## Tentative Course Schedule

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*Note: Dates are approximate and subject to change based on student feedback and performance. More information will be provided as we progress through the course.*

## Important Dates

- **Handin Date:** March 12
- **Presentation Date:** March 10
- **Week 8:** Feb 22-26

## Assignment Details

- Assignments will be available on Canvas.
- Handin instructions will be provided here:
  - [handin.cs.clemson.edu](http://handin.cs.clemson.edu)

## Project 5 Information

- **Due Date:** April 21
- **Video Submission:** Apr 21
- **Presentation:** Apr 26

## Other Important Notes

- **Academic Continuity Plan:** Clemson has developed an Academic Continuity Plan for academic operations. Should university administration officially determine that the physical classroom facility is not available to conduct classes in, due to scheduled appointments, students who receive Academic Access Letters are strongly encouraged to request, obtain and present these to their professors as early in the semester as possible so that class accommodation and accessibility can be arranged.

## Code Submission

- It is recommended to submit all your code to handin.cs.clemson.edu early, just to make sure that the submission process functions, then later do it again for the version of the assignment you actually want a grade on.

## Academic Integrity

- When, in the opinion of a course instructor, there is evidence that a student has committed an act of academic dishonesty, the instructor must make a formal written charge of academic dishonesty, including a statement of the facts and a recommendation for a grade penalty. The instructor must also provide the student with an opportunity to explain the circumstances in the matter.

## Class Accommodation and Accessibility

- Students are expected to be courteous and respectful in all interactions with fellow class members, TAs, and the instructor (whether this interaction occurs online, during class, or outside of class). Student conduct that interferes with the learning process or the rights of other students will not be tolerated. Respectful behavior is expected from all participants.

## Communications

- The primary tools for communications from instructor to students will be Zoom (lectures) and Canvas (announcements, grades).

## Previous Student Work

- Here are some examples of previous student work in this course.

## Reading Material

- **Volume Algorithms:**
  - Run C++ code and produce visualizations of the volume algorithms
  - See pages 26-46

- **Advection Schemes:**
  - Use advection schemes in your implementation
  - See pages 23-33

- **Simple Smoke Simulation:**
  - Simulate simple smoke using the advection schemes
  - See pages 26-46

- **Nacelle Mapping:**
  - Implement nacelle mapping for your project
  - See pages 23-33

## Videos

- **Volumetric Compositing**
  - Videos on the lecture page
  - See pages 26-46

- **Volume Rendering**
  - Videos on the lecture page
  - See pages 23-33

- **Final Project Videos**
  - Videos on the lecture page
  - See pages 26-46

## Additional Resources

- **Slack:** Live online zoom sessions, recorded and posted to ensemble
- **Canvas:** Announcements for the class will be posted to canvas, including the Zoom meeting invitations.
- **Zoom:** Lectures will be recorded and posted to canvas.

## Extra Credit

- Up to 5 additional points for visual creativity, as judged purely by the instructor.

## Course Policies

- Students are responsible for learning and following all policies stated in this syllabus. This course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.

## Course Goals

- The goal of this course is to introduce students to physically based visual effects (PBE) techniques. Students will learn about the mathematical and computational foundations of PBE and how they can be applied to create realistic and believable visual effects in animation and video games.

## Appendix A

- Various tools and resources for completing assignments will be discussed in detail in this appendix.

## Reading Compulsory

- **Meepzoids (Signed-distance preserving maps)**
- **Levelset Smoothing and filtering**
- **V olumetric compositing**
- **Navier-Stokes equations, simple solutions.**
- **Advection schemes**
- **Velocity fields and characteristic maps**
- **Planckian locus**
- **Missile trails II: spline wisps**
- **Acceleration schemes**
- **Rectangular grids, sparse grids, frustum grids, dense grids**
- **Field algebra, C++ class structure, operator overloading**

## Credits

- This course is taught by Professor John Doe, with the assistance of Teaching Assistant Jane Smith.

## FAQs

- **Can I use the starter kit for my project?**
  - Yes, you are free to use this starter kit in any way that helps you, or not use it all.

- **What is the purpose of the extra credit assignment?**
  - The purpose of the extra credit assignment is to encourage students to explore creative and innovative approaches to the final project.

- **How will I know if I have committed academic dishonesty?**
  - The instructor will provide you with feedback on your work and may ask for clarification on certain aspects of your project.