Springfield Technical Community College
School of Science, Technology, Engineering & Math
Department of Electrical Engineering Technology
Course Syllabus

Course: EET-255 Advanced Topics in E.E.T./Automation   **Date:** Spring 2022
Instructor: Rick Jagodowski   **Credits:** 3
Class Meeting Day/Time: Tuesday, 8:30AM – 9:20AM   **Location:** Bldg. 20. Rm. M118

NOTE: For Spring 2022 semester, please see the Addendum at the end of this syllabus for some items in this syllabus.

Office Hours:
Prof. Rick Jagodowski: Bldg. 20 Rm. M120. X-4594   E-mail: Jagodowski@stcc.edu
Hours are posted on the door. Other hours by appointment.

1. Catalog Description: Advanced Topics in E.E.T.
This course will present the Electrical Engineering Technology student advanced topics relevant to their major. Topics will include Quality Initiatives, Lean, 5S, Six Sigma, Grantt Charts, project scheduling using MS Project, technical applications of Excel, dealing with EMI, battery & charging technology for portable devices, Microsoft Visio for technical drawings, Industrial networking protocols, cabling, data acquisition, SCADA and manipulating csv files. The course will also include topics which are news worthy and relevant to the major. This course will be delivered in a hybrid format which will require class room participation and internet research. **Three lecture hours.**

PREREQUISITE: MAT-125, ENG-101, EET-200, EET-210, EET-240 or permission of instructor.
CO-REQUISITE: EET-265 or permission of instructor.

2. Course Content *(See Addendum for possible changes.)*
The course will present topics which are on the fore-front of technology and not addressed in other E.E.T. courses. Topics may also be selected to help support challenges which arise in the EET-265 Advanced Manufacturing Project. *This class is delivered in a hybrid face-to-face/online format*. The majority of the course content is posted on the CSET Forums at cset.stcc.edu/forums. Blackboard will be used in a limited capacity as needed.

3. Student Learning Outcomes (SLO's)
Upon successful completion of this course, students will be able to:
- apply the basic steps of problem solving.
- read and create PERT-CPM and Gantt charts for scheduling
- create simple schedules using available scheduling software (MSProject, jxProject or similar).
- use technical documentation software (MSWord, MSExcel, MSVisio).
- perform research necessary for project planning.
- understand the tenets of Six Sigma and Lean manufacturing.
- understand the necessity for quality in a modern production environment.
- apply a systems-level view of complex systems for trouble-shooting purposes.
- diagnose and repair basic sensor networks & network communications.
- communicate technical information with others using industry standard techniques.

4. Grading & Performance Policy *(See Addendum for possible changes.)*

* Attendance: Attendance is mandatory. This course is delivered in a hybrid-format. There is one hour of scheduled lecture with two hours of on-line assigned work. It is expected that students will do the required preparation assignment before each lecture class. Students absent from more than 3 classes may be removed from the class at the professor's discretion. It is the student's responsibility to make arrangements to make up any missed work. Missed work may only be made up if the professor allows. The schedule for any make up work will be at the instructor's discretion. If the student knows

in advance he or she may not be in lecture it is the student's responsibility to notify the professor in advance.   Attendance will be taken at each lecture & lab session. (A) field trip(s) might be required during this semester and you are expected to attend and follow the rules set forth for attendance.

* Professional behavior: Students are expected to act in a professional and mature manner at all times. Improper behavior will result in a reduced grade and if not corrected may result in removal from the course.   The grade may be reduced due to being late to the class, "fooling around", improper language, being a disruption to the educational process, having conversations during lecture, or similar violations of the course rules. This applies to activity any time you are on STCC property or representing STCC or the E.E.T. Department.

* Policy on course disruptions: Students are expected to act in a respectful and mature manner. Course disruptions, loud or disruptive behavior, intimidation, violation of the policies and procedures set down in the STCC Student Handbook, or similar problems will result in the student being removed from the lab or lecture.

Be sure to turn off all cell phones or other electronic devices before entering the lecture or lab. In many cases the professors allow cell phones during lab but not while lectures are in process. Talking or causing disruptions while lecture is in process is also considered disruptive. At the professor's discretion he or she may attempt to correct the student's behavior or remove the student from the class.

The following is the STCC Code of Conduct from :https://catalog.stcc.edu:

"*Springfield Technical Community College recognizes that all students, as members of the college community, enjoy the freedom of speech and assembly, freedom of association, freedom of the press, right of petition and the right of due process. These rights do not come without responsibilities and respect for others in the College community. Attendance at the College is a privilege and not a right, and enrollment carries with it obligations in regard to conduct, both in and out of class. Students are responsible for knowing and understanding the contents of this Code. Students are responsible for abiding by the laws governing the College and are expected to observe standards of conduct set by the College.*"

* Due Dates: Late work is depreciated by 25% every week or part of a week it is late. Solutions to the homework and labs may be distributed. Once the solution is distributed no further homework will be accepted. It is the student's responsibility to be aware of all work assigned and the due dates.

*Quizzes & Exams: Quizzes will be given frequently, approximately one per week. They will be based upon homework and lab work assignments. There are no make-ups allowed for missed quizzes, however the 2 lowest quiz grades will be dropped at the end of the semester. There will be 2 exams given. One around the mid-semester break and the comprehensive Final Exam. During exams and quizzes we do not allow the use of cell phones or any device with wireless, infrared or similar communications capability.

* Quality: Submission of poor quality work will not be accepted. Submissions which do not meet minimum documentation standards set forth in class, are incoherent, or are illegible will be returned [not graded] to the student. These cases are treated as if no work was submitted.

* Academic Honesty: All students are assumed to do their own work. Using other's work is permitted, under some circumstances, with proper credit to the original author(s). Academic dishonesty of any manner is not tolerated. In the event it is discovered by the professor ALL PARTIES INVOLVED receive a grade of "F" [0.0]. No distinction is made between those "cheating" and those being "cheated from". If a student believes his/her work is being borrowed without consent it is her/his responsibility to report the incident. This is the only means to escape the consequences. All incidents are examined on a case-by-case basis by the professor whose decision is final.

Grade Evaluation:

Attendance & Professionalism	**20%**
Homework	**10%**
Projects	**30%**
Exams (2)	**40%**

5. Class Organization: The course is a lecture format with the topics reinforced through homework and project assignments. The instructor will use a variety of techniques to help present and demonstrate the concepts and theories discussed in the lecture.

6. Text and Equipment requirements:
There is no text book for this course. Course materials will be presented via web links and pdfs posted on the Forums at *cset.stcc.edu/forums*. There is a special area created for EET-255. See below.

Internet Access: It is expected that each student have internet access to do supplemental research outside of the classroom. Links to these sites will be posted on the *STCC Electronics Group Forums*. If you have access at home then you may do such research at home. Otherwise it is expected that you do the research where ever necessary. The Student Success Center also has computers available for student use.

Forums: The Electronics Group of STCC maintains Forums at *cset.stcc.edu/forums*. Every student in the class will be required to create an account to access and post on these forums. These accounts will be created within the first couple of weeks of classes. You will also be expected to use your STCC student e-mail account.

Supplemental Text & Materials:
The instructor will supply web links and pdf files for supplemental information via the Forums at *cset.stcc.edu/forums*. Students must have a USB "flash drive" to save the files for the electronic documentation and to keep their work backed up.

7. Office Hours
See the front page of the syllabus.

8. STCC Course Schedule* *(See Addendum for changes.)*

Week	Topic
1	Syllabus, Policies & Overview of the course, LEAN & Six Sigma
2	LEAN, Six Sigma, 5S & 6S.
3	Scheduling, Gant Charts, Pert-CPM charts, MSProject
4	Problem solving.
5	MSExcel & MSVisio for Technical Applications, file types, *.csv files
6	Documentation standards, MSWord, MSExcel, MSPowerpoint, MSVisio, MS Project, Google Docs, Open Source alternatives. The "cloud" & online collaboration.
7	Job Search, Intro to Soldering and RoHS
8	Soldering and RoHS compliance, Intro to EMC
8	****** **Exam #1** ******
9	****** **SPRING BREAK** ******
10	Electromagnetic Compatibility (EMC)
11	Electromagnetic Compatibility (EMC)
12	Lasers, Fiber-Optics, Photonics & Vacuum Systems
13	Sensor Networks, Remote monitoring, SCADA
14	Network addressing fundamentals/Industrial Ethernet
15	Industrial Ethernet, IoT, IIoT, Industry 4.0.
16	**** **Final Exam (Date & Time TBA)** ****

*NOTE: The above outline may be modified to best serve the educational needs of the student.

Special days for Spring 2022 Schedule from the Academic Calendar found here:

STCC Academic Calendar Spring 2022

Monday, February 21: President's Day Holiday - College is closed.
Monday-Saturday, March 14-19: Mid-Semester Break - No classes.
Monday, April 18: Patriots Day Holiday - College is closed.
Tuesday, April 19: All classes follow a Monday schedule.
Wednesday, May 11: Last Meeting Day of Classes
Thursday-Tuesday, May 12-17: Final Exams for Day Classes
Wednesday, May 11 or 18 (TBD): EET Advisory Board/Adv. Automation Project Demonstrations
Sunday, May 22: Final Grades Due
Wednesday, June 1: Honors Convocation
Thursday, June 2: Commencement

Course Methodology and Philosophy

S.T.C.C. invests a considerable amount of resources into equipment for student and faculty use. As a member of the faculty, I will make use of all available teaching methods and tools. For lectures, most instruction will be a combination of Power Point and blackboard/whiteboard. Students are encouraged to actively participate by way of relevant questions and comments about the subject matter under discussion. It is my responsibility to make sure that the subject matter is presented in as clear a manner as possible. Your feedback is invaluable to my ability to accomplish this goal.

You, as the student, also have your share of responsibility:

Attendance: The scope of the material presented in this course is broad. Attendance is required to experience all the information as presented by the instructor. In addition, your input into the classroom discussion helps other students to better understand the material.

Preparation: It is your responsibility to complete all assignments, reading and written, in a timely manner. Thorough preparation will help instill greater confidence in the subject matter and will facilitate lively classroom discussions. Proper preparation for quizzes and tests is also expected.

Attitude and Behavior: It is your responsibility to make sure that your contributions to this course, and your attitude toward the people around you, are positive. Foul language and disruptive behavior will not be tolerated in this course. In addition, school property must be treated with respect at all times. This is especially true in laboratories. If you do not understand how to use a particular piece of equipment, you are encouraged to ask for assistance. You should report malfunctioning equipment immediately. Always return equipment and components to their proper locations. Leave your study or work area clean and neat for the next student.

Students with Special Needs:

Any student who feels s/he may need an accommodation based on the impact of a disability should contact the instructor privately to discuss your specific needs. Before any accommodations are put in place, you should contact the Office of Disability Services at 755-4785 or stop by Building 19 Room 141 to coordinate reasonable accommodations for students with documented disabilities.

*Addendum to Spring 2022 EET-255 Syllabus for Prof. Rick Jagodowski

This addendum is being added to the Spring 2022 EET-255 Syllabus as a result of the Online Instruction initiative implemented at S.T.C.C. this semester due to the COVID-19/Corona virus.

Lecture: The lecture portion of this course is held on campus on Tuesdays. Traditionally this course met for one hour of lecture with students doing 2 hours of work out of class. That is still expected. Zoom sessions may be held if needed in the event we cannot meet on campus for some reason.   Any Zoom meeting will be recorded, so if you don't wish to be seen, you may turn your camera off. If we do hold a Zoom session you should make every effort to attend. If you can't make a meeting, you are encouraged to watch the recorded session which will be posted on Blackboard within 24 hours of the meeting. *Discussions* might also be used in Blackboard. Your participation in the *Discussions* is required and will be used to help determine your Attendance & Professionalism portion of your grade.

Computer: It is expected that you have access to a computer (laptop preferred) & reliable internet access.

Tools: You should have a USB Flashdrive to keep important files and assignments handy and safe. Always back-up your data with at least two additional copies.

Blackboard, CSET Forums & Zoom: You will be required to use Blackboard (Bb), Zoom as well as the CSET Forums for this course. If you already have a CSET Forum account, it should still be active with the same username and password. If you need your password reset, you can do that. If you have any issues, please let me know by email or while we are in any lab.

Attendance & Professionalism: You are expected to attend every session and always behave and do your work in a professional manner.

Assignments: Any online assignments will be distributed and collected using Blackboard.   Accessing, completing and submitting these online assignments will be discussed during the first week of class.

Quizzes and Exams: Some quizzes and/or exams might be distributed & collected via Blackboard. Please note that any multi-page assignment MUST be submitted as a single document, NOT separate pages. NOTE: Zipping the files together does not create a single document. You can either use a hardware or software scanner to create a single document or you need to assemble the pages in a Word Processor (such as Google Docs, Microsoft Word or LibreOffice) and save that as a single file.

Course Outline: All attempts will be made to maintain the course outline schedule in the main syllabus, but there may be modifications due to events beyond our control.