Frostburg State University
ENME351 – Electronics and Instrumentation
SPRING 2019 SYLLABUS

INSTRUCTOR INFORMATION:

Instructor:	Prof. Joseph Sharpe
Office Phone/Voicemail:	443-619-1884 Lab 443-619-1884
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Office Location:	Cecil College EMB 200
Office Hours:	Monday-Wednesday 5-6; other as needed

COURSE INFORMATION:

Class Meeting: Tues-Thurs 4-550 **Final Exam**:

Textbooks: Principles and Applications of Electrical Engineering, by Rizzoni & Kearns, 6th ed., McGraw-Hill 2016 (ISBN: 978-0073529592)

COURSE DESCRIPTION: Modern instrumentation. Basic circuit design, standard microelectronic circuits. Digital data acquisition and control. Signal conditioning. Instrumentation interfacing. Designing and testing of analog circuits. Laboratory experiments. Two hrs. lecture and two hrs. lab per week. 3 Credits.

PREREQUISITE: ENME350 and PHYS263

COURSE OBJECTIVES: Upon completion of this course, a student will be able to:

1. Follow written and oral instructions.
2. Draw and recognize electronic circuit symbols.
3. Use basic principles, including Ohm's Law, Kirchhoff's Laws, definitions of resistance, capacitance, and inductance to calculate DC and AC voltage, current, and power in circuits.
4. Find equivalent circuits and explain their significance.
5. Calculate frequency response and other circuit characteristics.
6. Use basic instruments, including multimeters, function generators, and oscilloscopes to make circuit measurements.
7. Build electronic circuits from circuit diagrams
8. Design and build electronics circuits to perform specific functions such as filtering, etc.
9. Communicate the results of calculations and measurements clearly using diagrams and language or electronics.

Course Webpage: Students will be expected to access our class webpage through the FSU Canvas site. Homework assignments (and special instructions), announcements, and copies of in-class handouts will be available on this website. Students needing assistance accessing this site are responsible for getting help from the instructor.

Attendance: Regularly attending class is one of the best ways to ensure your success in this course. **A**ttendance is defined as showing up on-time, staying awake and staying for the duration of the class meeting. Attendance will be taken at the beginning of each class meeting. Students are responsible for contacting the instructor for any missed assignments or handouts prior to the next class meeting. Copies of handouts will be available on the class website. Copies of lecture notes from missed days can be obtained from a classmate. Attendance is not graded, but missing class will affect our ability to make-up missed classwork and labs.

Reading: Each lesson topic will include reading assignments and other pre-class work, such as viewing of videos on the topic.

Homework: Keeping up with your homework assignments is another way to make it more likely you will be successful. Homework will consist of mostly of individual assignments throughout the semester. Most assignments will be completed outside of class. These assignments must be turned in AT THE

BEGINNING OF CLASS ON THE ASSIGNED DATE according to the announced deadlines. Students are expected to remain in class to work on assignments until the end of the class period. Students coming into class late must turn in their assignment **before** sitting down. **One** late homework will be accepted (up to one class period late). (You must indicate before the due date/time has passed that you intend to hand in the homework late.) **No other later homework will be graded or accepted without prior approval** of the instructor. Students missing class will need to make arrangements to turn in your assignment by the announced deadline. The lowest homework assignment grade will be dropped.

Labs: Most labs will include an assignment that will be due during the lab period, and a take-home portion. Some labs will require formal lab reports; the instructor will indicate which labs require formal reports and will provide a report format. Again, **attending lab regularly and at the scheduled time is a good way to increase your success in the course**. **If you are absent**, you must contact the instructor **prior to** missing the lab to arrange to make up the lab. **Lab make-ups will only be allowed up to one week following the missed lab** unless other prior arrangements have been made.

Tests: Closed Book/Closed Notes/Closed Neighbor Tests will be given during the semester and a final exam during exam week as announced in the attached course schedule. THERE WILL BE NO MAKE-UP TESTS. All tests must be taken on the assigned dates at the designated times – including the final exam. If a student is going to miss a test, arrangements must be made before the regularly scheduled test. Student must communicate with the instructor before the test via phone, email, or in-person.

Grading: The final grade breakdown will be as follows:

Exams 1, 2, and 3	**45 %**	**Homework:**	**15%**
Final Exam	**15 %**	**Labs/Lab Reports:**	**15%**
Quizzes	**10 %**		

Final Grade Determination: All grades will be recorded to the nearest 0.01 percent in the grade book. The final grade determination will be based on a final grade rounded to the nearest whole number. The final grades will be determined using the following table:

Grade Range	Reported Grade
90 – 100	A
80 – 89	B
70 – 79	C
60 – 69	D
Below 60	F

Inclement Weather/School Closing/Class Cancellation: For courses taught at Cecil College, college closures and delays will follow the Cecil Community College closures and delays. If the college closes for any reason, attendance is expected when the college reopens regardless of the amount of time remaining in class. Plan accordingly, leaving enough time to safely get to school. If class is completely cancelled, students are responsible for checking the course webpage to see what the plan will be for the next class meeting. Important information regarding revised homework deadlines, quiz, and/or test dates will be posted as an announcement on the main page.

Statement on Public Health: Your health and safety are important. Therefore, during every physical in-person meeting of this course, everyone is required to follow state, local, and University public health mandates as outlined in the FSU Social Compact. Everyone must wear a face mask that covers their nose and mouth, respect posted signage, and practice good social distancing by remaining at least 6 feet away from others. The Code of Student Conduct notes that following these health and safety protocols constitute complying "with a reasonable request from authorized University personnel in the performance of their official duties," and failing to do so is a Code of Student Conduct violation. Students who do not comply with these mandates will be asked to leave class. Students who refuse to leave will be referred to the Dean of Students and may be administratively removed from the class if found to be responsible for Code of Conduct violations.

Academic Integrity: Scholastic dishonesty of any form will not be tolerated. All assignments are to be your own work. Turning in assignments copied from any source constitutes plagiarism.

"Any" source includes but is not limited to:

- Other current or former students.
- Instructor's solution manuals (electronic or printed form, including previous and current editions) for any textbook. The textbook used for this course does not have a "student" solution manual.
- Pay-per-service websites (offering homework solutions).
- Work directly completed by a tutor.

Unless specifically allowed, students **may not share electronic files** of their work (such as lab reports) with other students.

You (the student) are responsible for the academic integrity of the work you submit. Actions for a single incident violating the Academic Integrity Policy may include: grade reduction for assignment, grade reduction for course, failing grade for course, and/or recommendation for dismissal from the college. If you have any question as to whether an action does or not does not comply with the College's Academic Integrity policy, please ask.

Accommodations for Students with Disabilities: Frostburg State University is an equal opportunity, affirmative action, Title IX, ADA Title 504 compliant institution. To request accommodation through the ADA Compliance Office call 301-687-4102 or Voice Relay Operator 800-735-2258.

If you have a letter of accommodation, please provide the instructor with a copy of it as soon as possible.

Email Policy: Emails are considered official business communication and should be treated as such. Whenever you need to contact your instructor by email, please follow the following guidelines to ensure a prompt response:

- Use your **Frostburg or AACC** email account (due to FERPA regulations).
- Do not leave the subject line blank. Include the course number and subject as well as a brief statement as to the reason for the email (i.e. ENME 351 – homework question, ENME 351 – class absence).
- Conclude email with your name.

Under normal circumstances, emails will be responded to within 24 hours.

Religious Obligations: Students requiring special accommodations due to religious observances need to contact the instructor during the first week of class to discuss any possible required arrangements.

Code of Conduct: It is the philosophy of the college that all students should adhere to the Student Conduct Policy, should come to class prepared to learn, and should demonstrate behavior conducive to learning at all times. Coming to class prepared to learn includes (but is not limited to) having all of the necessary supplies, arriving on time, staying the full time, and participating in the activities of the class. Failure to comply with the college and classroom policies may result in the student's removal from the course.

General Decorum: In order to maintain an atmosphere conducive to learning, students are reminded to maintain appropriate behavior. This includes but is not limited to: being on time to class, not leaving the room during class, being respectful of others during class, minimizing side conversations and other disruptions.

Cell Phone Policy: Cell phones must be OFF during class (unless prior permission is granted by the instructor). Cell phones should not be visible at any time during class nor should you have any reason to stare at your lap or under the table.

Food/Drinks: No food or drinks are allowed in any classroom or computer lab used during class time.

ENME 351 – SPRING 2016
TENTATIVE COURSE SCHEDULE

Date	Mtg #	TOPICS	Reading	Due
Tue 1/26	1	Review/ Diodes Part 1	Rizzoni 10.1-10.5	
Thr 1/28	2	Lab 01		
Tue 2/2	3	Diodes Part 2	Rizzoni 10.6-10.8	
Thr 2/4	4	Lab 02		
Tue 2/09	5	Bi-polar Junction Transistors	Rizzoni 13.1-13.5	Quiz 01 Homework 01
Thr 2/11	6	Lab 03		
Tue 2/16	7	BJTs Part 2	Rizzoni 13.6-13.9	Quiz 02 Homework 02
Thr 2/18	8	Review Day		
Tue 2/23	**9**	**Exam 1 – Lessons 1 – 8**		**None**
Thr 2/25	10	Lab 04		
Tue 3/2	11	Field Effect Transistors	Rizzoni 12.1-12.3	Quiz 03 Homework 03
Thr 3/4	12	Lab 05		
Tue 3/09	13	FETs Part 2	Rizzoni 12.4-12.7	Quiz 04
Thr 3/11	14	Review Day		
Tue 3/16	15	Amplifiers/ Op Amps Part 1	Rizzoni Chapter 11	Quiz 05 Homework 04
Thr 3/18	16	Lab 06		
Tue 3/23	17	Op Amps Part 2	Rizzoni 14.1-14.10	Quiz 06
Thr 3/25	18	Lab 07		
Tue 3/30	19	Review		Quiz 07 Homework 05
Thr 4/01	**20**	**Exam 2 – Lessons 10-19**		**None**
Tue 4/06	21	Digital Logic	Rizzoni 7.1-7.2	Quiz 08
Thr 4/08	**22**	Lab 08		
Tue 4/13	23	Digital Logic Circuits and Applications	Rizzoni 7.3-7.6	Quiz 09 Homework 06
Thr 4/15	24	Lab 09		
Tue 4/20	25	FPGAs	Supplemental Reading	Quiz 10 Homework 07
Thr 4/22	26	Review Day		
Tue 4/27	**27**	**Exam 3 – Lessons 21-26**		**None**
Thr 4/29	28	Review		
Tue 5/03	29	QnA	None	
Thurs 5/5		**Final Exam**		