CpE Technical Elective course recommendations and career paths

**1) IC Design; Microelectronic; Electronics Industry**
- EE4227 Power Electronics
- EE4228 Power Electronics Lab
- EE4231 Physical Electronics
- EE4240 Introduction to MEMS
- EE4271 VLSI Design
- EE4495 S/H Design Multi-media systems
- EE4496 GPU & Multi-core Programming
- EE4252 DSP and its Applications

**2) Communication Industry**
- EE3180 Random Signal Analysis & Probability
- EE4250 Communication Theory
- EE4252 DSP and its Applications
- EE4253 Real-time Signal Processing
- EE5525 Wireless Communications
- EE5522 Digital Image Processing
- EE4272 Computer Networks
- EE4290 Optical Communication
- EE4495 S/H Design Multi-media systems
- EE5750 Distributed Embedded Control systems
- CS4411 Database Systems
- CS4461 Computer Networks
- EE4296 GPU & Multi-core Programming

**3) Control; Robotics; Industrial Plants; Power Engineering**
- EE3180 Random Signal Analysis & Probability
- EE3261 Classic Control Systems
- EE4262 Digital and Non-linear Control
- EE5750 Distributed Embedded Control systems
- EE4735 Emb Sys Pgm/Snsr ntwrks/mobile robots
- EE3733 Intro. Programmable Controllers
- EE4373 Advanced Programmable Contr.
- EE5496 GPU & Multi-core Programming
- EE4219 Intro Elec. Machinery & Drives
- EE4220 Intro Elec. Mach & Drives Lab
- CS4461 Computer Networks
- CS4421 Database Systems
- MEEM4705 Intro to Robotics and Mechatronics

**4) Photonics Industry; Optical Engineering**
- EE4490 Optical Sensing and Imaging
- EE3290 Photonic Material and Devices
- EE4231 Physical Electronics
- EE4240 Intro to MEMS
- EE4256 Fourier Optics
- EE4490 Optical Communication
- EE4411 Engineering Electromagnetics
- EE4441 Laser Types; Laser Design

**5) Power Engineering**
- EE4219 Intro Elec. Machinery & Drives
- EE4220 Intro Elec. Machinery & Drives Lab
- EE4221 Power Analysis 1
- EE4222 Power Analysis 2
- EE4226 Power Engineering Lab
- EE4227 Power Electronics
- EE4228 Power Electronics Lab
- EE5223 Power Systems Protection
- EE5224 Power Systems Protection Lab
- EE5225 Distribution Engineering

**6) Computer Engineering; Embedded Systems; Distributed Systems; Large-scale Systems; Computer Networks Industry**
- CS3141 Team Software Project
- CS3311 Formal Models of Computation
- CS3331 Concurrent Programming
- CS4121 Programming Languages
- CS4130 Compiler Design & Optimization
- CS4331 Intro to Parallel Programming
- CS4411 Operating Systems
- CS4421 Database Systems
- CS4461 Computer Networks
- CS4471 Computer Security
- CS4611 Computer Graphics
- CS4710 Model-driven Software Devel.
- CS4711 Software Processes and Mgmt.
- CS4712 Software Quality Assurance
- CS4760 Human-Computer Interactions
- CS4811 Artificial Intelligence
- MA3202 Intro to Cryptography

**7) Software Engineering; Embedded Systems; Computer Science, Computer Engineering**
- CS3141 Team Software Project
- CS3311 Formal Models of Computation
- CS3331 Concurrent Programming
- CS4121 Programming Languages
- CS4130 Compiler Design & Optimization
- CS4331 Intro to Parallel Programming
- CS4411 Operating Systems
- CS4421 Database Systems
- CS4461 Computer Networks
- CS4471 Computer Security
- CS4611 Computer Graphics
- CS4710 Model-driven Software Devel.
- CS4711 Software Processes and Mgmt.
- CS4712 Software Quality Assurance
- CS4760 Human-Computer Interactions
- CS4811 Artificial Intelligence
- MA3202 Intro to Cryptography