CGT 581I - Parallel Graphics and Simulation

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What is this course about?

- It is a brand new course
- Being taught for the first time
- This course is sponsored by
- Sponsored means:
  - Free textbook (each is worth $70)
  - Free hardware
  - Free support

What hardware?

- has a new hardware called Xeon Phi
- Originally (Knights Corner) only numerical coprocessor
- New version (Knights Landing) full CPU

Xeon Phi Knights Landing

- It has 72 Intel Xeon cores
- 2 Vector Processing Units per core
- 3 TFLOPS peak for double
- 6 TFLOPS peak for single
- AVX-512 (Advanced Vector Extension)
- MCDRAM on board
- and main memory access (!)

Dual-Tuning

- All optimizations for Intel Xeon Phi will also benefit Intel Xeon CPUs

Reading

- Intel Xeon Phi Processor High Performance Programming Knights Landing Edition
- James Jeffers, James Reinders, and Avinash Sodani
- ISBN: 9780128091944
- Morgan Kaufmann
- 17th June 2016