

**1. Course Title:**

**Instrumentation**  
**EET 342 – 4 Credits**

EET Program Requirement

Prerequisite: EET 221

This is a Technical content course under ABET Criterion 5

**2. Faculty Member Information:**

Instructor:

Office: Hebel 101a

Phone: 509-963-2289

e-mail: [holdenl@cwu.edu](mailto:holdenl@cwu.edu)

**3. Course Description:**

Analysis of instrumentation systems including data collection, transmission, and conversion, sensors operation, signal conditioning, and application techniques.

**4. Textbook and other required materials for the course:**

Travis, J., & Kring, J., *LabVIEW for Everyone: Graphical Programming Made Easy and Fun*, 3<sup>rd</sup> Ed, Prentice Hall/Pearson Education Inc, 2007.

Manufactures Specification Sheets for sensors as required.

**5. Specific Learner and Expressive Outcomes and Assessment Strategies:**

ABET Outcome Criteria #	Learner Outcomes	Assessment
3.b.	1. The student will use virtual instruments in the LabVIEW environment	The student will complete a written test and perform laboratory assignments
9.A.4 9.b.	2. The student will use LabVIEW to acquire data.	The student will complete a written test and perform laboratory assignments
9.B.	3. The student will determine sensor operation from manufacturer specifications.	The student will complete a written test and perform laboratory assignments
3.b.	4. The student will convert sensor data to a form that would be friendly to a system operator.	The student will complete a written test and perform laboratory assignments
	5. The student will verify data conversions using arithmetic formulas derived from the sensor specifications.	The student will complete a written test and perform laboratory assignments
	6. The student will communicate assumptions, results (data), and conclusions about technical information in a coherent and prescribed format.	The student will complete a written test and perform laboratory assignments

## 6. Course Topics and Schedule:

- LabVIEW Programming Environment 4 Hours
- Graphical Programming 12 Hours
- Sensor Data acquisition 4 Hours
- Instrument Control 4 Hours
- Sensor Specifications 4 Hours
- Sensor Applications and Operation 12 Hours

## 7. Grading:

Grade	%	Grade	%	Grade	%	Grade	%	Grade	%
		B+	87 - 90	C+	77 - 80	D+	67 - 70	F	< 60
A	94 - 100	B	83 - 87	C	73 - 77	D	63 - 67		
A-	90 - 94	B-	80 - 83	C-	70 - 73	D-	60 - 63		

### Grading Percentages

Test 1	30%
Test 2	30%
Homework	20%
Group Participation/Attendance	20%

## 8. ADA Statement:

Students who have special needs or disabilities that may affect their ability to access information and or material presented in this course are encouraged to contact me or Robert Harden, ADA Compliance Officer, Director, ADA Affairs and Students Assistance on campus at 963-2171 for additional disability related educational accommodations.