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

**Unit 11: Domain Science: Astrophysical Fluid Dynamics**

**Lesson 3: Fluid Hydrodynamics**

**References / Further Reading**

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*Browse and search the full curriculum at*[*http://shodor.org/petascale/materials/semester-curriculum*](http://shodor.org/petascale/materials/semester-curriculum)

*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)

For instructors and advanced students who wish to dive into the mathematics of numerical fluid dynamics:

Chapter 1 of [Numerical PDE Techniques for Scientists and Engineers](https://www3.nd.edu/~dbalsara/Numerical-PDE-Course/ch1/abstract.shtml) by Dinshaw Balsara

PDF: [Balsara Chapter 1](https://www3.nd.edu/~dbalsara/Numerical-PDE-Course/ch1/Chp1_Overview.pdf)

[PLUTO: A NUMERICAL CODE FOR COMPUTATIONAL ASTROPHYSICS](https://iopscience.iop.org/article/10.1086/513316/pdf) by Andrea Mignone