## **CSE Graduate Breadth Requirement**

CSE Ph.D. students who commenced CSE graduate studies in Fall, 2010 or thereafter must satisfy the breadth *requirement.* To fulfill the requirement, students must obtain an A or A- in a course from each of the three areas with the extra requirement that if any one area is covered by a course in which the student received an A-, the other two areas must be covered by courses in which the student received an A.

The classification of regularly offered courses into areas is given below:

#### **Theory and Algorithms** Area I.

- 5095 Spec Topics in Comp Sci Engr (by semester, see below)
- 5500 Adv Seq & Parallel Algs
- 5502 Fundamentals of Automata
- **Computational Geometry** 5514
- 5852 **Crypto:** Foundations
- 5095 Algorithms in Bioinformatics
- 5095 Computational Medical Inform.

#### Area II. Systems (Networks, Distributed, Architecture, and Databases)

- 5095 Spec Topics in Comp Sci Engr (by semester, see below)
- 5095 Wireless Computing
- 5300 Adv. Computer Netwrks & Distrib
- **Computer Architecture** 5302
- 5304 **High-Performance Computing**
- 5306 Advanced Operating Systems
- Ubiquitous Computing 5095
- 5095 **Reliability in Distributed Systems**

#### Area III. **Programming, Software, Applications**

- 5095 Spec Topics in Comp Sci Engr (by semester, see below)
- 5095 Res Topics in Biomedical Info.
  - 5095 **Biomedical Informatics**
  - 5095 Adv. Methods in Bio Data Mining
  - 5101 Advanced Software Engineering
  - Advanced Programming Languages 5102
  - 5103 Software Performance Engr
  - 5105 Software Reliability Engineering
  - 5107 **Distributed Component Systems**

  - 5095 **Computing Issues in Soc NWs**

- 5703 **Advanced Computer Graphics** 
  - Adv. Artificial Intelligence
  - 5713 Data Mining
  - 5800 **Bioinformatics**
  - Information & Data Security
  - 5854 **Crypto:** Primitives/Protocols
    - Natural Language Processing
    - **Biological/Biom.** Data Mining

Classifications for special topics courses taught since Fall, 2010 appear on the following pages.

- Linear Algebraic Oueueing Theory 6504 Fault-Tolerant Parallel Comput
- Randomization in Computing
- **Computational Genomics**
- Intro to Quantum Computing
  - 5095

  - **Advanced Database Topics** 5701
    - 5711 **Distributed Database Systems** 
      - 5715 Semantic Data Models
        - **Res Topics in Computer Networks**
        - **Research Topics in Comp Arch**
- - - 5095

  - - 5504 **Probabilistic Methods**
- - - 5705

    - 5850
    - 6705
      - 5095

- 6300

- 6514 6800
- 6510 6512
  - **Computational Topology**

# Special Topics Courses Since Fall 2010 with Classifications

<b>Fall 2010</b> CSE 5095	Res Topics in Biomedical Info.	Area III
Spring 201	1	
CSE 5095	Biomedical Informatics	Area III
CSE 5095	Adv. Methods in Bio Data Mining	Area III
Fall 2011		
CSE 5095	Intro to Quantum Computing	Area I
CSE 5095	Research Topics in Computer Architecture	Area II
C2E 2092	Reliability of Distributed Systems	Area II
Spring 201	2	
CSE5095	Biological/Biomedical Data Mining	Area III
CSE5095	Algorithms in Bioinformatics	Area I
CSE5095	Computational Medical Informatics	Area I
CSE5095	Computing Issues in Soc Networkin	Area III
CSE5095	Ubiquitous Computing	Area II
Fall 2012		A
CSE5095	Computational Biomedical Informatics	Area I
C2E2092	Reliability of Distributed Systems	Area II
Spring 201	13	
CSE5095	String Algorithms and Apps in BioInformatics	Area I
CSE5095	Knot Art Analysis and Algorithms	Area I
CSE5095	Machine Learning Biomedical Informatics	Area I
CSE5095	Computational Genomics	Area I
CSE5095	Sensing and Ubiquitous Computing	Area II
CSE5095	Compute Architecture/Organization	Area II
CSE5095	Biomedical / Biological Data Mining	Area III
Eall 2012		
$\frac{1}{2013}$	Foult Tolorant Distributed Computing	Aron I
CSE 5095	Intro to Computational Computing	Area I
CSE 5075	Approximation Randomized and Fixed Parameter Algorithms	Area I
CSE 5095	Network Embedded Systems	Area II
CSE 5095	Hardware Security	Area II
CSE 5095	Machine Learning	Area III
Spring 201	14	
CSE 5095	Research Topics in Big Data Analytics	Area I
CSE 5095	Research Topics Combinatorial Optimization	Area III
Fall 2014		
CSE5095	Data Visualization	Area I
CSE5095	Network Embedded Systems	Area II
CSE5095	Hardware Security	Area I
Spring 201		
CSE 5095	Big Bata Analytics	Area III
CSE 5095	Lomputer Organization & Architecture	Area II
Fall 2015		
CSE 5095	High-Throughput Genomics Data Analytics	Area III
CSE 5095	Computational Foundations Systems Biology	Area I
CSE 5095	Data Mining in Open Source Software	Area II

### Spring 2016

CSE 5095	Big Bata Analytics	Area III
CSE 5095	Discrete Optimization	Area I or III
CSE 5095	Methods for Verification of Cyberphysical Systems	Area I
CSE 5095	Troubleshooting Distributed Systems	Area II
CSE 5095	Secure Computation and Storage	Area I

# CSE Graduate Breadth Requirement Completion Form

Student:	PeopleSoftID:
Major Advisor:	

	Course #	Course Title	Term	Grade
Area I				
Area II				
Area III				

Student signature:	Date
Graduate Program Director	Date:

Please submit, with this form:

- An (unofficial) copy of your UConn graduate transcript.
- A copy of the previous pages of this document, where you have circled the relevant courses.