ELIGIBILITY

Graduation with basic knowledge of Computer Programming.

WHO WILL BENEFIT

Corporate employees, Government/defense research labs, or fresh graduates interested in computational science.

PREREQUISITES

Familarity with programming in C/Fortran/C++/Python using editors or IDE's

SCHEDULE

Tuesday and Thursday
6 P.M. to 7 : 30 P.M.

CONTACT

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Scan to know more

OBJECTIVE

The objective of the course is to acquaint working professionals and graduate students with parallel Programming and High-Performance Computing (HPC) terminology and concepts. It aims to explain how parallelization can enable high-performance computing, familiarize them with issues in developing parallel applications, and help them decide on an approach for developing a parallel version of an application.

SYLLABUS

Why HPC?
Profiler: NVPROF, GPROF (GNU GCC Profiling Tool)
OpenMP: MPMD model, Fork joins model, Thread scheduling, Load Balancing, Sync and critical section
Distributed Computing MPI: Multi-processing computing, Message Passing Basics, Collectives
Accelerated Computing (GPU): GPU Programming, CUDA, OpenACC
Hybrid programming (MPI+OpenMP)

भारतीय विज्ञान संस्थान

PROFICIENCE COURSE

AUG-DEC 2025

INTRODUCTION TO HIGH-PERFORMANCE COMPUTING (HPC) AND PARALLEL PROGRAMMING

DR. YOGINDER KUMAR NEGI
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