

Fall 2026 Courses in Machine Learning and Communication Systems

By Prof. Brian L. Evans, bevans@ece.utexas.edu

Here's a schedule of [ECE electives fall 2025 to spring 2027](#) and info about fall 2026 courses on machine learning and communication systems to help you plan. The electives offered in Fall 2025 will likely be taught in Fall 2027. Same goes for Spring 2026 and Spring 2028.

Design of cellular systems is increasingly embracing machine learning (ML) for offline and online learning due to the complexity of cellular standards and interference conditions.

Courses below can be used in a [Technical Core](#) or as a [Free Elective](#). Links to courses are to the [fall course schedule](#). New ECE 379K courses are described on the next page.

Communication Systems

Analog Continuous-Time Circuits and Systems

- [ECE 325 Electromagnetic Engineering](#): sequels include ECE 325K Antennas & Wireless Propagation and ECE 363M Microwave & RF Engineering (taught every Spring)
- [ECE 438 Fundamentals of Electronic Circuits Lab I](#): modeling of transistors and diodes; design of amplifiers; building blocks used in ECE 438K to design filters and oscillators.

Digital Discrete-Time Communication Systems

- [ECE 445S Real-Time Digital Signal Processing Lab](#). Sampling; filters; pulse shaping; matched filtering; carrier recovery; symbol synch; equalization; acoustic modems. *Pre-requisite*: EE 312 Programming, ECE 313 Linear Systems & Signals and ECE 319K Intro to Embedded Systems. *Co-Requisites*: ECE 333T and ECE 351K Probability.
- [ECE 471C Wireless Communications Lab](#): DSP for communications; linear modulation, demodulation, and orthogonal frequency division multiplexing; synchronization, channel estimation, and equalization; fading channels; and standards. *Pre-requisite*: ECE 445S Real-Time DSP Lab or ECE 351M Digital Sig. Proc. or ECE 360K Digital Comm.

Mathematical Foundations

- [M 346 Applied Linear Algebra](#): numerical algorithms involving matrices, as used in signal processing & ML algorithms. *Pre-requisite*: M 340L Matrices & Matrix Comp.
- [M 362M Intro to Stochastic Processes](#): Markov chains; modeling of random signals, including thermal noise. *Pre-requisite*: ECE 351K Probability and M 340L.
- [M 365C Real Analysis I](#): analysis of iterative numerical algorithms to prove convergence which underlies adaptive algorithms. *Pre-requisite*: M 325K and M 340L
- M 378K Intro to Mathematical Statistics: statistical distributions; estimation of distribution parameters; hypothesis testing. *Pre-requisite*: EE 351K Probability.

Machine Learning

- ECE 360C Algorithms: *pre-reqs* ECE 312 Programming I and M 325K Discrete Math
- [ECE 460J Data Science Laboratory](#): *pre-reqs include* ECE 313 Lin Sys & ECE 351K Prob.
- [ECE 461P Data Science Principles](#): *pre-reqs include* ECE 313 Lin Sys & ECE 351K Prob.

Mathematical Foundations

- [M 346 Applied Linear Algebra](#) (see above)
- M 378K Intro to Mathematical Statistics (see above).