AAE 52000 Experimental Aerodynamics

MW, 4:30 – 5:20 PM, NISW 184

4 Hour Lab Sessions M through F

Prof. Brandon Chynoweth

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Class Details

- This course is meant to bridge the gap between pre-planned, well-documented, and systematic labs you may have done in undergrad and completely independent research projects.
- The first three labs have some documentation, but you study the material ahead of time to be successful. We don’t give specific directions.
- The final project is more open ended so that you independently identify a problem, plan and execute testing, and analyze the results.
- Don’t be afraid to start brainstorming final project ideas now!
- This course is mainly a project / tutorial class. Pick up the ball and run with it! We will help to coach you.

Course Structure:

- Week 1 – Introduction & Scheduling
- Weeks 2 & 3 – Lab 1 + Lecture + Recitations
- Weeks 4 & 5 – Lab 2 + Lecture + Recitations
- Weeks 6 & 7 – Lab 3 + Lecture + Recitations
- Week 8 – Discuss Project
- Week 9 – End: Project Recitations

Outline of Schedule for AAE520: Labs, Recitations, and Lectures

Open periods to be used for class discussion, answering questions, or lectures on topics as needed. You need attend only the recitation at which your group is scheduled to present but you can attend other sessions if interested. Lab reports are due at 5 PM the 2nd Monday after the lab ends.

Week Number	Monday Class Period NISW 184, 4:30 PM	Wednesday Class Period NISW 184, 4:30 PM	Lab Number (All Week, ASL)
1	Introduction to Class & Lab Scheduling (12 Jan.)	Finish Schedule, Intro. to Lab 1 and Oscilloscopes	No Labs
2	M.L. King Holiday (19 Jan.) NO CLASS	Lab 1 Recitation (Teams 1 - 4)	Lab 1 (Wake) (Two 4-hour sessions in successive weeks, per lab) **Report Due 9 February**
3	Lab 1 Recitation (26 Jan.) (Teams 5 - 10)	Introduction to Lab 2	
4	Intro. To LDV (2 Feb.)	Lab 2 Recitation (Teams 1 - 4)	Lab 2 (Water Tunnel Flow Fiz. And LDV) **Report Due 23 February**
5	Lab 2 Recitation (9 Feb.) (Teams 5 - 10)	Introduction to Lab 3	
6	Intro. to Project (16 Feb.)	Lab 3 Recitation (Teams 1 - 4)	Lab 3 (Shock/Boundary-Layer Interaction) **Report Due 9 March**
7	Lab 3 Recitation (23 Feb.) (Teams 5 - 10)	More on Project	
8	Project Discussions (2 Mar.)	Project Discussions	
9 - End	TBD (Project Recitations)	TBD (Project Recitations)	
B. Chynoweth. Last Update: 6 January 2026			

Grading

Lab 1 through 3 Reports: 45%
Final Project: 50%
Recitations: 5%

- Grading rubric for first three lab reports can be found on the website.
- Breakdown of points for final project will be discussed later in the semester.
- Recitation participation and presentation will be evaluated this semester. Part of being an experimentalist is presenting results, asking for help when needed, etc. You are expected to attend the recitation you are assigned and presentations should show thoughtful preparation.

Current Lab Schedule

- Any updates necessary? Need to finalize the first week of class.
- Monday teams need to schedule make-up of Lab 1 for week of January 12th.

Spring 2026, 520 Lab and Lecture Schedule by Chynoweth Rev. 0, 5 January 2026					
Lab Teams #1-4 in 1st Recitation, #5-10 are in 2nd Recitation					
	Mon	**Tues**	**Wed**	**Thur**	**Fri**
7:30 AM					
8:30 AM	Team #1	Team #3	Team #5	Team #7	Team #9
9:30 AM	Ben Abrams	Omar Kewaisy	Khoi Yon Leong	Dorothy Lindula	Rahaf Adi
10:30 AM	Thomas Laurent	Jaken Wu	Philip Voronin	Yi Jie Tan	Avidh Bavkar
11:30 AM					
12:30 PM	Team #2	Team #4	Team #6	Team #8	Team #10
1:30 PM	Zofia Ksiezak	Mariah Fulton	Caleb Fears	Khushal Goparaju	Christopher Ji
2:30 PM	Abi Moser	Juanita Latorre Jaramillo	Landon Goetz	Gunes Kosterit	Teresa Tomasino
3:30 PM					
4:30 PM	All Class, NISW 184		All Class, NISW 184		
5:30 PM					
Note 1: Purdue-generated schedule is only a first approximation. Need teams of two.					
Note 2: Lecture / recitation in Niswonger 184 MW 4:30 - 5:20 PM. Other sessions are 4-hour labs in ASL					
Note 3: This is the schedule for weeks 2 through 7 ONLY during the 3 pre-planned labs. For the course project, the class will reorganize as needed into new groups and new lab times.					

Aerospace Sciences Laboratory (ASL) Layout

This is an approximate map of the location of aerodynamics facilities and AAE520 labs. The Aerospace Sciences Lab is AERO on campus maps, it's at the east end of the set of buildings at the north side of the Purdue Airport. S.P. Schneider, Purdue AAE, Jan. 2010 (rev. B. C. Chynoweth January 2026)