

IIT Mandi

Proposal for New Course

Course Name: Special Topics in Algorithms
Course code: CS592
Credits: 0-0-4-2
Prerequisites: Some exposure to various programming paradigms. Permission of the instructor is required before enrollment.
Intended for: BTech
Elective/Core: Discipline elective for BTech CSE, free elective for others
Semester: Even

Objective:

Develop competency in implementing advanced algorithms through projects.

Course Outline:

Students can work individually or in small groups. Assignment of project topics will be based on interests and discussion and interview with the instructor.

Themes for each project will be one of the following:

- Algorithms in Linear programming, Graph Theory, Linear Algebra etc.
- Parallelization based on OpenMP, MPI
- e-content creation for Algorithms.
- Source to source language translation

As a by-product, students can learn Python or Fortran or Latex

Resources:

Several resources for the course have been kept aside in the library for this purpose. For example :

MPI - William Gropp, Ewing Lusk(Vol. I & II), R. Cook

Fortran 2008 - Walter Brainerd , Arjen Markus

Latex - Leslie Lamport, Kottwitz

Python - Amit Saha, Mark Lutz

Approvals:

Proposed by: Narendra Karmarkar

School: SCEE

Signature _____ Date _____

Recommended/Not Recommended, with Comments:

Date: _____

Chairman, CPC

Approved / Not Approved

Date: _____

Chairman, Senate