General Skills Courses for Ph.D. Qualifying Process
(Last revised: 05/2016)

(Note: Students must take two academic area and two general skills courses from one academic area.)

Bioengineering

Choose at least two, and they must be from different groups:

- **Group 1**: (Statistics, Probability, Optimization, Algorithms) Stat 401, Stat 402, EE 523, EE 571, ComS 511
- **Group 2**: (Materials and Devices) EE 530, EE 532, EE 535, EE 536, EE 519
- **Group 3**: (EM) EE 512, EE 514, EE 517, EE 518
- **Group 4**: (Circuits and VLSI) EE 501, EE 505, EE 507, EE 509

Communications and Signal Processing

EE 523, EE 571, CprE 547, Stat 543, Stat 642, MATH 510

Computing and Networking Systems

Choose at least two, and they must be from different groups:

- **Group 1**: (probability, statistics, etc.) EE 523, Stat 430, Stat 447, Stat 500, Stat 512
- **Group 2**: (algorithms, modeling, etc.) CprE 528, CprE 582, ComS 511
- **Group 3**: (optimization, graph theory, etc.) EE 571, IE 510, IE 519, IE 534

Electric Power and Energy Systems


Electromagnetic, Microwave, and Nondestructive Evaluation


Microelectronics and Photonics

Choose one from each group:

- **Group 1**: Phys 480, Phys 481, Phys 511, MSE 510, MSE 552
- **Group 2**: Math 426, Math 481, Stat 401, Stat 402
Secure and Reliable Computing

*CprE 528, CprE 533, CprE 582, Stat 401, Stat 402, Stat 430, Stat 551, Stat 554, ComS 511, ComS 531, ComS 540, IE 510, IE 519, IE 534, Math 547*

Software Systems

*CprE 528, CprE 582, EE 571, ComS 511, ComS 512, ComS 531, ComS 572, IE 510, IE 519, IE 534, Math 547*

Systems and Controls

*EE 523, EE 527, EE 571, Math 414 or 501 or 515, Math 554, Math 557*

VLSI

*Any 400/500 level courses in algorithms, machine learning, optimization, math, statistics, controls, signal processing, and security that are intended for majors and approved by the faculty advisor. ECpE courses must be at 500 level.*