

2022-2023
Academic Year

Electrical and Computer Engineering, BS Artificial Intelligence and Machine Learning

(students graduating 2024 or later)



ABET accredited
Course offerings subject to change
Major credits: 146 (not including GURs)

Admissions information - <https://engineeringdesign.wvu.edu/>
Academic advising available - see contact information below
Pre-major coursework in grey area.
Courses in **BOLD** required to apply to full major.

Fall

Winter

Spring

First Year	MATH 124 (5) Calculus I	MATH 125 (5) Calculus II	APPLY TO MAJOR
	PHYS 161 (5) Physics w/ Calc I	PHYS 162 (5) Physics w/ Calc II	EECE 111 (4) Circuits Analysis I
	CSCI 140 or 141 (4) Programm. Fundamen.	EECE 108 & 109 (2) Intro to Elect. & Comp	MATH 204 (4) Linear Algebra
	* ENGR 101 (2) Engineering, Design, Society	CHEM 161 (5) General Chemistry I	PHYS 163 (5) Physics w/ Calc III

Second Year	MAJOR COURSES BEGIN	EECE 220 (4) Electronics I	EECE 310 (4) Continuous Systems
	EECE 210 (4) Circuit Analysis II	EECE 244 (4) Embedded Microcontrollers	EECE 320 (4) Electronics II
	EECE 233 (4) Digital Electronics	MATH 331 (4) Differential Equations	MATH 345 (4) Engineering Statistics
	MATH 224 (5) Multivariable Calculus		

Third Year	EECE 311 (4) Discrete Systems	EECE 360 (4) Communication Systems	EECE 401 (1) Capstone Project Introduction
	EECE 344 (4) Embedded Microcontrollers II	EECE 444 (4) Embedded Systems	EECE 480 (4) Control Systems
	EECE 384 (4) AI and Reinforcement Learning	EECE 383 (4) Machine Learning for Engineers	EECE 397D (4) Cyber-Physical Systems
			ENG 302 (WP) Technical Writing

Fourth Year	EECE 487 (3) AI and ML Capstone Project I	EECE 488 (3) AI and ML Capstone Project II	EECE 489 (3) AI and ML Capstone Project III
	Higher Level EECE or Technical Electives	Higher Level EECE or Technical Electives	Higher Level EECE or Technical Electives

Engineering & Design
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<http://engineeringdesign.wvu.edu>

Pre-major Advisor:
Lisa Ochs lisa.ochs@wwu.edu

NOTES & EXCEPTIONS

Pre-majors apply for the major at the end of spring and/or summer quarters
Students not enrolled in MATH 124 and PHYS 161 fall quarter may not finish in four years
Math 341 may be substituted for MATH 345; CSCI 141 may be substituted for CSCI 140
Students must complete General University Requirements in addition to major courses
* ENGR 101 is optional but recommended

Electrical and Computer Engineering, BS

Artificial Intelligence and Machine Learning



Admissions

Students must first be accepted by the university. The program accepts major applications at the end of spring and summer quarters. Accepted students start major coursework fall quarter.

Required coursework to apply		Required questionnaire	Admissions statistics
MATH 124	Calculus II	Applications will include a required questionnaire. The questionnaire will ask about the applicant's goals, demonstrated leadership experiences, collaboration and teamwork examples, strategies for studying, and ability to overcome adversity.	<p>The program typically accepts 48 students annually.</p> <p>The AY2022-23 catalog lists EECE 362 instead of EECE 397D. Either is accepted, though EECE 397D is recommended.</p>
MATH 125	Calculus II		
MATH 204	Linear Algebra		
PHYS 161	Physics w/ Calc I		
PHYS 162	Physics w/ Calc II		
CSCI 140 or 141	Programming Fundamentals		
EECE 111	Circuit Analysis I		
EECE 108/109*	Intro to Electrical & Computer Engineering	<h4>Applications due</h4> <p>Applications are accepted at the end of every spring quarter and the beginning of fall quarter. Accepted students start major coursework fall quarter. See department website for specific dates.</p>	
* 109 may be waived for transfer student admissions, but 108 must be taken at first opportunity.		<h4>Transfer students</h4> <p>Transfer students are encouraged to contact the pre-major advisor to discuss equivalencies and transfer timing.</p>	
Other courses considered, but not required to apply			
MATH 224	Multivariable Calc and Geometry I		
MATH 331	Differential Equations		
MATH 341 or 345	Engineering Statistics		
PHYS 163	Physics w/ Calc III		
CHEM 161	General Chemistry I		

Higher Level EECE Electives and Technical Electives

Students must complete 20 credits of higher level EECE electives; for the AI and ML concentration this includes EECE 383, 384, **397D** and two additional courses. Students must also complete 10 credits of tech electives. See the EECE advising website for a list of Higher Level EECE and approved tech electives.

Faculty Contact Information

Associate Professor Xichen Jiang, jiangx2@wwu.edu
 Assistant Professor Junaid Khan, khanj@wwu.edu
 Professor Andy Klein, kleina5@wwu.edu
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