

MS Degree Course Requirements

Approved by the Faculty on September 20, 2007

Each degree candidate will be required to pass, with an average of B or better, and not more than two grades below B, the following minimum number of credits, distributed to include core courses, grouping areas, and electives.

Core courses (9 credits, 3 courses)

- 91.502 Foundations of CS
- 91.503 Algorithms
- 91.531 Design of Programming Languages

Grouping Areas (12 credits, two courses from one group and two courses from another group; no two core courses can pair with each other within a group)

Group I (Foundations):

- 91.502 Foundations of CS
- 91.503 Algorithms
- 91.504 Graduate Advanced Algorithms: Computational Geometry
- 91.510 Topics: Computer Science Fundamentals
- 91.531 Design of Programming Languages
- 91.534 Compiler Writing I
- 91.535 Compiler Writing II
- 91.538 Semantics of Program Languages
- 91.540 Topics: Language and Compilation
- 91.590 Symbolic Computation

Group II (Systems and Networks):

- 91.515 Operating Systems I
- 91.516 Operating Systems II
- 91.520 Digital Storage Architectures
- 91.551 Computer Architecture
- 91.553 Parallel Processing
- 91.563 Data Communications I
- 91.564 Data Communications II
- 91.555 Computer Networks
- 91.560 Embedded System and Storage
- 91.561 Computer Security I
- 91.562 Computer Security II

Group III (Human-Computer Interaction, Visualization and Robotics)¹:

- 91.527 Human-Computer Interaction
- 91.548 Robot Design
- 91.549 Mobile Robots
- 91.546 Graphics I
- 91.547 Graphics II
- 91.541 Scientific Data Visualization
- 91.565 Evaluation of Human Computer Interaction
- 91.568 Seminar in Human-Computer Interaction

Group IV (Information Management and Analysis):

- 91.513 Internet and Web Systems I
- 91.514 Internet and Web Systems II
- 91.522 Object Oriented Analysis
- 91.523 Software Engineering I
- 91.573 Database I
- 91.574 Database II
- 91.543 Artificial Intelligence
- 91.544 Machine Learning and Data Mining

Electives (9 credits, 3 elective courses from these groups or from the list of other courses approved by the department)

Total: 30 credits

Notes:

- Each graduate course must have one or more group designations.
- Group designations for topics classes, directed studies, and new courses must be approved by the department chairperson.
- The list of approved course group designations will be maintained by the graduate committee.
- The new system of groups will be effective for students matriculated as of September, 2008 or later.
- The current limit of one directed studies course per student for the MS degree will remain in effect.

¹ The name of Group III was changed from *Human and Computer Environment Interaction* to *Human-Computer Interaction, Visualization and Robotics* on 31 March, 2008.

Masters Thesis

An optional master's thesis can be substituted for at most six credits, and can be used to substitute for 2 courses in a single group. Students who wish to do a thesis must file a *Proposed Thesis Committee* form with the Graduate Coordinator prior to beginning work on the thesis.