

2025 – 2027 The University of Findlay to WSU Undergraduate
Programs Advising Guide

Department of Electrical Engineering
Wright State University
Dayton, Ohio 45435

Adopted from the Undergraduate Programs Advising Guide

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Bachelor of Science in Electrical Engineering (BSEE)

The BSEE program requires 120 semester hours of course work from math, science, engineering, WSU Core, technical and general electives.

Admission Requirements

All CECS major programs require that students meet the following specifications:

- Completion of 24 or more semester hours of college-level work
- 2.25 cumulative GPA at Wright State and in all academic work
- C or higher in: ENG 1100 (or any Wright State Core first-year writing course)

(Expected change to the above) BSEE majors must also complete: CECS 1020, EE 2000/2000L, EE 2010/2010L, MTH 2300, MTH 2310, MTH 2320 or MTH 2350, CHM 1210/1210L or BIO 1120/1120L or BIO 1150/1150L, PHY 2400/2400L, PHY 2410/2410L, CS 1160 or CS 1180 or CEG 2170, and 3 hours of integrated writing in WSU Core beyond ENG 1100.

ABET Accrediting Requirements

To satisfy accreditation requirements of the Engineering Accrediting Commission (EAC) of ABET, the BSEE program includes ¹:

- a. a minimum of 30 semester credit hours (or equivalent) of a combination of college-level mathematics and basic sciences with experimental experience appropriate to the program.
- b. a minimum of 45 semester credit hours (or equivalent) of engineering topics appropriate to the program, consisting of engineering and computer sciences and engineering design, and utilizing modern engineering tools.
- c. a broad education component that complements the technical content of the curriculum and is consistent with the program educational objectives.
- d. a culminating major engineering design experience that 1) incorporates appropriate engineering standards and multiple constraints, and 2) is based on the knowledge and skills acquired in earlier course work.

The BSEE program includes 16 hours of calculus, 10 hours of physics, and at least 4 hours of additional science. Science courses are restricted to chemistry, biology, and physical sciences per EAC criteria. Also, EE pre-major and full-major courses provide more than 45 hours of engineering topics. WSU Core Elements A, C, and D provide a broad educational complement of non-technical content, and the two-semester Senior Design capstone provides a culminating major engineering design experience. Note, however, WSU Core imposes minor constraints on course selection. It is important to keep in mind that each graduation plan must satisfy both ABET accreditation and WSU Core requirements.

Wright State Core Requirements

The WSU Core requirements and program considerations are described below.

Element A. One first-year writing course (3 hours) and one second-year writing course (3 hours). BSEE requires ENG 1100 and EGR 3350 Technical Communications (or ENG 2140 Technical Writing with a preference for EGR 3350).

Element B. Core math course (minimum of 3 hours) as satisfied by MTH 2300 and MTH 2310.

Element C. One course from arts and humanities (minimum of 3 hours) and one course from history. Due to the additional requirements of Global Inquiry (GI) and Integrated Writing (IW) (described below), students are advised to select an arts and humanities course that satisfies GI and IW requirements.

¹ ABET EAC accreditation criteria for 2023-2024: <https://www.abet.org/accreditation/accreditation-criteria/accreditation-policy-and-procedure-manual-appm-2023-2024/>

Element D. Two courses from different social and behavioral science categories. Although not required, students are advised to select an economics course for its relevance to engineering. Due to the additional requirement of possibly Integrated Writing (IW) (described below), students are advised to select one of the social and behavioral science courses that satisfies possibly IW requirement. Students may choose two non-economics courses.

Element E. Two lecture and one lab science courses (minimum of 7 hours) as satisfied by PHY 2400/2400L and PHY 2410/2410L.

First-Year Seminar: One one-credit-hour course in first year seminar: Transfer students with 24 semester hours will be waived from first-year seminar requirement.

Global Inquiry (GI). One course designated as GI. Students are advised to select GI courses when choosing from Elements C or D.

Integrated Writing (IW). One or two courses designated as IW. Students are advised to select IW courses when choosing from Elements C or D.

An example of a 4-year plan is provided in Section **Example BSEE Graduation Plan Worksheet**.

Computer Programming

The BSEE program includes 4 hours of computer programming. The ideal programming languages are C (CEG 2170) and C++ (CEG 2171). However, the Department of Computer Science and Engineering (CSE) is currently unable to ensure regular offerings of C/C++. For this reason, in 2019, the EE faculty approved a change to allow CS 1160/1160L, CS 1180/1180L or CEG 2170/2170L. Students are advised to take CS 1180/1180L or CS 1160/1160L with emphasis on CS 1180/L. As a Java-based programming course, the language has similar syntax to C/C++ and is likely to have greater availability due to its requirement in CS, CEG and CET programs. Although it is unlikely, students who have a computer programming course from a language other than C/C++, Java, or python may petition the Student Affairs Committee to substitute the course for one of the above courses.

Technical Electives

The Department approved technical electives are broadly stated as:

2000+ level courses from College of Engineering and Computer Science, or College of Science and Math, or College of Business. Science courses must be natural or physical science courses. Students may take one of the following 1000-level courses: EGR 1010, MTH 1350, CS 1161, CS 1181, or ME 1020. Redundant coursework (e.g., ISE 2211, MS 2040, STT 3630, STT 2640) will not be accepted. Technical electives may include 1 semester hour of internship credit (EE 4810, EE 4820, or EE 4830), and may include 3 hours of study abroad (EGR 4980) with department approval.

The 1000-level courses include engineering math and programming preparation courses (EGR 1010, MTH 1350, ME 1020), and programming courses that continue in the students' selected computer programming sequence.

Study abroad courses must be approved by the EE Department before registration of the course. Each study abroad course has a unique syllabus and travel itinerary. Typically, EE faculty will review the course syllabus to verify that the course includes substantive content of electrical engineering. Students will not receive Technical Elective credit for EGR 4980 unless the approval occurs before the course begins.

Senior Design

Senior Design I (EE 4910) and II (EE 4920) constitute the major engineering experience in the BSEE program. Prerequisites are required for registration and include EE 3210, EE 3310/3310L, EE 3260, EE 3450/3450L and at least one 4000-level course. In cases when the graduation date is within one year and the graduation plan is only missing one course, the student may petition to take the missing course concurrently with EE 4910.

Bachelor of Science in Electrical Engineering – Findlay Transfer Pathway

The transfer pathway from Findlay's programs in Chemistry and Mathematics – Applied Emphasis for Engineering Science to the WSU BSEE program differs from the BSEE program by way of the Ohio Transfer 36 and the Department approval for Senior Design.

Students who complete the General Education courses as part of Findlay's programs may satisfy WSU Core courses. The pathway also requires math and science courses and hours that meet ABET requirements; and students must complete the same math and science options as students in the 4-year BSEE program,

Under this agreement, the Department automatically approves concurrent enrollment in EE 2010/2010L, EE 3260, EE 3450/3450L, and EE 4910. An example of a 4-year plan is provided in Section **Example Findlay Chemistry and Mathematics to BSEE Graduation Plan Worksheet**.

Name: _____ **UID:** _____ **Reviewed by:** _____ **Date:** _____

Directions:

Refer to the Findlay Catalog for the General Education Requirements and pre-major coursework for Chemistry and Mathematics – Applied Emphasis for Engineering Science, the WSU Catalog, and the BSEE Program description. Create a list of courses by term. Meet with a program advisor to review the graduation plan at the start of the program and periodically throughout to make sure all courses satisfy requirements for Wright State University, the College of Computer Science and Engineering, and the Department of Electrical Engineering. The model below is a 4-year plan for a student who begins without prior college credit.

The University of Findlay and Wright State University have entered into an Academic Pathway for a student to complete two full-time years of general education and pre-major coursework for chemistry and mathematics – applied emphasis for engineering sciences at The University of Findlay and two full-time years at Wright State University.

- An 8-semester (plus an additional summer semester) Academic Pathway listing the courses to take at The University of Findlay and at Wright State University will be posted on each institution's Transfer website.
- The 8 semesters are divided into 4 semesters at The University of Findlay (total of 60-61 hours) and 4 semesters at Wright State University (total of 59-60 hours). The pathway satisfies WSU Core and ABET criteria.
- The Academic Pathway lists important transfer information specific to the major at Wright State University. Examples are major specific admissions requirements, such as minimum GPA, pre-requisite courses, and application deadlines.
- The Academic Pathway lists the contact information at both institutions.
- Any variation from taking the listed courses in the specified semesters may impact a student's completion of the Academic Pathway in 8 semesters.
- Course availability is subject to enrollment capacity.

Students complete 60-61 hours at The University of Findlay during the first two years which transfer according to the listings for Years 1 and 2 below. Then, students complete 59-60 hours at Wright State to complete the BSEE program. The example course outline is shown for Years 3 and 4.

Year 1. BSEE pre-major. Beginning math, science, pre-major, and WSU Core. Courses are generally available fall and spring.

The University of Findlay				Transfer Equivalent			
SUBJECT CODE	COURSE NUMBER	COURSE TITLE	CREDIT HOURS	SUBJECT CODE	COURSE NUMBER	COURSE TITLE	CREDIT HOURS
FALL SEMESTER							
ENGL	104	College Writing I: Introduction to Academic Writing	3	ENG	1100	Academic Writing and Reading WSU Core Element A: Communication	3
HIST	220 or 221	European Civilization from 476-1648 European Civilization since 1648	3	HST	1100 or 1200	Western Civilizations to 1500 The West and the World since 1500 WSU Core Element C: Arts and Humanities - History	3
MATH	141	Calculus I	4	MTH	2300	Calculus I WSU Core Element B: Mathematics	4
PHIL	220 or 224	Ethical Issues of the Modern World Ethics and Technology	3	PHL CS	3110 or 1000	Ethics Technology and Society WSU Core Element C: Arts and Humanities or Element D: Social and Behavioral Science	3
SPRING SEMESTER							
ART ENGL MUSC THEA	100, 205, 234, or 100	Art Appreciation Introduction to Literature Music Appreciation Introduction to Theatre	3	ART ENG MUS TH	2140, 2XXX, 2140, or 2140	Themes in Visual Culture Non-Equivalent Transfer Course Music in Western Culture Theatre in Western Culture WSU Core Element C: Arts and Humanities	3
ENGL	106	College Writing II: Academic Writing and Research	3	ENG	2100	Research Writing and Argumentation WSU Core Additional Core Course	3
MATH	342	Linear Algebra or Technical Elective*	3	MTH	2530	Linear Algebra or (MTH 2350 is Awarded after Completing Both MATH 310 and MATH 342) Technical Elective*	3
POLS	100	Introduction to Political Science	3	PLS	2000	Power and Politics WSU Core Element D: Social and Behavioral Science	3
PSYC	100	General Psychology	3	PSY	1010	General Psychology WSU Core Element D: Social and Behavioral Science	3
Total Hours:			28	Total Hours:			28

- Prior to taking a course to satisfy Technical Elective requirement for Wright State, please consult with Wright State's College of Engineering and Computer Science Academic Advising Prior by contacting cecs-advisors@wright.edu. Technical Electives need to transfer in to Wright State as 2000 level or higher in the areas of Engineering and Computer Science, Science and Mathematics, and Business.

Year 2. BSEE pre-major and beginning full-major. Math, science, pre-major, and WSU Core. Courses are generally available fall and spring.

The University of Findlay				Transfer Equivalent			
SUBJECT CODE	COURSE NUMBER	COURSE TITLE	CREDIT HOURS	SUBJECT CODE	COURSE NUMBER	COURSE TITLE	CREDIT HOURS
FALL SEMESTER							
BIOL BIOL CHEM	251/251L, 252/252L, or 130/130L	Biology I: Introduction to Cell and Molecular Biology + Lab Biology II: Biodiversity, Form, and Function + Lab General Chemistry I + Lab	3+1	BIO BIO CHM	1120, 1150, or 1210/1210L	Cells and Genes Organisms and Ecosystems General Chemistry I + Lab Major Requirement	4, 4, or 3+1
CSCI	194	Introduction to Python Programming	3	CS	1160	Introduction to Computer Programming Pre-Major Requirement	3
ENGL	272	Introduction to Technical Communication	3	EGR	3350	Technical Communications for Engineers and Computer Scientists (EGR 3350 Is Awarded after Completing Both ENGL 106 and ENGL 272) WSU Core Element A: Communication	3
MATH	142	Calculus II	4	MTH	2310	Calculus II WSU Core Element B: Mathematics	4
PHYS	252	Calculus-Based Physics I	4	PHY	2400/2400L	General Physics I + Lab WSU Core Element E: Natural Science	3+1
SPRING SEMESTER							
CSCI	240	Software Design I	3	CS	2XXX	Non-Equivalent Transfer Course (Substitutes as CEG 2170 Introduction to C Programming for Scientists and Engineers) Technical Elective	3
MATH	250 or 310	Calculus III Differential Equations	4 or 3	MTH	2320 or 2330	Calculus III Differential Equations (MTH 2350 Is Awarded after Completing Both MATH 310 and MATH 342) Major Requirement	4 or 3
MATH	342	Linear Algebra or Technical Elective*	3	MTH	2530	Linear Algebra or (MTH 2350 Is Awarded after Completing Both MATH 310 and MATH 342) Technical Elective*	3
PHYS	253	Calculus-Based Physics II	4	PHY	2410	General Physics II WSU Core Element E: Natural Science	4
		Any Catalog Elective	1			General Elective Credit	1
Total Hours:			32-33	Total Hours:			32-33

- Prior to taking a course to satisfy Technical Elective requirement for Wright State, please consult with Wright State's College of Engineering and Computer Science Academic Advising Prior by contacting cecs-advisors@wright.edu. Technical Electives need to transfer in to Wright State as 2000 level or higher in the areas of Engineering and Computer Science, Science and Mathematics, and Business.

Third and fourth years of Findlay Mathematics to BSEE Program

Year 3. EE full-major. Advanced math, electrical engineering, and WSU Core. Courses are generally available fall and spring.

Course	CR	WSU Core	Sem	Gr	Title (Prerequisites)
EE 2000/L	4		F		Digital Design with HDL and Lab (enrolled in CECS)
EE 2010/L	4		F		Analog Circuit Theory and Lab (MTH 2300 minimum of C)
MTH 2320 or	4 or		F		Calculus III (MTH 2310 minimum of D)
MTH 2330	3				Differential Equations (MTH 2310 minimum of D)
PHY 2410L	1		F		General Physics II Lab (MTH 2300 and MTH 2310 minimum of D)
	1		F		General Elective Credit
EE 3210	3		S		Continuous Linear Systems (EE 2010/L minimum of C and MTH 2310)
EE 3310/L	4		S		Elec. Devices & Circuits and Lab (EE 2010/L minimum of C and MTH 2300)
EE 4000	3		S		Discrete Linear Systems (EE 2010/L minimum of C and MTH 2310)
EE 4620/L	4		S		Dig. Integrated Circuit Design with PLDs and FPGAs and Lab (EE 2000/L minimum of C)
	27-28				Credit hours per semester in the model program: Fa (13-14), Sp (14)

Year 4. EE full-major. Electrical engineering senior design and WSU Core. Courses are generally available fall and spring.

Course	CR	WSU Core	Sem	Gr	Title (Prerequisites)
EE 3260	3		F		Random Signals and Noise (EE 4000 minimum of C and MTH 2350)
EE 3450/L	4		F		Intro Electromagnetics and Lab (EE 2010/L minimum of C, MTH 2320 and PHY 2410/L)
EE 4130/L	4		F		Continuous Control Systems and Lab (EE 3210 minimum of C and MTH 2310)
EE 4910	3		F		Electrical Engr. Senior Design Project I (Department approval)
	3		F		4000-level EE course with lab, excludes EE4910/4920/4810/4820/4830 (see catalog)
EE 4920	3		S		Electrical Engr. Senior Design Project II (Department approval)
	4		S		4000-level EE course with lab, excludes EE4910/4920/4810/4820/4830 (see catalog)
	4		S		4000-level EE course with lab, excludes EE4910/4920/4810/4820/4830 (see catalog)
	4		S		Technical Elective
	32				Credit hours per semester in the model program: Fa (17), Sp (15)

1. ADMISSIONS AND DEADLINES

Transfer to Wright State University

Students must earn a minimum 2.0 GPA from The University of Findlay in order to transfer to Wright State.

Wright State processes applications as they are received. To help you make a smooth and timely transition, we recommend you submit your application by the following dates:

Fall Semester: **April 1**
Spring Semester: **October 15**
Summer Semester: **February 1**

In order to be admitted fully as an electrical engineering major at Wright State, students will need to achieve a cumulative GPA of a 2.25. In addition, students will need to complete the following courses:

- At Findlay: ENGL 104 (C or higher) and MATH 141
- At Wright State: EE 2000/2000L

2. TUITION AND SCHOLARSHIPS

Students interested in scholarship opportunities at Wright State should contact:

Transfer Center
138 Student Union
3640 Colonel Glenn Hwy.
Dayton, OH 45435
937-775-5700
transfer@wright.edu

3. CONTACT INFORMATION

*The University of Findlay
College of Sciences
300 Davis Street
Findlay, OH
419-434-4869
lok.lewyanvoon@findlay.edu*

*Wright State University
280 Joshi Research Center
3640 Colonel Glenn Hwy.
Dayton, OH
937-775-5272
cecs-advisors@wright.edu*

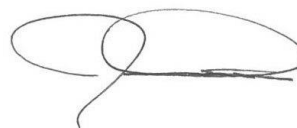
This agreement will expire two years from date of signature.



Katherine Fell, Ph.D.
President
The University of Findlay

4/24/2025

Date



Jim Denniston, Ph.D.
Provost and Senior Vice President for Academic Affairs
Wright State University

4/25/2025

Date