Auburn Career Center

Attitude – Respect – Responsibility

Electrical Engineering Prep

Syllabus/Student Handbook

2022-2023

Building Location: Main Building

Room 6A

Instructor: Mr. Keith Conn

Office Phone: 440-357-7542 ext. 8383

Attendance Office: 440-358-8023

Fax: 440-358-8012

Email: kconn@auburncc.org

Website: www.auburncc.org

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Welcome

Auburn Career Center's Mission

Our mission is to guarantee that all students empower themselves, excel in the emerging workplace, and enrich their community.

Auburn Career Center's Core Values

We believe that:

- People are personally responsible for their choices and actions
- Treating people with dignity and respect will enhance learning
- Attitude and goals drive achievement
- All people can learn
- All people can make positive contributions
- Change is exciting and essential for growth
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Course Information/ Contact Information

Instructor Information:

Electrical Engineering Prep

Room 6A

Instructor: Mr. Keith Conn

Office Phone: 440-357-7542 ext. 8383

Fax: 440-357-0227

Email: kconn@auburncc.org

Website: www.auburncc.org

Course Schedule

First Year Schedule: 8:15am to 10:53am

Second Year Schedule: 11:00am to 2:28pm

Course Credits:

- Three elective credit hours First Year
- Three elective credit hours Second Year

Course Materials

- Calculator
- Pen or Pencil
- Uniform
- Class fee $25.00
- Uniforms $38.00-$46.00 (two shirts)
- **Total approximate cost $125.00**

All fees are due by October 31, 2022. Fees will be waived for students who qualify for free and reduced meals. Accounts will be adjusted after the approval of free/reduced meal applications.

Program Scope:

First Year:

- Use basic electrical hand tools
- Make basic electrical connections
- Make continuity tests
- Measure voltage
- Measure current
- Measure resistance
- Magnetism & Principles of Atomic Structure
- Use N.E.C. for obtaining wire sizes and opacity ratings
- Construct and analyze series circuits
- Construct and analyze parallel circuits
- Use OHM's law to analyze basic circuitry
- Construct basic relay circuits
- Calculate and determine power rating of devices
- Analyze basic schematic diagrams
- Use Oscilloscopes and function generators
- Wire and test single-phase transformers

Second Year:

- Wire and test multiple winding primary and secondary transformers
- Wire and test Edison system
- Construct basic single-phase lighting and power systems
- Construct and analyze inductor circuits
- Construct and analyze capacitor circuits
- Calculate reactance and impedance
- Wire receptacle circuits
- Wire single pole lighting circuits
- Wire three-way lighting circuits
- Wire split receptacle circuits
- Wire circuit breaker panel
- Wire low voltage control system
- Wire G.F.C.I. circuit
- Install old work box
- Wire fluorescent lighting fixture
- Wire incandescent lighting fixture
- Use an oscilloscope
- Use a function generator
- Wire and test diode circuits
- Wire and test rectifier circuits
- Wire and test filter circuits
- Wire and test power supply circuits

First Year Sequence

1. Direct Current
2. Alternating Current
3. Analog Components
4. Digital Electronics
5. Soldering Applications
6. Residential Wiring Methods

Second Year Sequence

1. Industrial Wiring Methods
2. Power Supplies
3. Amplifiers
4. Solid State Applications
5. Energy Topics
6. Robotics

Auburn Certificates

Auburn Career Center provides an extended curriculum for our eleven participating school districts. Students attending Auburn Career Center may earn multiple elective and academic credits each year. Following successful completion, these credits are certified by the high school in which the student is enrolled. High school students can also earn several college credits while attending Auburn Career Center.

In addition to earning academic credit toward graduation, students may earn the following certificates of achievement from Auburn Career Center.

- ➢ Honors
- ➢ Distinction
- ➢ Merit
- ➢ Completion

These certificates are placed in the student's portfolio and awarded at the Auburn Completion Ceremony.
See APPENDIX for additional information on certificates.

Instructional Philosophy

In this program, students will be introduced to theory concepts in a classroom setting and hands on activities in a lab setting. Students will learn the related theory by listening to lectures, note taking, homework, research projects and reports, group activities and will be evaluated by quiz and test taking. Academics are a daily part of this course and include writing assignments and reports. Math skills are practiced on a regular basis and employability skills, such as, attendance, teamwork etc., are a daily reality. Homework assignments are expected to be turned in on time and are an important method of reinforcement of the current subject matter; they are not just busy work. In the lab, students will learn and practice the hands on skills needed to gain entry-level employment. Work sheets are also an important part of the laboratory experience and should be done on an individual basis without copying the answers from another student. The instructor, observing the students performing these activities, will do assessment.

Assessment Plan

Professionalism, safety, team-work, on task, participation, prepared, punctual, theory, quizzes, tests, homework, personal skills and lab work.

Grading

Grade	**Performance standard**
A 90 -100	Independent Learner — Student is able to research, design, test and apply related theory to successfully construct a project or demonstrate a skill with no assistance from the instructor.
B 80-89	Semi-independent Learner – Student is able to research, design, test and apply related theory to successfully construct a project or demonstrate a skill with little assistance from the Instructor.
C 70-79	Dependent Learner – Student is able to research, design, test and apply related theory to successfully construct a project or demonstrate a skill with moderate assistance from the instructor.
D60-69	Very Dependent Learner – Student is able to construct a project and/or demonstrate a skill with considerable coaching and assistance from the instructor.
F 0-59	Unsuccessful — Student is unable to complete projects or demonstrate skills even with coaching and assistance of the instructor.

Grading Policies

Professionalism, Safety, team-work, on task, Participation, Prepared, Punctual, Theory, Quizzes, Tests, Homework, Personal Skills and Lab work

Note: Additional school rules may impact your grade.

Extra Credit work is available in limited amount, not to exceed 5% of total points.

Late work, unless excused, is reduced by 50% on next day.

Grades will be computed weekly and available to the student on line.

You must maintain a passing grade in Lab & Related classes in order to pass each nine week grading periods. An F in either Lab or Related for a nine week grading period will result in a failing grade for both in that grading period. Industry standards require an employee to be punctual, dress in proper attire and be ready to work at the prescribed starting time, in order to perform His or Her job. All aspects of the job are required not just some in order to expect continuous employment. A dress code and uniform are part of the program and you must dress correctly every day.

Employability Skills

In Career and Technical Education student performance is looked at just as business/industry would look at an employee on the job. The quality of tasks completed, time required, participation, attitude and consistency of effort, etc. are considered employability skills and are all a part of one's grade.

In addition to the guidelines presented in the Student/Parent Handbook, **ELECTRICAL ENGINEERING PREP** students have the opportunity to earn points, for employability skills.

It is up to the student to earn the grade. Not earning points is based on inappropriate behavior and teacher observations of behavior and attitude. Behavior and preparedness are an essential part of a student's tenure at Auburn.

To earn employability points in class, students are to:

- ✓ Speak/Think Positively – Utilize outstanding communication skills
- ✓ Keeping excellent attendance – Be dressed and ready for class
- ✓ Follow Directions – Use computers, calculators or mobile devices in an appropriate manner
- ✓ Be a Team Player - Have tolerance, respect, and concern for others
- ✓ Demonstrate Excellent Work Ethic – Be in class, on time, ready to begin, focused on task at hand
- ✓ Uphold a Safe Environment - Operate and maintain equipment properly

Continual violation of the Employability Skills will result in a reduced course grade. Continuous violation of the Employability Skills will result in additional disciplinary action determined on a case by case basis.

NOTE:

The above expectations also extend to any other classes attended at Auburn Career Center and may affect your Interactive Multimedia Technology grade.

Course Assignments, Labs and Projects

All assignments are to be word processed and are to include your name, class, assignment name, and assignment date in the upper left hand corner.

No hand written assignments will be accepted unless prior permission has been given.

Absolutely no assignments will be accepted on torn out spiral notebook paper or assignments done in pencil. Assignments are due at the start of class. Late assignments will only be accepted with an excused absence.

Students can expect assignments on a regular basis. Projects of significant importance will be assigned throughout the year.

Course Policies

This course covers a large amount of material; therefore, late assignments will not be accepted. The only exception to this is if the student provides an excused absence that is verified by the High School office. Refer to the Student/Parent Handbook for more information.

This program is a program that builds upon skills. Missing class time will jeopardize a student's ability to complete the various assignments and projects accurately and on time.

Class participation and employability skills are an extremely important part of this program.

Attendance

Attendance is taken at the start of class. All students should be in their assigned seat before the bell. Students not in their seats will be counted tardy or absent if not present. If you are tardy you must report to the Main Office and obtain an admit slip. If you miss some important information because you are late it is your responsibility to obtain that information. Lateness multiplies the time wasted waiting for you times the number of students who were punctual.   **Excessive unexcused absences may result in disciplinary action.** Refer to the Student/Parent Handbook for more information.

Safety

- Tools are to be stored in a dry, secure location.
- Students who operate power actuated tools are to be trained in their use.
- No food or drinks are allowed in the vicinity of the machines.
- All worksites should be kept clean and orderly.
- Work areas should be properly illuminated.
- The work area's ventilation system should be appropriate for the work being performed.
- Spilled materials or liquids must be cleaned up immediately.
- Tools and equipment used by Students at their work station should be in good condition.
- Report all work related accidents, injuries and illnesses to the instructor or safety coordinator.

Emergency Response

If there is an emergency in the lab or class room, inform the instructor. If the emergency involves the instructor, contact the reception office by using the telephone in the Instructors office.

Pick up the phone and dial "0" for the Reception Office.

Remain calm, explain the situation.

If there is no immediate answer, send someone to the nearest classroom or office and notify an adult of the incident and request additional help by calling 911.

If the victim is conscious, it is best to have them lie still until qualified emergency response personnel arrive on the scene. Do not move a victim unless there is risk of additional immediate danger to them and you. You can cause additional severe injury by unnecessarily moving a victim.

There is the possibility of the victim going into a state of physiological shock -- a condition of insufficient blood circulation different from electrical shock -- and so they should be kept as warm and as comfortable as possible.

Program Apparel
Students will be required to wear program specific apparel.

Standard daily dress:

> Class uniform, no shorts, proper shoes and hair under control.

Students are required to have and display on themselves at all times an Auburn Career Center ID badge, which is provided free during the first weeks of school. The Auburn ID badge must be clearly visible and presented upon request to any teacher, administrator, resource officer, or school personnel. If a student's original badge is lost or stolen, a duplicate ID badge must be purchased. The fee for a replacement ID badge is $5.00.

Classroom Entry – Attendance
Attendance is taken at the start of class. All students should be in their assigned seat before the bell. Students not in their seats will be counted tardy or absent if not present. If you are tardy you must report to the Main Office and obtain an admit slip. If you miss some important information because you are late it is your responsibility to obtain that information. Lateness multiplies the time wasted waiting for you times the number of students who were punctual.   **Excessive unexcused absences may result in disciplinary action.** Refer to the Student/Parent Handbook for more information.

Classroom Exit – Dismissal
Students are dismissed by the Instructor, not the bell.

Mobile Technology Policy
None allowed

Classroom Rules, Consequences and Rewards
1. Code of Conduct: The published Code of Conduct for Auburn Career Center found in the Student/Parent Handbook will be enforced at all times. Refer to the Handbook for discussion of due process of the Code and safety violations. Academic dishonesty will not be tolerated. Infractions will be dealt with according to established Auburn Career Center policy.

2. The attendance/tardiness policy provided in the handbook will be followed at all times. It is the responsibility of the student to make arrangements to make up any missed activity the day he/she returns to class. There are certain assignments that cannot be made up.

3. Computer usage: Auburn Career Center supports instruction through the use of computers, e-mail, software, and other media, and Internet access. The use of the tools is a privilege, not a right. Any student who violates the Acceptable Use Policy found in the Student/Parent Handbook may lose

their access to Auburn's computers and network accounts. Notice to students who have access to digital audio and video recording equipment. Abuses of this equipment will not be tolerated.

In addition, students are expected to use computers and other media equipment at the designated time, and only for class assignments. Abuses may result in a loss of technology privileges.

Auburn e-mail accounts are monitored, and the use of them falls under ACC policies.

4. Auburn Career Center is a full-service career center. Many people pass through the facility during the day. Therefore it is important that students wear their student identification badges when in the building. Students who do not display an identification badge will be referred to the Main Office. Failure to wear an ID may result in loss of Employability Skills points and be referred for discipline.

Changes to the Syllabus: The Instructor/ACC Administration reserve the right to make changes to this Syllabus as needed throughout the year.

Career Tech Student Organization

Overview of SkillsUSA

SkillsUSA is a partnership of students, teachers and industry working together to ensure America has a skilled workforce. We help each student excel. A nonprofit national education association, SkillsUSA serves middle-school, high-school and college/postsecondary students preparing for careers in trade, technical and skilled service (including health) occupations.

Membership:

SkillsUSA serves more than 333,527 students and instructors annually. This includes 19,019 instructors who join as professional members. Including alumni, Skills USA membership totals over 394,000. SkillsUSA has served nearly 14 million annual members cumulatively since 1965 and is recognized by the U.S. Department of Education and the U.S. Department of Labor as a successful model of employer-driven workforce development.

Mission:

SkillsUSA empowers its members to become world-class workers, leaders and responsible American citizens. We improve the quality of our nation's future skilled workforce through the development of Framework skills that include personal, workplace and technical skills grounded in academics. Our vision is to produce the most highly skilled workforce in the world, providing every member the opportunity for career success.

APPENDIX

Student Support Services:
- Special Education Department: Intervention Specialist
- Student Services: Guidance Counseling and Career Development Services
  - You can make an appointment to see a guidance counselor, recruitment specialist or the LEAF advisor by visiting the Student Services office.

TECHNOLOGY LITERACY PROGRAM

Description of Course

Technology Literacy is offered to first and second year students at Auburn Career Center. In the first year, the course provides an overview of the basic fundamentals of working with computers. Students will study computer basics such as computer hardware, software, and operating systems. The course introduces basic use of Windows 10 and productivity programs such as Gmail and Microsoft Office 2019 including Word, PowerPoint, and Excel. Students will also begin to use and navigate e-learning environments using Schoology, Internet navigation, and ever-changing technology will also be overviewed within the course.

In the second year, students focus on creating a portfolio that showcases their work over the last two years at Auburn. It includes their resume, three references, a cover letter, a transition plan and samples of the projects they have completed. Also included are the certificates they have earned in their program of study.

Purpose

The purpose of the Technology Literacy course is to provide students with the basic knowledge of working with computers in ways beneficial in their career paths of choice. The course will give them an overview of online communication, email, word processing, spreadsheets, presentation programs, internet navigation, computer security and our technologically evolving world.

Mastery Learning

Grades in the Technology Literacy course will be based on Mastery Learning. Students will be required to achieve 80% on each assignment. Additional attempts will be provided if the 80% benchmark is not achieved.

FINANCIAL LITERACY

Financial understanding is a competency requirement in the Cosmetology coursework. Students will learn financial goal setting, borrowing, budgeting, and spending. Through weekly assignments, simulations, and other activities, the financial education students receive will help to prepare students for monetary success post-graduation.

All grades will be assigned accordingly based on the completion of assignments and participation. All student accommodations will be met.

Symplicity

This is an opportunity for students to participate in an on-line job match software program. The online job match software, Symplicity, allows students to develop an online profile and to upload a

resume and cover letter in order to apply for employment. Once students choose to apply to job opportunities posted by local employers interested in Auburn students, those employers can contact students directly for interviews. In addition, students can connect to employers during the school day at monthly job fairs.

If you would prefer your son or daughter not to participate in our on-line job board or at in school job fairs, please contact the high school office or send in a note.

CAREER SAFE PROGRAM/OSHA 10-HOUR GENERAL INDUSTRY TRAINING

Description of Program

The OSHA Outreach Training Program for General Industry provides training for students, entry level workers, and employers on the recognition, avoidance, abatement, and prevention of safety and health hazards in workplaces in general industry. The program also provides information regarding workers' rights, employer responsibilities, and how to file a complaint. Through this training, OSHA helps to ensure that workers are more knowledgeable about workplace hazards and their rights. Each module contains a brief assessment, which must be successfully completed before the student can move on to the next module. Once all modules have been viewed and the corresponding assessments are passed, there is a comprehensive final assessment.

Purpose

The purpose of the program is to provide students with basic safety awareness training so they will be able to recognize, avoid and prevent safety and health hazards in the workplace. Young workers develop a safety mindset and acquire marketable skills for a competitive edge.

Credential Earned

Students who successfully complete the Career Safe OSHA 10-Hour General Industry course receive an OSHA 10-Hour General Industry wallet card from the OSHA Training Institute (OTI). As a result, they become more employable, gaining a competitive advantage in the job market.

AUBURN CERTIFICATES

Auburn Career Center provides an extended curriculum for our participating school districts. Students attending Auburn Career Center may earn multiple elective and academic credits each year. Following successful completion, these credits are certified by the high school in which the student is enrolled. High school students can also earn several college credits while attending Auburn Career Center.

In addition to earning academic credit toward graduation, students may earn the following certificates of achievement from Auburn Career Center. These certificates are awarded at the Second Ceremony and placed in the student's Second portfolio.

Auburn Honors Certificate Requirements

➢ 95% Attendance rate for two years at Auburn (no more than 18 days over two years)
➢ Earned a 3.5 or higher grade point average in their career tech program over two years
➢ Safety certification earned in career tech program
➢ Employability skills earned in career tech program

- ➢ Passage of four (4) Ohio Career Technical Competency Analysis exams and/or earning twelve (12) points of Industry Recognized Credentials in the program's Career Field
- ➢ Active participation in the program's Career Technical Student Organization
- ➢ High school diploma for Seconds

Auburn Distinction Certificate Requirements

- ➢ 93% Attendance rate for two years at Auburn (no more than 26 days over two years)
- ➢ Earned a 3.0 or higher grade point average in their career tech program over two years
- ➢ Safety certification earned in career tech program
- ➢ Employability skills earned in career tech program
- ➢ Passage of three (3) Ohio Career Technical Competency Analysis exams and/or earning six (6) points of Industry Recognized Credentials in the program's Career Field
- ➢ Active participation in the program's Career Technical Student Organization
- ➢ High School Diploma for second year students

Auburn Merit Certificate Requirements

- ➢ Earned high school credit for their career tech program over two years
- ➢ Safety certification earned in career tech program
- ➢ Employability skills earned in career tech program
- ➢ Overall passage of Ohio Career Technical Competency Analysis exams and/or earning three (3) points of Industry Recognized Credentials in the program's Career Field

Auburn Completion Certificate Requirements

- ➢ Earned high school credit for their career tech program over two years
- ➢ Safety certification earned in career tech program
- ➢ Employability skills earned in career tech program

BUSINESS PARTNERSHIPS AND STUDENT INTERNSHIPS

The Business Partnership program is an educational opportunity that prepares a student for workforce employment and transition to post-secondary education. During the program, students will apply academic, employability, and technical skills in the workplace. There are three levels students can participate in including:

- ➢ Internship
- ➢ Mentorship
- ➢ Career Field Experience

Students must meet specific criteria in order to participate. Additional information is available in the Auburn Student/Parent Handbook.

Auburn Career Center – Electrical Engineering Prep

Syllabus Agreement

After reviewing the Electrical Engineering Prep Syllabus, please sign and return this agreement page to the EEP Instructor.

I have read and understand all of the information included in the Auburn Career Center EEP Syllabus.

Student Name: _____
                                                    (Please print)

Student Signature: _____

Date: _____

Parent/Guardian Name: _____
                                                    (Please print)

Parent/Guardian Signature: _____

Date: _____