Course Information Sheet
Computation in OR
IE 495

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Course web page: http://www.lehigh.edu/~tkr2/courses/ie495/
Course meeting time: TR 5:30–6:45 453 Mohler Lab

Approximate Syllabus:

1. Fundamentals of Computer Systems
   – Serial architecture
   – Parallel architecture
2. Models of Computation
   – RAM model
   – PRAM model
   – Asymptotic Analysis
   – Algorithmic Complexity theory
3. A Little Mathematics
   – Induction and Recursion
   – The Master Theorem
4. Introduction to Parallel Programming
   – Shared Memory Environments
   – Distributed Memory Environments
5. The Design of Efficient Algorithms
   – Sequential
   – Parallel
6. Basic Data Structures
7. Basic Algorithms
8. Introduction to Numerical Analysis
   – Problem Conditioning
   – Stability of Algorithms
   – Round-off Error Analysis
   – Solution of Linear Systems
9. Advanced Algorithms