Scientific Computing (SC) Track (DRAFT)

Track Description:

The scientific computing track emphasizes the interface between computer science, mathematics, and science and engineering applications requiring high performance computing. The area is also known as "computational science and engineering" and is truly interdisciplinary. Besides the core computer science courses, advanced courses are required in numerical analysis, parallel computing, computer architecture (emphasizing that scientific computing and high performance computing are often synonymous), and a capstone course in scientific computing.

Why take this track?

The scientific computing track would also be excellent preparation for an advanced degree in computer science, mathematics, or computational science, specializing in numerical analysis, high end computing, or scientific computing.

Associated Faculty:

Yang Cao
Alexey Onufriev
Calvin Ribbens
Adrian Sandu
Clifford Shaffer
Layne Watson

Junior Year

CS 3114	Data Structures and Algorithms	(3)___	CS 3304	Comparative Languages	(3)___
CS 2506	Intro to Computer Organization II	(3)___	CS 3214	Computer Systems	(3)___
CS 3414	Numerical Methods	(3)___	CS 3604	Professionalism in Computing	(3)___
Comm 2004	Public Speaking	(3)___	Stat 4705	Statistics for Engineers	(3)___
Math 3134	Applied Combinatorics	(3)___			
			Free Elective		(3)___
Total		15	Total		15

Senior Year

CS 41X4	Theory Course	(3)___	CS 4944	Senior Seminar	(1)___
CS 4234	Parallel Computation	(3)___	CS 4414	Issues in Sci Computing (Capstone)	(3)___
Math 4445	Intro to Numerical Analysis I	(3)___	CS 4504	Computer Architecture	(3)___
Engl 3764	Technical Writing	(3)___	CLE Elective		(3)___
CLE Elective		(3)___	Math 4446	Intro to Numerical Analysis II	(3)___
Total		15	Total		13