

UMass/Amherst
Microwave Engineering Program
goes
Live!

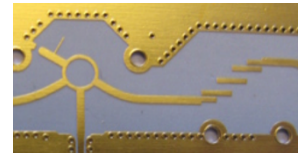
In order to address continuing changes in the RF-technical field marketplace, the Microwave Engineering program at the University of Massachusetts in Amherst is moving forward with offering a key set of its Microwave Engineering courses, taught by the University's world-class faculty, and to be made available for full college credit to off-campus students. Many course offerings will be conducted at the same-time as the on-campus versions of the courses, allowing for off-campus students to benefit from the real-time interaction that is critical to the engagement and learning process.

Interested? Contact microwaves@umass.edu for details.

ECE 584: Microwave Engineering I (Prof. P. Siqueira)

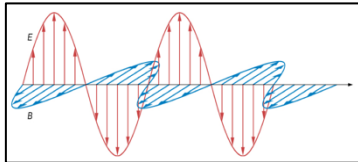
Fundamentals of Microwave Engineering: review of basic field theory, understanding and modeling transmission lines, use of network parameters, microwave resonators and design of matching networks.

Course offered TTh 4 – 5:15 pm EDT. This course has a lab-component that can be conducted at the student's home institution, or at a special lab equipped for microwave engineering education at the UMass extension campus in Newton, MA.



ECE 606: Electromagnetic Field Theory (Prof. R. Janaswamy)

Maxwell's equations, electromagnetic energy and power, constitutive parameters, Helmholtz equation, generalized plane waves, electric and magnetic currents, electromagnetic duality, equivalence principle, induction theorem, optical theorem, reciprocity theorem, Green's functions, TE/TM field decomposition, rectangular harmonics, cylindrical and spherical harmonics. Course offered MWF 1:25 – 2:15 pm EDT.

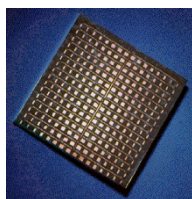


ECE 686: Introduction to Radar Systems (Prof. S. Frasier)

Basics of radar system design and analysis: the radar range equation, radar cross section, measurement ambiguities, radar clutter and statistics, detection and receiver design, transmitters and antenna systems. The course covers pulsed, continuous-wave, and frequency-modulated radars, Doppler radar, and Synthetic Aperture Radar. Course offered TTh 10:00 – 11:15 am EDT.



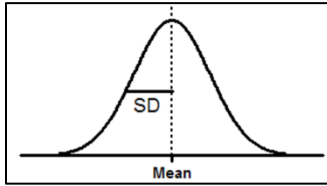
ECE 687: Antenna Theory and Design (Prof. D-H. Kwon)



Analysis and synthesis of antenna elements and arrays. Topics include design and analysis of simple antennas, method of moments, near- and far-field calculations, self- and mutual-impedances, aperture efficiency, travelling wave and broadband antennas, use of simulation software for the design and analysis of basic antenna structures. Course offered TTh, 11:30 – 12:45 pm EDT.

ECE 603: Probability and Random Processes (Prof. H. Pishro-Nik)

This course covers elementary probability theory including random variables, probability and cumulative density functions, generating functions, the law of large numbers and variable transformations. Elementary stochastic process theory including covariance and power spectral density. Markov processes and applications. This course is offered through video lectures and on-campus discussion sections that are recorded.



Course schedule:

MON	TUES	WED	THUR	FRI
	10:00-11:15		10:00-11:15	
	ECE 686		ECE 686	
	11:30-12:45		11:30-12:45	
	ECE 687		ECE 687	
1:25-2:15		1:25-2:15		1:25-2:15
ECE 606		ECE 606		ECE 606
2:30-3:45		2:30-3:45		2:30-3:45
ECE 603		ECE 603		ECE 603
	4:00-5:15		4:00-5:15	
	ECE 584		ECE 584	

Most of the courses offered in this catalog will be held concurrently with their on-campus counterpart.