CHIPOLA COLLEGE

COURSE SYLLABUS

Chipola's website: www.chipola.edu

COURSE TITLE: Data Acquisition

COURSE NUMBER: CET 2280C

COURSE DESCRIPTION (with prerequisites):

This course focuses on the development of data acquisition systems, dataflow programming, data-logging, instrument control, and measurement applications. LabVIEW software will be used to acquire, process, display, and store real-world data. Programming a user interface, optimizing reuse of existing code, and common program design patterns will also be covered. Hardware labs will be used to assist in the design, implementation, testing, and deploying of a project. This course prepares the student to take the NI CLAD certification exam. Prerequisite course EET 1084C.
3 semester credit hours. (6 contact hours.)

NAME(S) OF INSTRUCTORS:

TBA

EFFECTIVE ACADEMIC YEAR:

2022-2023

REQUIRED TEXTBOOKS AND INSTRUCTIONAL MATERIALS:

Learning with LabVIEW by Robert H. Bishop, 1st edition, ISBN13: 9780134022123.

National Instruments LabVIEW Core 1 and Core 2 course manuals and exercise manuals, Current Software Version, Part Numbers 325290C-01, 325291C-01, 325292C-01, and 325293C-01.

GRADING POLICY:

The standing of a student in each course is expressed by one of the following letters and corresponding grading system:

A – 90 – 100
B – 80 – 89
C – 70 – 79
D – 60 – 69
F – 59 or less

The Chipola Catalog provides policies and procedures regarding the grading system. A student's Grade Point Average is derived from the grading system/quality point scale.

ATTENDANCE AND WITHDRAWAL POLICIES:

Chipola College expects regular attendance of all students, and all instructors record attendance daily. Students who are absent from classes for any reason other than official college activities must satisfy the instructor concerned that the absence was due

to illness or other clearly unavoidable reasons. Otherwise, the student may suffer grade loss at the discretion of the instructor. Chipola policy allows each instructor to specify in the Instructor First Day Handout whether or not an absence is excusable and what affect the absence or tardy may have on the grade.

A student is allowed to repeat a course a maximum of three (3) times. **On the third attempt a student (1) must bear the full cost of instruction (unless waived by Student Services), (2) cannot withdraw, and (3) must receive a grade.**

MAKE-UP POLICY:

Chipola allows each instructor to specify in the Instructor First Day Handout the makeup policy.

ACADEMIC HONOR CODE POLICY:

Students are expected to uphold the Academic Honor Code. Chipola College's Honor Code is based on the premise that each student has the responsibility to (1) uphold the highest standards of academic honesty in his/her own work; (2) refuse to tolerate academic dishonesty in the college community; and (3) foster a high sense of honor and social responsibility on the part of students. Further information regarding the Academic Honor Code may be found in the Chipola Catalog, Student Governance section.

STUDENTS WITH DISABILITIES POLICY:

Chipola College is committed to making all programs and facilities accessible to anyone with a disability. Chipola's goal is for students to obtain maximum benefit from their educational experience and to effectively transition into the college environment. Students with disabilities are requested to voluntarily contact the Office of Students with Disabilities to complete the intake process and determine their eligibility for reasonable accommodations.

NOTICE OF EQUAL ACCESS/EQUAL OPPORTUNITY AND NONDISCRIMINATION:

Chipola College does not discriminate against any persons, employees, students, applicants or others affiliated with the college with regard to race, color, religion, ethnicity, national origin, age, veteran's status, disability, gender, genetic information, marital status, pregnancy or any other protected class under applicable federal and state laws, in any college program, activity or employment.

Wendy Pippen, Associate Vice President of Human Resources, Equity Officer and Title IX Coordinator, 3094 Indian Circle, Marianna, FL 32446, Building A, Room 183C, 850-718-2269, pippenw@chipola.edu.

LIBRARY AND ON-LINE REFERENCE MATERIALS:

The library is a comprehensive learning resource center providing information in print, electronic, and multimedia format to support the educational objectives of the College. On-line catalogs, e-books and electronic databases can be accessed by using the *LINCCWeb* icon on the Chipola Library website at www.chipola.edu/library. If you have questions about database usage consult the "How to Use the Chipola Databases" on

the Library website or call the Library at 850/718-2274 during regular hours. Library hours are posted each semester at the building entrance and on the Library website. See your Instructor First Day Handout for individual instructor recommendations and resources.

TECHNOLOGY RESOURCES:

The college's learning management system is **Canvas**. Classes become available on Canvas on the first day of the semester. It is the student's responsibility to log onto the Canvas system the first day of class to establish the first day of attendance and to check announcements. All official class communication must be through Canvas. For further information, contact your instructor or the Director of eLearning. The Canvas support hotline is available online in live chat and on the phone, toll-free, at 855-308-2812 for any issues in accessing or utilizing Canvas. The **Technology Center**, located in the library, is equipped with computer workstations. Lab hours are posted each semester at the building entrance and on the Library website.

FREE TUTORING RESOURCES:

The Academic Center for Excellence (**ACE)** Lab, located in Building L, offers free tutoring from 8 a.m. to 5 p.m. and is equipped with computer workstations. ACE lab hours are posted each semester at the room entrance and on the website. Additionally, live online tutoring conferences and individual tutoring sessions are available for a variety of courses through ACE@Home. For a conference schedule or to schedule an individual appointment, visit "ACE Tutoring" in the left navigation from any course in Canvas.

ELECTRONIC DEVICE USAGE STATEMENT:

Classrooms should be free of all unnecessary distractions from the task of learning. Therefore, as a general rule, students should silence and avoid use of all electronic devices (laptops, phones, tablets, etc.) not being used for coursework. Consult first-day handouts for any specific policies related to the use of electronic devices in the classroom, as they may vary depending upon the nature of the course or the guidelines of the instructor. Faculty reserve the right to regulate the use of electronic devices and their accessories in class.

DISCIPLINE SPECIFIC COMPETENCIES / LEARNING OUTCOMES:

This course teaches program design, implementation, and testing while emphasizing good programming practices. Focus will be on acquiring, analyzing, and storing data from sensors.

.

LINKING COURSE-LEVEL STUDENT LEARNING OUTCOMES WITH DISCIPLINE-SPECIFIC COMPETENCIES, ASSESSMENT METHODS, AND ARTIFACTS

COURSE-LEVEL STUDENT LEARNING OUTCOMES FOR CET 2280C	DISCIPLINE-SPECIFIC, GENERAL EDUCATION COMPETENCIES	ASSESSMENT METHODS FOR COURSE LEVEL STUDENT LEARNING OUTCOMES	LEARNING ARTIFACTS FOR AA PROGRAM ASSESSMENT

Upon the successful completion of this course students will be able to: • Learn how to develop basic applications in the LabVIEW graphical programming environment • Read and write data to a file • Design, implement, and distribute programs • Establish software lifecycles and develop professional user interfaces • Develop program documentation and handle program errors • Develop applications that are scalable, readable, maintainable, and reliable • Communicate with customers/employers/operators to ensure programs meet their needs	1. Demonstrate an understanding of industrial processes and material properties. 2. Demonstrate ability to generate and interpret computer-aided drawings (CAD). 3. Demonstrate a fundamental understanding of electronics and electricity. 4. Demonstrate an understanding of industrial safety, health, and environmental requirements. 5. Demonstrate proficiency in the use of quality assurance methods and quality control concepts. 6. Demonstrate proficiency in using tools, instruments, and testing devices. 7. Demonstrate math skills appropriate for employees in an engineering work environment. 8. Demonstrate basic troubleshooting skills appropriate for employees in an engineering work environment.	Assessment methods used are: Q, T, SD, SP, Sk. Check	
****Assessment Codes**			

T = Tests **Pre/Post** = Pre- and Post-Tests **OT** = Objective Tests **UT** = Unit Tests **Q** = Quizzes **F** = Final Examination **CF** = Cumulative Final **EX** = Departmental Exam **SE** = Nat'l or State Standardized Exam	**RPT =** Report/Presentation **SP** = Skills Performance **SD** = Skills Demonstration **W** = Writing Assignments **E** = Essays **DE** = Documented Essays **RP** = Research papers **J** = Jury **R** = Recital	**Proj**. = Projects **Exp.** = Experiments **Cap. Proj.** = Capstone Project **Cap. Course** = Capstone Course **Prac.** = Practicum **Intern**. = Internship **H** = Homework **PS** = Problem Solving **DB** = Discussion Board	**BO =** Behavioral Observation **Clin.** = Clinicals **CS =** Case Study **CP =** Case Plan **Port.** = Portfolio **Obs.** = Teacher Observation **Sk. Check** = Skills Check-off Curriculum Frameworks **JP** = Judged Performance/Exhibition

MEANS OF ACCOMPLISHING STUDENT LEARNING OUTCOMES:

Assessments are determined by measuring the ability of each student to retain the learning outcomes and objectives of the course.

1. Learning modules for course theory delivered online.
2. Hands-on competency-based labs.
3. Assessments.

ASSIGNMENT AND/OR COURSE OUTLINE

See your Instructor First Day Handout for individual instructor assignment schedule.