

Electrical Engineering - Graduate

[EEGR 5300](#) Advanced Engineering Mathematics (3 semester credit hours) Advanced mathematical topics needed in the study of engineering. Topics may include advanced differential equations, linear algebra, vector calculus, complex analysis, and numerical methods. May not be used to fulfill 33 semester credit hours in MSEE degree requirements. (3-0) R

[EEGR 5301](#) ([CS 5301](#)) Professional and Technical Communication (3 semester credit hours) This course utilizes an integrated approach to writing and speaking for the technical professions. The advanced writing components of the course focus on writing professional quality technical documents such as proposals, memos, abstracts, reports, letters, emails, etc. The advanced oral communication components of the course focus on planning, developing, and delivering dynamic, informative and persuasive presentations. Advanced skills in effective teamwork, leadership, listening, multimedia and computer generated visual aids are also emphasized. Graduate students will have a successful communication experience working in a functional team environment using a real time, online learning environment. (3-0) Y

[EEGR 5365](#) Engineering Leadership (3 semester credit hours) Interpersonal influence and organizational influence in leading engineering organizations. Leadership is addressed from the point of view of the technical manager as well as from that of the technical professional. Topics include staffing, motivation, performance evaluation, communication, project selection and planning, intellectual property and professional ethics. (3-0) R

[EEGR 5381](#) Curriculum Practical Training in Electrical Engineering (3 semester credit hours) This course is required of students who need additional training in engineering practice. May not be used to fulfill 33 semester credit hours in MSEE degree requirements. May be repeated for credit (9 semester credit hours maximum). Department consent required. (3-0) R

[EEGR 6316](#) Fields and Waves (3 semester credit hours) Study of electromagnetic wave propagation beginning with Maxwell's equations; reflection and refraction at plane boundaries; guided wave propagation; radiation from dipole antennas and arrays; reciprocity theory; basics of transmission line theory and waveguides. Prerequisite: [EE 4301](#) or equivalent. (3-0) Y

[EEGR 6381](#) ([MECH 6391](#)) Computational Methods in Engineering (3 semester credit hours) Numerical techniques and their applications in engineering. Topics will include: numerical methods of linear algebra, interpolation, solution of nonlinear equations, numerical integration, Monte Carlo methods, numerical solution of ordinary and partial differential equations, and numerical solution of integral equations. Prerequisites: [ENGR 2300](#) and [ENGR 3300](#) or equivalent, and knowledge of a scientific programming language. (3-0) R

[EEGR 6V88](#) Special Topics in Electrical Engineering (1-6 semester credit hours) May be repeated for credit as topics vary (9 semester credit hours maximum). ([1-6]-0) R

[EEGR 6V98](#) Thesis (3-9 semester credit hours) Pass/Fail only. May be repeated for credit. Instructor

consent required. ([3-9]-0) S

[EEGR 8V40](#) Individual Instruction in Electrical Engineering (1-6 semester credit hours) Pass/Fail only. May be repeated for credit. Instructor consent required. ([1-6]-0) R

[EEGR 8V70](#) Research in Electrical Engineering (3-9 semester credit hours) Pass/Fail only. May be repeated for credit. Instructor consent required. ([3-9]-0) R

[EEGR 8V99](#) Dissertation (3-9 semester credit hours) Pass/Fail only. May be repeated for credit. Instructor consent required. ([3-9]-0) S