

MSE, CS emphasis "Scientific computing"

- List of course offerings -

We will offer six courses over a period of two years. Two courses are offered every other year.

Course title	taught by	Topics
High speed networking	Dr. Wang	<ul style="list-style-type: none"> - Optical networks, - Multiplexing, - Grid computing, - (Security?)
Distributed computing	Dr. Otte	<ul style="list-style-type: none"> - Time and global States, - Coordination and Agreement, - Transactions and Concurrency Control, - Replication, - Load Distribution
Data Mining for Scientific and Engineering Applications	Dr. Li	see: http://www-users.cs.umn.edu/~kumar/kluwer-book/dm.htm
Data portals and digital libraries	Dr. Doerry	<ul style="list-style-type: none"> - the process of engineering effective software solutions for scientific enterprises, - new technologies and techniques in networked computing central to designing effective data portals - the construction, deployment, and evaluation of one or more small data portals
Modeling and simulation	Dr. Palmer	<ul style="list-style-type: none"> - Analysis methodology - Modeling methodology - Stochastic modeling - Physical simulation - Agent based modeling - Genetic algorithms
Sc. Visualization	Dr. Palmer	<ul style="list-style-type: none"> - data representation - data sampling, re-sampling and reconstruction - volume and surface rendering techniques - visual analytics techniques - visualization toolkits
Software architectures	Dr. Georgas	<ul style="list-style-type: none"> - Architecture and design - Architectural styles and connectors - Modeling and visualization techniques - Architectural analysis - Architecture to implementation mappings - Applied architectures (Distributed and decentralized systems, robotics) - Domain-specific architectures and architectural standards <p>Current and future research directions in software architecture</p>