

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

Course: EET-255-D01 Advanced Topics in E.E.T.

Instructor: Rick Jagodowski

Class Meeting Day/Time: -D01: Th. 8:30-9:20.

Date: Spring 2019

Credits: 3

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

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 format: 1 hour class, 2 hours online.*

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).
- 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

*** 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.

*** 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 www.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 | 25% |
| Exams (1 or 2) | 45% |

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 should have a USB “flash drive” to save the files for the electronic documentation and to keep their work backed up.

7. Office Hours

Office hours are posted on my office door. Other times may be available by appointment. (Due to the diverse academic schedules of both students and faculty, plus commitments outside of school, students are encouraged to post questions about relevant course material on the EET-255 Forums. This will serve as an extension of the class beyond normal class meetings. Please take advantage of this opportunity.)

8. STCC Course Schedule*

| Week | Topic |
|------|--|
| 1 | Syllabus, Policies & Overview of the course, LEAN & Six Sigma |
| 2 | LEAN, Six Sigma, 5S. |
| 3 | Scheduling, Gant Charts, Pert-CPM charts. |
| 4 | Scheduling Software |
| 5 | Problem solving. |
| 6 | Problem solving. |
| 7 | Documentation standards, MSWord, MSExcel, MSVisio, MS Project, Open Source alternatives. |
| 8 | **** Exam #1 **** |
| 9 | ***** SPRING BREAK ***** |
| 10 | MSWord and MSPowerpoint |
| 11 | MSProject for Technical Applications |
| 12 | MSVisio for Technical Applications |
| 13 | MSExcel for Technical Applications |
| 14 | Remote monitoring & Sensor Networks |
| 15 | Network addressing fundamentals/Industrial Ethernet |
| 16 | Industrial Ethernet |
| 17 | **** 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 2019 Schedule from the Academic Calendar found here:

[STCC Academic Calendar Spring 2019](#)

Monday, February 18: President's Day Holiday - College is closed.
Tuesday, February 19: All classes follow a Monday Schedule.
Wednesday, February 20: STEM Robotics Challenge (see details below)
Monday-Saturday, March 11-16: Mid-Semester Break - No classes.
Wednesday, March 20: Day classes follow a Monday schedule.
Monday, April 15: Patriots Day Holiday - College is closed.
Thursday, April 18: No Day classes due to Professional Day, Evening classes as scheduled.
Thursday, May 9: Last Meeting Day of Classes
May 9 or 10: Primary dates for EET Advisory Board/Adv. Automation Project Demonstrations
Monday-Thursday, May 13-16: Final Exams for Day School
May 17: Back up date for EET Advisory Board/Adv. Automation Project Demonstrations.

STEM Robotics Challenge:

STCC is hosting an educational workshop and challenge offered by the Massachusetts National Guard and sponsored by the STEM Starter Academy here at STCC. This even will take place from 9:00 AM to 2:00 PM.

All Day Electrical Engineering Technology and Robotics Certificate students are expected to sign up and participate in this event. Follow this link to register: https://stcc.azurequaltrics.com/jfe/form/SV_3jApLyxdDbn0p8x All participants will receive a certificate upon successful completion and an award will be given to the winning team. Details will be forthcoming from your instructor.

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 27/2nd Floor to coordinate reasonable accommodations for students with documented disabilities.