# PhD Comprehensive Area Courses

*(Last Updated: 28 February 2017)*

## Algorithms
- COL702 Adv. Data Structures and Algorithms
- COL758 Advanced Algorithms
- CS705 Theory of Computation
- COL830 Distributed Computing
- CSL847 Distributed Algorithms
- COL751 Algorithmic Graph Theory
- COL752 Computational Geometry
- COL753 Complexity Theory
- COL754 Approximation Algorithms
- CSL855 Models of Computation
- COL756 Mathematical Programming
- CSL857 Randomized Algorithms
- COL759 Cryptography and Computer Security
- COL832 Proofs and Types
- CSL847 Distributed Algorithms
- CSL855 Models of Computation
- COL 818 Principles of Multiprocessor Systems

## Embedded Systems and Architecture
- COL718 Arch of High Perf Comput Systems
- COL719 Synthesis of Digital Systems
- COL728 Compiler Design
- COP745 Digital Systems Design Laboratory
- COL750 Foundations of Automatic Verification
- COL812 System Level Design and Modelling
- COL821 Reconfigurable Computing
- COL730 Parallel Computing
- CRL702 Arch and Algorithms for DSP Systems
- EEL704 Robotics and Automation
- EEL734 MOS VLSI
- EEL832 Computer Aided VLSI Design
- COL 788 Advanced Embedded Computing
- COL633 Operating systems

## Graphics, Vision and Multimedia
- COL781 Computer Graphics
- COL783 Digital Image Analysis
- COL780 Computer Vision
- COL752 Computational Geometry
- COL829 Advanced Computer Graphics
- EEL707 Multimedia Systems

## Networks and Distributed Systems
- COL730 Parallel Computing
- COL768 Wireless Networks
- COL724 Advanced Computer Networks
- SIL765 Networks and System Security
- SIL769 Internet Traffic – Measurement, Modelling & Analysis
- COL732 Virtualization and Cloud
- COL672 Computer Networks
- COL 819 Advanced Distributed Systems
- COL633 Operating systems

## Software Systems
- COL730 Parallel Computing
- COL740 Software Engineering
- COL762 Database Implementation
- SIL765 Networks and System Security
- COL760 Advanced Data Management
- COL772 Natural Language Processing
- COL671 Artificial Intelligence
- COL 819 Advanced Distributed Systems
- COL 774 Machine Learning
- COL 776 Learning Probabilistic Graphical Models
- COL 632 Introduction To Database Systems
- COL633 Operating systems
- COL728 Compiler Design
- COL730 Parallel Computing