

LabVIEW Programming
Spring 2019

Instructor:	Dr Stephen A. Coombes	Course:	PET 5936
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Phone:	352.294.1768	Class days:	Monday
Office:	170-H	Class time:	9:35am-12:35am
Office hours:	By appointment		

Course Overview

The purpose of this course is to introduce students to the methods and techniques used in LabVIEW programming. The LabVIEW programming environment has become a standard in both scientific research and industry, especially in the areas of data acquisition and instrument control, making it important for students to learn how to best use LabVIEW and its programming environment. Students will become familiar with graphical programming basics; file input/output, stimulus presentation for research experiments, signal generation and processing, and data acquisition and analysis. At the end of this course students will be expected to have the ability to write high-level LabVIEW programs that can be implemented in both research and industry environments. Each class will include lectures and hands on exercises. There will be weekly or bi-weekly assignments designed to improve the ability and understanding of the students. Student will also complete a final project which will be related to their own research agenda.

Evaluation/Grade breakdown

There will be no exams. Assignments will be due by the beginning of class the following week. Late assignments will be marked off 25% for each day it is late and will not be accepted 4 days after the original due date. Roll will be taken every class period. Missing class more than 3 times without an approved reason (i.e. sickness, emergency) will result in an automatic failing grade in the course.

Grading:

20% Attendance and participation
20% Assignment (2% per assignment)
60% Final Project

Final project brief is due by Feb 26th. You have to write your own brief for a program that you must create which allows you to achieve a specific goal.

Class Participation – All students who arrive on time will begin with 10 points. The following list outlines behaviors that will result in point deductions. 1) Routine Lateness - 1 pt for every 5 minutes late. 2) Lack of professionalism (on phone, interruptions,

sleeping, etc.) -1 pt. 3) Not participating (avoiding discussions, not asking questions) -1 pt . Any participation deductions will be communicated directly to the student at the time of the deduction or will be noted in the gradebook. If a student's lack of participation is causing a distraction or a disturbance to the overall flow or good energy of the class, the instructor will ask the student to leave, resulting in zero participation points and a written warning. Should that happen more than once, the student will receive a letter grade penalty and their advisor will be notified.

The instructor will discuss a student's grade with him or her, however: (a) grade discussion will occur during office consultation and will not occur via email, and (b) a student's grade will not be changed on any assignment, nor will his or her final grade be adjusted unless justifiably warranted (i.e., error in grading). Students are allowed **one week** from the receipt of their graded work to notify the instructor of any errors or dispute evaluation. Grade adjustments (e.g., poorly worded item on an exam, extra-credit) will occur at the instructor's discretion.

Grade Scale:

93.0% - 100% = A

90.0% - 92.9% = A-

87.0% - 89.99% = B+

83.0% - 86.99% = B

80.0% - 82.99% = B-

77.0% - 79.99% = C+

73.0% - 77.99% = C

70.0% - 72.99% = C-

67.0% - 69.99% = D+

63.0% - 66.99% = D

60.0% - 62.99% = D-

<60 = E

Information on current UF grading policies for assigning grade points:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>.

Examinations

If the student absolutely cannot be in class when an exam is scheduled, it is the student's responsibility to contact the instructor **at least 2 weeks prior to the scheduled exam**, with valid documentation for missing the exam, to arrange a time to take it before the scheduled exam date (note: rescheduled exams may be different from the exams given during the regularly-scheduled exam period). If the student is missing a scheduled exam due to a university-scheduled event, the student must provide the instructor with documentation from a university faculty or staff member (i.e., written documentation on university letterhead signed by the faculty/staff member) **2 weeks prior to the exam**.

Exam Makeup Policy: Make-up exams will be given at the discretion of the instructor. Documentation will be required. Unexcused missed exams will result in a zero on the

exam (this includes contacting the instructor after the exam if you are ill). You are absolutely not permitted a make-up exam for personal travel/vacations, so please make your travel arrangements accordingly. If you have a serious emergency or life event, please contact the Dean of Students Office (www.dso.ufl.edu) and they will contact your instructor so that you do not have to provide documentation of the emergency/death in order to get a make-up exam.

Requirements for class attendance and make-up exams, assignments, and other work are consistent with the university policies that can be found at <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

Academic Honesty: UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (<https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with me as soon as possible.

Accommodations for students with disabilities

Students with disabilities requesting accommodations should first register with the DisabilityResource Center (352-392-8565, www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester

Online course evaluation process

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.

Additional Resources:

Health and Wellness

- U Matter, We Care: If you or a friend is in distress, please contact umatter@ufl.edu or 352 392- 1575 so that a team member can reach out to the student.
- Counseling and Wellness Center: <https://counseling.ufl.edu/>

- Sexual Assault Recovery Services (SARS) Student Health Care Center, 392-1161.
- University Police Department, 392-1111 (or 9-1-1 for emergencies).
<http://www.police.ufl.edu/>

Academic Resources

- E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learningsupport@ufl.edu. <https://lss.at.ufl.edu/help.shtml>.
- Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling. <http://www.crc.ufl.edu/>
- Library Support, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.
- Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. <http://teachingcenter.ufl.edu/>
- Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. <http://writing.ufl.edu/writing-studio/>
- Students Complaints: <http://distance.ufl.edu/student-complaint-process/>

TENTATIVE SCHEDULE

1. **Navigating labview**
2. **Creating your first application**
3. **Troubleshooting & debugging VIs**
4. **Using Loops**
5. **Creating and leveraging data structures**
6. **Using decision making structures**
7. **Modularity**
8. **Acquiring measurements from hardware**
9. **Accessing and creating files with labview**
10. **Using sequential and state machine programming**
11. **Final Project**
12. **Final project**

13. **Final project**
14. **Final project presentations**
15. **Final project presentations**