ME 4610: THERMAL-FLUIDS SCIENCE LABORATORY

Instructor: Professor Scott K. Thomas, (937) 775-5142, Rm. 124 Russ Engineering Center
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Course Homepage: http://cecs.wright.edu/people/faculty/sthomas/thermalfluidslab.html

Class Hours: T Th 9:30 to 10:50 a.m., Room 208 Russ Engineering Center

Office Hours: T Th 8:30 to 9:25 a.m. or by appointment, Room 124 Russ Engineering Center

Text: Hands-On Introduction to LabVIEW for Scientists and Engineers, Essick, Oxford, 2009.

LabVIEW In-Class Assignments and LabVIEW Homework Assignments: Use Handouts for the Problem Sets. Handouts are available on the LabVIEW Resources Homepage:

http://cecs.wright.edu/people/faculty/sthomas/labview.html

LabVIEW in-class assignments and homework assignments are due as indicated in the Course Schedule below. All homework assignments will be submitted as single PDF files using the Dropbox feature within Pilot. Late homework assignments will not be accepted by the Dropbox feature within Pilot or by the instructor.

Lab Reports:

Students are responsible for writing their own report. Working together to collect data during the experiment is permissible, but copying any part of your partner's report is strictly forbidden. Reports that are deemed to be partially or fully copied will be awarded zero points.

Course Grade: Laboratory Reports: 60%, Laboratory Final Exam: 15%, LabVIEW Final Exam: 15%, LabVIEW Homework: 10%
A: 100 to 90, B: 89 to 80, C: 79 to 70, D: 69 to 60, F: < 60

Previous Student Evaluations of Prof. Thomas for Thermal-Fluids Laboratory:

http://cecs.wright.edu/people/faculty/sthomas/thermalfluidslabevals.html

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Course Schedule:

Class Period	Date	Subject	Room	Lab Due Dates	LabVIEW Homework Due Date
1	8/26	**Lab 1: Data Reduction and Uncertainty Analysis**	**208 RC**		
2	8/28	Chap. 1: While Loop and Waveform Chart	142 RC		In-Class 01
3	9/2	Chap. 1: While Loop and Waveform Chart	142 RC		
4	9/4	Chap. 1: While Loop and Waveform Chart	142 RC		Ch. 1: 5, 6, 8, 9
5	9/9	**Lab 2: Flow Meter Calibration**	**208 RC**	Lab 1	
6	9/11	Chap. 2: For Loop and Waveform Graph	142 RC		In-Class 02
7	9/16	Chap. 2: For Loop and Waveform Graph	142 RC		
8	9/18	Chap. 2: For Loop and Waveform Graph	142 RC		Ch. 2: 2, 4, 8, 9
9	9/23	Chap. 3: Mathscript Node and XY Graph	142 RC		In-Class 03
10	9/25	**Lab 3: Thermocouple Calibration**	**208 RC**	Lab 2	
11	9/30	Chap. 3: Mathscript Node and XY Graph	142 RC		
12	10/2	Chap. 3: Mathscript Node and XY Graph	142 RC		Ch. 3: 1, 2, 4, 6
13	10/7	Chap. 4: Data Acquisition using DAQ Assistant	142 RC		In-Class 04
14	10/9	Chap. 4: Data Acquisition using DAQ Assistant	142 RC		
15	10/14	**Lab 4: One-Dimensional Heat Conduction**	**208 RC**	Lab 3	
16	10/16	Chap. 4: Data Acquisition using DAQ Assistant	142 RC		Ch. 4: 2
17	10/21	Chap. 5: Data Files and Character Strings	142 RC		In-Class 05
18	10/23	Chap. 5: Data Files and Character Strings	142 RC		
19	10/28	Chap. 5: Data Files and Character Strings	142 RC		Ch. 5: DIY, 1, 2
20	10/30	**Lab 5: UAV Motor/Propeller Performance**	**208 RC**	Lab 4	
21	11/4	Chap. 6: Shift Registers	142 RC		In-Class 06
22	11/6	Chap. 6: Shift Registers	142 RC		Ch. 6: DIY, 1, 2, 3, 8
23	11/11	*Veteran's Day Holiday: UNIVERSITY CLOSED*			
24	11/13	Chap. 7: Case Structure	142 RC		In-Class 07
25	11/18	**Lab 6: Experimental Design Project**	**208 RC**	Lab 5	
26	11/20	Chap. 7: Case Structure	142 RC		Ch. 7: DIY, 1, 2, 3
27	11/25	Chap 8: Sequence Structure	142 RC		In-Class 08
28	11/27	*Thanksgiving Holiday: UNIVERSITY CLOSED*			
29	12/2	Chap 8: Sequence Structure	142 RC		
30	12/4	Chap 8: Sequence Structure	142 RC		Ch. 8: DIY, 1, 2, 3, 4
	12/9	**LabVIEW Final Exam: 8:00 to 9:00 a.m.**	142 RC	Lab 6	
	12/9	**Laboratory Final Exam: 9:00 to 10:00 a.m.**	142 RC		