ARO357L AERO STRUCTURES LAB *SYLLABUS*

Dr. Todd D. Coburn. tdcoburn@cpp.edu. (909) 869-2235. Office 17-2111. Office Hours: 12-3 M & 12-1 W, or by appointment (2018 S).

Class	Section	Number	Lecture	Location
ARO3570L	1	74821	12:00 pm – 2:50 pm M	Bldg 13, Room 1114
ARO3570L	2	74822	1:00 am – 3:50 pm Tu	Bldg 13, Room 1114

CLASS SCHEDULE

Week	Mon Date (S1)		Tues Date (S2)		Topics (S1/S2)	Lab Assignments (by group)					HW Due
						All	1	2	3	4	
2	M	27-Aug	Tu	28-Aug	Lab Overview & Safety	-	-	-	-	-	-
3	M	3-Sep	Tu	4-Sep	Holiday / No Class	-	-	-	-	-	1
4	M	10-Sep	Tu	11-Sep	Experiment	-	3-1	2-1	5-1		-
5	M	17-Sep	Tu	18-Sep	Experiment	-	3-2	2-2	5-2		-
6	M	24-Sep	Tu	25-Sep	Experiment	-	5-1	3-2	2-2		2
7	M	1-Oct	Tu	2-Oct	Experiment	-	2-2	5-2	6-1		-
8	M	8-Oct	Tu	9-Oct	Experiment	-	6-1	9-2	5-3/3-2		-
9	M	15-Oct	Tu	16-Oct	Experiment	-	5-2	6-1	9-2		3
10	M	22-Oct	Tu	23-Oct	Experiment	-	5-3/9-2	5-3	2-1		-
11	M	29-Oct	Tu	30-Oct	Experiment / Build Activity	-		3-2	5-3/x-y		-
12	M	5-Nov	Tu	6-Nov	Experiment	-		3-3			4
13	M	12-Nov	Tu	13-Nov	Holiday / No Class	-	-	-	-		-
14	M	19-Nov	Tu	20-Nov	Build Activity / Experiment	-	12-2	12-2	3-2		-
15	M	26-Nov	Tu	27-Nov	Experiment / Build Activity	-	2-1	6-1	12-2		5
16	M	3-Dec	Tu	4-Dec	Experiment	-	2-2	9-2	3-3		-
17	M	N/A	Tu	N/A	**No Final Exam**	-	-	-	-	-	-

Note: This syllabus plan is subject to change. Keep your eyes peeled for updates & have the latest on hand.

GRADING SCALE & WEIGHTS

Course Grading

Homework	10%
Lab Reports	90%
Projects	0%
Quizzes	0%
Final Exam	0%

Grading Scale

		A	100 % - 93 %	A-	92 % - 90 %
B+	89 % - 87%	B	86 % - 83%	B-	82 % - 80%
C+	79 % - 77%	C	76 % - 73%	C-	72 % - 70%
D+	69 % - 66%	D	65 % - 61%	D-	60 % - 56%
				F	55 % - 0%

Required Text (Either Hardcopy or Electronic Copy):

- Todd Coburn et. al., ARO357L Lab Manual. Bronco Copy'n Mail Center. 15 May. 2018.
- Available for free download at http://toddcoburn.com/CPP/Pubs.htm.

Required Tools:

- Pencil, Paper (Quad or Quint Pad Recommended), Engineering or Scientific Calculator.
- Closed-toed shoes & non-loose clothing & hair per Lab Manual Appendix A.

Prerequisites:

- C or better in ARO326 or ARO3261.

Course Description: ARO 357L Aerospace Structures Laboratory (1)
Experimental evaluation of materials & structures. Tension, compression, torsion, bending, shearing and combined loading. Evaluation of predictions versus test results. Test measurement techniques including use of strain gages. Photoelastic methods. Technical communication through engineering report writing. Structural fabrication methods and practice.

Course Objectives:
This course is intended to give the student a hands-on understanding of the principles of Aerospace Structures. This involves introducing the student to basic experimental as well as production and fabrication techniques for aerospace structures.

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Important Notes, Expectations & Comments:

- Be on time to class. Late students will lose 2 points of lab credit per minute late.
- Unexcused absences will result in an individual score of zero for the missed lab. Students who are unable to attend a lab for a justified reason need to contact the instructor before the lab meeting to arrange for a make-up activity.
- Cell phones may not be used in class. Use will result in loss of class credit.
- Eating, drinking & sleeping are not allowed in the classroom or laboratory.
- Cheating is unacceptable and will result in immediate failure of the class.

Teamwork Expectations:

- All experiments are group efforts. This means the students on each team are expected to work together, to collaborate well, and to help each other to get the work done.
- Each group is expected to organize itself in an efficient manner to expedite the work, adjusting for individual skills, abilities and experience.
- Ideally, leadership in the group should rotate for the various experiments, although this should also be evaluated against efficiency goals.
- Any students not making reasonable efforts to participate and contribute should be reported to the instructor.
- It is each student's responsibility to read the lab manual ahead of time and be prepared to begin work when class begins. Students who appear ill-prepared, or who do not participate, will have points docked from the corresponding lab assignment.
- At the conclusion of each experiment, a copy of the original data sheet should be made for each group member.
- Group members are expected to collaborate and to put together a single lab report for each experiment.
- Generally, all group members receive the same grade for each lab report.

Lab Report Expectations & Guidelines:

- Lab reports are due at the start of class, on the class immediately following the lab.
- Lab reports must be prepared using the template provided.
- Lab reports must be submitted as follows: 1 Paper Copy in class, 1 E-Mailed PDF before class.
- All group members should ensure that lab reports are completed & submitted on time.
- Credit will be lost on any labs turned in after class starts.
- Lab reports will not be accepted or scored after class ends on the day they are due.
- Lab reports should be neat, clear, concise, and easy to follow.
- Electronic Lab Reports must be named as follows:
  - <ARO3570L Exp XX-Z Report – YY JJ KK LL.pdf> where XX-Z is the experiment number and YY,JJ,KK,LL are the initials of the students involved.

Lab Success Guidelines:

- There are four major components to this class; teamwork, applying test procedures, understanding & applying of analytical principles to test results, and preparing quality reports.
- The lab reports measure all four of these components, but obscures individual performance due to other strengths and weaknesses on the team.

Homework Guidelines:

- Periodic Bb Homework will used in this class to ensure each student understands some fundamentals of experimentation and test result processing.
- Each student is expected to submit their own HW by the posted due dates.
- Students are expected to do their own work but may collaborate with others if desired.