

## EE1305 - Intro to Elect/Comp Engineering

### Fall 2020 Syllabus

**Instructor: Annatoma Arif**

**EE1305**

**Email: aarif@miners.utep.edu**

**CRN 11606: Virtual through**

**Office Hours: Virtual through  
Blackboard (Friday- 3:00 pm to 7:00  
pm or by appointment)**

**Blackboard (Tuesday- 1:30 pm to  
2:50 pm and Thursday- 1:30 pm to  
2:50 pm)**

**CRN 18588: Virtual through  
Blackboard (Monday- 3:00 pm to  
4:20 pm and Wednesday- 3:00 pm to  
4:20 pm)**

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**Lecture Course Description (EE1305):** In this course students will learn foundational concepts of analog and digital circuits, as well as how to use electronic components to build and design circuits for a variety sensor types and applications. Through hands-on activities, the course will emphasize (1) mathematical and systems concepts that form the basis for electrical engineering, (2) an introduction to circuit components, voltage and current concepts, (3) sinusoidal signal characteristics, basic filter responses and bandwidth concepts, and (4) that engineering is amazing.

**Co-requisite for Course:** EE1105 **Pre-requisites for Course:** MATH 1411 with a grade of "C" or better, may be taken concurrently with EE 1305.

**Course Structure:** This course is going to be conducted entirely online. This means you are not required to be on campus to complete any portion of it. You will participate in the course using UTEP's online learning management system called "**Blackboard** (<http://blackboardlearn.utep.edu>)". You can directly go to the link <https://us.bbcollab.com/guest/cb5996a3f0744ffe92d7094000ce0d86> to access the online lecture sessions as well as office hours on every Tuesday and Thursday.

**Course Website:** Additionally, a course website is available that will include the syllabus, class schedule, PowerPoint lectures, and other resources (syllabus/schedule, homework list, required lab supplies, report resources, soldering videos, and other resources). The course website also includes instructor and TA contact information.

<http://www.ece.utep.edu/courses/web1305/EE1305/>

### Learning Outcomes:

1. Become proficient fundamental circuit analysis concepts including Ohm's law, power, KVL, KCL, and the voltage divider techniques.
2. Be introduced to resistors, capacitors, and operation amplifiers (ideal model)
3. Gain an understanding of low pass, high pass and band pass filters, both passive and active.
4. Learn bode plots in order to characterize filters and predict signal response.
5. Use complex impedance to model and analyze Op-Amp circuits.

### Course Requirements

**Textbook:** None. All course material for the lecture is included on the course website. Lecture power point slides are available that provide a comprehensive resource for learning fundamental circuit theory with plenty of examples and links to educational videos. Additional circuit theory resources are also provided. <http://www.ece.utep.edu/courses/web1305/EE1305/>

**Computer Requirements:** If you do not have access to a computer off campus, there are many [computer labs on campus](#) you can use to participate in the course or contact with UTEP Technology Support Help Desk at <http://helpdesk.utep.edu> to collect laptop (if available). For individuals who do not have internet access at their remote location, UTEP Technology Support System has a **limited** number of mobile hotspots available for checkout. With consideration to this, you are required to submit an online application [here](#).

In addition, many cell phone providers include a mobile "HotSpot" Internet service as part of their cellular subscriptions. Instructions for enabling your smartphone's "HotSpot" can be found in [Learning Remotely](#) website, under the "Mobile HotSpot" section. For any questions, please contact the Technology Support Help Desk at <http://helpdesk.utep.edu>.

### Course Communication

Announcements will be posted in **Blackboard** on a regular basis. They will appear on your Blackboard dashboard when you log in and/or will be sent to you directly through your [UTEP email ID](#). Please make sure to check them regularly, as they will contain important information about upcoming assignments or class problems. In online courses it is normal to have many questions about things those relate to the course, such as clarification about assignments, course materials, or assessments. Please feel free to email me whenever you have specific queries or concerns.

### Teaching Assistants:

The teaching assistants will deliver the labs and lab lectures as well as provide support in answering your questions on lecture materials. The TA's in charge of the lab and their contact information is on the course website:

<http://www.ece.utep.edu/courses/web1305/EE1305/>

**Attendance:** In order to be successful in the course, attendance in the lab and lecture session is highly recommended every day. In case of absence, the student is responsible for obtaining notes, handouts, and assignments and will be required to meet the same deadlines as the rest of the class. If you do have an emergency, please notify me as soon as possible. Emergencies happen, unexpected situations arise, and you should use common sense and safe precautions when trying to access online lecture sessions and/or lab sessions.

**Course Grade:** Your grade for EE1305 will consist of the following components.

Workshop Problem Sets (Team): 25%

Homework (Individual): 25%

Quizzes – 25%

Exam – 25%

**Grading Scale:**

90 to 100=A

80 to 89=B

70 to 79=C

60 to 69=D

0 to 59=F

Type of Exam And Date	Submission Criterion	Conducting Medium	Maximum Points (For each exam)	Instructions
Workshop Problems (TBA)	One submission per team	Online (Blackboard)	50	<ul style="list-style-type: none"> <li>• Please read the questions carefully</li> <li>• Calculate accurately (Avoid any computational error)</li> <li>• Provide specific answers for each question</li> <li>• Avoid multiple attempts (only two attempts will be available)</li> <li>• Submit your work within specific</li> </ul>
Homework (TBA)	Individual Submission	Online (Blackboard)	50	
Quizzes (TBA)	Individual Submission	Online (Blackboard)	50	
<b>Final Exam</b> <b>Thursday,</b> <b>December 10<sup>th</sup></b>	Individual Submission	Online (Blackboard)	200	

1:00 pm to 3:45 pm				time/deadline to be considered for grading <ul style="list-style-type: none"> <li>• Open book/notes exam</li> </ul>
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**Teams:** Students will be placed into teams during the first 2 weeks of class. Student teams will typically consist of 3 to 4 students per team and students will be on the same team in the lab and lecture. Students are asked to work as a team for the workshop problems. During these assignments, students are still individually accountable for their own work, and should NOT copy from another student's paper. All labs modules are individual assignments. Students should **NOT** complete work for other students or **COPY** work from other students, but they are encouraged to share their knowledge to help others understand challenging concepts. **All data and content submitted in all student lab reports should be individual and reflect their individual lab results.**

**Course Drop Deadline:** October 30<sup>th</sup>

**Drop Policy:** Students can drop the course before October 30<sup>th</sup> with a grade of "W". Students who drop the course after October 30<sup>th</sup> will be assigned the grade earned in the course.

**Scholastic Integrity:** As an entity of The University of Texas at El Paso, the Department of Electrical and Computer Engineering is committed to the development of its students and to the promotion of personal integrity and self-responsibility. The assumption that a student's work is a fair representation of the student's ability to perform forms the basis for departmental and institutional quality. **All students within the Department are expected to observe appropriate standards of conduct. Acts of scholastic dishonesty such as cheating, plagiarism, collusion, the submission for credit of any work or material that are attributable in the whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student, or the attempt to commit such acts will not be tolerated. Any case involving academic dishonesty will be referred to the Engineering Dean's Office and the Office of the Dean of Students.** The Dean of Students will assign a Student Judicial Affairs Coordinator who will investigate the charge and alert the student as to its disposition. Consequences of academic dishonesty may be as severe as dismissal from the University. See the Office of the Dean of Students' home page at [www.utep.edu/dos/acadintg.htm](http://www.utep.edu/dos/acadintg.htm) for more information.

**Policy relating to Disability / CASS:** In Section 504 of the Vocational Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990, if a student needs an accommodation then the Office of Disabled Student Services located at UTEP need to be contacted. If you have a condition, which may affect your ability to perform successfully in this course, you are encouraged to discuss this in confidence with the instructor and/or the director of the Disabled Student Services. Written guidelines r/t accommodations from CASS must be submitted to the course manager PRIOR to the start of the course. If you have a disability and need classroom

accommodations, please contact CASS at 747-5148, or by email to [cass@utep.edu](mailto:cass@utep.edu), or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at [www.sa.utep.edu/cass](http://www.sa.utep.edu/cass). *CASS' Staff are the only individuals who can validate and if need be, authorize accommodations for students with disabilities.*

## EE1105: Lab for Intro to Elect/Comp Engineering

### Fall 2020 Syllabus

**Instructor: Dr. Robert C. Roberts**

**EE1105: Virtual through Blackboard**

**Email: rcroberts@utep.edu**

**CRN 11471 – Monday 1030-1320**

**CRN 12509 – Wednesday 1030-1320**

**CRN 19639 – Tuesday 730-1020**

**CRN 16648 – Thursday 1030-1320**

**Laboratory Course Description (EE1105):** Introduction to Electrical Engineering laboratory procedures, causes, and correction of errors in measurements theory of operation and usage of basic Electrical Engineering test instruments, data collection, and report writing. **Co-requisite:** EE 1305.

**Course Structure:** This course is going to be conducted entirely online. This means you are not required to be on campus to complete any portion of it. You will participate in the course using UTEP's online learning management system called "**Blackboard** (<http://blackboardlearn.utep.edu>)". You will be mailed all the required equipment (resistors and capacitors). You are supposed to use virtual signal (given), resistors and capacitors (to build the circuits), analog discovery through waveforms (software) to supply voltage and/or observe input/output, and MATLAB (to analyze data) to conduct the lab modules. You can directly go to the following links to access the online lab sessions. Each person needs to attend one lab session for each module/per week.

Monday:

<https://us.bbcollab.com/guest/84bd25550e4d416d95cecc7d5a92f284>

Tuesday:

<https://us.bbcollab.com/guest/7218c6bd6758475c9561323af5e2c42a>

Wednesday:

<https://us.bbcollab.com/guest/5b63bdb127964e1b8f5a03e98881f276>

Thursday:

<https://us.bbcollab.com/guest/e189f2bc93194e229906b465ad85119d>

## Course Requirements

**Course Website:** Additionally, a course website is available that will include the syllabus, class schedule, PowerPoint lectures, and other resources (syllabus/schedule, homework list, required lab supplies, report resources, soldering videos, and other resources). The course website also includes instructor and TA contact information.

<http://www.ece.utep.edu/courses/web1305/EE1305/>

### Learning Outcomes:

1. Become familiar with the Analog Discovery device (oscilloscope and waveform functions).
2. Use MATLAB to model experimental data.
3. Analyze Simple Circuits using KVL, KCL and voltage divider methods.
4. Build circuits using passive and active components. Build and analyze signals through circuits with low pass, high pass and band pass filters.
5. Use Bode Plots to characterize filters and predict signal response.
6. Build circuits using sensor inputs to create a measureable output.
7. Use complex impedance to model and analyze Op-Amp circuits.

**Textbook:** None. All course material for the lecture is included on the course website. Lecture power point slides are available that provide a comprehensive resource for learning fundamental circuit theory with plenty of examples and links to educational videos. Additional circuit theory resources are also provided. <http://www.ece.utep.edu/courses/web1305/EE1305/>

**Computer Requirements:** If you do not have access to a computer off campus, there are many [computer labs on campus](#) you can use to participate in the course or contact with UTEP Technology Support Help Desk at <http://helpdesk.utep.edu> to collect laptop (if available). For individuals who do not have internet access at their remote location, UTEP Technology Support System has a **limited** number of mobile hotspots available for checkout. With consideration to this, you are required to submit an online application [here](#).

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## Course Communication

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**Teaching Assistants:**

The teaching assistants will deliver the labs and lab lectures. The TA's in charge of the lab and their contact information is on the course website:

<http://www.ece.utep.edu/courses/web1305/EE1305/>

**Course Grade:** Your grade for EE1105 will consist of the following components:

First 8 Lab Modules/Reports: 80% (10% for each lab/report)

Final Lab Module & Lab Report: 20%

**Grading Scale:**

90 to 100=A

80 to 89=B

70 to 79=C

60 to 69=D

0 to 59=F

**Attendance:** In order to be successful in the course, attendance in the lab sessions is highly recommended for each module. In case of absence, the student is responsible for obtaining notes, handouts, and assignments and will be required to meet the same deadlines as the rest of the class. If you do have an emergency, please notify me or TAs as soon as possible. Emergencies happen, unexpected situations arise, and you should use common sense and safe precautions when trying to access online lecture sessions and/or lab sessions.

**Modules and Checklists:** There are two components to the lab report grade. The first component consists of a module checklist form and the second component consists of the complete worksheet.

**Modules** are worth 100% of the course grade and each lab report is worth 100 points, with the exception of the final lab which is worth 200 points. Students are usually given one week to complete each written lab report (unless indicated otherwise on the schedule) and lab reports are due at the beginning of the lab. A lab report template and rubric are provided on the course website to help students understand the lab report requirements.

The last lab of the course will ask students to write up a more formal lab report format than other labs, giving 2 weeks to complete (and worth more points). An example and rubric will be located on the website.

**Lab reports are typically due at the beginning of your scheduled lab period on Blackboard. You should submit the online version (pdf/jpg/docx) of your worksheet/lab report at specific folder of each module before deadline in order to be considered for grading without any point deduction.**



**Late lab reports lose 10% in value for every 24 hours late submission unless arrangements are made with the instructor/TA prior to the deadline.**

**Teams:** Students will be placed into teams during the first 2 weeks of class. Student teams will typically consist of 3 to 4 students per team and students will be on the same team in the lab and lecture. Students are asked to work on an assignment as a team in the lecture. During these assignments, students are still individually accountable for their own work, and should NOT copy from another student's paper. All labs modules are individual assignments. Students should **NOT** complete work for other students or **COPY** work from other students, but they are encouraged to share their knowledge to help others understand challenging concepts. **All data and content submitted in all student lab reports should be individual and reflect their individual lab results.**

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website at [www.sa.utep.edu/cass](http://www.sa.utep.edu/cass). *CASS' Staff are the only individuals who can validate and if need be, authorize accommodations for students with disabilities.*

# UTEP ECE DEPARTMENT SYLLABUS ADDENDUM

## Course models

Most ECE courses will follow either **fully-online** or **hybrid** models. Hybrid models will provide a virtual off-campus component and an in-person on-campus component. To follow social distancing guidelines on campus, faculty will arrange staggered attendance schedules. Laboratory classes will be offered online and/or in-person, in small groups and in spaces adequate to health and safety guidelines. For additional details, read the syllabus and consult your professor.

The ECE Department recognizes that students with health conditions or international students facing travel restrictions may encounter difficult situations. Virtual classes may be recorded to offer needed study flexibility and to allow students to review course material if it's helpful.

## Required COVID-19 Training

Before the semester starts, the ECE Department requires all its students to complete a training module, which includes a video developed in large part by students and hosted by the President of the Student Government Association. Follow the link to this module:

<https://covidstraining.questionpro.com/>

## Before you come to campus

Before coming to campus all ECE students should conduct a **daily self-screening** to ensure that they are symptom-free before coming to campus. The screening includes taking your temperature and assessing for the following symptoms:

- Fever or chills
- Cough
- Shortness of breath or difficulty breathing
- Fatigue
- Muscle or body aches
- Headache
- New loss of taste or smell
- Sore throat
- Congestion or runny nose
- Nausea or vomiting
- Diarrhea



Source: <https://www.cdc.gov/coronavirus/2019-ncov/downloads/COVID19-symptoms-24x36-en.pdf>

If you have any of these symptoms, you must **stay at home**, seek medical attention, and report to your professor. If you show any of the following signs, **seek emergency medical care immediately**:

- Trouble breathing
- Persistent pain or pressure in the chest
- New confusion
- Inability to wake or stay awake
- Bluish lips or face

In addition, everyone **MUST** complete a COVID-19 screening before coming to campus. The link for reporting is

<https://screening.utep.edu>

This screening includes three required questions:

- In the last 5 days have you (or someone you live with) experienced any one of the COVID-19 symptoms above?
- If you have been tested for COVID-19 in the past 2 weeks, was the result positive?
- In the last 2 weeks, have you spent 15 minutes or more within 6 feet of anybody that you know has tested positive for COVID-19?

Before coming to campus, wash your hands, and pack a hand sanitizer bottle and a clean face mask.



### Prevent Getting Sick from COVID-19

The best way to prevent illness is to avoid being exposed to this virus.



### Masks

Wear a mask to help protect others in case you're infected but don't have symptoms.



### Social Distancing

Limiting face-to-face contact with others is the best way to reduce the spread of COVID-19.

Source: <https://www.cdc.gov/>

## While on campus

UTEP is now requiring that *everyone* on the campus wear a CDC-approved face covering over the mouth and nose in all public spaces. This requirement includes classrooms, building entrances and exits, lobbies and lounges, as well as in hallways, stairwells, restrooms and elevators. UTEP will maintain and adjust its face-covering requirement as the pandemic evolves.

While on campus, ECE faculty will wear a face mask when giving in-person instruction. Likewise, students on campus will wear face masks in classrooms and laboratories and maintain social distancing (6 feet). Anyone refusing to face covering or to social distance themselves will be asked to leave the premises. Any escalation situations will be considered a public disruption and may require actions such as calling the UTEP campus police department and reporting the case to the Chair of the ECE Department and the Office of Student Conduct and Conflict Resolution (OSCCR).

One of the most effective ways of avoiding catching the corona virus, flu, or common cold is to wash your hands thoroughly after touching surfaces in common areas of places with high traffic. If this is not possible, use hand sanitizer as often as needed.

## COVID-19 Testing on Campus

UTEP will test for COVID-19 in the fall. This will help us to rapidly identify individuals who have COVID-19 and do not have symptoms so they can isolate and avoid spreading it to others. The testing will focus on faculty, staff, and students who are on campus. Help us stop the spread of the corona virus and agree to participate in this voluntary testing program. Get tested when invited for testing at one of several on-campus locations.

## Resources

UTEP Return to Campus Presentation [https://www.utep.edu/resuming-campus-operations/\\_Files/docs/COVID\\_Return\\_to\\_Campus\\_Safety\\_Training\\_8-7-20.pdf](https://www.utep.edu/resuming-campus-operations/_Files/docs/COVID_Return_to_Campus_Safety_Training_8-7-20.pdf)

UTEP Counseling and Psychological Services: 747-5302 or [CAPS@utep.edu](mailto:CAPS@utep.edu)

UTEP Student Health and Wellness Center: <https://www.utep.edu/chs/shc/>

UTEP COVID-19 website: <https://www.utep.edu/ehs/COVID-19/>

[El Paso Strong statistics website: http://epstrong.org/](http://epstrong.org/)

[El Paso COVID 19 information website: https://www.epcovid19.org/](https://www.epcovid19.org/)

[Ciudad Juarez COVID-19 resources website: https://www.juarezcovid19.com/](https://www.juarezcovid19.com/)

[US Centers for Disease Control and Prevention website: https://www.cdc.gov/](https://www.cdc.gov/)

**Acknowledgement:**

I acknowledge that I have received the syllabus for EE 1305 (11606,18588) and EE1105 (11471, 12509, 16648, and 19639) for the Fall 2020 semester, and that I understand all attendance, competency, and assignment requirements.

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**Print Name**

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**Student Signature**

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**Date**