

# Electrician (ABC)

A 5-year, 20-credit Apprenticeship (day school)

## About the Apprenticeship

Associated Building Contractors of Wisconsin in conjunction with WCTC offer this apprenticeship program for a career in the electrical field. Work as an indentured apprentice for an electrical contractor and complete on-the-job work experience in residential, commercial and industrial, and some specialized work.

## How to Get Started

- Contact:  
Associated Building Contractors of WI (ABC) for non-union building trades.  
5330 Wall Street, Madison, WI 53718  
800.829.9926  
[www.abcwi.org/apprenticeship](http://www.abcwi.org/apprenticeship)
- Complete the ABC application packet. The packet will include qualifying test information.
- After application approval, a list of potential employers will be provided.
- Obtain employment for apprenticeship training
- The State of Wisconsin oversees the apprenticeship system and will contact WCTC to set a class schedule.

Required Courses	Credits
<b>First Semester</b>	
413-511 ABC Construction Elec Appr IA	2
449-501 OSHA Safety Intro for Appr	.5
<b>Total semester credits</b>	<b>2.5</b>
<b>Second Semester</b>	
410-513 Carpentry for Electricians	.75
413-512 ABC Construction Elec Appr IB	2
<b>Total semester credits</b>	<b>2.75</b>
<b>Third Semester</b>	
413-513 ABC Construction Elec Appr IIA	2
413-521 Residential Design & Estimating	.75
<b>Total semester credits</b>	<b>2.75</b>
<b>Fourth Semester</b>	
413-514 ABC Construction Elec Appr IIB	2
442-512 Electrical Apprentice Welding	.5
<b>Total semester credits</b>	<b>2.5</b>
<b>Fifth Semester</b>	
413-515 ABC Construction Elec Appr IIIA	2
<b>Total semester credits</b>	<b>2</b>
<b>Sixth Semester</b>	
413-516 ABC Construction Elec Appr IIIB	2
413-561 Blueprint for Electricians	1
<b>Total semester credits</b>	<b>3</b>
<b>Seventh Semester</b>	
413-517 ABC Construction Elec Appr IVA	2
413-530 Electrical Code I	.5
<b>Total semester credits</b>	<b>2.5</b>
<b>Eighth Semester</b>	
413-518 ABC Construction Elec Appr IVB	2
413-522 Industrial Design & Estimating	.75
<b>Total semester credits</b>	<b>2.75</b>
<b>Ninth Semester</b>	
413-519 ABC Construction Elec Appr VA	2
413-531 Electrical Code II	.5
<b>Total semester credits</b>	<b>2.5</b>
<b>Tenth Semester</b>	
413-520 ABC Construction Elec Appr VB	2
<b>Total semester credits</b>	<b>2</b>
<p><i>Curriculum is current as of catalog printing. The most current curriculum requirements for graduation will be provided upon admission to program, or review at <a href="http://www.wctc.edu">www.wctc.edu</a>.</i></p>	

<b>Electrician (ABC) Required Courses</b>		
<b>410-513 Carpentry for Electricians</b>	.75	
Learn basic terms used to identify components of buildings as well as be introduced to the correct use of power tools used in carpentry construction.		
<b>413-511 ABC Construction Elect Appr IA</b>	2	<b>413-522 Ind Des &amp; Est</b> .75
Examine the following topics: DC electrical theory, electrical safety, NEC basics, electrical test equipment, commercial electrical wiring, residential electrical wiring, and race-way boxes and fittings. This is the first course of a 10-course series in the ABC Electrician Apprentice curriculum.		
<b>413-512 ABC Construction Elect Appr IB</b>	2	<b>413-530 Electrical Code I</b> .5
Discuss the following topics: commercial and industrial electrical wiring, residential electrical wiring, race-ways, boxes and fittings, anchors and supports, conductors, and electrical blueprints. This course is intended for the ABC Electrician apprentice.		
<b>413-513 ABC Construction Elec Appr IIA</b>	2	<b>413-531 Electrical Code II</b> .5
Explore the topics of alternating current, motors, grounding, conduit bending, and boxes and fittings. Prerequisites: 413-512 ABC Construction Elect Appr IB		
<b>413-514 ABC Construction Elec Appr IIB</b>	2	<b>413-561 Blpt for Electricians</b> 1
Study topics such as conductor installations, cable tray, conductor terminations and splices, electric service installation, circuit breakers and fuses, contactors and relays, and electric lighting. Prerequisites: 413-513 ABC Construction Elec Appr IIA		
<b>413-515 ABC Construction Elec Appr IIIA</b>	2	<b>442-512 Electrical Apprentice Welding</b> .5
Explore the following subjects: distribution equipment, distribution system transformers, electricity in HVAC systems, overcurrent protection, conductor selection, and calculations. Prerequisites: 413-514 ABC Construction Elec Appr IIB		
<b>413-516 ABC Construction Elec Appr IIIB</b>	2	<b>449-501 OSHA Safe Intro for App</b> .5
Examine the following subjects: raceway, box and fitting fill requirements, wiring devices, motor controls, motor calculations, motor maintenance, and hazardous locations. Prerequisites: 413-515 ABC Construction Elec Appr IIIA		
<b>413-517 ABC Construction Elec Appr IVA</b>	2	
Discuss the following topics: high voltage terminations/splices, load calculations, electronic theory, specialty lighting, and motor maintenance. Prerequisites: 413-516 ABC Construction Elec Appr IIIB		
<b>413-518 ABC Construction Elec Appr IVB</b>	2	
Explore topics such as advanced controls, signaling systems, specialty transformers, standby and emergency systems, welding machines, HVAC controls, heat tracing, and freeze protection. Prerequisites: 413-517 ABC Construction Elec Appr IVA		
<b>413-519 ABC Construction Elect Appr VA</b>	2	
Study the principles and applications of advanced electronic theory, voice and data systems, busses and networks, and fiber optics.		
<b>413-520 ABC Construction Electappr VB</b>	2	
Broaden knowledge of programmable logic controllers, medical systems, and TV and antenna systems.		
<b>413-521 Residential Desgn &amp; Estimating</b>	.75	
Review the basics of electrical blueprints and National Electrical Code requirements for residential areas during this apprenticeship course. Use various methods to develop a residential power plan and residential estimates.		