WRIGHT STATE UNIVERSITY

Bachelor of Science in Electrical Engineering

Program Guide
2019-2020

Student's Name _____ UID#_____

First Year			Sem	Grade	(32 annual credit hours)	Pre-requisites	Fa	Sp	Su
___	____	4.0	____	____	Science elective	Note 10	★	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 HDL	MPL 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 Programming	MTH 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 Laboratory	PHY 2400c	a	★	a
MTH	2310	4.0	____	____	Calculus II	MTH 2300	a	★	a
					Credit Hours per Semester in the Model Program		**15**	**17**	**0**

Second Year			Sem	Grade	(33 annual credit hours)	Pre-requisites	Fa	Sp	Su
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	(C or better in ENG 1100 and MTH 2310) and PHY 2410/Lc	★	a	•
EE	2010L	1.0	____	____	Circuit Analysis I Laboratory	EE 2010c	★	a	•
MTH	2320	4.0	____	____	Calculus III	MTH 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 Laboratory	EE 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 Area	Note 8	★	a	•
EE	4000	3.0	____	____	Linear Systems II	(C or higher in EE 3210), MTH 2310	★	a	•
EE	4210	3.0	____	____	Digital Communication	EE 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 Laboratory	EE 4620c	a	★	•
EE	3260	3.0	____	____	Random Signals and Noise	(C or higher in EE 4000), MTH 2350	a	★	•
___	____	4.0	____	____	Focus Area	Note 8	a	★	•
					Credit Hours per Semester in the Model Program		**14**	**15**	**0**

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Fourth Year			Sem	Grade	(26 annual credit hours)	Pre-requisites	Fa	Sp	Su
EE	4910	3.0 iw	____	____	Senior Design Project I	Note 11 **Department Permission**	★	•	•
___	____	4.0	____	____	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		**13**	**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 for ME majors)	★	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	★	•	•
EE	4480	4.0	____	____	Remote Sensing Detectors & Systems	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 2410/L	★	•	•
CEG	4330/L	4.0	____	____	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. **Select one course from the approved list: BIO 1120, BIO 1150, or CHM 1210/1210L**
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 2140 to meet the program's technical writing requirement.