**Electrical Engineering - Graduate**

**EEGR 5300** Advanced Engineering Mathematics (3 semester 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. Credit does not apply to the 33 hour M.S.E.E. requirement. (3-0) R

**EEGR 5301 (CS 5301)** Professional and Technical Communication (3 semester hours) **EEGR 5301** 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 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 hours) This course is required of students who need additional training in engineering practice. Credit does not apply to the 33 hour M.S.E.E. requirement. Consent of Graduate Adviser required. (May be repeated to a maximum of 9 hours) (3-0) R

**EEGR 5v80** Special Topics in Electrical Engineering (1-6 semester hours) For letter grade credit only. (May be repeated to a maximum of 9 hours.) ([1-6]-0) S

**EEGR 6316** Fields and Waves (3 semester 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 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 equivalents, and knowledge of a scientific programming language. (3-0) R

**EEGR 6v88** Special Topics in Electrical Engineering (1-6 semester hours) For letter grade credit only. (May be repeated to a maximum of 9 hours.) ([1-6]-0) R
**EEGR 6v98** Thesis (3-9 semester hours) (May be repeated for credit.) For pass/fail credit only. ([3-9]-0) S

**EEGR 8v40** Individual Instruction in Electrical Engineering (1-6 semester hours) (May be repeated for credit.) For pass/fail credit only. ([1-6]-0) R

**EEGR 8v70** Research in Electrical Engineering (3-9 semester hours) (May be repeated for credit.) For pass/fail credit only. ([3-9]-0) R

**EEGR 8v99** Dissertation (3-9 semester hours) (May be repeated for credit.) For pass/fail credit only. ([3-9]-0) S