MS IN COMPUTING:
SCIENTIFIC COMPUTING

A student may purse an MS in Scientific Computing with a thesis option or a project-based option. A minimum of 30 credit hours is required for either option. In addition to six required courses, students must take two elective courses that involve the themes of Scientific Computing or are directly applicable to the student's dissertation research. Students are also required to take two courses of independent study (for projects) or MS thesis hours (for thesis) for a total of six hours.

TRACK FACULTY

Martin Berzins, Mary Hall, Chuck Hansen, Tom Henderson, Chris Johnson, Mike Kirby, Valerio Pascucci, **Hari Sundar (Track Director),** Ross Whitaker

COURSE REQUIREMENTS The following six courses are required:	
CS 6150	Advanced Algorithms
CS 6210	Advanced Scientific Computing I
CS 6220	Advanced Scientific Computing II
CS 6230 CS 6235	High-Performance Computing and Parallelization and/or Parallel Programming for GPUs/Many Cores/Multi-Cores
CS 6630	Visualization
MATH 6870	Math Modeling

Two additional elective courses must be selected from the following list. Students can possibly take other 6000-level and above courses within the School of Computing as electives; permission of the track director (the student's committee) is necessary in such cases.	
CS 6100	Foundations of Computer Science
CS 6530	Database Systems
CS 6610	Interactive Computer Graphics
CS 6650	Image Synthesis
CS 6810	Advanced Computer Architecture
CS 7120	Information-Based Complexity
CS 7210	Advanced Topics in Scientific Computing
CS 7450	Simulation Methods
Additional 6000-level and above courses may be required to reach a 30-credit minimum (excluding independent study, seminars, or thesis research credit hours).	

PHD IN COMPUTING:
SCIENTIFIC COMPUTING

50 hours of graduate coursework is required, composed of at least 24 hours of regular graduate coursework, and at least 14 semester hours of dissertation research. Of the required 24 semester hours of regular courses, up to six hours may be graduate courses outside of CS. Up to 12 hours of coursework taken elsewhere or counted toward previous degrees can be counted toward the 24 hour regular course requirement with the approval of the track director.

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COURSE REQUIREMENTS The following four courses are required:	
CS 6210	Advanced Scientific Computing I
CS 6220	Advanced Scientific Computing II
CS 6230 CS 6235	High-Performance Computing and Parallelization and/or Parallel Programming for GPUs/Many Cores/Multi-Cores
CS 6630	Scientific Visualization
In addition, a student must take four elective courses which involve the themes of scientific computing or are directly applicable to the student's dissertation research. The following is the list of those classes which will apply. Students can possibly take other 6000-level and above courses within the School of Computing as electives; advising and permission of the track director (or mentor and committee) is necessary in such cases.	
CS 6100	Foundations of Computer Science
CS 6530	Database Systems
CS 6610	Interactive Computer Graphics
CS 6650	Image Synthesis
CS 6810	Advanced Computer Architecture
CS 7120	Information-Based Complexity
CS 7210	Advanced Topics in Scientific Computing
CS 7450	Simulation Methods
Additional 6000-level and above courses may be required to reach a 50-credit minimum (excluding independent study, seminars, or dissertation research credit hours).	