

Elmore Family School of Electrical and Computer Engineering

Engineering Faculty Document No. EFD 08-24 February 29, 2024

Memorandum

To: The College of Engineering Faculty

From: The Elmore Family School of Electrical and Computer Engineering

Re: 2024-2025 BSEE Degree Requirements

The faculty of the Elmore Family School of Electrical and Computer Engineering has approved the following degree requirements for the BS in Electrical Engineering for the 2024-2025 catalog. This action is now submitted to the Engineering Faculty with a recommendation for approval.

Description: 2024-2025 BSEE Degree Requirements

Changes: Change to the degree requirements include additional EE Advanced Selectives, EE Electives, a new Senior Design Option, additional General Education Elective courses, and replacing the Complementary Electives with a no count list with Complementary Selectives with a list of courses that do count. Lists of these changes are attached.

Mithuna Thottethodi

Associate Head of Teaching and Learning

Professor of Electrical and Computer Engineering

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Purdue University

2023-2024 University Catalog

Electrical Engineering, BSEE

About the Program

The Electrical Engineering program is accredited by the Engineering Accreditation Commission of ABET.

Electrical and Computer engineering encompasses all areas of research, development, design, and operation of electrical and electronic systems and their components, including software. Emphasis in such varied areas as bioengineering, circuit theory, communication sciences, computers and automata, control systems, electromagnetic fields, energy sources and systems, and materials and electronic devices is available. Two degree programs are offered by the School: Bachelor of Science in Electrical Engineering (BSEE) and Bachelor of Science in Computer Engineering (BSCmpE).

Engineers in both fields must have a strong background in mathematics and physics, a broad base in the humanities, and a command of the English language in order to provide the scope of knowledge essential for optimum professional growth. The curriculum offered by the School of Electrical and Computer Engineering meets these objectives.

Graduates from the School of Electrical and Computer Engineering are sought after by all major industries. Electrical engineers hold many unusual and challenging positions in the aerospace, chemical, nuclear, automotive, medical, metallurgical, textile, railway, petroleum, and other basically non-electrical industries, as well as in computers, electronics, communications, power, and other electrical industries. Their professional roles span industrial activity, research, development, design, production, marketing, operation, field testing, and maintenance of many types of equipment for government, industry, farm, and home.

Two degree programs are offered by the school:

Electrical Engineering encompasses the development, design, research, and operation of electrical and electronic systems and components. Disciplines include VLSI and circuit design, communication and signal processing, computer engineering, automatic control, fields and optics, energy sources and systems, and microelectronics and nanotechnology.

Computer Engineering is a specialization within electrical and computer engineering offering an in-depth education in both hardware and software aspects of modern computer systems.

Electrical and Computer Engineering provides students with a versatile education that will prove valuable looking toward a professional future. Along with problem-solving and design skills, students develop a strong foundation in math, science, and core electrical/computer engineering fundamentals. This skillset prepares them for research and development positions in industry, management, sales, teaching, medical school, and law school.

At Birck Nanotechnology Center, engineers and scientists conduct research in emerging fields where new materials and tiny structures are built atom by atom or molecule by molecule.

Electrical and Computer Engineering Website

Electrical and Computer Engineering Major Change (CODO) Requirements

Degree Requirements

124 Credits Required

Required Major Courses (52 credits minimum)

An overall 2.00 cumulative GPA or better in the Required Major Courses Area is required. Some courses have minimum grade requirements for prerequisites.

Electrical Engineering Core Requirements (27 credits)

- ECE 20001 Electrical Engineering Fundamentals I * (minimum grade of C)
- ECE 20002 Electrical Engineering Fundamentals II (minimum grade of C)
- ECE 20007 Electrical Engineering Fundamentals I Lab •
- ECE 20008 Electrical Engineering Fundamentals II Lab
- ECE 20875 Python For Data Science
- ECE 26400 Advanced C Programming
- ECE 27000 Introduction To Digital System Design
- ECE 30100 Signals And Systems
- ECE 30200 Probabilistic Methods In Electrical And Computer Engineering
- ECE 30411 Electromagnetics I

Required Seminars (3 credits)

- ECE 29401 Electrical And Computer Engineering Sophomore Seminar
- ECE 39401 Professional Communications And Diversity
- ECE 49401 Professional Communication Capstone

Advanced Electrical Engineering Selectives - Choose Three (9-12 credits)

- ECE 30412 Electromagnetics II
- ECE 36200 Microprocessor Systems And Interfacing
- ECE 38200 Feedback System Analysis And Design
- ECE 44000 Transmission Of Information

• ECE 30500 - Semiconductor Devices or
• ECE 50631 AND
• ECE 50633 - Fundamentals Of Nanoelectronics

ECE 50633 AND

ECE 50633

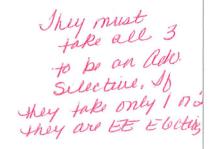
- ECE 43800 Digital Signal Processing With Applications or
- ECE 53800 Digital Signal Processing I
- ECE 32100 Electromechanical Motion Devices or
- ECE 31032 Power Systems Engineering or
- ECE 51012 Electromechanics &

ECE 31033 Power Elect.

Electrical Engineering Electives (6-9 credits)

- Select from the list of Electrical Engineering Electives so that total credits for Required Major Courses is at least
- Must include at least three (3) Advanced-Level Laboratory courses. Advanced-Level Laboratory Courses taken as Advanced EE Selectives (ECE 36200, ECE 43800 and ECE 44000) also contribute to the Advanced-Level Laboratory requirement. No more than two (2) of these labs may be EE "Special Content" courses.
- No more than 6 credit hours of EE "Special Content" courses can be used towards the 52 credit hours of Required Major Courses.

Senior Design Requirement - Choose One Option (4 credits)



Option 1:

ECE 49022 - Electrical Engineering Senior Design Projects

• ECE 47700 - Digital Systems Senior Project

Option 2: Option 2: Option 2: Option 3:4 Option 3:4 Must be taken in

Must be taken in each of 2 consecutive semesters.

• EPCS 41200 - Senior Design Participation In EPICS

Option 4: 5

Must be taken in 2 consecutive semesters.

- VIP 47921 Senior Design Participation In Vertically Integrated Projects (VIP) I
- VIP 47922 Senior Design Participation In Vertically Integrated Projects (VIP) II

Optional Concentrations:

- Automatic Control Concentration for Electrical Engineering
- Artificial Intelligence and Machine Learning Concentration for Electrical Engineering
- Electric Power and Energy Systems Concentration in Electrical Engineering
- Microelectronics and Semiconductors Concentration for Electrical Engineering
- Quantum Technology Concentration for Electrical Engineering
- Wireless & Optical Engineering Concentration for Electrical Engineering

Other Department Requirements (72-78 credits)

Students must complete the $\underline{\text{First-Year Engineering}}$ Requirements (29-30 credits).

(If pursuing Bachelor of Science in Electrical Engineering, CS 15900 - Prog Appl for Engineers is required to graduate, but not required to complete the First Year Engineering program.)

First-Year Engineering Requirements (29-39 credits)

Click here for First-Year Engineering requirements.

- Requirement #1 Intro to Engineering I (2-4 credits)
- Requirement #2 Intro to Engineering II (2-4 credits)
- Requirement #3 Calculus I (4-5 credits) (satisfies Quantitative Reasoning for core)
- Requirement #4 Calculus II (4-5 credits) (satisfies Quantitative Reasoning for core)
- Requirement #5 Chemistry I (4-6 credits) (satisfies Science #1 for core)
- Requirement #6 Physics (4 credits) (satisfies Science #2 for core)
- Requirement #7 First-Year Engineering Selective (3-4 credits)
- Requirement #8 Written and Oral Communication (6-7 credits) (could satisfy Written Communication, Information Literacy or Oral Communication for core)

General Engineering Requirement (3-6 credits)

C Programming (0-3 credits)

Required only if CS 15900 was not taken as the First Year Engineering (FYE) Science Selective.

• CS 15900 - C Programming (minimum grade of C-)

Engineering Breadth Selective - Choose One (3 credits)

- AAE 20300 Aeromechanics I
- ABE 20100 Thermodynamics In Biological Systems I
- BME 20100 Biomolecules: Structure, Function, And Engineering Applications
- CE 29700 Basic Mechanics I (Statics)
- CE 35000 Introduction To Environmental And Ecological Engineering
- CE 35500 Engineering Environmental Sustainability
- CHE 20500 Chemical Engineering Calculations
- EEE 35000 Introduction To Environmental And Ecological Engineering
- EEE 35500 Engineering Environmental Sustainability
- IE 33500 Operations Research Optimization
- IE 33600 Operations Research Stochastic Models
- ME 20000 Thermodynamics I
- ME 27000 Basic Mechanics I
- ME 41300 Noise Control
- MSE 23000 Structure And Properties Of Materials
- NUCL 20000 Introduction to Nuclear Engineering

Mathematics Requirement - Choose One Option (10-11 credits)

Calculus I and II must be completed as part of the First Year Engineering Requirements.

Option 1 (10 credits)

- MA 26100 Multivariate Calculus (minimum grade of C-)
- MA 26600 Ordinary Differential Equations
- MA 26500 Linear Algebra

Option 2 (11 credits)

Math Required Courses (8 credits)

- MA 26100 Multivariate Calculus (minimum grade of C-)
- MA 26200 Linear Algebra And Differential Equations

Advanced Math Selective - Choose One (3 credits)

- MA 30300 Differential Equations And Partial Differential Equations For Engineering And The Sciences
- MA 35100 Elementary Linear Algebra
- MA 38500 Introduction To Logic
- MA 42500 Elements Of Complex Analysis
- MA 51000 Vector Calculus
- CS 31400 Numerical Methods

Science Requirement (4-8 credits)

Physics I and General Chemistry are part of the First Year Engineering Requirements. If an FYE Science Selective other than CS 15900 is selected, it will satisfy the ECE Science Selective requirement below.

Science Required Course (4 credits)

PHYS 27200 - Electric And Magnetic Interactions

Science Selective - Choose One (If an FYE Science Selective other than CS 15900 is selected, it will satisfy the ECE Science Selective)

- BIOL 11000 Fundamentals Of Biology I
- BIOL 11100 Fundamentals Of Biology II
- BIOL 12100 Biology I: Diversity, Ecology, And Behavior and
- BIOL 13500 First Year Biology Laboratory
- BIOL 13100 Biology II: Development, Structure, And Function Of Organisms
- CHM 11600 General Chemistry
- PHYS 31000 Intermediate Mechanics
- PHYS 32200 Intermediate Optics
- PHYS 34200 Modern Physics
- PHYS 34400 Introduction To Quantum Science

· PHYS 34202 - IMPO to Quartum Source

ECE General Education Course Requirement (17-18 credits)

- General Education I (Human Cultures: Humanities) Credit Hours: 3.00 (satisfies Human Cultures: Humanities for core)
- General Education II (satisfies Human Cultures: Behavioral/Social Science for core) Credit Hours: 3.00
- General Education III (satisfies Science, Technology & Society for core) Credit Hours: 3.00
- General Education IV Credit Hours: 3.00
- General Education V Credit Hours: 3.00
- General Education VI Credit Hours: 3.00

C- or better required in all General Education Requirement Courses

- 6 of 24 credits must be Upper level courses (Non-Introductory or Upper-level Requirement: At least 6 credits must be 30000-level or above (or from courses with a required pre-requisite in the same department.)
- 12 of 24 must be taken from College of Liberal Arts, the Krannert School of Management, and/or the Honors College-provided such courses are not focused primarily on engineering, technology, the natural sciences, or mathematics.

24 credits total of General Education Courses Required

6-7 credits are taken in First-Year Engineering

- General Education FYE Requirement #8 (Written Communication) Credit Hours: 3.00-4 credits (satisfies Written Communication for core)
- General Education FYE Requirement #8 (Oral Communication) Credit Hours: 3.00 (satisfies Oral Communication

Complementary Silictures Electives (0-8 credits)

Electives/Complementary Electives are used to bring total credits to the minimum 124 required for the BSEE degree. Students should carefully select these courses to complement their personal interests and their academic record.

omplementary Electives - Credit Hours: 0.00-8.00 (All courses, except those on Electrical and Computer Engineering No Count

Supplemental Lists

- Electrical and Computer Engineering General Education
- Electrical Engineering Electives
- Electrical and Computer Engineering No Count List

GPA Requirements

2.0 Graduation GPA required for Bachelor of Science degree.

Transfer Credit Policy

College, department, major transfer credit (including any/all undistributed credit, TR graded course, AP/IB credit, etc.) should be clearly stated. Can transfer credit be applied to the major? If yes, how and where?

University Requirements

University Core Requirements

For a complete listing of University Core Course Selectives, visit the Provost's Website.

- Human Cultures: Behavioral/Social Science (BSS)
- · Human Cultures: Humanities (HUM)
- Information Literacy (IL)
- Oral Communication (OC)
- Quantitative Reasoning (QR)
- Science #1 (SCI)
- Science #2 (SCI)
- · Science, Technology, and Society (STS)
- Written Communication (WC)

Civics Literacy Proficiency Requirement

The Civics Literacy Proficiency activities are designed to develop civic knowledge of Purdue students in an effort to graduate a more informed citizenry. For more information visit the Civics Literacy Proficiency website.

Students will complete the Proficiency by passing a test of civic knowledge, and completing one of three paths:

- Attending six approved civics-related events and completing an assessment for each; or
- Completing 12 podcasts created by the Purdue Center for C-SPAN Scholarship and Engagement that use C-SPAN material and completing an assessment for each; or
- Earning a passing grade for one of **these approved courses** (or transferring in approved AP or departmental credit in lieu of taking a course).

Upper Level Requirement

- Resident study at Purdue University for at least two semesters and the enrollment in and completion of at least 32 semester hours of coursework required and approved for the completion of the degree. These courses are expected to be at least junior-level (30000+) courses.
- Students should be able to fulfill *most*, *if not all*, of these credits within their major requirements; there should be a clear pathway for students to complete any credits not completed within their major.

Sample First Year Engineering Plan of Study

Fall 1st Year

- CHM 11500 General Chemistry (FYE Requirement #8) Credit Hours: 4.00 or (CHM 11100 and CHM 11200)
- ENGR 13100 Transforming Ideas To Innovation I (FYE Requirement #1) Credit Hours: 2.00
- MA 16100 Plane Analytic Geometry And Calculus I (FYE Requirement #3) Credit Hours: 5.00 or
- MA 16500 Analytic Geometry And Calculus I + (FYE Requirement #3) Credit Hours: 4.00
- Written Communication Selective (FYE Requirement #8) Credit Hours: 3.00-4.00 (satisfies Written Communication for core) or
- Oral Communication Selective (FYE Requirement #8) Credit Hours: 3.00 (satisfies Oral Communication for core)



Spring 1st Year

- ENGR 13200 Transforming Ideas To Innovation II (FYE Requirement #2) Credit Hours: 2.00
- PHYS 17200 Modern Mechanics (FYE Requirement #6) Credit Hours: 4.00
- MA 16200 Plane Analytic Geometry And Calculus II (FYE Requirement #4) Credit Hours: 5.00 or
- MA 16600 Analytic Geometry And Calculus II (FYE Requirement #4) Credit Hours: 4.00
- Written Communication Selective (FYE Requirement #8) Credit Hours: 3.00-4.00 (satisfies Written Communication for core) or
- Oral Communication Selective (FYE Requirement #8) Credit Hours: 3.00 (satisfies Oral Communication for core)

First-Year Engineering Selective (FYE Requirement # 7) - Credit Hours: 3.00-4.00

- CHM 11600 General Chemistry or
- CS 15900 C Programming or
- BIOL 11000 Fundamentals Of Biology I or
- BIOL 11100 Fundamentals Of Biology II

16 Credits - 19

Sample Electrical Engineering Plan of Study

Combined with two semesters for FYE above, the following is an example of a 4-year plan that satisfies the BSEE degree requirements. It assumes that CS 15900 and a 4 credit hour Written Communication Foundational Core course were taken in

the First Year.

Fall 2nd Year

- ECE 29401 Electrical And Computer Engineering Sophomore Seminar
- ECE 20001 Electrical Engineering Fundamentals I
- ECE 20007 Electrical Engineering Fundamentals I Lab
- ECE 20875 Python For Data Science
- PHYS 27200 Electric And Magnetic Interactions •
- MA 26100 Multivariate Calculus



Critical CVS.

16 Credits

Spring 2nd Year

- ECE 20002 Electrical Engineering Fundamentals II
- ECE 20008 Electrical Engineering Fundamentals II Lab
- ECE 26400 Advanced C Programming
- ECE 27000 Introduction To Digital System Design
- MA 26600 Ordinary Differential Equations ϕ Critical Code
- Foundational General Education I (Human Cultures: Humanities) Credit Hours: 3.00

17 Credits

Fall 3rd Year

- ECE 30100 Signals And Systems
- ECE 39401 Professional Communications And Diversity
- Foundational General Education II (Human Cultures: Behavioral/Social Science) Credit Hours: 3.00
- Advanced EE Selective Credit Hours: 3.00
- EE Elective (Advanced Level Lab) Credit Hours: 1.00
- ECE Science Selective Credit Hours: 4.00

15 Credits

Spring 3rd Year

- ECE 30200 Probabilistic Methods In Electrical And Computer Engineering
- ECE 30411 Electromagnetics I
- MA 26500 Linear Algebra
- Foundational General Education III (Science, Technology & Society) Credit Hours: 3.00
- Advanced EE Selective Credit Hours: 3.00
- · Et Electrice (advanced Level Lab) Cr. his. 1.0

15 Credits

Fall 4th Year

- ECE 49022 Electrical Engineering Senior Design Projects
- EE Elective Credit Hours: 3.00

- General Education IV Credit Hours: 3.00
- General Education V Credit Hours: 3.00
- Elective Credit Hours: 3.00 Complementary Selection - 3

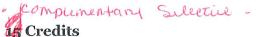
16 Credits

Spring 4th Year

- ECE 49401 Professional Communication Capstone
- Advanced EE Selective with Adv Level Lab Credit Hours: 8.00
- EE Elective with Adv Level Lab



- Engineering Breadth Selective Credit Hours: 3.00
- General Education VI Credit Hours: 3.00



Critical Course

The \(\) course is considered critical.

In alignment with the Degree Map Guidance for Indiana's Public Colleges and Universities, published by the Commission for Higher Education (pursuant to HEA 1348-2013), a Critical Course is identified as "one that a student must be able to pass to persist and succeed in a particular major. Students who want to be nurses, for example, should know that they are expected to be proficient in courses like biology in order to be successful. These would be identified by the institutions for each degree program".

Disclaimer

The student is ultimately responsible for knowing and completing all degree requirements.

Consultation with an advisor may result in an altered plan customized for an individual student.

The myPurduePlan powered by DegreeWorks is the knowledge source for specific requirements and completion.

<u>Advanced Electrical Engineering Selectives – Choose Three (9-12 credits)</u>

- ECE 30412 Electromagnetics II
- ECE 36200 Microprocessor Systems and Interfacing
- ECE 38200 Feedback System Analysis and Design
- ECE 44000 Transmission of Information
- ECE 30500 Semiconductor Devices or
 - ECE 50631 Fundamentals of Current Flow and
 - ECE 50632 Introduction to Quantum Transport and
 - ECE 50633 Boltzmann Law: Physics to Computing
- ECE 43800 Digital Signal Processing With Applications or
- ECE 53800 Digital Signal Processing I
- ECE 32100 Electromechanical Motion Devices or
- ECE 31032 Power Systems Engineering or
- ECE 31033 Power Electronics or
- ECE 51012 Electromechanics

<u>Senior Design Reqirement – Choose One (4)</u>

Option I

ECE 49022 – Electrical Engineering Senior Design Projects

Option 2

ECE 47700 – Digital Systems Senior Project

Option 3

ECE 49595 – Open Source Software

Option 4

Must be taken in each of 2 consecutive semesters EPCS 41200 – Senior Design Participation in EPICS

Option 5

Must be taken in 2 consecutive semesters

VIP 47921 – Senior Design Participation in Vertically Integrated Projects (VIP) I

VIP 47922 – Senior Design Participation in Vertically Integrated Projects (VIP) II

BS in Electrical Engineering and BS in Computer Engineering Approved General Education Elective Courses 2024 – 2025

(Bold are Advanced-Level, *must gain ECE approval)

Aerospace Studies

AFT

47100

African American Studies

AAS

27100 27700

Agricultural Economics

AGEC

 $\underline{20300}\ \underline{20400}\ \underline{21700}\ \underline{22000}\ \underline{25000}\ \underline{29600^*}\ \underline{33000}\ \underline{33100}\ \underline{34000}\ \underline{35200}\ \underline{40600}$

41000 41500 45000

American Studies

AMST

20100 30100 32000 32500

Communication

COM

 $\frac{10200}{30300} \frac{11400}{31200} \frac{20400}{31400} \frac{21000}{31500} \frac{21200}{31600} \frac{21700}{31800} \frac{22400}{32000} \frac{25100}{32500} \frac{25300}{32900} \frac{25600}{33000} \frac{33200}{33300} \frac{35100}{41500} \frac{35200}{49500} \frac{36800}{49100} \frac{37200}{49100} \frac{37400}{499100} \frac{37600}{499100} \frac{38100}{499100} \frac{41100}{499100} \frac{41200}{499100}$

Comparative Literature

CMPL

26600 26700

Consumer Science

CSR

10300 20900 34200 48400

Economics

ECON

 $\frac{16500}{36200} \xrightarrow{21000} \frac{21700}{36700} \xrightarrow{25100} \frac{25200}{36800} \xrightarrow{30100} \frac{34000}{37500} \xrightarrow{35200} \frac{35500}{41900} \xrightarrow{46200} \frac{36100}{46100}$

Educational and Psychological Studies

EDPS

31500 31600 31700

English

ENGL

 10100
 10200
 10300
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 10800
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 41100
 41200

 41300
 41400
 46900
 46900
 47000
 44100
 44200
 44400
 46000
 46200
 46300

Entrepreneurship

ENTR

20000 31000

Food Science

FS

47000

Foreign Languages and Literature

ARAB	<u>10100</u> <u>10200</u> <u>20100</u> <u>20200</u>
CHNS	10100 10200 10700 20100 20200 20700 23000 24100 28000 28500 30100 30200 30500 31300 34100 34200 40100 40200 49000* 49300*

CLCS	$\frac{18100}{33300} \frac{23010}{33500} \frac{23100}{33700} \frac{23200}{33900} \frac{23300}{38000} \frac{23500}{38100} \frac{23700}{38300} \frac{23800}{38500} \frac{23900}{38700} \frac{33000}{48300}$
FR	$\frac{10100}{28000} \frac{10200}{30100} \frac{10500}{30200} \frac{11200}{32400} \frac{20100}{33000} \frac{20200}{34100} \frac{20500}{38000} \frac{21100}{39400} \frac{21200}{39600} \frac{24100}{40100} \frac{24100}{40200}$
GER	10100 10200 10500 11200 20100 20200 20500 21100 21200 22300 22400 23000 24100 28000* 30100 30200 31200 32300 33000 34100 40100 48000
GREK	10100 10200 10500 20100 20200 49000*
HEBR	<u>10100</u> <u>10200</u> <u>12100</u> <u>12200</u> <u>20100</u> <u>20200</u> <u>22200</u> <u>38000</u>
ITAL	$\frac{10100}{23100} \frac{\textbf{10200}}{28000} \frac{10500}{28100} \frac{\textbf{10200}}{\textbf{30100}} \frac{\textbf{11200}}{\textbf{30200}} \frac{\textbf{20100}}{33300} \frac{\textbf{20200}}{\textbf{33300}} \frac{\textbf{20200}}{\textbf{33200}} \frac{\textbf{20200}}{\textbf{32200}} \frac{\textbf{20200}}{32$
JPNS	<u>10100</u> <u>10200</u> <u>20100</u> <u>20200</u> <u>23000</u> <u>24100</u> <u>28000</u> <u>30100</u> <u>30200</u> <u>31300</u> <u>33000</u> <u>34100</u> <u>34200</u> <u>36100</u> <u>36200</u> <u>40100</u> <u>40200</u> <u>48000</u> <u>49000*</u>
KOR	<u>10100</u> <u>10200</u> <u>20100</u> <u>20200</u> <u>30100</u> <u>30200</u> <u>33000</u> <u>40100</u>
LATN	$\frac{10100}{44400} \frac{10200}{44500} \frac{10500}{44600} \frac{20100}{20100} \frac{20200}{20100} \frac{34300}{34400} \frac{34500}{34500} \frac{34600}{34600} \frac{44200}{44500} \frac{44300}{44500}$
LC	<u>10100* 10200* 20100* 20200* 23000 23300 23500 23900 26100 26100 33100 33300 36800 37100 49000*</u>
PTGS	<u>10100</u> 10200 11200 20100 20200 21200
RUSS	$\frac{10100}{30200} \frac{10200}{33000} \frac{11100}{34100} \frac{11200}{36100} \frac{20100}{36200} \frac{21100}{40100} \frac{21200}{40200} \frac{24100}{48000} \frac{28100}{4000} \frac{30100}{4000}$
SPAN	$\frac{10100}{24100} \frac{10200}{28000} \frac{10500}{30100} \frac{11200}{30200} \frac{20100}{30801} \frac{20200}{32100} \frac{20500}{33000} \frac{21100}{33500} \frac{23100}{34100} \frac{23500}{36100}$

General Studies

GS	10000	10100

History

HIST	<u>10300</u> <u>10400</u> <u>10500</u> <u>15100</u> <u>15200</u> <u>21000</u> <u>21100</u> <u>22800</u> <u>22900</u> <u>23005</u> <u>23800</u>
	24000 24100 24300 24500 24600 25000 27100 27200 30000 30200 30301
	30400 30505 30605 30701 31005 31200 31405 31505 31700 31800 31905
	$\overline{32000} \ \overline{32200} \ \overline{32300} \ \overline{32400} \ \overline{32600} \ \overline{32700} \ \overline{32800} \ \overline{32900} \ \overline{33000} \ \overline{33100} \ \overline{33205}$
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	39100 39400 39600 39800 40200 40300 40400 40500 40600 40700 40800
	41200 41300 42300 42700 43800 43900 44000 44100 46000 46100 46300
	46500 46700 46800 46900 47005 47100 47200 47300 47500 49200* 49300*
	49400
	10 100

Human Development & Family Studies

HDFS

<u>20100 21000 22100 25500 30100 31100 31200 32500 42400</u>

Interdisciplinary Studies

IDIS

33000 49000*

Jewish Studies

JWST

33000

Languages and Cultures

Linguistics

LING

20100 32100

Management

MGMT

<u>20000</u> <u>20100</u> <u>30400</u> <u>31000</u> <u>32300</u> <u>35400</u> <u>38200</u> <u>41100</u> <u>41200</u> <u>41300</u> <u>41300</u>

Medieval and Renaissance Studies

MARS

12000

Organizational Behavior and Human Resources

OBHR

33000

Philosophy

PHIL

 10100
 11000
 11005
 11100
 11400
 12000
 20600
 20700
 20800
 21900
 22100

 22500
 23000
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 24200
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 30200
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Political Science

POL

 $\frac{10100}{23700} \frac{12000}{30000} \frac{13000}{30400} \frac{14100}{30500} \frac{20000}{31400} \frac{22200}{32300} \frac{23000}{32600} \frac{23100}{33500} \frac{23200}{33500} \frac{23500}{34200} \frac{34400}{34500} \frac{34600}{4100} \frac{34800}{41300} \frac{35000}{41500} \frac{35100}{41500} \frac{35200}{42300} \frac{35300}{42800} \frac{36000}{42900} \frac{37200}{43000} \frac{37200}{43100} \frac{37200}{43200} \frac{33200}{43300} \frac{34300}{43400} \frac{44700}{45300} \frac{45300}{46000} \frac{46100}{46200} \frac{46200}{49300} \frac{49300}{49300}$

Psychology

PSY

 $\frac{12000}{27200} \frac{12100}{28500} \frac{12300}{31000} \frac{20000}{31100} \frac{22200}{31400} \frac{23500}{33500} \frac{23900}{33600} \frac{24000}{33700} \frac{24400}{35000} \frac{25100}{35000} \frac{25100}{350$

Religious Studies

REL

20000 23000 23100 **31800 35000**

Sociology and Anthropology

ANTH

10000 20100 20300 20400 20500 21000 23000 **30700 31200 31300 32000 33500 33600 34000 34100 35200 36800 37300 37700 37900 38000 39000* 39200* 40400 41400 42500 43500 43600 46000**

10000 22000 31000 31200 31600 32400 32600 32700 32800 33400 33800
33900 34000 34100 35000 35200 35600 36700 36800 37400 39100* 40200
<u>41100</u> <u>41900</u> <u>42000</u> <u>42100</u> <u>42600</u> <u>42900</u> <u>45000</u> <u>45400</u> <u>49300*</u>

Speech, Language, and Hearing Sciences

ASL	<u>10100</u> <u>10200</u> <u>20100</u> <u>20200</u> <u>28000</u>
SLHS	<u>11500</u> <u>22700</u> <u>30900 <u>40100</u> <u>41900*</u></u>

Visual and Performing Arts

A&D	10500 10600 11300 11400 11700 12500 14600 20000 20500 20600 21300
	21500 22000 22600 22700 23000 23500 24200 24600 25000 25100 25500
	25600 26200 26500 26600 26700 27000 27100 27500 30000 31100 31200
	<u>31400</u> <u>31600</u> <u>32600</u> <u>32700</u> <u>33000</u> <u>33200</u> <u>33300</u> <u>34100</u> <u>34200</u> <u>35000</u> <u>35900</u>
	<u>36200</u> <u>36300</u> <u>36500</u> <u>36600</u> <u>36800</u> <u>36900</u> <u>37000</u> <u>38000</u> <u>38100</u> <u>38200</u> <u>38300</u>
	<u>38400</u> <u>38400</u> <u>38500</u> <u>39000</u> <u>39100</u> <u>39500</u> <u>39600</u> <u>40000</u> <u>40500</u> <u>40600</u> <u>42100</u>
	<u>44200</u> <u>45100</u> <u>45200</u> <u>45400</u> <u>46200</u> <u>46800</u> <u>47000</u> <u>48500</u> <u>49000*</u> <u>49200</u>
DANC	<u>10100</u> <u>10200</u> <u>10300</u> <u>14000</u> <u>20100</u> <u>20200</u> <u>20300</u> <u>24000</u> <u>24500</u> <u>25000</u> <u>26100</u> <u>30100</u> <u>35000</u>
FVS	<u>26100</u> <u>33600</u>
MUS	13200 13300 16100 25000 26100 29300* 34100 36100 36200 36300 36400
	<u>37400</u> <u>37500</u> <u>37600</u> <u>37800</u> <u>38100</u> <u>38200</u> <u>38300</u> <u>38400</u> <u>49000*</u>
THTR	13300 15003 16100 16200 16400 20100 21300 32300 33300 33400 33600
	36200 38000 38100 41300 43300 43400 44000

Women's, Gender, and Sexuality Studies

WGSS	<u>28000</u> <u>28200</u> <u>38000 <u></u></u>

BS in Electrical Engineering and BS in Computer Engineering Approved Complementary Selective Courses 2024 - 2025

AAE	20000:59900
AAS	10000:59900
ABE	20000:59900
AD	10000:59900
AFT	30000:59900
AGEC	10000:59900
AGR	10000:59900
AGRY	10000:59900
AMST	10000:59900
ANSC	10000:59900
ANTH	10000:59900
ARAB	10000:59900
ASAM	10000:59900
ASEC	10000:59900
ASL	10000:59900
ASTR	10000:59900
AT	10000:59900
BAND	_10000:59900
ВСНМ	10000:59900
BIOL	10000:59900
BME	20000:59900
BTNY	10000:59900
CDIS	10000:59900
CE	20000:59900
CEM	20000:59900
CGT	10000:59900
CHE	20000:59900
CHM	11500:59900
CHNS	10000:59900
CLCS	10000:59900
CM	10000:59900
CMPL	10000:59900
CNIT	10000:59900
COM	10000:59900
CS	18000:59900
CSR	10000:59900

DANC	10000:59900
EAPS	10000:59900
ECET	10000:59900
ECON	10000:59900
EDCI	10000:59900
EDPS	10000:59900
EDST	10000:59900
EEE	20000:59900
ENGL	10000:59900
ENGR	10000:59900
ENGT	10000:59900
ENTM	10000:59900
ENTR	10000:59900
FNR	10000:59900
FR	10000:59900
FS	10000:59900
FVS	10000:59900
GER	10000:59900
GREK	10000:59900
GS	10000:59900
GSLA	10000:59900
HDFS	10000:59900
HEBR	10000:59900
HIST	10000:59900
НК	10000:59900
HONR	10000:59900
HORT	10000:59900
HSCI	10000:59900
HSOP	10000:59900
HTM	10000:59900
IDE	20000:59900
IDIS	20000:59900
IE	20000:59900
IET	10000:59900
IT	10000:59900
ITAL	10000:59900

JPNS	10000:59900
JWST	10000:59900
KOR	10000:59900
LA	10000:59900
LALS	10000:59900
LATN	10000:59900
LC	10000:59900
LING	10000:59900
MA	30000:59900
MARS	10000:59900
ME	20000:59900
MET	10000:59900
MFET	10000:59900
MGMT	10000:59900
MSE	20000:59900
MSL	30000:59900
MUS	10000:59900
NRES	10000:59900
NS	10000:59900
NUCL	20000:59900
NUTR	10000:59900
OBHR	10000:59900

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OLS	10000:59900
PES	10000:59900
PHIL	10000:59900
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POL	10000:59900
PSY	10000:59900
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REL	10000:59900
RUSS	10000:59900
SCLA	10000:59900
SFS	10000:59900
SLHS	10000:59900
SOC	10000:59900
SPAN	10000:59900
STAT	10000:59900
SYS	10000:59900
TDM	10000:59900
TECH	10000:59900
THTR	10000:59900
TLI	10000:59900
WGSS	10000:59900

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