**Blue Waters Petascale Semester Curriculum v1.0**

**Unit 3: Using a Cluster**

**Lesson 2: Parallel Architecture 2**

**Instructor Guide**

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No materials or other requirements are needed for this lesson.

The PowerPoint slides provide a basis for an introductory/overview lecture and the homework problems provide exercises for students to work either in-class or at home. The PowerPoint slides should cover the 20-25 minutes with the homework problems reinforcing and expanding on the material. The slides include an example that should take about 15 minutes for the students to work through employing Foster’s methodology. This example could be introduced in lecture and started with students working on it outside of class and then presenting solutions at the next class meeting. The PowerPoint slides are in a very basic format to simplify customization to a desired background.

It is suggested to have the students work the homework problems on their own and then present solutions during class with a discussion period for each problem. The homework problems can be extended to increase difficulty or this can be used to help facilitate discussion during the in-class discussion of the problems.

**Common Pitfalls for Instructors and Students**

**Instructors:**

None

**Students:**

· Not looking at multiple options when applying Foster’s methodology.

· Not rechecking scalability as you apply each step of Foster’s methodology.



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*We welcome your improvements! You can submit your proposed changes to this material and the rest of the curriculum in our GitHub repository at*[*https://github.com/shodor-education/petascale-semester-curriculum*](https://github.com/shodor-education/petascale-semester-curriculum)

*We want to hear from you! Please let us know your experiences using this material by sending email to* [*petascale@shodor.org*](mailto:petascale@shodor.org)