
ME	4121/L	4.0	___	___	Industrial Controls and Automation (EE 4120/L is an equivalent option).....(ME 1020)
ME	4180	3.0	___	___	Additive Manufacturing.....(ME 2700)
ME	4860	3.0	___	___	Metal Forming..... (ME 2700 and ME 3120)
ME	4880	3.0	___	___	Powder Processing of Materials.....(ME 2700 and (ME 3310 or ME 3750))

Aerospace Track

**Choose 1 of 3 courses					
ME	4430	3.0	___	___	Aeronautics..... (ME 3350)
ME	4440	3.0	___	___	Aerospace Propulsion..... (ME 3350)
ME	4490	3.0	___	___	Aerospace Structures..... (ME 3120)
**Students should then pick 2 of the 3 courses below to complete the track.					
ME	4330	3.0	___	___	Compressible Fluid Flow.....(ME 3350)
ME	4340	3.0	___	___	Simulation of Thermal Fluids Problems with Advncd EGR Software.....(ME 3360)
ME	4350	3.0	___	___	Mechanics of Viscous Fluids.....(ME 3350)

SUMMER COURSES

Summer course offerings can vary from year to year. Do not make plans based on past history of courses offered. It is recommended that you meet with your academic advisor regularly to ensure you have the best possible academic plan.

6. **(TE) denotes "Technical Elective,"** TEs are to be selected from an approved list available on the MME Department web page. Courses will not be double counted in the TE and Track course area.
7. ME 4910 and 4920 must be taken sequentially. Open to seniors during their final year of coursework. Students who do not successfully complete ME 4910 or 4920 must start the sequence over with ME 4910.
8. For Senior Lab, one of the two lab courses must be completed: ME 4610- Thermal-Fluids Lab or ME 4620– Mechanics and Materials Testing Lab.