### Course Name

#### Core Courses (choose 5 courses)
- ECE 521 Communications Theory
- ECE 532 Embedded Microprocessors
- ECE 534 VHDL and Applications
- ECE 540 DSP Hardware
- ECE 543 Digital Control Systems
- ECE 544 State Variable Control Systems
- ECE 565 Digital VLSI Design I
- ECE 567 Analog VLSI Design
- ECE 572 Power Systems Analysis
- ECE 573 Power Electronics
- ECE 551 Engr Design with Neural Nets
- ECE 641 Digital Signal Processing
- ECE 642 Adv Linear Discrete and Continuous Control Systems
- ECE 643 Advanced Digital Control Systems
- ECE 644 Estimation and Filtering Theory
- ECE 671 Transformers: Theory and Practice
- ECE 672 Protective Relaying
- ECE 674 Small-Power Electrodynamics
- ECE 675 Surge Processes in Power Engineering

#### Credit Hours
- **15**

#### Mathematics
- M 515 Methods of Applied Mathematics I

#### Engineering Management
- EM 601 Engineering Program Management

#### Independent Studies
- ECE 600 Independent Studies in Electrical Engineering

#### Electives (choose 1 course)
- ECE 600 may be increased to 9 credits
- M 517 Applied Engineering Statistics
- EM 600 Engineering and the Corporation
- Any approved graduate course

#### Credit Hours
- **3**

#### PROGRAM TOTALS: 30

### Research Topics and Projects
- App of Data / Electric Machinery Acquisition Techniques
- Cost-effective CAD for Robust Design of Integrated Circuits using Artificial Neural Networks
- Multi-target Tracking: Recent Adv and Development
- Real-Time Fault Diagnostics of Power Transformers
- Active Noise Control
- Digital Signal Processing