



Course Syllabus INCR 1302 - Physics of Instrumentation

Aug 28 to Dec 17, 2017

Course Length – 16 weeks

CRN # 34438/Credits – 3 hours

Prerequisite: TECM 1301 & ELPT 1311

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| Instructor contact information | Lloyd Perkins lloyd.perkins@hccs.edu |
| Office Location and Hours | <i>Please feel free to contact me concerning any problems that you are experiencing in this course. Your success in this class is very important to me. I am available to hear your concerns and to discuss course topics. Feel free to schedule an appointment or meet with me after class:</i> |
| Course Location/ Times | Central Campus – San Jacinto Building Room # 174 Wednesdays 5:00 am to 9:00 pm |
| Course Description | INCR 1302 is an introduction to simple control loops. An introductory course to pressure, temperature, level, and flow transmitters and the various transducers used in the detection of changes in process variables. This course is designed to familiarize the student with the instrumentation devices utilized in industrial automation and process control environments. |
| Instructional Materials | Process Control Instrumentation Technology 8Th Edition Curtis D. Johnson ISBN: 0-13-119457-7 |
| Course Student Learning Outcomes (SLO) | <ul style="list-style-type: none">• Use process instruments and devices• Describe the control loop as applied to the control and detection of pressure, temperature, level, flow, pH, and other applicable processes |
| Student's Requirements | To be successful in this class, it is the student's responsibility to: <ul style="list-style-type: none">• Attend class and participate in class discussions and activities.• Read and comprehend the textbook.• Complete the required assignments and exams:• Ask for help when there is a question or problem.• Keep copies of all paperwork, including this syllabus, handouts, and all assignments.• Complete the course with a passing score. |

COURSE POLICIES

Attendance Students are expected to attend classes regularly, and to be on time for every class period. Students can be dropped from a class due to excessive absences. Excessive tardiness may be considered absences.

Students are responsible for subjects, assignments, and projects covered during their absences. Consult the ***Student Handbook*** for more details or visit <http://www.hccs.edu/hccs/current-students/student-handbook>

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| Academic Honesty | Scholastic dishonesty is treated with the utmost seriousness by the instructor and the College. Academic dishonesty includes, but it is not limited to the willful attempt to misrepresent one's work, cheat, plagiarize, or impede other students' scholastic progress. Consult the <i>Student Handbook</i> for more details. |
| Open Carry | "At HCC the safety of our students, staff, and faculty is our first priority. As of August 1, 2017, Houston Community College is subject to the Campus Carry Law (SB11 2015). For more information, visit the HCC Campus Carry web page at http://www.hccs.edu/district/departments/police/campus-carry/ |
| Students with Disabilities | HCC strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please meet with a campus Abilities Counselor as soon as possible in order to establish reasonable accommodations. Reasonable accommodations are established through an interactive process between you, your instructor(s) and Ability Services. It is the policy and practice of HCC to create inclusive and accessible learning environments consistent with federal and state law. For more information, please go to http://www.hccs.edu/district/students/disability-services/ . For Central College, call 713-718-6164. |
| Title IX | <p><i>Houston Community College is committed to cultivating an environment free from inappropriate conduct of a sexual or gender-based nature including sex discrimination, sexual assault, sexual harassment, and sexual violence. Sex discrimination includes all forms of sexual and gender-based misconduct and violates an individual's fundamental rights and personal dignity. Title IX prohibits discrimination on the basis of sex-including pregnancy and parental status-in educational programs and activities. If you require an accommodation due to pregnancy please contact an Abilities Services Counselor. The Director of EEO/Compliance is designated as the Title IX Coordinator and Section 504 Coordinator. All inquiries concerning HCC policies, compliance with applicable laws, statutes, and regulations (such as Title VI, Title IX, and Section 504), and complaints may be directed to:</i></p> <p><i>David Cross</i> <i>Director EEO/Compliance</i> <i>Office of Institutional Equity & Diversity</i> <i>3100 Main</i> <i>(713) 718-8271</i> Houston, TX 77266-7517 or Houston, TX 77266-7517 or Institutional.Equity@hccs.edu</p> |
| Cell Phones | All cell phones must be muted, set to vibrate, or turned off during class. Cell phone activity during class is deemed disruptive to the academic process and will not be tolerated. If you need to make or receive an <u>emergency call</u> , please leave the classroom. |
| Calculators | The use of calculators in this class is allowed. Cell phones are not calculators, and are not allowed to be used for that purpose during class, tests, or exams. |
| Exams | There will be two (2) exams as part of the grading of this class. Exams will include material from the lectures as well as content from the book. Students are responsible for all the material in the book whether or not it is discussed in class. No make-up exams will be given under any circumstances! |
| Final Project | Everyone will responsible for doing a final project. The final project will be something handmade, not from a kit. Each student will have to use the knowledge that they have attained in this class in order finish it. I will give you a couple of ideas, but it is the students responsibility to submit their idea along with a schematic and sources cited for approval by the instructor. |
| Student ID | Students are required to obtain a Student ID. For additional information, consult the <i>Student</i> |

Handbook.

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| Parking Rules and Regulations | Students are required to follow HCC's regulations regarding parking and permits. For additional information, visit http://www.hccs.edu/hccs/about-hcc/police/parking/parking-rules-and-regulations | |
| Books, Tools, and Supplies | Students are required to purchase and bring to class the required textbooks, tools, notebooks, supplies, and writing instruments as required by the instructor. | |
| Dress Code | Dress code must be appropriate for the class. Students must dress in a way that clothing and accessories do not compromise their safety, and the safety of others. Proper foot wear is required in all laboratories. Absolutely no sandals or other footwear that exposes the feet will be allowed. | |
| Classroom Conduct | Proper behavior is expected in all classes and laboratories. Foul language and horseplay are not allowed. Sleeping in class is not allowed. | |
| Complaints | It is the responsibility of the student to officially withdraw from a course before the official withdrawal deadline. A student who does not withdraw from a course by the deadline will receive an "F" as the final grade. Also note that under Section 51.907 of the Texas Education Code, an institution of higher education may not allow a student to drop more than six courses. | |
| Supplies for class | Students are responsible for getting the tools and measuring instruments that the instructor says to purchase. These will include, but may not be limited to, a multimeter, a bread board with a power source (this will be covered later in the semester), wire strippers and cutters, and all electronic components that will be needed to be successful in this class. | |
| Hurricane Victims | Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact the Dean of Students for support. Furthermore, please notify the professor if you are comfortable in doing so. | |
| HCC Grading Scale | A = 100- 90 | 4 points per semester hour |
| | B = 89 - 80: | 3 points per semester hour |
| | C = 79 - 70: | 2 points per semester hour |
| | D = 69 - 60: | 1 point per semester hour |
| | F = 59 and below | 0 points per semester hour |
| Instructor Grading Criteria | Lab/Assignments | 10% |
| | Midterm | 20% |
| | Midterm project | 25% |
| | Final Exam | 20% |
| | Final Project | 25% |
| | | <hr/> 100% |

Course Outline

Week 1: 9/27

- Introduction
- Purpose of the course

- Overview of course syllabus
- Course policies
- Required materials, textbook(s), supplies, and resources (if applicable)
- Disability Support Services
- Registration, schedules, receipts, and student ID
- Importance of updating and maintaining student data (Name, Address, ID #, phone numbers, emails)
- Parking rules and regulations
- Classroom and laboratory safety
- Course withdrawal, Official Day of Record, and last day for withdrawal
- Course tests, quizzes, exams, and assignments
- Course grading policies
- Instructor information
- Chapter 1

Week 2:
10/04

- Chapter 2

Week 3: 10/11

- Chapter 3

Week 4:
10/18

- Chapter 4

Week 5:
10/25

- Chapter 5

Week 6: 11/01

- Midterm
- Midterm project

Week 7: 11/08

- Review Midterm
- Chapter 6

Week 8: 11/15

- Chapter 7

Week 9: 11/22

- Chapter 8

Week 10: 11/29

- Chapter 9

Week 11: 12/06

- Chapter 10

Week 12: 12/13

- **Final Exam**
- **Final project**