

# MTSU & NJATC College Degree Programs

## Concentration in Electrical Construction Management

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What is the Electrical Construction Management Concentration?

The Electrical Construction Management concentration is the result of the collective efforts of the National Joint Apprenticeship Training Committee (NJATC), National Electrical Contractors Association (NECA), International Brotherhood of Electrical Workers (IBEW), Mississippi State Technical Community College (PSTCC) and Middle Tennessee State University (MTSU), all working together to establish this program nationwide.

The Electrical Construction Management (ECM) concentration is designed to prepare students for positions in the expanding industrial technical fields of the construction industry. Students will complete 120 hours with a minimum of 33 of those hours completed through MTSU's distant learning program. A four-year degree in this concentration will develop a strong background in technical and management skills. These technical and management skills will help the graduate to obtain positions in the electrical construction management field.

## **ELECTRICAL CONSTRUCTION MANAGEMENT CONCENTRATION**

### **PROCEDURES AND TIMELINE**

#### **I. Contact Dr. David Hatfield at MTSU**

Phone: 615.898.2781

E-mail: [dhatfiel@mtsu.edu](mailto:dhatfiel@mtsu.edu)

#### **II. Send Transcripts to MTSU advisor:**

Dr. David Hatfield, Director  
Construction Management Program  
MTSU Box 153  
Murfreesboro, TN 37132

Fax: 615.898.5697 (write to the attention of Dr. Hatfield)

It is best to send unofficial transcripts at this time. Transcripts will be evaluated and a tentative evaluation will be returned to you. From the evaluation, you will be able to see what classes you need to take in addition to the required MTSU classes. In order to receive an official transcript evaluation, you must apply to MTSU.

### **III. NJATC Apprenticeship (5 yrs or equivalent\*)**

Complete your Apprenticeship with NJATC. Once you have finished, you are eligible to receive 22 experiential credit hours that will count toward the completion of your Bachelor's degree. These credits will be applied when you are in your last semester at MTSU. Most students are taking college courses while finishing their NJATC training requirements.

### **IV. General Education and Supporting Course Requirements (65 hours)**

41 hours of General Education

15 hours of supporting major courses for the Electrical Construction Management concentration that can be completed through your home college/university so that you can pay in-state tuition.

9 hours of Electives

You can complete all of your general education courses (41 hours), as well as Electives (9 hours) and 15 hours of your supporting major courses at your home university. While you are completing the courses in your local area, contact the MTSU advisor before you register for classes each semester. Let the advisor know what class(es) you are registering for in that following semester. This will keep you on track and keep you from taking unnecessary courses.

### **V. Applying to and Registering with MTSU**

Check with the MTSU Director for the Electrical Construction Management concentration. Phone:615.898.2781 E-mail at [dhatfiel@mtsu.edu](mailto:dhatfiel@mtsu.edu).

### **VI. Apply for Financial Aid**

For information about available financial aid, deadlines for applying, and procedures, contact the Financial Aid Department at MTSU: 615.898.2830. You should contact the Financial Aid Office six months before starting at MTSU. Or visit them online at: <http://financialaid.web.mtsu.edu/>

### **VII. Online Classes**

Once accepted to MTSU, contact your advisor (each term) to register for classes. Two courses from your concentration will be offered each semester (fall, spring, and summer).

### **VIII. Labs / Capstone Presentation**

You will be required to attend MTSU two days for labs and your Capstone presentation before graduation.

### **IX. Keep in touch!**

It is important that you maintain continual contact with the coordinating office of the Electrical Construction Management concentration and your advisor throughout the entire process. You need to update your information and progress regularly. We can then keep you informed of all additional requirements, any changes that might occur, and additional procedures you will need to follow in order to graduate.

\*Inform the MTSU advisor if you had less than five years of NJATC training and have graduated from the NJATC program

# **Construction Management**

## **Electrical Construction Management Concentration**

### General Education & Supporting Course Requirements\*

#### I. COMMUNICATION: (9 hrs.)

A. English Composition I & II (6 hrs.)

B. Speech I (3 hrs.)

#### II. HUMANITIES: (9 hrs.)

A. English Literature I (3 hrs.)

B. Humanities. Choose 2 *different* prefixes (6 hrs): Please contact us or go to [www.MTSU.edu](http://www.MTSU.edu) for general education requirements.

#### III. MATHEMATICS: (3 hrs.)

A. Trigonometry (3 hrs.) or higher level math that uses trigonometry

#### IV. NATURAL SCIENCES: (8 hrs.) - Core requirements for major. Cannot transfer other sciences.

A. Physical Geology (4 hrs.) Class and Lab.

B. Non-Calculus Based Physics (4 hrs.) Class and Lab.

#### V. HISTORY: (6 hrs.)

A. U.S. History I & II

VI. SOCIAL/BEHAVIORAL SCIENCES: (6 hrs.)

A. Choose 2 classes from the following with *different* prefixes: Please contact us or go to [www.MTSU.edu](http://www.MTSU.edu) for general education requirements.

VII. REQUIRED MAJOR SUPPORTING COURSES: (15 hrs.)

A. Applied Statistics (3 hrs.)

B. Intro to Micro Computing (3 hrs.)

C. Survey of Acct for General Business\*\* (3 hrs.)

D. Spanish I (3 hrs.)

E. College Algebra (3 hrs.)

VIII. ELECTIVES: (9 hrs.) Five of these hours must be from a 4-year institution.

\*Classes from other college(s) must match MTSU's requirements in order to transfer. It is important that you check with your advisor each semester to ensure you are taking a transferable class.

\*\*Survey of Accounting for General Business is a Managerial Accounting course. If your college does not offer a similar course (check with us before enrolling), then you may substitute it with Accounting Principles I & II (6 hrs.).

ALL other credits are obtained through courses at MTSU or your experience with NJATC.

DEGREE BREAKDOWN

41 hours General Education +  
15 hours Supporting Major Courses +  
9 hours Electives +  
33 hours MTSU Online Courses +  
22 hours Experiential Learning  
= B.S. in Construction Management, with a  
Concentration in Electrical Construction  
Management

## **MTSU Online Concentration Course Descriptions**

### **CMT 3155 LAND DEVELOPMENT & RESIDENTIAL BUILDING (3 Credits)**

House plans, methods and techniques used in building a conventional structure. Recommended for those desiring general knowledge as a consumer of residential construction.

### **CMT 4010 CONSTRUCTION LAW (3 Credits)**

Practical approach to the legal system in construction. Topics include licensing requirements, business associations, hiring professionals, employment issues, insurance, worker's comp, tort liability, contracts, financing, sale of property, title issues, liens, land use, bankruptcy, and warranties.

### **CMT 4120 SCHEDULING (3 Credits)**

Flow of labor and material toward specified goal, weather, trade characteristics, and material availability in work scheduling shown by graphs.

### **CMT 4130 CONSTRUCTION ADMINISTRATION (3 Credits)**

Management and administration of construction to include contracts, office, and field work.

### **CMT 4172 CAPSTONE – ELECTRICAL CONSTRUCTION MGMT (3 Credits)**

Student will develop project that covers the material learned in concentration courses. The project outline will be required and approved by the Electrical Construction Management Advisor before starting the project.

### **ET 2310 COMPUTER ASSISTED DRAFTING (3 Credits)**

Technical drafting concepts utilizing personal computers, plotters, and appropriate CAD software. Required pre requisite of either ET 1310 or high school drafting.

### **ET 3620 DIGITAL CIRCUIT FUNDAMENTALS (3 Credits)**

Provides thorough coverage of basic digital electronic circuits analysis and design. TTL and COS families examined. Number systems, mapping, and minimization techniques covered. Digital design using random logic and programmable logic devices (FPGAs and CLPDs).

### **ET 3910 INTRO TO OPERATIONS MANAGEMENT (3 Credits)**

A foundation course in manufacturing and service operations management. Problem-

solving applications emphasized.

#### ET 4420 INDUSTRIAL SAFETY (3 Credits)

Safety and Health in the manufacturing, construction and utilities industries, including pertinent laws, codes, regulations, standards, and product liability considerations. Organizational and administrative principles and practices for safety management and safety engineering, accident investigation, safety education, and safety enforcement.

#### ET 4610 INSTRUMENTATION AND CONTROLS (3 Credits)

Devices and techniques used in the measurement of physical parameters. Consideration of accurate and sources of error, identification of typical measurements, sensors and transducers, control stability and response.

#### ET 4915 TECHNICAL PROJECT MANAGEMENT AND SOFT SKILLS (3 Credits) \*

Topics include project management as sanctioned by the International Project Management Institute (PMI) and how to assess and boost emotional intelligence or soft skills. Successful completion of the course will earn 20 Professional Development Units (PDUs) issued by the International Project Management Institute.

OR

#### ET 4970 ENGINEERING ECONOMY (3 Credits) \*

Development of capital budgets. Justification of capital projects using time value of money concepts. Replacement analysis. Review of justification of actual capital projects and computer applications.

\* Students may choose either ET 4915 or ET 4970 to fulfill MTSU requirements.

## **Frequently Asked Questions**

Is MTSU accredited?

MTSU is accredited by the Southern Association of Colleges and Schools. The ECM program is also accredited by Association of Technology, Management, and Applied Engineering (ATMAE).

What coursework is required before starting at MTSU?

With the exception of two classes\*, there are no required courses to be completed before starting at MTSU.

\*ET 3620 and ET 4610 require AC/DC circuits and Electronics to have been completed in the NJATC training first.

Who can enroll in the program?

Anyone who meets MTSU's general admissions standards.

How many credits will I receive for my apprenticeship experience?

During your last semester at MTSU, you will be awarded 22 credit hours for your 4 or 5 year apprenticeship with the NJATC.

What are the tuition costs?

Tuition costs change from year-to-year, and the amount you pay depends on whether you pay in-state tuition (if you are a resident of Tennessee) or out-of-state tuition. You may contact the Bursar's office at MTSU by calling 615.898.2761. The 22 credit hours that you are granted from your apprenticeship experience are free.

How many ECM classes can I take per semester?

Once enrolled at MTSU, it is recommended that you take two classes per semester including summer.

Do you want to get a Bachelor's degree from MTSU in Electrical Construction Management but are just now getting started? Take a look at another NJATC degree program offered by Pellissippi State. The AS degree transfers general education credits to MTSU:

#### Pellissippi State Technical Community College

(PSTCC) offers two online degrees of interest to all IBEW and NECA members. The first is an Associate of Applied Science (AAS) in general technology with an emphasis in Electrical Construction. This degree can run concurrent with your apprenticeship or be started as a journeyman. The degree is comprised of 15-17 credits in general education, 9-10 credits of a technology core and 36 credits of major and guided electives. Thirty of the thirty-six elective credits will be granted as experiential credits with proof of completion of your apprenticeship. All education core credits are available online. The AAS in General Technology is a terminal degree and only 16 to 20 credits may transfer to a 4 year institution.

The second degree option is a two year Associate of Science Degree (AS) which will meet the general education requirements for the four year baccalaureate degree in Construction Management Technology. You may switch to this degree path at any time; however, the sooner you make this decision the less credit you will lose. You can choose to take this AS degree through PSTCC, which is also offered entirely online. You must complete college English and Math at a local accredited institution before being admitted to PSTCC. This online degree program is designed to meet most four year institution general education requirements. It will transfer seamlessly to the four year degree in Construction Management at MTSU.

## **CONTACTS**

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