

CS6023: GPU Programming

January-May 2020

C slot, CS26

Instructor: Rupesh Nasre (rupesh@cse)

TA(s): Kavya, Anju, Sumit, Gaurav, Rajesh, Janakiram.

Note: Course related communication will be on IITM Moodle site (<https://courses.iitm.ac.in/course/view.php?id=5335>).

1 Course objectives

To learn parallel programming with graphics processing units (GPUs)

2 Learning Outcomes

Students would learn concepts in parallel programming, implementation of programs on GPUs, debugging and profiling parallel programs.

3 Course prerequisite(s)

CS2710 PDS Lab or equivalent

4 Classroom Mode

Traditional lectures, with one 50-minute tutorial slot per week. Tutorials would be interspersed with theory lectures.

5 Textbooks

Programming Massively Parallel Processors: A Hands-on Approach; David Kirk, Wen-mei Hwu; Morgan Kaufman; 2010 (ISBN: 978-0123814722)

6 Attendance Requirements

Standard institute rules apply.

7 Planned Syllabus

The following topics will be covered:

1. Introduction

2. Computation

3. Memory

4. Synchronization

5. Functions

6. Support

7. Streams

8. Case studies

8 Tentative Grading Policy

MidSem	04/03	20%
EndSem	04/05	20%
Programming Assignments	09/02, 01/03, 15/03, 05/04, 26/04	60%

9 Academic Honesty

Standard institute rules apply.