SCIENTIFIC COMPUTING (SCMP)

**SCMP 559 Multiscale Modeling of Chemical and Biological Systems**
This course provides theoretical, conceptual, and hands-on modeling experience on three different length and time scales - (1) electronic structure (Å, ps); (2) molecular mechanics (100Å, ns); and (3) deterministic and stochastic approaches for microscale systems (um, sec). Students will gain hands-on experience, i.e., running codes on real applications together with the following theoretical formalisms: molecular dynamics, Monte Carlo, free energy methods, deterministic and stochastic modeling, multiscale modeling. Prerequisite: Undergraduate courses in numerical analysis and physical chemistry.
Taught by: Ravi Radhakrishnan
Course not offered every year
Also Offered As: BE 559, CBE 559
Activity: Lecture
1.0 Course Unit

**SCMP 597 Master’s Thesis Research**
For students working on advanced research leading to the completion of a master’s thesis.
One-term course offered either term
Activity: Masters Thesis
1.0 Course Unit

**SCMP 599 Master’s Independent Study**
For Scientific Computing master’s students. Involves coursework and class presentations. The project will invariably include formally gradable work comparable to that of a CIS 500 level course. Students should discuss with the faculty supervisor the scope of the independent study, expectations, work involved, etc.
One-term course offered either term
Activity: Independent Study
1.0 Course Unit

**SCMP 990 Masters Thesis**
For Master’s students who have completed the course requirements for the Master’s degree and are strictly working to complete the Master’s Thesis leading to the completion of a Master’s degree. Permission Required.
One-term course offered either term
Activity: Masters Thesis
1.0 Course Unit