



## Graduate Policy Handbook – Appendix

### Graduate Handbook

Graduate Program Handbook  
Introduction  
General Information  
MS Program  
PhD Program  
Appendix  
Dissertation Template

### Forms

The following is a partial list of the most common forms used by graduate students. [Graduate Studies](#) has a complete list of [forms](#) available on their Web site. Please contact the CS Graduate Program Assistant if you have any questions regarding forms.

- [Program of Study](#) - use this form to establish your study list and thesis/dissertation committee
- [Program of Study Change](#) - use this form to modify your study list or committee membership
- [MS Thesis Proposal Scheduling Form](#)
- [MS Thesis Proposal Approval Form](#)
- [PhD Qualifying Process/Scheduling Form](#)
- [PhD Dissertation Proposal Scheduling Form](#)
- [PhD Dissertation Proposal Approval Form](#)
- [MS and PhD Defense Scheduling Form](#)
- [Graduation Deadlines](#)
- [Exit Survey](#)

### Submitting an ETD

- [Submitting an ETD](#) (be sure to include bookmarks for ALL pages preceding your table of contents and then use your table of contents as a guide for all the other pages that need to be bookmarked)

### Tentative 5 Year [Schedule](#) of CS Courses Offerings

#### Computer Science Graduate Courses

- **557. Computer-Aided Geometric Design.** (3) Prerequisite: CS 240, Math 343; or equivalents.  
Free-form curves and surfaces: mathematical theory and algorithms. Bezier and B-spline curves and surfaces, subdivision surfaces, T-splines, free-form deformation, and intersection algorithms. Several programming projects.
- **579. Natural Language Processing.** (3) Prerequisite: Instructor's consent.  
Machine translation, human-computer dialog, question answering, parsing, and generating from an artificial intelligence and machine learning perspective.
- **586. Multiprocessor programming and verification.** (3) Prerequisite: CS 312  
Concurrency theory and practical application of concurrent programming for shared memory systems including coarse grain locking, fine grain locking, optimistic locking, lock-free constructs, and wait-free constructs.
- **598R. Special Projects.** (1-3) Prerequisite: Instructor's consent.
- **601R. Special Topics in Computer Science.** (1-3) Prerequisite: Instructor's consent.  
Subjects as announced before each semester.
- **611. Theoretical Foundations of Computing.** (3) Prerequisite: CS 252 or equivalent; CS 312 or instructor's consent.  
Proofs (deductive and inductive reasoning), computability (models of computability and computability issues), and complexity (time and space bounds, nondeterminism, and complexity classification).
- **621. Pattern Recognition.** (3) Prerequisite: CS 450 or equivalent.  
Design and use of pattern classifiers for recognition and classification of one- and two-dimensional signals such as voice, images, and handwriting. Emphasis on images.
- **650. Computer Vision 1.** (3) Prerequisite: CS 450 or equivalent.  
Machine vision, image segmentation, mathematical morphology, image enhancement and filtering, edge detection, feature extraction, neighborhood operators, region growing, boundary detection, scene segmentation, and matching.
- **651. Theoretical Foundations of Object-Oriented Data Engineering.** (3) Prerequisite: CS 452 or Instructor's consent.  
Applying model and proof theory to object-oriented database development and data engineering; construction of theory-based tools; conceptual model formalization; topics of current interest.
- **652. Information Extraction and Integration.** (3) Prerequisite: CS 452 (or equivalent) and/or 553.  
Information extraction from structured, semi-structured, and unstructured documents, including Web documents; integrating heterogeneous source information; theoretical foundations of information modeling; topics of current interest.
- **653. Information Retrieval.** (3) Prerequisite: CS 236 or equivalent.  
IR modeling, IR query languages, text indexing and searching, retrieval evaluation, query and text operations, parallel and distributed IR, Web searching.
- **655. Advanced Computer Graphics.** (3) Prerequisite: CS 455 or instructor's consent.  
Advanced computer graphics systems programming and architecture, including ray tracing, radiosity, animation, and physically based modeling.
- **656. Interactive Software Systems.** (3) Prerequisite: CS 330, 456; or instructor's consent.  
Advanced techniques for interacting with humans using pen-based, speech-based, hand-held, wall-sized, and room-sized devices. Embedding computing in everyday objects.
- **660. Computer Networks.** (3) Prerequisite: CS 460, Stat. 321; or equivalents.  
Computer networking, software architecture, organization protocols, routing, global networks, local networks,

internetworking, standards, and applications.

- **665. Advanced Computer Security.** (3) Prerequisite: CS 465 or instructor's consent.  
Authentication and authorization using digital credentials.
- **670. Multi-Agent Systems.** (3) Prerequisite: CS 470 or equivalent; CS 478 or instructor's consent.  
Introduction to fundamental concepts emphasizing current literature. Topics include: game theory, repeated play games, Arrow's impossibility theorem, negotiation, search, and learning.
- **673. Computational Creativity.** (3) Prerequisite: CS 478 or CS 470 or instructor's consent.  
Introduction to the foundational literature in computational creativity; inter-disciplinary and synergistic, with a heavy emphasis on a course project whose goal is to produce a computational system to which creativity (in some form) can be attributed.
- **677. Bayesian Methods in Computer Science.** (3) Prerequisite: CS 470 or instructor's consent.  
Applying Bayesian methods useful for incorporating confidence or belief into problems in computer science, allowing computers to better handle uncertainty.
- **678. Neural Networks and Machine Learning.** (3) Prerequisite: CS 478 or equivalent.  
Advanced models, algorithms, and approaches in neural networks and machine learning.
- **680. High Performance Computer Architecture.** (3) Prerequisite: CS/EcEn 324 or equivalent.  
Advanced topics in computer architecture, including pipelining, super pipelining, VLIW, superscalar, branch prediction, and speculative execution.
- **684. Parallel Processing.** (3) Prerequisite: CS 324, 345, CS 380; or equivalent.  
Theoretical and practical study of parallel processing including a discussion of parallel architectures, parallel programming languages, and parallel algorithms.
- **699R. Master's Thesis.** (1-6) Prerequisite: committee chair's consent.
- **750. Computer Vision 2.** (3) Prerequisite: CS 650.  
Advanced topics in computer vision: Radiometric model; photometric stereo; shape from shading; monocular, binocular models; perspective projective geometry; image matching; depth from stereo; exterior, relative, interior absolute orientation; optical flow.
- **751R. Advanced Topics in Database Systems.** (3) Prerequisite: Graduate standing and instructor's consent.
- **778R. Topics in Neural Networks and Machine Learning.** (3) Prerequisite: CS 678.  
Advanced topics and readings in neural networks and machine learning.
- **786R (Effective Fall 2004). Readings in Model Checking.** (3) Prerequisite: CS 686.  
Focused readings and projects as suggested by class interest and current trends.
- **799R. Doctoral Dissertation.** (1-9) Prerequisite: committee chair's consent.

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#### Courses

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- [Two Year Plan](#)
- [Edit Two Year Plan](#)

#### Connect

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#### Academics

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#### Work

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- [Student Department Employment](#)
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#### The Department

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