

Course Syllabus

[Jump to Today](#)
 Edit

METR 4323: Weather Simulation with Computers

Classroom time is 10-10:50 in NWC 5720.

Instructor: Prof. Brian Fiedler, metrprof@gmail.com (<mailto:metrprof@gmail.com>), NWC 5636

No textbook.

The course is about understanding the very inner workings of numerical weather prediction, namely the dynamical core the models the fundamental differential equation of fluid dynamics. More information is at <http://metr4323.net> (<http://metr4323.net>)

Here is the deal:

Try to complete the weekly notebook by class time on the due date.

A robust random selector will choose at least one student from the class list to present their completed notebook.








Somehow, I will manage to assign a numerical grade to everybody else too, by late Monday evening. Sometimes this happens by a student showing me their notebook personally. Late notebooks will somehow be accepted, with a depreciating scale.

There will be a Final Exam, counting for 30% of the grade, on Monday May 8, from 8am until 10am. The exam will be a pencil-and-paper thing, covering the standard derivations found in the notebooks. It shouldn't be too traumatic. A study guide will be formalized as the semester progresses.

Mandated statements

Here are some [Standard Statements for OU Syllabi](http://www.ou.edu/content/dam/provost/documents/University-Policies-Regarding-Instruction.pdf) (<http://www.ou.edu/content/dam/provost/documents/University-Policies-Regarding-Instruction.pdf>)

Assignments Summary:

Date	Details	
Mon Jan 30, 2017	 JuliaSetFractals (https://canvas.ou.edu/courses/43700/assignments/320567)	due by 11:59pm
Mon Feb 6, 2017	 ConwayGameOfLife (https://canvas.ou.edu/courses/43700/assignments/320568)	due by 11:59pm
Mon Feb 13, 2017	 CoupledODE (https://canvas.ou.edu/courses/43700/assignments/320569)	due by 11:59pm
Mon Feb 20, 2017	 DiffusionPDE1D (https://canvas.ou.edu/courses/43700/assignments/320570)	due by 11:59pm
Mon Feb 27, 2017	 AdvectionPDE1D (https://canvas.ou.edu/courses/43700/assignments/320571)	due by 11:59pm
Mon Mar 6, 2017	 SymPySchemes (https://canvas.ou.edu/courses/43700/assignments/320572)	due by 11:59pm
Mon Mar 20, 2017	 ShallowWater1D (https://canvas.ou.edu/courses/43700/assignments/320573)	due by 11:59pm

Date	Details	
Mon Mar 27, 2017	Si ShallowWater2D (https://canvas.ou.edu/courses/43700/assignments/320574)	due by 11:59pm
Mon Apr 3, 2017	Si StreamfunctionVorticity2D (https://canvas.ou.edu/courses/43700/assignments/320575)	due by 11:59pm
Mon Apr 10, 2017	Si PressureSolver2D (https://canvas.ou.edu/courses/43700/assignments/320576)	due by 11:59pm
Mon Apr 17, 2017	Si Hydrostatic vs Nonhydrostatic2D (https://canvas.ou.edu/courses/43700/assignments/320577)	due by 11:59pm
Mon Apr 24, 2017	Si BaroclinicInstability3D (https://canvas.ou.edu/courses/43700/assignments/320578)	due by 11:59pm
Mon May 1, 2017	Si PetTornado3D (https://canvas.ou.edu/courses/43700/assignments/320579)	due by 11:59pm