INTRODUCTION TO PROGRAMMING IN C

INTENDED AUDIENCE : Anyone can learn
PRE-REQUISITES : Prior programming not required; mathematical maturity of a second level UG student in science or engineering

COURSE OUTLINE :
This is a course in programming in C. No prior programming experience is assumed; however, mathematical maturity at the level of a second year science or engineering undergraduate is assumed. We emphasize solving problems using the language, and introduce standard programming techniques like alternation, iteration and recursion. We will briefly glimpse the basics of software engineering practices like modularization, commenting, and naming conventions which help in collaborating and programming in teams.

ABOUT INSTRUCTOR :
Prof. Satyadev Nandakumar is an Assistant Professor at the Department of Computer Science & Engineering, IIT Kanpur. He is specialized in Computable Analysis, Algorithmic Information Theory, Symbolic Dynamics. His research interests lies in the areas of:
* Algorithmic Information Theory, Kolmogorov complexity, and effective fractal dimension.
* Effective symbolic measure-theoretic and topological dynamical systems.
* Normal numbers, continued fractions, finite-state dimension.
* Computability and complexity in analysis.
* Computational complexity theory, pseudorandomness.

COURSE PLAN :
Week 02 : Loops.
Week 03 : Functions.
Week 04 : One-Dimensional Arrays and Pointers.
Week 05 : Recursion.
Week 06 : Multi-dimensional Arrays, Linked Lists.
Week 07 : Operating on Files.
Week 08 : Organizing C projects, working with multiple source directories, makefiles.