

ECE 3810-400 Fields, Waves & Circuits -- Distance

Syllabus Summer 2024

Revision 0 (Updates expected)

Instructor:	Anthony Q. Martin	Course Info:	ECE 3810-400 FW&C
Class Time:	At your pace (Asynchronous)	Location:	Canvas @ Clemson.edu
Office/Phone:	333 Fluor Daniel EIB/656-1052	Office Hours:	Zoom, hours set email
email:	martina@g.clemson.edu	Web:	Canvas @ Clemson.edu
Text:	<i>Elements of Electromagnetics</i>	7th Edition:	by M. N. O. Sadiku
Zoom ID:	806 372 6363 (for office hrs)	Weekly Mts:	Zoom ID: 932 9959 0126 , pc: 3810S24
GA:	NA	Mode:	Asynchronous, except for tests/exams

Objectives: To introduce the student to time-varying electromagnetic phenomena such as wave propagation in various media, transmission and guided-wave systems, and propagation and radiation by way of antennas.

		PDF Lectures Files
Topics:	1. Time-varying EM (Chap. 9)	2.5
	2. Wave-propagation in Media (Chap. 10)	7.5
	3. Transmission Lines Analysis (Chap. 11)	9.0
	4. Waveguides (Chap. 12)	1.0
	4. Antennas & Arrays (Chap. 13)	4.0
	Total	24.0

Course & Grading Policy:

- This is the version of the syllabus that will be used during summer 2024.
- It is required that you have a laptop/computer with a working webcam, and a reliable internet connection, at the time of enrollment. You will be required to use the Respondus Lockdown Browser for all tests and exams. No allowances will be made for equipment failure or lack of said equipment. There is a **practice quiz** that you should take before any test or exam to test and debug your system. **Do it several times during this course.** Do not take this course if you do not have the proper functioning equipment. This is your warning. No exceptions whatsoever will be made for you if you choose to ignore this rule.
- In addition to the above, due to the method used in this course for testing (which is required), you must have a reliable internet connection. The exams and tests are given in **synchronized** mode, and if you are not available at the exact time of the testing periods, you will get a failing grade on the test, quiz, or final. No attempt at accommodation will be made at all. This course is asynchronous except during tests/ exams.
- **Send your formula sheet(s) to me at martina@g.clemson.edu, by 2pm the day of the exam. Failure to do so will result in a failing grade on the exam in question. All students **must** use a formula sheet on ***all*** exams. Your name must be on each page of your formula sheet.**
- Lectures are available in both PDF and as video files. Both will be available in your **Clemson Canvas** account.
- You need a “PDF” reader and a “wmv” player. Windows Media Player is suggested.
- There will be 2 tests, a project, and a final exam. These test/exams will be online (Canvas and Respondus Lockdown Browser). The project will be made available on Canvas and your project report will be uploaded to Canvas.
- There is a **practice quiz** designed for testing operation of the Respondus Lockdown browser on your computer while in this course. This quiz also serves to tell me that you are actively engaged in this course. This quiz will only contain one or two questions and will be very brief. Take the **practice quiz** before all tests/exams given in this course as an extra way to tell if your system can work with Respondus.
- Students are required to buy or rent the textbook. Copies of the book text (including homework problems) will not be provided.

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- All tests/exams will be in the multiple-choice format. Some combination of questions may be in a different answer format as Canvas allows for different types of questions beyond multiple-choice.
- Students **MUST** work **alone** on all exams or tests.
- Electronic communication devices not allowed during tests or exams. Any non-approved device used on a test/exam will be immediate grounds for a grade of F in this course. Note that your computer webcam is approved and required during all quizzes, tests, and exams. If you fail to have your webcam on, and in view of you and your surroundings during the event, then your grade is automatically a zero. Please note that this means you and your environment **will be recorded and stored in the cloud**. As far as I know, I am the only one who can view these recordings. I do not know what happens to them, however, or when they are deleted.
- A calculator is allowed during the tests/exams but it cannot be any kind of electronic communication device. Your calculator must be a single-function scientific/engineering calculation device (i.e., it cannot be a netbook, computer, smartphone, iPad, etc.). Your calculator must not be used as an information storage device from which you can retrieve additional information. Calculators are to be used strictly for calculations of the equations needed in the material covered in this course. Any other use is considered cheating and will result in a grade of F in the course. You will need to hold your calculator, formula sheets, and pencil, in front of your webcam at the start of an exam, test, or quiz. Failure to comply will be considered cheating.
- Practice problems will be assigned from the textbook and solutions given on Canvas. These will **not** be graded. Other problems are listed in the lecture notes and should be worked by all students.
- Test results **may** be curved based on overall class performance, but this is **unlikely**. At minimum, a 10-point scale will be used. $A > 90$, $80 \leq B \leq 89$, $70 \leq C \leq 79$, $60 \leq D \leq 69$, $F \leq 59$.
- Students may bring one 8.5 x 11-inch sheet of paper with equations on **one side** to the first test, 1 sheet with equations on **two sides** to the second test, and 2 sheets of paper with equations on **3 sides** for the final exam. You will need to hold your formula sheets in front of your webcam at the start of an exam, test, or quiz. Failure to comply will be considered cheating. **Send your formula sheet(s) to martina@g.clemson.edu before 2pm the day of the exam. Failure to do so will result in a failing grade on the exam in question. Again, all students **must** use formula sheet(s) on ***all*** exams.**
- Due to the Canvas testing, students are allowed to bring loose sheets of paper (notebooks not allowed) for the only purpose of writing out their solutions to the problems seen on their laptop/computer screen. Notes and textbooks are not allowed and there will be monitoring using the Respondus video capture. Non-working or poorly placed webcams will be considered cheating and grounds for a failing grade in this course.
- The **formula** sheet(s) may contain **only formulas** — no **definitions, derivations, images, solutions, worked examples, homework problems, or more than three-word phrases may be included**. Formulas may be **labeled** but labels **cannot contain more than three words** (i.e., “**three-word phrase**”). **A formula may contain no more than three (3) equal signs**. Beware that “strings of formulas” (multiple formulas grouped together or listed one after another on a similar topic) may form a derivation or a solution if they progress to a result of some kind. You are not to duplicate sections of my notes or a textbook on your formula sheet. The formulas sheets should be built over the span of the course, so your first formula sheet can be used again for test 2, and the first two can be used again for the final exam.
- Students found in violation of formula sheet rules are subject to a deduction of one question worth of credit, for each violation, from the score of the test/exam for which the violation (s) is/are found. Random checks

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will be made, and deductions can occur at any point during the course even if the violation existed prior to the exam in question.

- **All students are expected to use the allowed formula sheets. Thus, if you do not bring a formula sheet(s) with your name (blank ones are required if you think you don't need one) on it then I reserve the right to assign the grade of zero to you on the test/exam in question.**
- Your overall grade will be based on the following weighting:

2 Tests	60 %
Design Project (one)	10 %
Final	30 %

If you fail to take one of the two tests, then your final exam will be used in lieu of the missed exam (if you are excused by the instructor). You must take at least one of the tests and final exam to receive a passing grade in this course. Note that the final exam **DOES** replace the lower test grade, if higher, provided you make a reasonable attempt to pass the all test (your score is greater than 30%, you cannot just elect to take a zero and rely on your final exam to replace this zero). Your final exam grade will not be used twice in the calculation of your final average (i.e., if you miss an exam and it is replaced with your final exam score, then your final exam grade will NOT replace your lower test score).

- Typically, a test will have 15 to 35 questions with 5 to 8 possible answers, including “*none of the above*” or “*none of the others*”.
- **Course Start Date: Wednesday, June 27, 2024.**
- **Clemson Holiday: Thursday, July 4, 2024**
- **Design Project Due Date/Time: Monday, July 29, 2024, by 9pm EDT.**
- **Final Exam: Friday, Aug 2, 2024**

Office Hours: All office hours will be conducted using Zoom (Zoom ID: 806-372-6363). Make an appointment with me via email first.

Cell-phones have high-resolution cameras these days. Send me a pic of your math on a problem to look at as we talk on Zoom (this is extremely helpful and will speed up your getting assistance from me).

Weekly Zoom Meetings: Held Wednesdays, 3:30pm at **Zoom ID: 932 9959 0126, Passcode: 3810S24.** Attendance is optional. **Dates are: 7/10/24, 7/24/24, 7/31/24.** I will wait 10 minutes for students to arrive in the Zoom meetings. So, after 3:40pm, if no one is present, I will end the Zoom meeting. If students run out of questions, the Zoom meeting will end. Otherwise, a duration of an hour to an hour and a half is expected.

Exam Administration: All testing will be done over the Clemson website using Canvas and the Respondus Lockdown browser. The testing will be “synchronized,” meaning that all students in this course will take the tests/exams at the exact same time, regardless of physical location. Any student that is not within a three-hour time zone of Clemson, SC (use timeanddate.com to determine this) is **NOT** to enroll in this course and zero accommodation will be made to allow you to take the exams. You must have a laptop/computer with a working webcam. If it should stop working during this course, you are totally on your own and no accommodation will be made on your behalf. Please take this warning seriously.

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***** If you cannot meet these requirements, you should drop this course immediately as it is not compatible with you. Clemson University has a very short period in which you can drop a course and receive a 100% refund of your tuition. DO NOT DELAY. No exceptions will be made for any reason. *****

Clemson Canvas and Email Rule: As this is a **distance** course with no class attendance, it is vitally important that students receive and respond to notifications in a timely fashion (the course is only five weeks in duration, so things happen very quickly). Two forms of notification are used in this course: (1) Canvas, and (2) email. Clemson provides each student access to the Canvas course management system and an email account. Many course notifications are sent through Canvas and these go through the provided email account for each student. Thus, students taking this course are required to check this email account regularly and routinely for timely information. I suggest checking your Clemson/Canvas email at least twice a day including weekends. If you miss information due to not checking your email then you must endure the consequences of that result. Deadlines will not be extended because you failed to check your email account. Other information will be provided in the Modules section of your Canvas and this is where PDF and video files covering course material can be found. These areas should be checked frequently while enrolled in ECE 3810. Note: I am not technical support personnel, and I am not here to help you with the Clemson website, Canvas, or registration. Also, I cannot help you figure out Clemson's email system or anything else of that nature.

This course starts on **Wednesday, June 27, 2024** and you are expected to login, download, and read the syllabus and be aware of the rules and policies of this course by that date. It does not matter if you are currently enrolled at another school or if you are on travel/vacation. Note: I do try to make this Canvas page for this course available at least two (2) weeks before the official start of this course.

Attendance: As the course is a distance course (students are required to be within 3 time-zones of Clemson, SC, USA), there are no attendance requirements except during tests, quizzes, and the final exam when you must be available. It is strongly suggested that students pay strict attention to the suggested study pace given in the **supplemental information file** found on your Canvas. See below.

Academic Integrity: Anyone caught in an act of academic dishonesty (cheating) will be penalized to the maximum extent allowed by Clemson University Academic Regulations. The full academic integrity statement is included as a PDF file on your Canvas. **As this is a distance course, special consideration is given to electronic communication devices. Students taking proctored (Lockdown Browser) exams off campus are NOT allowed to have them on their persons during the tests or final exam. Failure to conform will result in a failing grade in this course.**

Disability Access: It is University policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have disabilities. Students are encouraged to contact Student Disability Services to discuss their individual needs for accommodation, obtain a letter if appropriate, and then to discuss those needs with the instructor. To be granted stated accommodation, the student must notify the instructor no later than three business days after the official start of the summer session in which this course is offered.

Missed Tests: Due to the short duration of the summer session, no student may miss a test or a quiz, if given. No changes in test/quiz dates or times are allowed. Also, all students must take at least one test and the final exam to pass this course. If you miss one day for any reason deemed valid by the instructor, your final exam grade will be used in lieu of your missed test, but it will NOT be used again to replace your lower test score.

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Supplemental Information File: A PDF file is on your Canvas that contains certain supplemental technical information that you may find handy during this course. There is also a file containing important formulas used throughout this course.

Syllabus updates: This syllabus may be updated at any time during the term. After the summer session starts, any updates will be minor and will likely be simple corrections.

Test Dates: 2024 Test dates, times and on-campus test locations are subject to change, but this is unlikely.
Practice Quiz: June 27 to Aug 2, 2024. Available anytime, take this before every exam to test your system.
Test 1: Thur., July 11, 2024. Location & Time: Canvas & Respondus Lockdown, 2:30 pm to 4:00 pm (EDT).
Test 2: Thur., July 25, 2024. Location & Time: Canvas & Respondus Lockdown, 2:30 pm to 4:00 pm (EDT).
Project report due date: Monday, July 29, 2024, by 9PM (EDT).
Final Exam: Friday, Aug 2, 2024. Location & Time: Canvas & Respondus Lockdown, **2:00p to 4:30p** (EDT).

All students should take note of these dates, times, and locations and arrange your schedule to be available to take the tests/final. All students should send me an email with the date and time of your final exams at Clemson. Please do this by 5pm on Friday, July 5, 2024.

Title IX Statement

Clemson University is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race, color, religion, sex, sexual orientation, gender, pregnancy, national origin, age, disability, veteran's status, genetic information or protected activity (e.g., opposition to prohibited discrimination or participation in any complaint process, etc.) in employment, educational programs and activities, admissions and financial aid. This includes a prohibition against sexual harassment and sexual violence as mandated by Title IX of the Education Amendments of 1972. This policy is located at <http://www.clemson.edu/campus-life/campus-services/access/title-ix/>. Mr. Jerry Knighton is the Clemson University Title IX Coordinator. He also is the Director of Access and Equity. His office is located at 111 Holtzendorff Hall, 864.656.3181 (voice) or 864.565.0899 (TDD).