



Bachelor of Science in Electrical Engineering

Program Guide
2018-2019

Student's Name _____ UID# _____

First Year	Sem	Grade	(33 annual credit hours)	Pre-requisites	Fa	Sp	Su
CHM 1210	3.0	___	___	General Chemistry I.....CHM 1010 Min Grade of D & MPL 30, CHM1210Lc; CHM1210Rc	★	a	a
CHM 1210L	2.0	___	___	General Chemistry I Lab.....CHM 1010 Min Grade of D & MPL 30, CHM1210c; CHM1210Rc	★	a	a
CHM 1210R	0.0	___	___	General Chemistry I Recitation.....CHM 1010 Min Grade of D & MPL 30, CHM1210c; CHM1210Lc	★	a	a
ENG 1100	3.0	___	___	Academic Writing and Reading.....ACT 23 or SAT Verbal 530 or WPL 40	★	a	a
EE 1000	1.0	___	___	Intro to Electrical Engineering.....	★	•	•
MTH 2300	4.0	___	___	Calculus I.....MTH 1350 or MPL 50	★	a	a
___	3.0	___	___	Social Sciences (E-5).....Note 7	★	a	a
EE 2000	3.0	___	___	Digital Design with HDLMPL 40 or MTH 1280 with a minimum grade of C	a	★	•
EE 2000L	1.0	___	___	Digital Design with HDL Laboratory....(MPL 40 or MTH 1280 with a minimum grade of C), EE 2000c	a	★	•
CEG 2170	4.0	___	___	Introduction to C ProgrammingMTH 1280 or MPL 40	a	★	•
PHY 2400	4.0	___	___	General Physics I.....(C or higher in EGR 1010 or MTH 2300), PHY 2400Lc, and PHY 2400Rc	a	★	a
PHY 2400L	1.0	___	___	General Physics I LaboratoryPHY 2400c	a	★	a
MTH 2310	4.0	___	___	Calculus IIMTH 2300	a	★	a
Credit Hours per Semester in the Model Program.....					16	17	0

Second Year	Sem	Grade	(33 annual credit hours)	Pre-requisites	Fa	Sp	Su
PHY 2410	4.0	___	___	General Physics IIMTH 2310c, PHY 2400, PHY 2410Lc, and PHY 2410Rc	★	a	a
PHY 2410L	1.0	___	___	General Physics II LaboratoryPHY 2410c	★	a	a
EE 2010	3.0	___	___	Circuit Analysis I(C or better in ENG 1100 and MTH 2310) and PHY 2410/Lc	★	a	•
EE 2010L	1.0	___	___	Circuit Analysis I LaboratoryEE 2010c	★	a	•
MTH 2320	4.0	___	___	Calculus IIIMTH 2310	★	a	a
___	3.0	___	___	Arts/Humanities (E-4).....Note 7	★	a	a
EE 3210	3.0	___	___	Linear Systems I.....(C or higher in EE 2010/L), (C or higher in CEG 2170), MTH 2310	a	★	•
EE 3310	3.0	___	___	Electronic Devices and Circuits.....MTH 2300, (C or higher in EE 2010)	a	★	•
EE 3310L	1.0	___	___	Electronic Devices and Circuits Laboratory.....EE 3310c	a	★	•
___	3.0	___	___	Global Traditions (E-3).....Note 7	a	★	a
EGR 3350	3.0	___	___	Technical Communication for Engineers and Scientists.....ENG 1100 & full major standing (Note 12)	a	★	a
MTH 2350	4.0	___	___	Differential Equations with Matrix Algebra.....MTH 2310	a	★	a
Credit Hours per Semester in the Model Program.....					16	17	0

Third Year	Sem	Grade	(29 annual credit hours)	Pre-requisites	Fa	Sp	Su
EE 3450	3.0	___	___	Introduction to Electromagnetics.....(C or higher in EE2010/L), PHY 2410/L, MTH 2320	★	a	•
EE 3450L	1.0	___	___	Intro to Electromagnetics LaboratoryEE 3450c	★	a	•
EE 4130	3.0	___	___	Continuous Control Systems(C or higher in EE 3210 or ME 3210 or EE 3510), and MTH 2310	★	a	•
EE 4130L	1.0	___	___	Continuous Control Systems Laboratory.....EE 4130c	★	a	•
___	3.0	___	___	Focus AreaNote 8	★	a	•
EE 4000	3.0	___	___	Linear Systems II.....(C or higher in EE 3210), MTH 2310	★	a	•
EE 4210	3.0	___	___	Digital CommunicationEE 4000	a	★	•
EE 4210L	1.0	___	___	Digital Communication Laboratory.....EE 4210c	a	★	•
EE 4620	3.0	___	___	Digital Integrated Circuit Design.....C or higher in EE 2000/L or CEG 3320	a	★	•
EE 4620L	1.0	___	___	Digital Integrated Circuit Design LaboratoryEE 4620c	a	★	•
EE 3260	3.0	___	___	Random Signals and Noise.....(C or higher in EE 4000), MTH 2350	a	★	•
___	4.0	___	___	Focus AreaNote 8	a	★	•
Credit Hours per Semester in the Model Program.....					14	15	0

Fourth Year		Sem	Grade	(25 annual credit hours)		Pre-requisites	Fa	Sp	Su
EE	4910	3.0	iw	___	___	Senior Design Project I Note 11 Department Permission	★	•	•
___	___	3.0	___	___	___	Technical Elective Note 9	★	a	•
___	___	3.0	___	___	___	Technical Elective Note 9	★	a	•
___	___	3.0	___	___	___	Global Traditions/History (E-3)..... Note 7	★	a	a
EE	4920	3.0	iw	___	___	Senior Design Project II..... EE 4910	•	★	•
___	___	3.0	___	___	___	Technical Elective Note 9	•	★	•
___	___	4.0	___	___	___	Technical Elective Note 9	a	★	•
___	___	3.0	___	___	___	Social Sciences (E-5) Note 7	a	★	a
Credit Hours per Semester in the Model Program.....							12	13	0

TOTAL PROGRAM CREDIT HOURS

120.0

EE Focus Area (Complete one of the areas below with a minimum of 7 hours)

Electronic Systems Focus Area

EE	4100	3.0	___	___	___	Micro/Nano fab Engineering..... EE 3310/L, PHY 2410/L	★	•	•
EE	4440/L	4.0	___	___	___	Electronic Integrated Sys..... EE 3210, EE 3310/L	•	★	•

Control Systems Focus Area

EE	4170/L	4.0	___	___	___	Digital Control Systems..... EE 4130/L	•	★	•
And ONE of the following:									
EE	4190/L	4.0	___	___	___	Intelligent Control Systems..... EE 4130/L	★	•	•
EE	4560/L	4.0	___	___	___	Intro to Robotics..... MTH 2350	★	•	•
EE	4120/L	4.0	___	___	___	Industrial Controls..... CEG 2170/L or ME 1020 (note13)	★	a	•

Microwave Engineering Focus Area

EE	4420/L	4.0	___	___	___	Microwave Engineering I..... EE 3450/L	•	★	•
And ONE of the following:									
EE	4460/L	4.0	___	___	___	Microwave Engineering II..... EE 4420/L	★	•	•
EE	4470/L	4.0	___	___	___	Antenna Theory and Design..... EE 4420/L	★	•	•

Signal Processing and Wireless Focus Area

EE	4730/L	4.0	___	___	___	Wireless Communication EE 4210/L, EE 3260	•	★	•
EE	4360	3.0	___	___	___	Digital Signal Processing..... EE 4000	★	•	•

VLSI and Computer EGR:

EE	4540/L	4.0	___	___	___	VLSI Design EE 2000/L or CEG 3320/L	★	a	•
And ONE of the following:									
EE	4100	3.0	___	___	___	Micro/Nano fab Engineering..... EE 3310/L, PHY 2400/L	★	•	•
CEG	4330/L	3.0	___	___	___	Microprocessor- Embedded Sys..... CEG 3320 or (EE 2000/L, CEG 2170)	★	•	•
EE	4360	3.0	___	___	___	Digital Signal Processing..... EE 4000	•	a	•
EE	4730/L	4.0	___	___	___	Wireless Communication..... EE 4210/L, EE 3260	•	a	•

Software:

CEG	3310/L	4.0	___	___	___	Computer Organization..... CEG 2170, EE 2000/L	★	•	•
CS	3100	3.0	___	___	___	Data Structures and Algorithms.....(C or higher CEG 2170/L, CEG 3310/L), CEG 2350/L, MTH 2570	•	a	•

NOTES:

1. **Advising is mandatory in order to assure timely completion of the program.** Please see an advisor to ensure enrollment in the proper courses.
2. 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, and MTH 2300 before being allowed to complete junior or senior level coursework.
3. In the right hand columns, (★) denotes the model schedule for a full-time student, (a) denotes "tentatively available", and (•) denotes "not available"
4. **The course(s) on the right side of the guide denote a prerequisite or a co-requisite course.** A course number followed by "c", such as (PHY ####c), denotes a co-requisite (can or must be taken at the same time).
5. See the Undergraduate Catalog for the Wright State Core requirements.
6. In addition to ENG 1100 and EGR 3350, or ENG 2100, or ENG 2140, students are required to complete two Integrated Writing "iw" courses from the Wright State Core. This may include the "iw" course EGR 1010.
7. Students must also complete two Multicultural Competence courses "MC" courses from the Wright State Core. Refer to the university catalog for additional information.
8. At least one focus area must be completed in its entirety. Additional courses outside the focus area may be taken as technical electives.
9. Technical electives are 2000+ level courses from colleges of Engineering, Science and Math, or Business. Science courses should be natural or physical science courses. Students may take one of the following 1000-level courses: EGR1010, MTH1350, EGR1980, CS1160, CS1180, or ME1020. Redundant coursework (i.e. ISE 2211, MS 2040, STT 3630, STT 2640) will not be accepted. In addition, technical electives may include 1 semester hour of internship credit (EE4810, EE4820, or EE4830).
10. **Students without high school chemistry will be required to take CHM 1010.**
11. **Senior Design I (EE 4910) requires Department Permission.** Students can only be admitted to S.D. if they have completed at least 30 hours of EE course work or they are within two semesters of completing the BSEE program on an advisor approved program of study.
12. Student may take EGR 3350 or ENG 2100 or ENG 2140 to meet the program's technical writing requirement.
13. ME 1020 for ME majors.