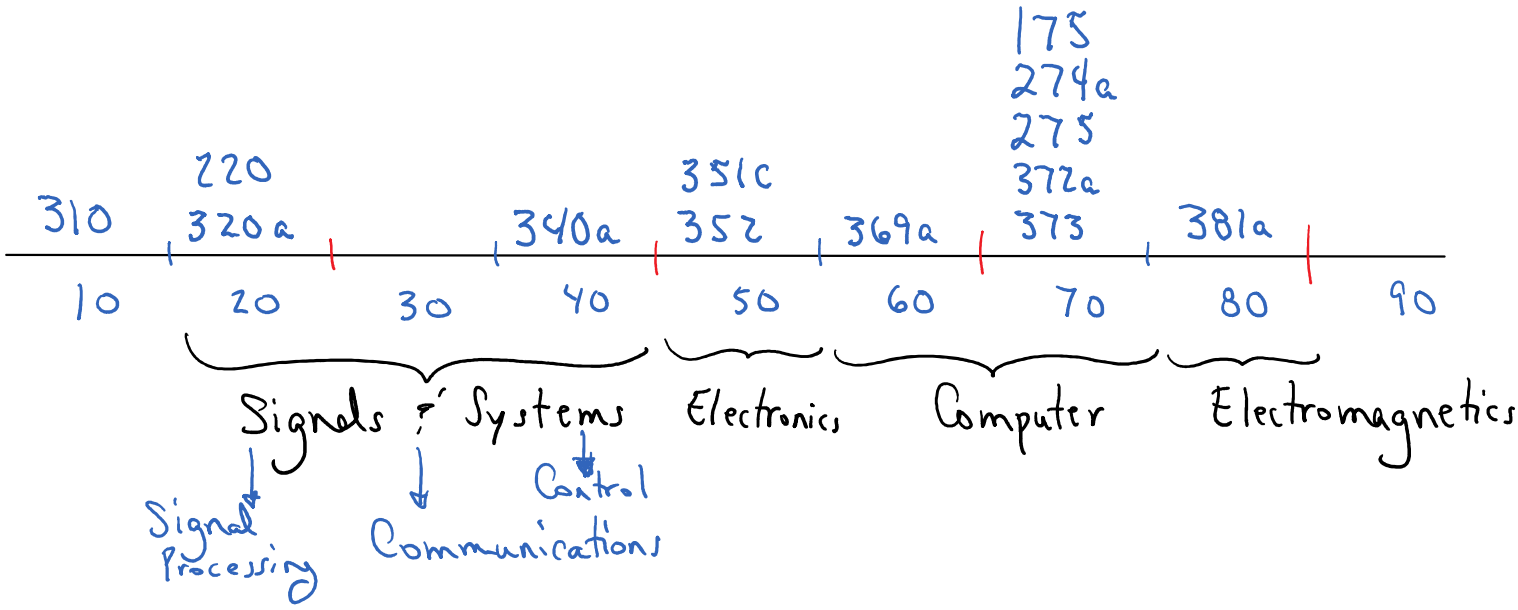
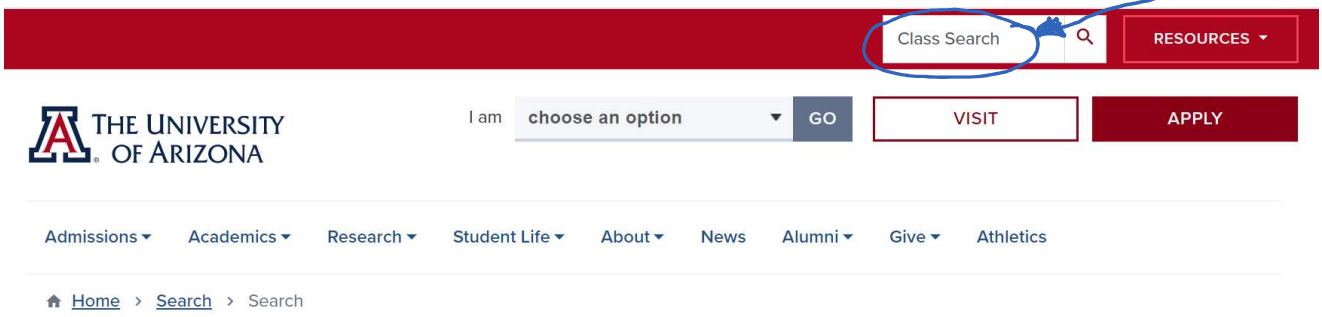
Technical Electives

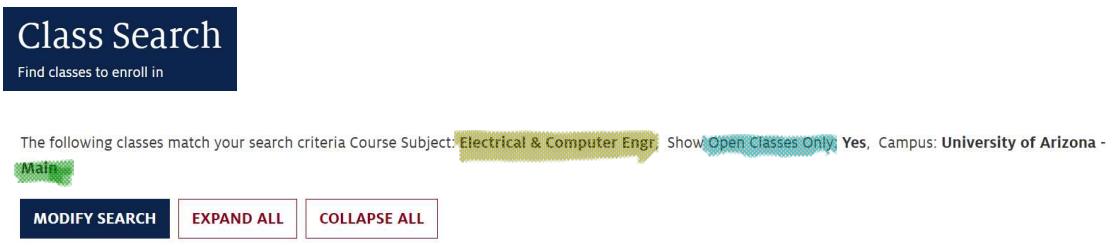


Search for Classes: www.arizona.edu



Main Campus

https://studentcenter.arizona.edu/app/ui/public/select-campus



The following classes match your search criteria Course Subject: Electrical & Computer Engr, Show Open Classes Only: **Yes**, Campus: **University of Arizona - Main**

MODIFY SEARCH | EXPAND ALL | COLLAPSE ALL

Course Info on ECE Website:

https://ece.engineering.arizona.edu/undergrad-programs/courses

https://ece.engineering.arizona.edu/grad-programs/courses

Textbook(s)
Description
Topics
Prerequisites

Undergraduate Enrollment in Graduate Classes:
https://www.arizona.edu Search Box: "Undergraduate Enrollment in Graduate Course"
Must submit a form!

Course Descriptions:
https://catalog.arizona.edu Menu Item: Courses::Course Descriptions
ECE: "VIEW ALL COURSE DESCRIPTIONS" (link) {allow pop-ups in browser}

Faculty Videos: https://ece.engineering.arizona.edu/faculty-staff/videos

Fall 2023 (Organized by Areas: Computer, Electronics/Bio, Electromagnetics/Optics, and Signals & Systems)

Computer Courses:			ECE 369a	(EE)		Fundamentals of Computer Architecture
			ECE 373	(EE)		Object Oriented Software Design
			ECE 4/513			Web Development and Internet of Things
			ECE 4/578			Fundamentals of Computer Networks
			ECE 509			Cyber Security: Concept, Theory, Practice

Electronics/Bio Courses:						
			ECE 434			Electrical and Optical Properties of Materials
			ECE 4/546			Semiconductor Processing
			ECE 4/550			Analog Integrated Circuits

Electromagnetics/ Optics Courses:			ECE 4/586			Microwave Engr I: Passive Circuits
			ECE 527			Holography and Diffractive Optics
			ECE 4/540			Quantum Sensing and Quantum Machine Learning

Signals & Systems Courses:			ECE 4/529			Digital Signal Processing
			ECE 4/530			Optical Communications Systems
			ECE 4/541a			Automatic Control Systems
			ECE 501b			Advanced Linear System Theory
			ECE 503			Probability and Random Processes for Engr Applications
			ECE 537			Digital Communications Systems II
			ECE 538			Radar Signal Processing

McGuire Center for Entrepreneurship (2 Semester Sequence, Conflicts with ENGR 498a/b)

McGuire New Venture Dev:			ENTR 487			Venture Development I (Fall), Available to ECE Juniors
			ENTR 484			Venture Development II (Spring), Available to ECE Juniors

https://eller.arizona.edu/programs/entrepreneurship

Description ENTR 487 (Fall)

Integration of marketing, production and management functions. Pro forma statements. Development of venture capital.

Description ENTR 484 (Spr)

Preparation and presentation of a comprehensive business plan. Integration of financial, operational, and marketing elements.

Weekly Schedule (Fall 2023, Tentative)					
Time	Mon	Tues	Wed	Thurs	Fri
8:00 AM		ECE 373		ECE 373	
8:30 AM		ECE 373		ECE 373	
9:00 AM		ECE 373		ECE 373	
9:30 AM		ECE 4/546 ECE 4/586		ECE 4/546 ECE 4/586	
10:00 AM	ECE 369a	ECE 4/546 ECE 4/586	ECE 369a	ECE 4/546 ECE 4/586	ECE 369a
10:30 AM	ECE 369a	ECE 4/546 ECE 4/586	ECE 369a	ECE 4/546 ECE 4/586	ECE 369a
11:00 AM	ECE 503	ECE 4/529 ECE 4/574A	ECE 503	ECE 4/529 ECE 4/574A	ECE 503
11:30 AM	ECE 503	ECE 4/529 ECE 4/574A	ECE 503	ECE 4/529 ECE 4/574A	ECE 503
12:00 PM		ECE 4/529 ECE 4/574A		ECE 4/529 ECE 4/574A	
12:30 PM		ECE 4/530 ECE 4/578		ECE 4/530 ECE 4/578	
1:00 PM	ECE 4/550	ECE 4/530 ECE 4/578	ECE 4/550	ECE 4/530 ECE 4/578	ECE 4/550
1:30 PM	ECE 4/550	ECE 4/530 ECE 4/578	ECE 4/550	ECE 4/530 ECE 4/578	ECE 4/550
2:00 PM	ECE 369a a Lab ECE 537 ECE 4/541a		ECE 369a a Lab ECE 537 ECE 4/541a		ECE 537 ECE 4/541a
2:30 PM	ECE 369a a Lab ECE 537 ECE 4/541a		ECE 369a a Lab ECE 537 ECE 4/541a		ECE 537 ECE 4/541a
3:00 PM	ECE 369a a Lab ECE 4/513		ECE 369a a Lab ECE 4/513		ECE 4/513
3:30 PM	ECE 369a b Lab ECE 4/513		ECE 369a b Lab ECE 4/513	ECE 695	ECE 4/513
4:00 PM	ECE 369a b Lab ECE 434 ECE 501b		ECE 369a b Lab ECE 434 ECE 501b	ECE 695	
4:30 PM	ECE 369a b Lab ECE 434 ECE 501b		ECE 369a b Lab ECE 434 ECE 501b		
5:00 PM	ECE 369a b Lab ECE 434 ECE 501b ECE 4/540	ECE 538	ECE 369a b Lab ECE 434 ECE 501b ECE 4/540	ECE 538	
5:30 PM	ECE 369a c Lab ECE 4/540	ECE 538	ECE 369a c Lab ECE 4/540	ECE 538	
6:00 PM	ECE 369a c Lab ECE 4/540	ECE 538	ECE 369a c Lab ECE 4/540	ECE 538	

Spring 2024 (Anticipated)

Computer Courses:			ECE 330B			Computational Techniques
			ECE 523			Engineering Applications of Machine Learning
			ECE 4/562			Computer Architecture
			ECE 569			High Performance Computing
			ECE 4/571			Fundamentals of Information and Network Security
			ECE 4/574a			Computer Aided Logic Design
			ECE 4/579			Principles of Artificial Intelligence
			ECE 564			Advanced Topics in Computer Networks

Electronics/Bio Courses:						
			ECE 304a			Design of Electronic Circuits
			ECE 352	(CE)		Device Electronics
			ECE 4/507			Digital VLSI System Design
			ECE 534			Advanced Topics in Optics & Electronic Materials
			ECE 4/546			Semiconductor Processing

Electromagnetics/ Optics Courses:			ECE 381a	(CE)		Introductory Electromagnetics
			ECE 4/503a			Math Methods Optics/Photonic
			ECE 587L			Photonic Communications Lab
			ECE 4/584			Antenna Theory and Design

Signals & System Courses:						
			ECE 533			Digital Image Processing
			ECE 4/535a			Digital Communications Systems
			ECE 4/542			Digital Control Systems
			ECE 696b 310			Advanced Topics in Machine Learning

2024

Weekly Schedule (Spring ~~2023~~)					
Time	Mon	Tues	Wed	Thurs	Fri
8:00 AM		ECE 304a La ECE 4/579		ECE 304a Lb ECE 4/579	
8:30 AM		ECE 304a La ECE 4/579		ECE 304a Lb ECE 4/579	
9:00 AM	ECE 304a ECE 4/562	ECE 304a La ECE 4/579	ECE 304a ECE 4/562	ECE 304a Lb ECE 4/579	ECE 304a ECE 4/562
9:30 AM	ECE 304a ECE 4/562	ECE 304a La ECE 569	ECE 304a ECE 4/562	ECE 304a Lb ECE 569	ECE 304a ECE 4/562
10:00 AM	ECE 523 ECE 4/546	ECE 304a La ECE 539a ECE 569	ECE 523 ECE 4/546	ECE 304a Lb ECE 539a ECE 569	ECE 523 ECE 4/546
10:30 AM	ECE 523 ECE 4/546	ECE 304a La ECE 539a ECE 569	ECE 523 ECE 4/546	ECE 304a Lb ECE 539a ECE 569	ECE 523 ECE 4/546
11:00 AM		ECE 330B ECE 352 ECE 4/584 ECE 696b 310		ECE 330B ECE 352 ECE 4/584 ECE 696b 310	
11:30 AM		ECE 330B ECE 352 ECE 4/584 ECE 696b 310		ECE 330B ECE 352 ECE 4/584 ECE 696b 310	
12:00 PM		ECE 330B ECE 352 ECE 4/584 ECE 696b 310	ECE 381a R	ECE 330B ECE 352 ECE 4/584 ECE 696b 310	
12:30 PM	ECE 4/503A	ECE 532	ECE 381a R ECE 4/503A	ECE 532	
1:00 PM	ECE 4/503A ECE 4/571	ECE 532	ECE 4/503A ECE 4/571	ECE 532	ECE 4/571
1:30 PM	ECE 4/503A ECE 4/571	ECE 532	ECE 4/503A ECE 4/571	ECE 532	ECE 4/571
2:00 PM	ECE 4/535a		ECE 4/535a		ECE 4/535a
2:30 PM	ECE 4/535a		ECE 4/535a		ECE 4/535a
3:00 PM	ECE 381a		ECE 381a		ECE 381a
3:30 PM	ECE 381a		ECE 381a		ECE 381a
4:00 PM	ECE 4/507 ECE 4/514a		ECE 4/507 ECE 4/514a		ECE 4/514a
4:30 PM	ECE 4/507 ECE 4/514a		ECE 4/507 ECE 4/514a		ECE 4/514a
5:00 PM	ECE 4/507		ECE 4/507		
5:30 PM	ECE 4/542		ECE 4/542		
6:00 PM	ECE 4/542		ECE 4/542		
6:30 PM	ECE 4/542		ECE 4/542		

Accelerated Master's Program (AMP)

COLLEGE OF ENGINEERING
Electrical & Computer Engineering

What is ECE AMP?

- The **Accelerated Master's Program (AMP)** enables qualified undergraduate students to earn both a B.S. degree and M.S. degree in as few as 5 years. AMP is for the top undergraduates who plan to continue in a graduate program in the same UA discipline.

- As an AMP student: During your undergraduate studies you may take up to 12 units at the 5xx level that will count toward your B.S. degree and also toward your M.S. degree.

- The ECE M.S. degree has two options, it's your choice!
  - Non-Thesis (coursework only) – 30 units of ECE courses from main campus selections.
  - Thesis – 24 units of ECE courses from main campus selections, plus 6 units of thesis.

COLLEGE OF ENGINEERING
Electrical & Computer Engineering

AMP Five-Year Flowchart

Freshman		Sophomore		Junior		Senior		Graduate Program	
Calculus I Math 122A/B or Math 125 (5) or (3)	Calculus II Math 129 (3)	Vect Calc Math 223 (4)	Discrete Math Math 243 (3)	Appl. Engr Math ECE 310A* (4)	Technical Elective (3)	Interdiscpl Design ENGR 498A (3) FALL ONLY	Interdiscpl Design ENGR 498B (3) SPRING ONLY	ECE Graduate course (3)	ECE Graduate course (3)
Intro to Engineering ENGR 102 or ENGR 102A/B (3)	Intro Mech Phys 141 (4)	Electr & Magn Phys 241 (4)	Diff Eqn Math 254 (3)	Circuit Theory ECE 320A* (3)	Intro to Comm. ECE 340A* (3)	Technical Elective/ECE Grad (3)	Technical Elective/ECE Grad (3)	ECE Graduate course (3)	ECE Graduate course (3)
Fund of Chemistry Chem 151 (4)	Computer Programming ECE 175* (3)	Computer Programming II ECE 275* (3)	Basic Circuits ECE 220* (5)	CE: ECE 369A* EE: ECE 381a (4)	Electronic Circuits ECE 351C* (4)	Technical Elective/ECE Grad (3)	Technical Elective (3)	ECE Graduate course (3)	ECE Graduate course (3)
1st Year Composition Engl 101 (3)	1st Year Composition Engl 102 (3)	Digital Logic ECE 274A* (4)	Optics & Thermo Phys 143 (2)	CE: ECE 373 EE: ECE 352 (3)	Microprocesso r Org. ECE 372A* (4)	Technical Elective/ECE Grad (3)	Technical Elective (3)		
Ind & Society INDV, Tier 1 (3)	Trad & Culture TRAD, Tier 1 (3)	Ind & Society INDV, Tier 1 (3)	Ind & Society INDV, Tier 2 (3)	Trad & Culture TRAD, Tier 1 (3)	Engr Ethics ECE 311 (1)	Technical Elective (3)	Arts OR Humanities Tier 2 (3)		

THE UNIVERSITY OF ARIZONA.

Electrical and Computer Engineering-Accelerated Master's Program

(ECE-AMP)

The Accelerated Master's Program (AMP) is designed to allow undergraduate seniors to concurrently work toward a master's degree. This option is appropriate for exceptional undergraduate students who would also like to pursue a graduate degree. By counting a limited number of courses toward both degrees, students can earn a M.S. degree much quicker. The M.S. degree provides knowledge, technical skills and research skills for career advancement.

Admission Requirements

- Be an ECE undergraduate junior or senior
- Have a 3.3 cumulative undergraduate GPA
- Waive GRE requirement for admission to ECE Master of Science Degree (M.S.)
- Demonstration of the maturity necessary for success in an accelerated, highly competitive program.

Admission Application Process

- Submit Graduate College Application upon completion of a minimum of 75 undergraduate credit hours, second semester Junior year.

Coursework Requirements

- Select an ECE Faculty advisor who will guide the student's research or development work towards the completion of a thesis. The ECE-AMP program also has a Non-Thesis Option.
- Meet with the ECE Graduate Academic Advisor for assistance in the course selection of the 12 credits of Technical Electives

90+ Units

Ms. Tami Whelan

gradadvisor@ece.arizona.edu

Links:

Class Search:
https://studentcenter.arizona.edu/app/ui/public/select-campus

Undergraduate Enrollment in Graduate Courses:
https://registrar.arizona.edu/records-enrollment/enrollment/ugrd-enrollment-grad-courses

UGRD Enrollment in GRAD Courses

Requirements and instructions for undergraduates wishing to enroll in a Graduate course:

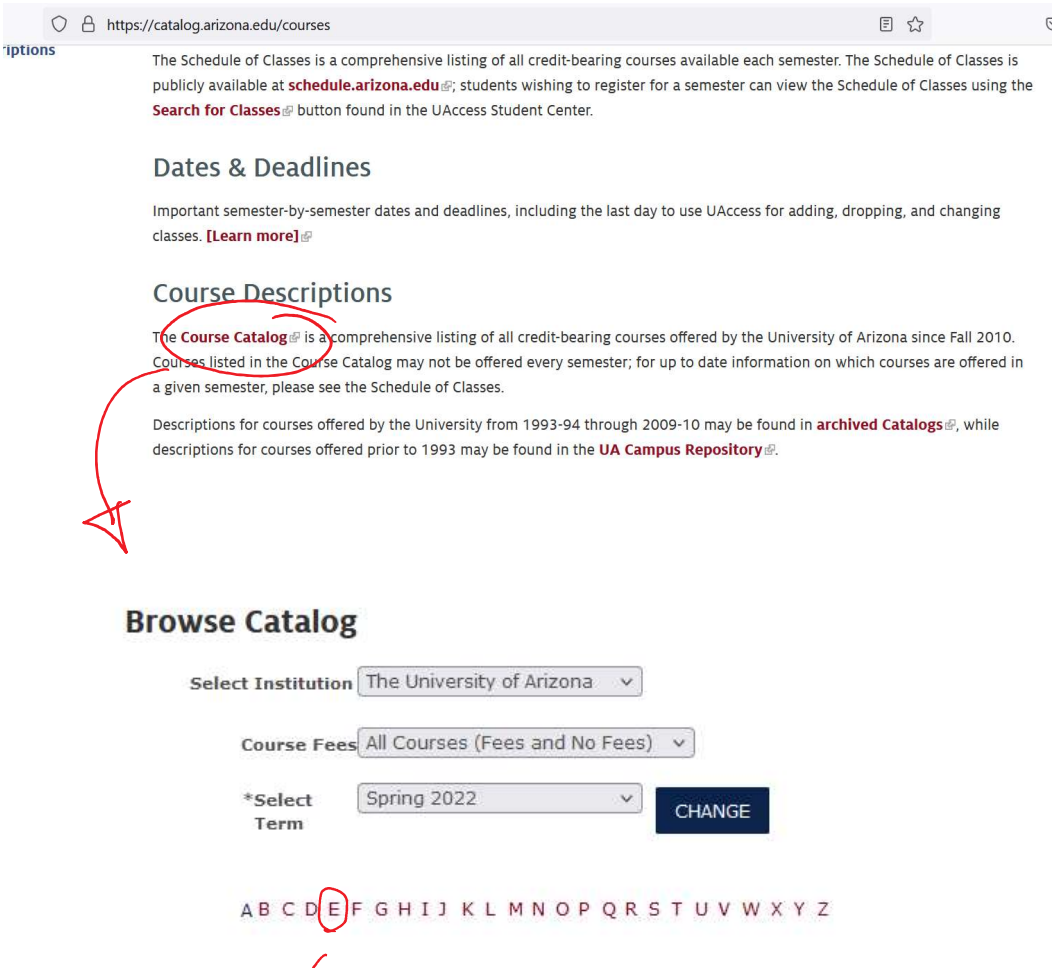
Submit the **Undergraduate Enrollment in Graduate Courses form** to:

The Office of the Registrar
Administration 210

To Receive Undergraduate Credit the Student Must

1. Be classified as a senior, or an honor's junior or senior.
2. Have a minimum cumulative GPA of 3.00.

Course Catalog: https://catalog.arizona.edu/courses



A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Browse Catalog

Select Institution The University of Arizona

Course Fees All Courses (Fees and No Fees)

***Select Term** Spring 2022 CHANGE

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

COLLAPSE ALL EXPAND ALL

Select subject code to display or hide course information.

SUN# = Shared Unique Number System

Sections of courses offered as fully online sections in main campus programs will be charged a $50 iCourse Fee. This fee does not apply to In Person or Hybrid sections, or to students in fully online programs. Please check the Schedule of Classes for up-to-date information on the mode of instruction for individual sections as offerings may change from semester to semester.

▷ EAS - East Asian Studies

▷ ECE - Electrical & Computer Engr

Instruction for individual sections as offerings may change from semester to semester.

▷ EAS - East Asian Studies

▽ ECE - Electrical & Computer Engr

VIEW ALL COURSE DESCRIPTIONS

ECE Course Description

Course Nbr	Course Title	Typically Offered Semester(s)	Flat Fee	Other Fees	SUN#
175	Computer Programming for Engineering Applications	Main campus: Fall, Spring	$25.00		
201R	Geometrical and Instrumental Optics I	Main campus: Fall			
202R	Geometrical and Instrumental Optics II	Main campus: Spring			
207	Elements of Electrical Engineering	Main campus: Fall, Spring			
		Main campus: Fall, Spring			

Syllabi (short versions):

Undergraduate: https://ece.engineering.arizona.edu/undergrad-programs/courses

Graduate: https://ece.engineering.arizona.edu/grad-programs/courses

Faculty Videos (Research Areas): https://ece.engineering.arizona.edu/faculty-staff/videos