## MS ELECTRICAL ENGINEERING

## **Program Learning Objectives**

Our goal is to create a graduate degree program and a learning environment that result in graduates who possess the following:

- 1. Technical competency in their chosen disciplines;
- 2. Effective communication skills;
- Awareness of the impacts of technology on society and the environment;
- 4. Understanding of ethics and responsible professional conduct;
- 5. Strong interpersonal and teamwork skills;
- 6. Appreciation of the need for life-long learning;
- 7. Leadership/planning/decision-making skills;
- 8. Critical thinking/complex problem-solving skills.

## **Required Courses**

|  | EE 525    | Stochastic Processes   | 4 |
|--|-----------|--|---|
|  | or EE 513 | Control Systems Theory   |   |
|  | EE 563    | Graduate Seminar (1, 1, 1)   | 3 |
|  | EE 599    | Design Project (Thesis) (or 9 units of approved Technical Electives and a comprehensive written examination) | 9 |

## **Additional Electrical Engineering Graduate Courses**

| Select from the following: <sup>2</sup> |  |  |
|---|--|--|
| EE 500                                  | Individual Study                               |  |
| EE 502                                  | Microwave Component and System<br>Engineering  |  |
| EE 504                                  | Software Defined Radio                         |  |
| EE 509                                  | Computational Intelligence                     |  |
| EE 511                                  | Electric Machines Theory                       |  |
| EE 513                                  | Control Systems Theory                         |  |
| EE 514                                  | Advanced Topics in Automatic<br>Control        |  |
| EE 515                                  | Discrete Time Filters                          |  |
| EE 518                                  | Power System Protection                        |  |
| EE 519                                  | Advanced Analysis of Power Systems             |  |
| EE 520                                  | Advanced Solar-Photovoltaic<br>Systems Design  |  |
| EE 521                                  | Computer Systems                               |  |
| EE 522                                  | Advanced Real-Time Operating<br>Systems Design |  |
| EE 523                                  | Digital Systems Design                         |  |
| EE 524                                  | Solid State Electronics                        |  |
| EE 526                                  | Advanced Digital Communications                |  |
| EE 527                                  | Advanced Topics in Power<br>Electronics        |  |
| EE 528                                  | Digital Image Processing                       |  |
| EE 529                                  | Microwave Device Electronics                   |  |
| EE 530                                  | Fourier Optics                                 |  |
| EE 531                                  | Advanced VLSI Design                           |  |

| Total uni  | ts |  | 45 |
|--|----|--|----|
| May be selected from the course list above and other advisor approved technical electives. |    |  | 17 |
| Approved Technical Electives (400-500 level) <sup>1</sup>                                  |    |  |    |
| EE 57  | -  | Selected Advanced Laboratory                   |    |
| EE 57  | 0  | Selected Advanced Topics                       |    |
| EE 54  | 4  | Solid-state Electronics and VLSI<br>Laboratory |    |
| EE 54:   | 2  | Advanced Real Time Embedded<br>Systems         |    |
| EE 54  | 1  | Advanced Microwave Laboratory                  |    |
| EE 53  | 4  | Advanced Photonic Systems                      |    |
| EE 53  | 3  | Antennas                                       |    |
| EE 53:   | 2  | VLSI Circuit Testing                           |    |
|  |    |  |    |

At least 8 units of approved Technical Electives must be at 500 level.

Not all courses listed are offered each academic year. Consult the EE Department for current information on course offerings.