

Electronic Assembler Certificate

Program Number: 90-605-1

Certificate

Applied Engineering Technologies Program Cluster

Center for Agriscience and Technologies

Program offered at Madison Campuses

For information call: (608) 246-6800 or
(800) 322-6282 Ext. 6800

About the Certificate

The electronics industry offers a wide range of job opportunities installing and assembling electronic equipment in manufacturing, research, development, medicine and communications. Communications, computers and industrial electronics continue to expand, and there is a high demand for electronics assemblers.

Unique Requirements for Admission

High school course recommendations: It is strongly recommended that students take the math sequence of Algebra 1 and Algebra 2 to best prepare them for this certificate. In addition, a high school physical science course is highly recommended.

Certificate Application Process

To apply, see: Apply Online (on the Madison College website). [Create an ApplyWeb account](#) and follow the [instructions](#) to complete the [Online Certificate Application](#) before the [application deadline](#). Submit the \$15 non-refundable fee (payable by credit card, debit card or electronic check) with your application. Applicants may submit more than one certificate application per term using the Online Certificate Application; the same fees apply for each additional application.

Unique Requirements for Completion

The certificate will be awarded upon completion of the requirements with a minimum of a 2.0 grade average and no course grade lower than a C. The certificate will be awarded when completion of all requirements is verified after the semester the last course has been completed.

Program Courses

10-605-113 Analog Circuit Techniques 3 credits

Introductory electronic course covering devices, circuits and applications. Uses analog electronics devices — diodes, (rectifier, zener, LED), field effect and bipolar transistors and operational amplifiers to learn basic theory and use of test equipment (DMM, oscilloscope, function generators) in testing and troubleshooting. Lab procedures emphasize use of documentation (schematics, layout diagrams, parts lists, data sheets) and troubleshooting procedures. Prerequisite: Knowledge of basic algebra as demonstrated via satisfactory mathematics placement score on COMPASS test, prior coursework, or transfer credit

10-605-118 Digital Circuit Techniques 3 credits

Course covers schematic digital component identification, PCB component identification, Engineering Notation, Basic Gates, IC Numbering Systems, Through hole and surface mount footprint identification, IPC-610* Hole Through and Surface Mount (SMT) soldering and rework training, Lead Free RoHS soldering and rework training, IPC-610 * and RoHS rework criteria, dual source de-soldering training, surface mount fine pitch drag soldering training, and electronic assembly training.

*IPC certification is not automatic upon course completion. IPC certification is awarded separately from the academic credits.

Curriculum

OPTION 1: SINGLE SEMESTER

| First Semester | Credits | Hrs/week Lec-Lab |
|--|----------|---------------------|
| 10-605-113 Analog Circuit Techniques..... | 3 | 2-3 |
| 10-605-118 Digital Circuit Techniques..... | 3 | 2-3 |
| Certificate Total | 6 | |

OPTION 2: TWO SEMESTERS

First Semester

| | | |
|--|----------|-----|
| 10-605-113 Analog Circuit Techniques..... | 3 | 2-3 |
| OR | | |
| 10-605-118 Digital Circuit Techniques..... | 3 | 2-3 |
| Semester Total | 3 | |

Second Semester

| | | |
|--|----------|-----|
| 10-605-118 Digital Circuit Techniques..... | 3 | 2-3 |
| OR | | |
| 10-605-113 Analog Circuit Techniques..... | 3 | 2-3 |
| Semester Total | 3 | |

| | | |
|--------------------------|----------|--|
| Certificate Total | 6 | |
|--------------------------|----------|--|

Career Potential:

- Electronic Assembler
- Electronic Installer
- Cabling Technician
- Wiring Technician

With additional education and/or work experience, graduates may find employment as:

- Electronic Maintenance Technician
- Electronic Test Technician
- Electronics Technician
- Field Service Technician
- Computer Field Service Supervisor
- Electronics Production Supervisor
- Electronics Maintenance Supervisor
- Electrical Engineer

The courses in the Electronic Assembler Certificate are a subset of the two year Associate of Applied Sciences (AAS) degree programs in Electrical Engineering Technology and Electronics Technology, counting towards graduation in both programs.

Students who attain this certificate are employable while continuing their education toward a full AAS degree.

More detailed and updated information on this program may be available at: madisoncollege.org. The college reserves the right to make changes in the regulations and courses announced in this publication without notice.

Madison Area Technical College provides equal opportunity in education and employment.

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