INDUSTRY 4.0 IS HERE

Business Courses • Computers • HEP
Healthcare Programs • IT Certifications • Workforce
Online Courses & Certificates • Technical Training
Ask us about WEDnet PA Grant Funding for your employee training!
Contact Allison Creveling @ 610.607.6208

Please visit our Welcome Center in the Berks Hall lobby.
Discover a new career path!
Meet our friendly staff!
Learn about our credit and certificate programs!

Monday, Thursday, Friday: 8:00 AM - 5:00 PM
Tuesday, Wednesday: 8:00 AM - 7:30 PM
Call 610.607.6224 or visit racc.edu

WARRANTY DISCLAIMER. The College and its affiliates hereby disclaim all warranties, whether express, implied or statutory, including, without limitation, any implied warranty of merchantability or fitness for a particular purpose employability, future employment, licensure, certification or availability of courses, program, instructors or curriculum.

For more information on our graduation rates, the median debt of students who have completed programs and other important information, please visit our website at racc.edu/HEOA.
Healthcare Programs

CAREER TRAINING

DENTAL ASSISTANT*
624.5 Hrs. $6,125
This part-time program will prepare individuals for employment in a dental office. Students will receive theory and practical applications regarding chairside assisting. Students will also learn basic laboratory procedures, infection control, radiation health and safety, and prepare to take the state certification exam in radiology. In addition to classroom instruction, there is a 200-hour internship in a dental office. For gainful employment visit https://goo.gl/1eNjE3

PHLEBOTOMY WITH EKG TRAINING*
444.5 Hrs. $6,050
Classes begin every 6 weeks
This program prepares individuals to collect blood from adult patients, donor patients and perform EKGs. The initial component of training will consist of basic medical courses and a word processing course. The second part of this training consists of a full-time (day) clinical internship. For gainful employment visit https://goo.gl/TUJVca

NURSE AIDE*
120 Hrs. $1,390
This program prepares students for employment in a long-term care facility. During this course, the student will be presented with both theory and practical information regarding patient care. This course meets the requirements of the state of Pennsylvania. Students completing the course will be eligible to sit for the Pennsylvania State Competency Exam.

MEDICAL/DENTAL INSURANCE & BILLING SPECIALIST
639 Hrs. $7,010
Classes begin every 6 weeks
This program focuses on developing the administrative skills necessary to be a successful Medical Insurance and Billing Specialist. This fast growing field offers employment opportunities in doctors’ offices, dental offices, insurance companies, hospitals, and home-based businesses. Three years of business or administrative experience is required for this course of study. Students complete a 150-hour internship. For gainful employment visit https://goo.gl/HQdYm3

MEDICAL ASSISTING*
675 Hrs. $7,715
Classes begin every 6 weeks
This program prepares students to function in a variety of entry-level capacities in hospitals, clinics, and doctors’ offices. Students will develop skills in medical terminology, computerized medical office procedures and other front office duties. In addition, students will learn back office skills, including administering injections and immunizations, dispensing medications, drawing blood, and performing EKGs and CPR. Students complete a 150-hour internship. At the conclusion of this program, students will sit for CCMA certification (included). For gainful employment visit https://goo.gl/4hkRNV

MEDICAL RECEPTIONIST
654 Hrs. $7,210
Classes begin every 6 weeks
This program prepares individuals for employment as a receptionist in a medical office or other health-care setting. Students will learn keyboarding skills and medical office procedures including answering the telephone, scheduling patients, maintaining files, and directing visitors. Instruction will also prepare individuals for related clerical duties using medical terminology in hospitals, clinics or lab facilities. Students complete a 150-hour internship. For gainful employment visit https://goo.gl/tQuxDq

* Proof of personal medical insurance required.
All programs require a criminal background check free of prohibitive offenses.
Please call 610.375.8188 for additional information on these programs.
**MEDICAL SECRETARY**  
657 Hrs.  $7,300  
Classes begin every 6 weeks  
This program is designed to help students with basic clerical skills advance their skill set to work as a Medical Secretary. Completing this course will prepare the student for administrative duties such as transcription, patient scheduling and insurance and billing. Students complete a 150-hour internship.  
*For gainful employment visit https://goo.gl/QawxwO*

**VETERINARY ASSISTANT***  
160 Hrs.  $1,700  
This program will provide the student with the basic, entry-level knowledge and skills necessary for pursuing a career in a veterinary hospital as an assistant. This training is technically challenging. The program includes classroom and animal restraint competencies that must be successfully demonstrated prior to clinical placement for hands-on experience in local veterinary hospitals. Mastering medical terminology and basic technical veterinary skills are an integral part of the training.

---

Please call 610.375.8188 for additional information on these programs.

“I chose RACC because it offered a six-month career program that was close to home. Six months is a short amount of time to dedicate to bettering yourself and your career. While I was at RACC, I learned how to be a successful student. The staff at RACC helped me achieve my goals by setting high standards, answering all questions and working with me. My experience at RACC was pleasant and I would definitely do it all again.”

---

Are you a Medical Assistant wishing to be certified?  
Are you interested in preparing for and taking your CCMA certification exam?  
**Cost:** $695  
(includes a test prep guide, practice tests and a one-time NHA Test)

If you have been a practicing clinical medical assistant for one year and/or have previously taken RACC’s Medical Assisting Program, you are ready for the NHA certification test prep course. This 21-hour classroom session will cover information in preparation for the NHA exam. Benefits in obtaining a Clinical Medical Assistant Certification may include: more job opportunities, increased pay scale, job security, and increased subject matter expertise.

The class will include a NHA test prep book and cover information on the following:

- Patient Care  
- Communications  
- Medical Law and Ethics  
- Office Administration  
- Medication Administration  
- Electrocardiography  
- Phlebotomy and Specimen Handling  
- Infection Control  
- Medical Terminology

**Classes are held Mondays from 6pm-9pm for 7 weeks.**  
*Must possess a high school diploma or GED.*  
Reading Area Community College is now an NHA testing site for Medical Assistants!  
Please call 610.375.8188 to schedule your course today!
**Healthcare Programs**

**MEDICAL INSURANCE AND BILLING CLASSES**

Reading Area Community College is pleased to announce a series of classes for healthcare professionals who are interested in learning more about the insurance and billing side of the practice. Each class will run twice a week for a period of six weeks. Classes include:

**Classes begin every six weeks!**

**MEDICAL INSURANCE AND CODING 1*  
ZINS-601**

1:00–3:00 PM

This class introduces students to the coding that is used in submitting claims to the various insurance carriers. Students will become familiar with ICD-10 codes, CPT codes and HCPC codes. Students will be using various coding books to become familiar with looking up codes and the format of each book. Students will also review the data fields that are used to complete 1500 forms and discuss common errors on claim forms which may lead to denials from insurance carriers.

**MEDICAL INSURANCE AND CODING 2*  
ZINS-606**

5:10–7:40 PM

This class discusses the specifics of the various health insurance plans and programs offered in the United States today. Topics include Blue Cross, Blue Shield, commercial insurance plans, Medicare, Medicaid, Tri-care, Workers’ Compensation, and Disability. The class will also review the cash flow cycle, common reasons why claims do not get paid, the A/R function, the importance of patient education and the collection process.

**INTRO TO INSURANCE*  
ZINS-600**

1:00–3:00 PM

This class introduces students to the basic insurance concepts and types of insurance plans offered in the United States today. This information is especially useful for people who purchase insurance through the Patient Protection and Affordable Care Act (“Obamacare”) and for healthcare personnel who may have to address questions from patients about their insurance plans. The class will discuss Major Medical (Fee for Service) plans, Preferred Provider Organization (PPO) plans, Point of Service (POS) plans, Health Maintenance Organization (HMO) plans, High Deductible Heath Plans (HDHP) as well as Health Saving Accounts, Health Reimbursement Accounts, Flexible Spending Accounts, and Dependent Care Accounts. Other topics including Medicare and Medicaid plans and a coordination of benefits will also be discussed.

**SIMCHART**

This class offers students a database practice simulation of the steps needed to register patients with demographics. The student also gains experience in adding insurance plans, entering data (codes and charges) from visits and for services, posting co-pays from patients, submission of claims to insurance carriers, posting payments from EOBs/RAs, mailing of patient statements and posting patient payments after patient statements have been sent out. Topics will include insurance coordination of benefits, effective and termination dates of plans, patients that have multiple insurance cases (employer group plan, MVA, WC).

**DENTAL INSURANCE AND CODING**

**ZINS-605**

$345

8:00 AM–12:00 PM

This class discusses the specifics of dental plans along with their provisions and limitations. Students will access the internet to learn about current dental procedures and dental plans. Discussion will involve the specialty practices of modern dentistry, plan design and payment methods, and will also be discussing Insurance rules and regulations. Students will learn the differences between billing dental and/or medical plans for services and review completion of forms and coordination of benefits. Mathematical calculations will be explained as they apply to orthodontia as well as the use of an FSA to supplement dental coverage.

*Book available in RACC Bookstore.

Please call 610.375.8188 for additional information about these programs.
### Healthcare Programs

#### BLS PROVIDER

<table>
<thead>
<tr>
<th>Section</th>
<th>Start Time</th>
<th>Day</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>110</td>
<td>5:30pm-10:00pm</td>
<td>M</td>
<td>8/5</td>
</tr>
<tr>
<td>111</td>
<td>8:30am-1:00pm</td>
<td>S</td>
<td>8/10</td>
</tr>
<tr>
<td>113</td>
<td>8:30am-1:00pm</td>
<td>S</td>
<td>8/17</td>
</tr>
<tr>
<td>116</td>
<td>5:30pm-10:00pm</td>
<td>Th</td>
<td>8/29</td>
</tr>
<tr>
<td>117</td>
<td>5:30pm-10:00pm</td>
<td>T</td>
<td>9/5</td>
</tr>
<tr>
<td>120</td>
<td>8:30am-1:00pm</td>
<td>S</td>
<td>9/14</td>
</tr>
<tr>
<td>121</td>
<td>5:30pm-10:00pm</td>
<td>Th</td>
<td>9/19</td>
</tr>
<tr>
<td>125</td>
<td>5:30pm-10:00pm</td>
<td>T</td>
<td>10/1</td>
</tr>
<tr>
<td>128</td>
<td>8:30am-1:00pm</td>
<td>S</td>
<td>10/12</td>
</tr>
<tr>
<td>131</td>
<td>5:30pm-10:00pm</td>
<td>W</td>
<td>10/23</td>
</tr>
<tr>
<td>132</td>
<td>8:30am-1:00pm</td>
<td>S</td>
<td>10/26</td>
</tr>
<tr>
<td>133</td>
<td>8:30am-1:00pm</td>
<td>S</td>
<td>11/2</td>
</tr>
<tr>
<td>134</td>
<td>5:30pm-10:00pm</td>
<td>W</td>
<td>11/6</td>
</tr>
<tr>
<td>137</td>
<td>8:30am-1:00pm</td>
<td>S</td>
<td>11/16</td>
</tr>
<tr>
<td>140</td>
<td>5:30pm-10:00pm</td>
<td>T</td>
<td>11/26</td>
</tr>
<tr>
<td>141</td>
<td>5:30pm-10:00pm</td>
<td>T</td>
<td>12/3</td>
</tr>
<tr>
<td>142</td>
<td>8:30am-1:00pm</td>
<td>S</td>
<td>12/7</td>
</tr>
<tr>
<td>143</td>
<td>5:30pm-10:00pm</td>
<td>W</td>
<td>12/11</td>
</tr>
<tr>
<td>146</td>
<td>8:30am-1:00pm</td>
<td>S</td>
<td>12/21</td>
</tr>
</tbody>
</table>

**BLS PROVIDER**

<table>
<thead>
<tr>
<th>Course</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZCPR-310</td>
<td>$85</td>
</tr>
</tbody>
</table>

#### BLS RECERTIFICATION

<table>
<thead>
<tr>
<th>Section</th>
<th>Start Time</th>
<th>Day</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>104</td>
<td>5:30pm-9:00pm</td>
<td>Th</td>
<td>8/8</td>
</tr>
<tr>
<td>106</td>
<td>5:30pm-9:00pm</td>
<td>Th</td>
<td>8/22</td>
</tr>
<tr>
<td>110</td>
<td>5:30pm-9:00pm</td>
<td>M</td>
<td>9/23</td>
</tr>
<tr>
<td>112</td>
<td>5:30pm-9:00pm</td>
<td>W</td>
<td>10/16</td>
</tr>
<tr>
<td>115</td>
<td>5:30pm-9:00pm</td>
<td>Th</td>
<td>11/14</td>
</tr>
<tr>
<td>117</td>
<td>5:30pm-9:00pm</td>
<td>Th</td>
<td>12/5</td>
</tr>
</tbody>
</table>

**BLS RECERTIFICATION**

<table>
<thead>
<tr>
<th>Course</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZCPR-311</td>
<td>$85</td>
</tr>
</tbody>
</table>

The course includes adult, child and infant rescue skills in both the out-of-hospital and in-hospital settings.

*Includes pocket mask.

(More dates listed on web)

### American Heart Association

This American Heart Association course is designed to prepare a wide variety of healthcare professionals to recognize several life-threatening emergencies and to provide CPR, use of AED, and relieve choking in a safe, timely and effective manner.

#### BLS AND HEARTSAVER INSTRUCTOR COURSE

An American Heart Association approved course designed to enable candidate to teach. The candidate will be able to teach a BLS course using the video and lesson maps that are part of the American Heart Association curriculum.

**Must have a current BLS HCP card.**

Please call 610-607-6220 or email rlucas@racc.edu for information on scheduling an instructor course.

RACC will provide your group or business with CPR training and certification. Our certified instructors offer a variety of training options tailored to fit your needs.

For details, please contact the training center at 610-607-6220 or email rlucas@racc.edu

To register online follow instructions on page 52 and select topic code CPR

Please call 610.607.6220 for additional information on these programs.
American Heart Association

ONLINE TRAINING

Reading Area Community College is pleased to provide online CPR training.
1. BLS Provider
2. Heartsaver CPR/AED
3. Heartsaver CPR/AED First Aid
4. Heartsaver First Aid
5. ACLS
6. PALS

Follow these simple steps to a successful course completion:
1. Sign on to http://www.onlineAHA.org
2. Choose your course (fee varies by course)
3. Complete the online portion and print your certificate
4. Schedule a skills test

A skills session is the hands-on portion of an AHA online course. It is conducted in person after the student completes the online course. To schedule a skills session contact us at 610.607.6220.

Payment of $50 must be paid prior to taking the skills test.

By Phone: Call 610.607.6235 or 610.607.6231 to register with VISA, MasterCard or Discover.

In Person: RACC, Berks Hall Room 107, 10 South Second Street,
Monday and Thursday 8:00 AM - 4:30 PM;
Tuesday and Wednesday 8:00 AM - 6:30 PM;
Friday 8:00 AM - 4:00 PM

Class Location: Reading Area Community College (RACC)

Please call 610.607.6220 for additional information on these programs.
Business

CAREER TRAINING

ADMINISTRATIVE ASSISTANT $6,520*
656 Hrs. (6 months) Classes begin every 6 weeks
This program prepares those possessing three to five years of business and/or clerical experience to upgrade to the administrative assistant level. Upon completion, the student will be prepared to work as an office manager, administrative assistant or executive secretary.
Students complete a 200-hour internship.
For gainful employment visit https://goo.gl/qZacQs

COMPUTER APPLICATIONS $3,330
231 Hrs. (3 months) Classes begin every 6 weeks
This program will assist those students who need to gain valuable computer software training. Included in this course are classes in word processing and spreadsheets, along with keyboarding to increase speed. Students will also become proficient in Desktop Publishing, Access and PowerPoint.

OFFICE ASSISTANT WITH COMPUTER APPLICATIONS $5,830*
558 Hrs. (6 months) Classes begin every 6 weeks
This program is designed to build basic clerical skills with an emphasis on developing computer application skills. Students will be prepared to enter the business world as clerical support personnel, receptionists, correspondence clerks and data entry clerks.
Students complete a 150-hour internship.
For gainful employment visit https://goo.gl/iUw2NV

*Funding may be available through financial aid and/or scholarships.

*NOTE: A criminal background check is required for all courses with internships.
Please call 610.375.8188 for additional information on these programs.

BECOME A CERTIFIED AUCTIONEER!

The content of this course is designed to provide students with knowledge of the techniques, procedures, and principles of communication and marketing, appraisal, management and law necessary to conduct a successful auction. The course also includes practical field experience of on-the-job training with Pennsylvania-licensed auctioneers.

The Auctioneering Program meets all educational course requirements necessary to sit for the PA State Auctioneer’s License Exam.

• Scholarships available
• Approved for Veterans and OVR Benefits

Spring 2020
Cost: $3,800
Please call 610.375.8188 for more information.
INTRODUCTION TO PERSONAL COMPUTERS
ZCOM-600 $90
10:00 AM-4:30 PM F
If you are a new computer user this course is for you. Course content includes computer start-up, running programs, menus, basic computer concepts, file management and information about storage media.

MS WORD 2010 - Level 1*
ZCOM-601 $345
10:10 AM-12:10 PM TTh
Learn to use one of the most sophisticated and widely used word processing programs available! During this introductory course, you will explore the Word 2010 environment. Students will create, save, edit, and proofread documents, change the look of text, change the look of a document, and get help in Office 2010. Prerequisite: Familiarity with working in the Windows environment and working with a keyboard and mouse. Please bring a memory stick or flash drive to class.

MS WORD 2010 - Level 2*
ZCOM-602 $345
10:10 AM-12:10 PM MW
Take your Word skills to the next level! During this intermediate course you will learn to present information in columns and tabs, work with graphics, symbols, and equations, work with diagrams and charts, and work with longer documents. Includes an introduction to mail merge. Prerequisite: Word 2010 Level 1 or equivalent experience. Please bring a memory stick or flash drive to class.

MS EXCEL 2010 - Level 1*
ZCOM-603 $345
1:00-3:00 PM TTh
Starts with an introduction to Excel 2010. Learn techniques for entering data into cells, working with data, and using data tables more efficiently. Discover how to finish your workbook, and how to navigate and get help in Excel 2010. The class will also cover basic techniques for filtering and limiting data that can be entered into individual cells. Previous Windows experience recommended. Please bring a memory stick or flash drive to class.

MS EXCEL 2010 - Level 2*
ZCOM-604 $345
1:00-3:00 PM MW
Build your Excel skills with intermediate techniques for sorting and summarizing data. Learn to create dynamic charts and graphs. Practice utilizing formulas and functions, and develop your ability to collaborate with colleagues using passwords, comments, and change-tracking. Prerequisite: Excel 2010 Level 1 or equivalent experience. Please bring a memory stick or flash drive to class.

OVERVIEW OF OUTLOOK 2010
ZCOM-605 $45
1:00-4:00 PM F
In this overview of the vast Outlook software, you will learn to navigate and learn the tools for email, calendar, contacts, and tasks. This class will focus on what Outlook has to offer—not the basic skills of email. Learn how to sort your inbox and organize it with folders. Create rules to help you better manage your email and Quick Steps to make those common tasks go “quicker.” Learn the different types of appointments in the calendar.

INTERNET WORKSHOP
ZCOM-608 $90
10:00 AM-4:30 PM F
This six-hour course introduces students to internet browser features, locating internet sources and using email features.

KEYBOARDING I*
ZCOM-606 $345
3:10-5:10 PM TTh
This course is designed to teach students keyboarding skills for those with no prior keyboarding background or for students who wish to improve previously learned skills. This course emphasizes touch control of the keyboard and proper keyboarding techniques. Students will be keyboarding 25-45 words per minute with five or less errors as demonstrated by a five-minute timed test.

*Book available in RACC Bookstore. Please call 610.375.8188 for additional information about these programs.

To register online follow instructions on
DEVELOPING A COMPREHENSIVE BUSINESS PLAN  
ZCAR 345 3120  
Cost: $60  
Sessions: 2-hours per class, Mar 16, 23, 30  
All classes are 6:00-8:00 pm

Planning is your map to success in the business world. This three-week course is a must for anyone starting a small business and buying, financing, or refinancing a small business. Taught by SCORE counselors, this step-by-step process will help you: (1) move ideas from your head to paper in an organized, clear, and convincing manner; (2) identify those key points that can make or break your chances of success; (3) discover what critical points business lenders or private investors typically focus on; and (4) avoid the most common mistakes in business planning and analysis.

NON-PROFIT MANAGEMENT -- HONE YOUR LEADERSHIP SKILLS  
ZCAR 346 3120  
Cost: $60  
Sessions: 2-hours per class, Feb 4, 11, 18  
All classes are 6:00-8:00 pm

Today, what non-profit organizations do is vast, diverse, and invaluable to American life. Nonprofits are the primary drivers of social change and the providers of a wide array of goods and services to a diverse group of individuals. For non-profit organizations to effectively serve their client base, maintain their impact, and support ongoing relevance, it’s important for the leadership of the organization to be confident in understanding and implementing what is needed to manage their organization. This course has been developed to cover several subjects pertinent to the common operations and management of non-profit organizations. The subject matter will include modules in such areas as communications, finance, governance, marketing, strategic planning, alliance building, social media and technology integration. The series will be moderated by a combination of SCORE counselors and subject matter experts (SME’s).
An Electronic Handbook is included

EXPERT ADVICE TO KICK START YOUR BUSINESS  
ZCAR 347 3120  
Cost: $50  
Sessions: 2-hours per class, Mar 5, 12  
All classes are 6:00-8:00 pm

Is your business at a point where you need to take it to the next level? You know you should grow but don’t know how? Our experts will focus on what will be needed to strengthen the infrastructure to confidently move forward and grow. Developed and taught by local business professionals with direct, small business experience, this workshop provides strategies and insights on how to take your business to the next level. The curriculum for this three-week course is designed to focus on what you need to fine tune what you need from strategic planning to marketing in the information overload age.
An Electronic Handbook is included

Remember to register early!  
Classes begin as indicated in agenda sections.  
See page 9 for instructions on how to register.
SMALL BUSINESS HEALTH & SUSTAINABILITY
ZCAR 348 3120
Cost: $60
Sessions: Feb 25, Mar 3, 10 - All classes are 6:00-8:00 pm

Of course, starting your own business is only the beginning. To truly watch your dream thrive, it’s imperative that you be proactive in the following areas to ensure your vision continues to grow.

Over the course of two sessions, we’ll look at:

- How to understand cash flow cycles and financial reporting;
- Working on your bookkeeping and revenue reporting safety, security, and contingency planning for your business;
- How to develop the talent and retention of your business;
- Develop market adaptability;
- Develop client connection and service excellence.

This course will help you to focus on your business to ensure its growth and sustainability.

An Electronic Handbook is included.

HOW TO REGISTER

Visit www.racc.edu/Register.pdf and print out the Workforce and Economic Development/Community Education Registration Form. Mail to: Cashier’s Office, Reading Area Community College, P.O. Box 1706, Reading, PA 19603

Call (610) 607- 6235 or (610) 607- 6231 to register with VISA, MasterCard or Discover.

At Berks Hall, Room 107, RACC, 10 South 2nd Street, Reading, PA.
Monday and Thursday 8:00 am – 4:30 pm;
Tuesday and Wednesday 8:00 am – 7:00 pm; Friday 8:00 am – 4:30 pm.
VISA, MasterCard or Discover registration accepted.

HOW TO MARKET YOUR BUSINESS ONLINE
ZCAR 349 3120
Cost: $50
Sessions: 2-hours per class, Feb 6, 13 - All classes are 6:00-8:00 pm

There’s all sorts of opportunities to market your business online from Facebook Ads to Amazon Sponsorships. What’s important to understand is how to determine which ad platform is right for your business. During this four-hour series of sessions will look at a variety of ad platforms like: Google, Facebook, Instagram, and Waze ads. It will look at the tools, tips and techniques to better market your business or organization through these ad platforms. We’ll discuss how to determine what platforms offer the best RIO for your business.
Schmidt Training and Technology Center

Students

Certificate and Degree Programs

Launch your career
- Smart Automation
- Robotics
- Information Technology, A+, CISCO Networking Academy®, Security, Industrial CCNA/IIoT
- Machine Tool Technology
- Industrial Maintenance Technician, Mechatronics AAS
- Certified Production Technician (MSSC CPT)

Individual Courses

Upgrade your current skills
- Mechanical, Electrical, PLC, Robotics Labs

Employers

Certificate and Individual Courses

Upgrade your Workforce - Flexible, affordable training
- Pre-assessment Service - Technical Theory and Skills
- Certified Production Technician (MSSC CPT)
- Machine Tool Technology
- Mechanical, Electrical, PLC, Robotics Labs
- Industrial Network Internet of Things/IIoT
- Safety - OSHA, HAZWOPER

Operational Excellence

Improve Productivity
- Supervisor, Engagement, Safety Training

Specialty Training

Launch your career
- Supply Chain/Transportation/Warehouse Plant Technician
- Wastewater Treatment Plant Operator
- Electric Utility Technology (EUT)
- Ed2go On-line
What is Industry 4.0 (I4) Automation?

This is the 4th Revolution of Manufacturing since the industrial revolution began. Industry 4.0 is rapidly employing Artificial Intelligence (computer systems able to perform tasks that normally require human intelligence) to do the “labor” and “technology” needed to design, produce and distribute commodities and services.

Why learn/train/educate in I4 Smart Automation?

As humans accelerate the demand for faster delivery of services and products, the ease and safety of doing work and tasks and the multitude and modality of choices, manufacturers and businesses are compelled to hire tech-savvy employees with “mental” muscle and problem solving abilities to set-up, operate and maintain all aspects of smart manufacturing. Careers and jobs are in high demand, wages are family sustaining and the work is more meaningful.
INDUSTRY 4.0 SMART AUTOMATION OPERATOR TECHNICIAN

ZTEC 900
Average time for course completion: 195 hours
Bundle Investment: $4,595 (when registering for all 4 Associate levels below)
Prepares for Smart Automation Certificate Alliance (SACA) Certified Industry 4.0 Associate (1-4) Certificates

ASSOCIATE 1
INTRODUCTION TO MECHATRONICS
Associate 1 – Entry-Level Operations - ZTEC 901
Investment: $1695
Hours: 65
Topics include:
- Introduction to Industry 4.0
- Safety
- Hand Tools
- Measurement
- Print Reading
- Precision Measurement
- Mechanical Drives
- Fluid Power
- AC/DC Electricity
- Electrical Relay Control
- Robotics Programming
- Electronic Sensors

ASSOCIATE 2
INTRODUCTION TO INDUSTRIAL CONTROL SYSTEMS
Associate 2 – Advanced Operations - ZTEC 902
Investment: $1695
Hours: 65
Topics include:
- Industry 4.0 Principles
- Mechanical Drives
- Hydraulics Fluid Power
- Pneumatics
- Robotics Programming
- Electrical Relay Control
- Electronic Sensors
- Ethernet Network Communications
- Programmable Controllers
- CNC Programming
- Mechatronic Systems

ASSOCIATE 3
INDUSTRIAL ROBOT PROGRAMMING & OPERATION WITH INTRO TO ROBOGUIDE/HANDLINGPRO AND ROBOT SIMULATION
(FANUC LR MATE OR SCARA ROBOT)
Associate 3 – Entry-Level Robot Systems
ZTEC 903
Investment: $1695
Hours: 65
Topics include:
- Jogging The Robot
- Define Parts, Fixtures & End of Arm Tooling (EOAT)
- Teaching A Robot Program
- Matching Real Cell to Roboguide
- Electrical Relay Control
- Machines
- Importing and Exporting to and from the Robot
- Handling tool Operations & Programming
- Overview, Robotic Safety & Components
- Robot Software & Teach Pendants
- Introduction to Coordinate Systems and Robot Jogging
- Error Recovery and Motion Groups
- Frames
- Robotic Program Development
- Data Registers, Looping, Payload Schedule
- Robotic Inputs and Outputs (I/O) and Macros
- Program Adjust and File Manipulation

ASSOCIATE 4
INTRODUCTION TO THE INDUSTRIAL INTERNET OF THINGS (IIOT)
Associate 4 – Entry-Level Data Analytics and Networking - ZTEC 904
Investment: $1695
Hours: 65
Topics include:
- Advanced Programmable Controllers
- Data Analytics 1
- Variable Frequency Drives
- Bar Code Production Identification
- Mechatronics: Motors and Conveyers
- Ethernet Network 2
- RFID Product Identification
- Smart Sensors
- Programmable Controllers
- System Optimization
- Mechatronics: Communication & ASRS
- PLC Troubleshooting
INDUSTRY 4.0 SMART AUTOMATION
PROGRAMS AND COURSES

SMART AUTOMATION AND MECHATRONICS
SYSTEM - ZTEC 906
Average time for course completion: 170 Hours
Investment: $4,295
- Automation Operations
- Basic Component Adjustments
- Pick and Place Feeding
- Gauging
- Indexing
- Sorting and Queuing
- Servo Robotic Assembly
- Torquing
- Parts Storage
- Electro-Hydraulic Testing
- Multiple Station Control
- Mechatronics Troubleshooting
- Intro to Industry 4.0
- Smart Communications – Ethernet/ Wireless
- Smart Identification – Barcodes & RFID
- Smart Sensors – Pneumatic Vacuum/ Ultrasonic/ Photoeye/ Electrical Current/ Analog Position/ Analog Pressure
- Smart Device – Stack Light
- Smart Vision Inspection
- Cloud Based Manufacturing Execution – Maintenance,
- Communication and Network Security (SQUEAKS AP)

Pre-requisite Courses or Equivalent Experience Needed:
PLC Allen-Bradley Compactlogix L16 - ZTEC 454 (pg. 46)
Mechatronics HMI Terminal - ZTEC 456 (pg. 46)

SUPERVISORS AND MANAGEMENT

INTRODUCTION TO SMART AUTOMATION AND
INDUSTRIAL INTERNET OF THINGS (IIOT) - ZTEC 905
Average time for course completion: 65 Hours
Investment: $1,695

Topics include:
- Automation Operations
- Cloud Based Data Acquisition
- Programmable Logic Controller Operation (Allen-Bradley Micro820)
- Basic PLC Programming
- PLC Motor Control
- PLC Timer and Counter Instructions
- Pick and Place Feeding
- Smart Sensors
- PLC Event Sequencing
- Database Concepts
- Indexing
- Sorting and Parts Storage
- Automated Storage and Retrieval Systems

See pages 17 & 18 for CISCO course descriptions.
INDUSTRY 4.0 SMART AUTOMATION PROGRAMS AND COURSES

MOTOMAN MERIT CERTIFIED ROBOT FS100 BASIC PROGRAMMING WITH MATERIAL HANDLING
ZTEC 556
Average time for course completion: 32 Hours
Investment: $1,925

This training is provided by RACC as a Motoman Merit Certified facility. The course is designed to help students learn to program and operate the FS100 Robot Controller using INFORM programming language (similar to the DX100).

- Safety
- Startup and Shutdown
- Pendant overview
- Jogging in all Coordinate Systems
- Copying, Creating, Deleting and Editing Jobs
- Alarm and Error Recovery,
- Programming and Monitoring Input/Output
- Using Math and Position Variables

FANUC INDUSTRIAL ROBOT PROGRAMMING & OPERATION WITH INTRO TO ROBOGUIDE/HANLDING-PRO AND ROBOT SIMULATION
ZTEC 903
Average time for course completion: 65 Hours
Investment: $1,625

- Jogging The Robot
- Define Parts, Fixtures & End of Arm Tooling
- Teaching A Robot Program
- Matching Real Cell to Roboguide
- Electrical Relay Control
- Machines
- Importing and Exporting to and from the Robot
- Handling Tool Operations & Programming
- Overview, Robotic Safety & Components
- Robot Software & Teach Pendants
- Introduction to Coordinate Systems and Robot Jogging
- Error Recovery and Motion Groups
- Frames
- Robotic Program Development
- Data Registers, Looping, Payload Schedule
- Robotic Inputs and Outputs (I/O) and Macros
- Program Adjust and File Manipulation

INTRO TO MOTOMAN FS100 BASIC PROGRAMMING WITH MATERIAL HANDLING
ZTEC 559
Average time for course completion: 8 Hours
Investment: $375

Learn and understand the features of the FS100 Robot Controller and Programming Pendant using the INFORM programming language.

- Startup and Shutdown
- Tech Pendant Familiarization
- Pendant Screen
- Jogging and Coordinates
- Alarms and errors
- Selecting a Job
- Robot and Tool Path
- Non-Motion Instructions with Demonstration Program

INTRO TO FANUC® ROBOTS WITH HANDLING TOOL SOFTWARE
ZTEC 554
Average time for course completion: 8 Hours
Investment: $375

- Robot Safety
- Robot Systems
- Teach Pendant Overview
- Power Up and Jogging
- Frames and Programs Overview
- Instruction Overview
- Inputs/Outputs
- Hands-on Labs and Quizzes
## Certificate and Degree Programs

### Information Technology A+ Cisco Networking Academy Pages 16-18

<table>
<thead>
<tr>
<th>Job Prospects</th>
<th>Timeframe</th>
<th>Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Help Desk Support, Hardware Tech IT Tech, Desktop Support (foundational training for an IT career)</td>
<td>6 months</td>
<td>CompTIA A+ Certification IT Essentials, Fundamentals - ZCOM 336 IT Essentials, Advanced - ZCOM 337</td>
</tr>
<tr>
<td>Entry Level Network Tech Field Service Technician, NOC Technician (preparation for small sized network operations)</td>
<td>6 months (Replaced by CCNA 7.0 July 31, 2020)</td>
<td>Cisco Networking Academy - CCENT Intro to Networks – ZCOM 413 Routing &amp; Switching Essentials – ZCOM 414</td>
</tr>
<tr>
<td>System Administrator, Network Engineer/Technicians, Help Desk Engineer, Sales Engineer (preparation for small to mid sized network operations)</td>
<td>8 months</td>
<td>Cisco Networking Academy CCNA 7.0 CCNA1, 2, and 3 ZCOM 420</td>
</tr>
<tr>
<td>Network Security Security Analyst, Network Admin, IT Security Specialist (your start to a career in Network &amp; Cyber Security)</td>
<td>4 months</td>
<td>CCNA Security – ZCOM 408 (CCENT or CCNA 7.0 required)</td>
</tr>
</tbody>
</table>

### Machine Tool Technology Pages 19-21

<table>
<thead>
<tr>
<th>Job Prospects</th>
<th>Timeframe</th>
<th>Credential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry Level CNC Machine Operator</td>
<td>6 months</td>
<td>Basic Skills Certificate (2 NIMS)</td>
</tr>
<tr>
<td>Operator / Entry Level Manual Machinist</td>
<td>12 months</td>
<td>Intermediate Skills Certificate (6 NIMS)</td>
</tr>
<tr>
<td>Entry Level CNC Programmer</td>
<td>18 months</td>
<td>Advanced Skills Certificate (3 NIMS)</td>
</tr>
<tr>
<td>Machinist / CNC Programmer</td>
<td>24 months</td>
<td>Machine Tool Technology AAS (2 NIMS)</td>
</tr>
</tbody>
</table>

### Industrial Maintenance, Mechatronic, AAS Pages 24-25

<table>
<thead>
<tr>
<th>Job Prospects</th>
<th>Credential</th>
<th>Timeframe</th>
<th>Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paid Internship Entry Level Maintenance Tech</td>
<td>AMIST 1* Basic Skills Certificate</td>
<td>6 months</td>
<td>AMIST 1  • Industrial Mechanical  • Industrial Electrical  • Industrial PLC</td>
</tr>
<tr>
<td>Industrial Maintenance Tech</td>
<td>AMIST 2* Intermediate Skills Certificate (plus experience)</td>
<td>18 months</td>
<td>AMIST 1 plus  • Industrial Mechanical 2  • Industrial Electrical 2  • Industrial PLC2</td>
</tr>
<tr>
<td>Industrial Maintenance Tech Level 2</td>
<td>AMIST 3* Advanced Skills Certificate (plus experience)</td>
<td>24 months</td>
<td>AMIST 1 &amp; 2 plus  • Industrial Robots &amp; Motion Control  • Advanced PLC  • Process Control and Industrial Instrumentation</td>
</tr>
<tr>
<td>Industrial Engineering Tech &gt;&gt; AAS Degree Transfer credits to 4 year BS Program</td>
<td>Mechatronics, AAS with AMIST 4</td>
<td>&gt;24 months</td>
<td>ALL AMIST Certificates plus  • Capstone Mechatronics Project  • Manufacturing Fundamentals  • General Education Requirements</td>
</tr>
</tbody>
</table>
CERTIFICATE AND DEGREE PROGRAMS
INFORMATION TECHNOLOGY, A+, CISCO NETWORKING ACADEMY®

CompTIA A+

Course Description
The IT Essentials courses are designed for students who want to pursue careers in IT and students who want to gain practical knowledge of how a computer works. Students who complete these courses will be able to describe the internal components of a computer, assemble a computer system, install an operating system, and troubleshoot using system tools and diagnostic software. Students will also be able to connect to the Internet and share resources in a networked environment. Additional topics covered include laptops and portable devices, wireless connectivity and basic implementation skills, Voice over Internet Protocol (VoIP), security, safety and environmental issues, applied network configuration and troubleshooting skills, and communication skills. Hands-on lab activities are essential elements that are integrated into the curriculum. Labs are designed to supplement learning and provide hands-on experience with physical equipment. Now including Mac IOS and Linux basics with added emphasis on mobile and wireless technologies. Prerequisite: general knowledge of the use of a computer.

Aligns with 220-1001 & 220-1002 CompTIA A+ Certification exams

IT Essentials - Fundamentals
ZCOM-336
Textbook additional fee. Includes test fee.
Approximate time to complete: 200 hours
$1,650

IT Essentials - Advanced
ZCOM-337
Includes test fee. Prerequisite of ZCOM 336
(use book from ZCOM 336)
Approximate time to complete: 200 hours
$1,550

These courses have an open start date.
Contact 610.372.4721, ext 5716 or jvecchio@racc.edu for details.
Routing and Switching - CCENT

The Cisco Routing and Switching curriculum is designed for students seeking entry-level jobs in the Information and Communications Technology (ICT) industry or hoping to fulfill prerequisites to pursue more specialized ICT skills. The program provides an integrated and comprehensive coverage of networking topics, from fundamentals to advanced applications and services, while providing opportunities for hands-on practical experience and career skills development.

The program is composed of two courses. After the completion of Introduction to Networks and Routing & Switching Essentials, students will be prepared to sit for their CCENT® certification exam. At that point, students can continue their studies in other concentration areas.

INTRODUCTION TO NETWORKS
ZCOM-413 (CCENT 1) $795 for 90 hours
Textbook additional fee.
This initial networking course introduces the architecture, structure, functions, components and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. Students will be able to build simple LAN's, perform basic configurations for routers and switches, and implement IP addressing schemes. This course also introduces students to the use of debugging and network troubleshooting.

ROUTING AND SWITCHING ESSENTIALS
ZCOM-414 (CCENT 2) $975 for 90 hours
Textbook additional fee.
Includes exam fee as pre-paid plus grade-based vouchers*
This course describes the architecture, components, and operations of routers and switches in small to medium sized networks. Students learn how to configure routers and switches for basic functionality. By the end of this course, students will be able to configure and troubleshoot TCP/IP Networks. Topics include LAN switching technologies and connecting LANs using static and dynamic routing protocols i.e. OSPF. Additionally, inter-VLAN routing methods are explained before learning to control and limit such access for added network security. Automated IP addressing, DHCP, is configured as well as Network Address Translation for IPv4. Additional IPv6 topics and configurations are also covered. New topics include Device Discovery for network mapping, Password Recovery and more. Prerequisite of ZCOM 413

Successful completion of these two courses prepare students to sit for their CCENT® certification exam. (Aligns to Cisco certification exam 100-105)
Available until July 31, 2020

* Reasonable eligibility restrictions apply for the grade-based vouchers, we do not offer a pre-paid voucher for the CCNA composite exam

These courses have an open start date.
Contact 610.372.4721, ext 5716 or jvecchio@racc.edu for details.
CCNA Cisco Network Technologies

CCNA 7.0
ZCOM-420
$2,385 for 200 hours

Textbook additional fee.

CCNA 7.0 teaches comprehensive networking concepts and skills, from network applications to the protocols and services provided to these applications. Learners will progress from basic networking to more complex enterprise and theoretical networking models later in the curriculum. There are three courses that make up the CCNA 7.0 curriculum - they are aligned to cover the competencies outlined for the CCNA Certification Exam (200-301).

<table>
<thead>
<tr>
<th>CCNA COURSE 1</th>
<th>CCNA COURSE 2 (cont.)</th>
<th>CCNA COURSE 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Networking Today</td>
<td>• DHCPv4</td>
<td>• Single-Area OSPFv2 Concepts and Configurations</td>
</tr>
<tr>
<td>• Basic Switch and Device Configuration</td>
<td>• SLAAC and DHCPv6 Concepts</td>
<td>• Network Security Concepts</td>
</tr>
<tr>
<td>• Protocols and Models</td>
<td>• FHRP Concepts</td>
<td>• ACL Concepts</td>
</tr>
<tr>
<td>• Physical Layer</td>
<td>• LAN Security Concepts</td>
<td>• ACLs for IPv4 Configuration</td>
</tr>
<tr>
<td>• Number Systems</td>
<td>• Switch Security Configuration</td>
<td>• NAT for IPv4</td>
</tr>
<tr>
<td>• Data Link Layer</td>
<td>• WLAN Concepts &amp; Configuration</td>
<td>• WAN Concepts</td>
</tr>
<tr>
<td>• Ethernet Switching</td>
<td>• Routing Concepts</td>
<td>• VPN and IPsec Concepts</td>
</tr>
<tr>
<td>• Network Layer</td>
<td>• IP Static Routing</td>
<td>• QoS Concepts</td>
</tr>
<tr>
<td>• Address Resolution</td>
<td>• Troubleshoot Static and Default Routes</td>
<td>• Network Management</td>
</tr>
<tr>
<td>• Basic Router Configuration</td>
<td></td>
<td>• Network Design, Troubleshooting, Virtualization and Automation</td>
</tr>
<tr>
<td>• IPv 4 &amp; 6 Addressing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• ICMP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Transport and Application Layer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Network Security Fundamentals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Build a Small Network</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CCNA COURSE 2

• Basic Device Configuration
• Switching Concepts
• VLANs
• Inter-VLAN Routing
• STP
• EtherChannel

CCNA COURSE 3

• Single-Area OSPFv2 Concepts and Configurations
• Network Security Concepts
• ACL Concepts
• ACLs for IPv4 Configuration
• NAT for IPv4
• WAN Concepts
• VPN and IPsec Concepts
• QoS Concepts
• Network Management
• Network Design, Troubleshooting, Virtualization and Automation

CCNA Security

ZCOM-408
$1,150 for Approx. 90 hours

Textbook and certification exam/badge additional fee.

Suggested Prerequisite: CCENT or CCNA 7.0

Security and risk-management skills are among the most highly sought after skills in networking. Organizations around the world are experiencing a shortage of qualified IT candidates with the specialized knowledge and skills needed to administer devices and applications in a secure infrastructure, recognize network vulnerabilities, and mitigate security threats.

The Cisco Networking Academy® CCNA Security course provides a next step for individuals who want to enhance their skill set and help meet the growing demand for network security professionals.

Industrial Network
Internet of Things (IIoT)

ZCOM-419
$1,275 for Approx. 90 hours

The Cisco Network Associate Industrial (CCNA IIoT) certification is for plant administrators, control system engineers and traditional network engineers in the manufacturing, process control, and oil and gas industries, who will be involved with the convergence of IT and Industrial networks.

Topics Include:
• IP Networking
• Common Industrial Protocol (CIP) Knowledge and Configuration
• Profinet Knowledge and Configuration
• Security
• Wireless
• Troubleshooting

After completion of this course students can sit for the 200-601 IMINS2
Prerequisites: Industrial Networking Specialist or CCENT or CCNA Routing and Switching, or any valid CCIE certification

*Reasonable eligibility restrictions apply for the grade-based vouchers, we do not offer a pre-paid voucher for the CCNA composite exam.

These courses have an open start date.
Contact 610.372.4721, ext 5716 or jvecchio@racc.edu for details.
# Basic Skills Certificate

## BASIC CNC OPERATION

(Z)MTT-100  
$3,295  
150 hours

## BASIC CNC LATHE OPERATION

(Z)MTT-101  
$565  
Teaches basic set up and operation of CNC lathes. Preparation NIMS Level I certificate: CNC Lathe Operation.  
Co-requisite: (Z)MTT-100  
30 hours

---

## Intermediate Skills Certificate (Basic Skills Certificate plus)

## INTRODUCTION TO MACHINING

(Z)MTT-105  
$1,695 (textbook additional)  
Theoretical and practical aspects of shop safety, hand tools, precision layout, precision measuring instruments, taps, dies, files, reamers, and identification and use of appropriate materials to manufacture parts are covered. Preparation for two NIMS Level I certificates: Measurement, Materials and Safety; Layout and Bench work.  
75 hours

## BASIC MACHINE TOOLS

(Z)MTT-110  
$1,695 (textbook additional)  
Basic operations of the drill press, pedestal grinder and band saw will be covered. Preparation for the NIMS Level I certification: Drill Press.  
75 hours

## SUPERVISORS AND MANAGEMENT

## INTRO TO MACHINE TOOL AND CNC

ZMTT-124  
$225  
- Advantages of CNC  
- From Blueprint to Finished Product  
- Math and Machinist  
- Machinist Number Language  
- What does CNC Mill Operator do?  
- What does a CNC Lathe Operator do?  
8 hours

## TURNING TECHNOLOGY LEVEL I

(Z)MTT-157  
$1,695 (textbook additional)  
Knowledge, practical learning experience and accident prevention awareness required to perform conventional lathe job planning, set-up and operation. Aspects of conventional, carbide and other tooling materials selection, preparation, and usage will be covered. Preparation to take NIMS Level I certification: Turning between Centers and Chucking.  
75 hours

## MILLING TECHNOLOGY LEVEL I

(Z)MTT-158  
$1,695 (textbook additional)  
Knowledge and skills necessary to identify and safely use various milling cutters and other tools that are adapted to milling machines. This course covers conventional milling machine parts and controls, the function of each part and control and techniques so that students can operate the machines safely and with a high degree of accuracy. Preparation to take the NIMS Level I certification: Milling.  
75 hours

These courses have an open start date.  
Contact 610.372.4721, ext 5716 or jvecchio@racc.edu for details.
Schmidt Training and Technology Center

CERTIFICATE AND DEGREE PROGRAMS
MACHINE TOOL TECHNOLOGY

Advanced Skills Certificate *(Intermediate Skills Certificate plus)*

**CNC PROGRAMMING**

*(Z)MTT-180*  $1,695 (textbook additional)
Introduction to “G” and “M” code programming for Milling and Turning. Teaches theory designed to successfully start programming CNC Mills and Turning Centers. This program is recommended for the student who wants to further their knowledge in CNC Programming.

**BLUEPRINT READING**

*(Z)MTT-132*  $1,695 (textbook additional)
Teaches necessary skills to interpret part drawings. Emphasis will be placed on stimulating the students’ creativity and the ability to visualize the drawn object. This course will start with simple part drawings and advance to more complex part drawings.

**CNC MILL LEVEL I**

*(Z)MTT-185*  $1,795 (textbook additional)
Teaches FANUC “G” and “M” code programming along with set-up and operation of CNC Milling Centers. Designed by FANUC to teach CNC Programming, Set-up and Operation for Machining Centers. Preparation for NIMS CNC Milling Level 1 Programming and Operation exam.

**TURNING TECHNOLOGY LEVEL II**

*(Z)MTT-225*  $1,695 (textbook additional)
Knowledge, practical learning experience and accident prevention awareness required to perform advanced conventional lathe job planning, set-up and operation. Aspects of conventional, carbide and other tooling materials selection, preparation, and usage will be covered. Preparation for NIMS Level II certification: Turning between Centers and Chucking.

**CAM PROGRAMMING**

*(Z)MTT-288*  $1,695 (textbook additional)
Teaches skills of Computer Aided Manufacturing (CAM) programming using MasterCAM software. Students will learn how to create 2D mill, 3D mill and lathe part geometries and toolpaths. Students will also use the software to create CNC part programs and be able to verify their toolpaths.

**ENGINEERING GRAPHICS WITH SOLIDWORKS**

*(Z)MTT-107*  $1,195 (no books, all online)
Learn to use Solidworks to draw 3d part models, 2d part drawings, parametric parts, part assemblies and basic simulation. Exercises include sketching, extruding parts, editing parts, moving assemblies and SimulationXpress. Students will learn the foundational skills of Solidworks.

*Flexible start times available*

These courses have an open start date.
Contact 610.372.4721, ext 5716 or jvecchio@racc.edu for details.
MILLING TECHNOLOGY LEVEL II  
(Z)MTT-212  
$1,695 (textbook additional)  
Knowledge and skills necessary to identify and safely use various milling cutters and other tools that are adaptable to milling machines. Students learn to set up work pieces to be properly machined. Preparation for NIMS Level II certification: Milling. 75 hours

CNC MILLING II  
(Z)MTT-272  
$1,695 (textbook additional)  
Designed by FANUC to teach FANUC MACRO Programming. Preparation for NIMS CNC Milling Level II Programming and Operation exam. 75 hours

GRINDING TECHNOLOGY  
(Z)MTT-221  
$1,695 (textbook additional)  
Teaches theoretical and the practical skills development in precision grinding operations. Students will learn to safely use a surface grinder, applying various techniques to make metal parts to blueprint specifications. Preparation for NIMS Level I & Level II certification in grinding. 75 hours

ADVANCED CNC TURNING  
(Z)MTT-276  
$1,795 (textbook additional)  
Designed by FANUC to teach “G” and “M” code programming along with setup and operation of CNC Turning Centers. Preparation for NIMS CNC Turning Level 1 Programming and Operation exam. 75 hours

CNC FIXTURE DESIGN - CAD EXPERIENCE PREFERRED  
(Z)MTT-265  
$1,195 (textbook additional)  
Teaches CAD software design of production ready jigs and fixtures. Design features and methods will be discussed. 45 hours

*Gen Ed Courses AAS Degree .................. 25 cr.  
ORI 103 College Success Strategies ........... 3 cr.  
MAT 165 Math Trigonometry .................... 3 cr.  
IFT 110 Microcomputer Applications ............ 3 cr.  
SOC 130 Sociology .................................. 3 cr.  
COM 121 or 122 English Composition .......... 3 cr.  
COM 141 Technical Writing ....................... 3 cr.  
PHY 150 or 250 Applied Physics ................. 4 cr.  
Humanities Elective ............................... 3 cr.

Flexible start times available

These courses have an open start date.  
Contact 610.372.4721, ext 5716 or jvecchio@racc.edu for details.
UPGRADE YOUR SKILLS - FOUR MODERN TECHNOLOGY LABS

Schmidt Training and Technology Center Labs conveniently open Monday through Friday, accommodating both day and evening students.

Mechanical Lab
LAB HOURS: M-F 7:30AM - 3:30PM
M-TH 5PM - 9PM
Drives, Hydraulics, Pneumatics, Pumps, Piping, Rigging, Troubleshooting

Electrical Lab
LAB HOURS: M-F 7:30AM - 3:30PM
M-W 5PM - 9PM
AC/DC, Motors, Electronics, Sensors, Power Distribution, Troubleshooting

STUDENTS & EMPLOYERS
Schmidt Training and Technology Center

UPGRADE YOUR SKILLS - FOUR MODERN TECHNOLOGY LABS

PLC Networking Lab
LAB HOURS: M-F 7:30AM - 3:30PM
M-W 5PM - 9PM

Allen Bradley, Siemens, Process Control,
Communication, Troubleshooting

Smart Automation, Mechatronics
and Robotics Lab
LAB HOURS: M-F 7:30AM - 3:30PM
M-W 5PM - 9PM

Programming, Process Control, Simulation,
Communication, Troubleshooting

Schmidt Training and Technology Center Labs conveniently open Monday through Friday, accommodating both day and evening students.
RACC’s Mechatronics/AMIST technical courses are offered in two instructional delivery/learning models:

- **Traditional** - All training, both theory and hands-on, conducted at the Schmidt Training and Technology Center.
- **Hybrid** - Theory accessed over the Internet with instructor support; hands-on skills taught and assessed at the Schmidt Training and Technology Center. Access to the Internet training site is 24 hours a day, seven days a week.

In both models, instructors with relevant industry experience are available to guide students through the program.

### AMIST 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours/Credits</th>
<th>Cost/Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>MET 120</td>
<td>Industrial Mechanical – Hydraulics Track</td>
<td>162 hours</td>
<td>$4,485</td>
</tr>
<tr>
<td>ZTEC 356</td>
<td></td>
<td>5 college</td>
<td></td>
</tr>
<tr>
<td>OR*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MET 120</td>
<td>Industrial Mechanical – Pneumatics Track</td>
<td>162 hours</td>
<td>$4,485</td>
</tr>
<tr>
<td>ZTEC 371</td>
<td></td>
<td>5 college</td>
<td></td>
</tr>
<tr>
<td>MET 130</td>
<td>Industrial Electrical</td>
<td>120 hours</td>
<td>$3,215</td>
</tr>
<tr>
<td>ZTEC 227</td>
<td></td>
<td>4 college</td>
<td></td>
</tr>
<tr>
<td>MET 140-1</td>
<td>Industrial PLC (SLC500)</td>
<td>80 hours</td>
<td>$2,025</td>
</tr>
<tr>
<td>ZTEC 428</td>
<td></td>
<td>2 college</td>
<td></td>
</tr>
</tbody>
</table>

**OR* - pneumatics concentration preferred by food and pharmaceuticals manufacturing, hydraulics concentration preferred by general manufacturing**

### AMIST 2

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours/Credits</th>
<th>Cost/Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>MET 150</td>
<td>Industrial Mechanical 2 – Hydraulics Track</td>
<td>170 hours</td>
<td>$4,415</td>
</tr>
<tr>
<td>ZTEC 369</td>
<td></td>
<td>6 college</td>
<td></td>
</tr>
<tr>
<td>OR*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MET 150</td>
<td>Industrial Mechanical 2 - Pneumatics Track</td>
<td>170 hours</td>
<td>$4,415</td>
</tr>
<tr>
<td>ZTEC 375</td>
<td></td>
<td>6 college</td>
<td></td>
</tr>
<tr>
<td>MET 160</td>
<td>Industrial Electrical 2</td>
<td>115 hours</td>
<td>$2,255</td>
</tr>
<tr>
<td>ZTEC 242</td>
<td></td>
<td>3 college</td>
<td></td>
</tr>
<tr>
<td>MET 140-2</td>
<td>Industrial PLC (SLC500) 2</td>
<td>40 hours</td>
<td>$1,025</td>
</tr>
<tr>
<td>ZTEC 433</td>
<td></td>
<td>2 college</td>
<td></td>
</tr>
</tbody>
</table>

**OR* - pneumatics concentration preferred by food and pharmaceuticals manufacturing, hydraulics concentration preferred by general manufacturing**

These courses have an open start date.

Contact 610.372.4721, ext 5716 or jvecchio@racc.edu for details.
CERTIFICATE AND DEGREE PROGRAMS
INDUSTRIAL MAINTENANCE TECHNICIAN, MECHATRONICS AAS

STUDENTS & EMPLOYERS

AMIST 3

MET 200
Industrial Robotics and Motion Control
ZTEC 531
Approximately 140 hours of training, 4 college credits
Investment: $4,215
- Robotics & Computer Programming
- Flexible Manufacturing Systems
- General Purpose Motion Control System
- Multi-Axis Motion Control System

MET 210
Process Control & Industrial Instrumentation
ZTEC 437
Approximately 90 hours of training, 3 college credits
Investment: $2,555
- Pressure, Level, Flow, Heat & Cooling

AMEST 4

MET 111
Manufacturing Fundamentals
ZTEC 561
Approximately 30 hours of training, 1 college credit - hybrid learning
Investment: $565
- Principles of Advanced Manufacturing
  - Introduces typical plant processes such as CNC, PLC and Automation
  - Reviews typical plant layouts for efficient manufacturing
  - Manufacturing personnel and their responsibilities
- Lean Manufacturing
  - Introduces principles and methods of workplace organization using 5s methods
- Communication Skills
  - Importance of effective communication, listening skills, and feedback
- Safety Practices and Regulations
  - Reviews basic workplace safety concepts and practices
- Personal Protection Equipment
  - Reviews the importance of Personal Protective Equipment (PPE)
  - Identifies the potential hazards that require PPE
  - Types of PPE required for different types of hazards
  - The worker's role in following PPE guidelines and requirements

MET 220
Advanced Industrial PLC
AB ControlLogix
ZTEC 438
Approximately 170 hours of training, 4 college credits
Investment: $3,995
- PLC Controller and Troubleshooting Functions
- Analog I/O Application System
- Panelview Plus 1000 System
- DeviceNet I/O Networking
- ControlNet Networking
- Ethernet/IP Networking

OR

MET 220
Advanced Industrial PLC Siemens S7-300
ZTEC 439
Approximately 140 hours of training, 4 college credits
Investment: $3,995
- Controller & Troubleshooting Functions
- Analog I/O Application System
- Profibus Communications System
- TP1200 Operator Panel (HMI)
- Remote Input/Output
- Math and Data Move Instructions

MECHATRONICS AAS

These courses have an open start date.
Contact 610.372.4721, ext 5716 or jvecchio@racc.edu for details.
INTRO TO SMART SENSORS, DATA ACQUISITIONING & HMI
Average time for course completion: 8 hours
- Automation Operations
- Cloud-based Data Acquisition (SQUEAKS AP)
- SMART Sensors
- Into HMI Panel Operation
- SMART Sensor Skill Application Project

INTO TO ROBOTICS - Motoman Robot FS100 Basic Programming with Material Handling
- OR-
Fanuc Robot with Handling Tool Software
Average time for course completion: 8 hours
- Start-Up and Shutdown
- Tech Pendant Overview
- Jogging and Coordinates
- Alarm and Errors
- Selecting a Job
- Hands-On Skills

TYPES OF AUTOMATION AND HOW TO JUSTIFY AUTOMATING
Average time for course completion: 8 hours
- Parts Feeders, Vision, Robots, Semi Automated, Fully Automated, VR, AR, Conveyors
- Determining Real Cost and Projected Returns
- In-House vs. Out-Source
- Steps to Get Started
- Project

LEADING IN A CHANGING ENVIRONMENT
Average time for course completion: 8 hours
- Communicating Virtually
- Time Management in Real-Time World
- Metrics, Measuring, and Monitoring
- Collaboration with Accountability
- Employee Engagement and Retention Strategies
Schmidt Training and Technology Center

FLEXIBLE, CUSTOMIZED TRAINING SOLUTIONS

Your company’s customized training plan:

Who - each employee / student can receive their own customized plan.

When, Where – The STTC has very convenient hours of operation catering to all shifts.

What – you design the training programs to meet your needs.

ABC Manufacturing Inc. - Customized Training Plan

LAP 1 Introduction to Motor Control
LAP 2 Manual Motor Control and Overload Protection
LAP 3 Control Transformers Control
LAP 4 Ladder Logic
LAP 5 Control Relays and Motor Starters
LAP 6 Introduction to Troubleshooting
LAP 7 System Troubleshooting
LAP 8 Reversing Motor Control
LAP 9 Automatic Input Devices
LAP 10 Basic Timer Control: On-Delay and Off-Delay

This example employee training plan combines courses from different disciplines.

Page 34
ELECTRIC MOTOR CONTROL – ZTEC 207
LAP 1 Introduction to Electric Motor Control
LAP 2 Manual Motor Control and Overload Protection
LAP 3 Control Transformers Control
LAP 4 Ladder Logic
LAP 5 Control Relays and Motor Starters
LAP 6 Introduction to Troubleshooting
LAP 7 System Troubleshooting
LAP 8 Reversing Motor Control
LAP 9 Automatic Input Devices
LAP 10 Basic Timer Control: On-Delay and Off-Delay

Page 35
POWER & CONTROL ELECTRONICS – ZTEC 252
LAP 1 Oscilloscopes
LAP 2 Linear Power Supplies
LAP 3 Power Supply Filtration and Regulation
LAP 4 Solid State Relays
LAP 5 Discrete Sensing Devices
LAP 6 Thermal Sensing Devices
LAP 7 Amplifiers and Operational Amplifiers
LAP 8 Analog Sensing Devices
LAP 9 Solid State Switching
LAP 10 Solid State Speed and Power Control

Pre-Assessment Service
Technical Theory and Skills

Save time and resources! Pre-assess your employee’s technical theory and skills prior to program / course selections.

Align Employees’ Acquired Theory and Skills Knowledge to our:
- Maintenance Tech / AMIST Programs
- Machining / CNC Programming
- Mechanical / Electrical / PLC

Contact Christi Loverich at 610.372.4721 ext. 5305 or cloverich@racc.edu for pricing and details.

These courses have an open start date.
Contact 610.372.4721, ext 5716 or jvecchio@racc.edu for details.
INTRODUCTION TO SHOP MACHINERY – ZTEC 558
Average time for course completion: 90 hours  3 college credits.
Investment: $2,385
- Quality Assurance
  - Basic Measurement, Precision Measurement, Dimensional Gauging
  - Control Chart Operation, Control Chart Analysis
  - Geometric Dimensioning and Tolerancing
  - Location, Form and Orientation Tolerances
- Blueprint Reading
- Solid Drawing Modeling
  - Solid Model creation using Solidworks
  - Assembly creation using Solidworks
- Manual Machine Tools
  - Introduction to the Drill Press, Drill Press Operations
  - Introduction to the Milling Machine, Milling Operations
  - Introduction to the Manual Lathe, Lathe Operations
- OSHA 10-Hour General Industry Safety Course

MECHANICAL AND ELECTRICAL FABRICATION – MET 090/ZTEC 560
Average time for course completion: 45 hours
Investment: $795
LAP 1 Threaded Fasteners
LAP 2 Wrenches
LAP 3 Pneumatic System Fabrication
LAP 4 Screwdrivers
LAP 5 Pliers and Locking Devices
LAP 6 Mallets and Non-Threaded Fasteners
LAP 7 Torque Wrenches
LAP 8 Portable Power Tools
LAP 9 Electrical Systems
LAP 10 Residential Wiring System Components
LAP 11 Service Connections & Circuit Protection

These courses have an open start date.
Contact 610.372.4721, ext 5716 or jvecchio@racc.edu for details.
INDIVIDUAL COURSES
UPGRADE YOUR SKILLS - MANUFACTURING / TECHNICAL BASICS

Plastics

PRINCIPLES OF PLASTICS – ZPLS 801
Average time for course completion: 5 hours
Investment: $75 - Online only - no skills

Introduction to Plastics
1. Plastics Making Process
2. Properties of Plastics
3. Plastics Manufacturing Processes
4. Plastics Nomenclature
5. Environmental Considerations

PLASTICS TECHNOLOGY 1 – ZPLS 802
Average time for course completion: 6 hours
Investment: $90 - Online only - no skills

Intro To Injection Molding Operations
1. Injection Molding Process
2. Molding: Material And Machine Safety
3. Molding Operations
4. Molding Problems And Solutions

Basic Injection Mold Design
1. Injection Mold Sprues And Runner Systems
2. Injection Mold Gates
3. Part Design - Shrinkage And Warpage
4. Injection Mold Vents

Advanced Injection Molding
1. Inserts In Injection Molds
2. Threads And Multiple-part Molds
3. Integral Hinges
4. System Purging

PLASTICS TECHNOLOGY 2 – ZPLS 803
Average time for course completion: 4 hours
Investment: $60 - Online only - no skills

Introduction To Blow Molding Operations
1. Blow Molding Process
2. Blow Molding Safety And Operation
3. Blow Molding Troubleshooting

Basic Blow Molding Design
1. Introduction To Blow Molds
2. Blow Mold Design
3. Blow Molding: Materials And Advanced Design

Introduction To Extrusion Operations
1. Extrusion Process
2. Extrusion Safety And Operation
3. Extrusion Troubleshooting

Computer Aided Drafting (CAD)

AUTOCAD – ZMTT 310
Average time for course completion: 36 hours
Investment: $825

For the new user who needs comprehensive training in AutoCAD, edit and publish drawings with AutoCAD. No previous CAD experience necessary. Drafting, design or engineering experience a plus. Prerequisite: Working knowledge of the Windows-based operating system.

ENGINEERING GRAPHICS WITH SOLIDWORKS
ZMTT 107
Average time for course completion: 45 hours
Investment: $1,195

Learn to use Solidworks to draw 3D part models, 2D part drawings, parametric parts, part assemblies and basic simulation. Exercises include sketching, extruding parts, editing parts, moving assemblies and SimulationXpress. Students will learn the foundation skills of Solidworks.

These courses have an open start date.
Contact 610.372.4721, ext 5716 or jvecchio@racc.edu for details.
Increase employer and worker confidence by requiring evidence of hands on skills.

Designed to prepare employees with the next generation skills to work in a computer-driven, data-intensive advanced manufacturing workplace.

- CPT – Interactive, virtual 3-D simulation learning
- CPT Plus - 55+ "Hands-on" Skills and Assessment from MSSC National Standards with Skill Boss

**Now Offering**

**CPT / CPT PLUS, PRE-APPRENTICESHIP BOOT CAMP* ZTEC 645**

*Average time for course Completion: 195 hours
Investment - $1,600 (includes registration, CPT E-learning, Skill Boss Training, and 5 Assessments through CPT Plus Certification)

*Value Bundle
Bundling CPT Certification and CPT Plus Skills Assessment

Students suggested completion time 10-12 weeks after registration.

**Certified Production Technician (CPT)**

E-learning (Assessment and Certification options) - *See page 31 for language deliver and assessment / certification options.

Average time for each module course Completion: 35 hours

**Safety**

**Key Competencies Taught and Assessed:**
- Perform safety and environmental inspections
- Perform emergency drills and participate in emergency teams
- Identify unsafe conditions and take corrective action
- Provide safety orientation for all employees
- Train personnel to use equipment safely

**Quality Practices & Measurement**

**Key Competencies Taught and Assessed:**
- Check calibration of gages and other data collection equipment
- Inspect materials and product/process, Suggest continuous improvements
- Document the results of quality tests
- Communicate quality problems.
- Take corrective actions to restore or maintain quality

**Manufacturing Processes & Production**

**Key Competencies Taught and Assessed**
- Identify customer needs
- Determine resources available for the production process
- Set up equipment for the production process
- Set team production goals, make job assignments
- Coordinate work flow with team members and other work groups
- Perform and monitor the process to make the product
- Document product and process compliance with customer requirements

**Maintenance Awareness**

**Key Competencies Taught and Assessed**
- Perform preventive maintenance and routine repair
- Monitor indicators to ensure correct operations
- Perform all housekeeping to maintain production schedule
- Recognize potential maintenance issues with basic production systems, including knowledge of when to inform maintenance personnel about problems with: Electrical, Pneumatic, Hydraulic, Machine automation systems; Lubrication processes; Bearings and couplings; Belts and chain drives
Skill Boss, designed to meet MSSC standards, is a hands-on skill training & assessment system. CPT Plus certification proves successful demonstration of hand on skills in electronic, electrical, fluid power and mechanical systems.

CPT Plus* – Hands-on Training and Assessment
Average time for course Completion: 46 hours

Skill Boss Evaluates over 60 Essential Manufacturing Skills Including:
A. Safety
   • Perform pre-start up inspection
   • Demonstrate lockout/tagout procedure
   • Confirm safety interlocks on guard are functional
   • Confirm zero energy state of all power sources
   • Locate and interpret safety data sheet(s)

B. Quality
   • Perform measurements using tape measure, caliper, micrometer, & dial indicator
   • Compare measurements to GDT specifications on a print
   • Measure & verify shaft runout falls within specified tolerance

* Requires Full CPT Certification prior to registration.

C. Production Processes
   • Locate parts & fasteners for assembly operation using a blueprint
   • Assemble parts using Allen wrenches, wrenches, & screwdrivers
   • Use torque wrench to properly tighten a fastener
   • Navigate menus on an HMI
   • Manually operate cylinders
   • Perform an emergency shutdown
   • Reset Alarm and restart machine
   • Measure cycle time

D. Maintenance Awareness
   • Adjust pneumatic lubricator’s drip rate
   • Adjust pressure regulator’s setting
   • Adjust actuator speed using flow control valves
   • Install a pillow block bearing and shaft
   • Install a flexible coupling and shaft
   • Align and tension a belt drive
   • Lubricate a bearing using a grease gun
   • Drain an air filter
   • Connect pneumatic circuit using a schematic
   • Adjust various sensors.

<table>
<thead>
<tr>
<th>MSSC E-learning Course</th>
<th>ZTEC 807 - English</th>
<th>ZTEC 811 - Spanish</th>
<th>ZTEC 815 - Bilingual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality Practices &amp; Measurement</td>
<td>ZTEC 808 - English</td>
<td>ZTEC 812 - Spanish</td>
<td>ZTEC 816 - Bilingual</td>
</tr>
<tr>
<td>Manufacturing Processes &amp; Production</td>
<td>ZTEC 809 - English</td>
<td>ZTEC 813 - Spanish</td>
<td>ZTEC 817 - Bilingual</td>
</tr>
<tr>
<td>Maintenance Awareness</td>
<td>ZTEC 810 - English</td>
<td>ZTEC 814 - Spanish</td>
<td>ZTEC 818 - Bilingual</td>
</tr>
</tbody>
</table>

**E-learning only**
Average Time for Course Completion: 35 hours
Investment - $165 per E-learning Course

**E-Learning with Certification / Per Course**
Average Time for Course Completion: 37 hours
Investment - $285 (includes E-learning and 1 Assessment)

**CPT Plus**
Skill Boss - Skills only
ZTEC 641 - English only
Avg time: 7 hours, Investment $165

ZTEC 642 - English only
Avg time: 5 hours, Investment $120

ZTEC 643 - English only
Avg time: 15 hours, Investment $360

ZTEC 644 - English only
Avg time: 19 hours, Investment $455

= 1 + 2 + $205
Assessment for CPT Plus

See page 30 for 35% Bundle Savings

These courses have an open start date.
Contact 610.372.4721, ext 5716 or jvecchio@racc.edu for details.
# INDIVIDUAL COURSES

## Upgrade Your Skills - Mechanical Lab

### Hydraulics

**BASIC HYDRAULICS – ZTEC 300**
- Average time for course completion: 20 hours
- Investment: $529
- LAP 1: Hydraulic Power Systems
- LAP 2: Basic Hydraulic Circuits
- LAP 3: Principles of Hydraulic Pressure and Flow
- LAP 4: Hydraulic Speed Control
- LAP 5: Pressure Control Circuits

**INTERMEDIATE HYDRAULICS – ZTEC 301**
- Average time for course completion: 25 hours
- Investment: $609
- LAP 1: Hydraulic DCV Applications
- LAP 2: Hydraulic Cylinder Applications
- LAP 3: Hydraulic Relief Valve Operation
- LAP 4: Hydraulic Check Valve Applications
- LAP 5: Accumulator Applications

**ADVANCED HYDRAULICS – ZTEC 302**
- Average time for course completion: 15 hours
- Investment: $359
- LAP 1: Hydraulic Motor Applications
- LAP 2: Hydraulic Pump and Motor Performance
- LAP 3: Fluids and Conditioning

**HYDRAULIC TROUBLESHOOTING – ZTEC 308**
- Average time for course completion: 45 hours
- Investment: $1,115
- LAP 1: Introduction to Pressure-Compensated Pumps
- LAP 2: Pressure-Compensated Pump Performance
- LAP 3: Troubleshooting Hydraulic Pumps
- LAP 4: Troubleshooting Hydraulic Actuators
- LAP 5: Troubleshooting Hydraulic DCVs
- LAP 6: Troubleshooting Flow Control and Check Valves
- LAP 7: Troubleshooting Pressure Control Valves
- LAP 8: Troubleshooting Unloader and Counterbalance Valves
- LAP 9: Troubleshooting Hydraulic Systems

### Pneumatics

**BASIC PNEUMATICS – ZTEC 305**
- Average time for course completion: 16 hours
- Investment: $405
- LAP 1: Pneumatic Power Systems
- LAP 2: Basic Pneumatic Circuits
- LAP 3: Principles of Pneumatic Pressure and Flow
- LAP 4: Pneumatic Speed Control Circuits

**INTERMEDIATE PNEUMATICS – ZTEC 306**
- Average time for course completion: 15 hours
- Investment: $359
- LAP 1: Pneumatic DCV Applications
- LAP 2: Air Logic
- LAP 3: Pneumatic Maintenance

**ADVANCED PNEUMATICS – ZTEC 307**
- Average time for course completion: 15 hours
- Investment: $359
- LAP 1: Moving Loads Pneumatically
- LAP 2: Vacuum Systems
- LAP 3: Air Compressors

**PNEUMATIC TROUBLESHOOTING – ZTEC 309**
- Average time for course completion: 35 hours
- Investment: $869
- LAP 1: Pneumatic Troubleshooting
- LAP 2: Air Preparation Troubleshooting
- LAP 3: Troubleshooting Pneumatic Cylinders
- LAP 4: Motor & Rotary Actuator Troubleshooting
- LAP 5: Troubleshooting DCV & Flow Control Valves
- LAP 6: Troubleshooting Vacuum Systems
- LAP 7: Troubleshooting Pneumatic Systems

**PNEUMATIC SYSTEM CONSTRUCTION – ZTEC 324**
- Average time for course completion: 4 hours
- Investment: $139

### Rigging

**RIGGING SYSTEMS 1 – ZTEC 357**
- Average time for course completion: 35 hours
- Investment: $809
- LAP 1: Introduction to Rigging
- LAP 2: Hoists
- LAP 3: Slings and Lifting
- LAP 4: Wire Rope
- LAP 5: Chain Slings
- LAP 6: Fiber Rope
- LAP 7: Industrial Cranes

**RIGGING SYSTEMS 2 – ZTEC 358**
- Average time for course completion: 15 hours
- Investment: $359
- LAP 1: Wire Mesh Slings
- LAP 2: Synthetic Slings
- LAP 3: Equipment Movement

### Lubrication

**CENTRAL LUBRICATION – ZTEC 318**
- Average time for course completion: 20 hours
- Investment: $495
- LAP 1: Introduction to Central Lubrication
- LAP 2: Lubrication Concepts
- LAP 3: Simple Series/Progressive Lubrication System
- LAP 4: Troubleshooting Series/Progressive Lubrication Systems
- LAP 5: Piston Distributor Lubrication Systems

These courses have an open start date. Contact 610.372.4721, ext 5716 or jvecchio@racc.edu for details.
INDIVIDUAL COURSES
UPGRADE YOUR SKILLS - MECHANICAL LAB

Drives

MECHANICAL DRIVES 1 - ZTEC 311
Average time for course completion: 35 hours
Investment: $869
LAP 1 Intro to Mechanical Drive Systems
LAP 2 Key Fasteners
LAP 3 Power Transmission Systems
LAP 4 Intro to V-Belt Drives
LAP 5 Intro to Chain Drives
LAP 6 Spur Gear Drives
LAP 7 Multiple Shaft Drives

MECHANICAL DRIVES 2 - ZTEC 312
Average time for course completion: 35 hours
Investment: $869
LAP 1 Heavy-Duty V-Belt Drives
LAP 2 V-Belt Selection and Maintenance
LAP 3 Synchronous Belt Drives
LAP 4 Lubrication Concepts
LAP 5 Precision Shaft Alignment
LAP 6 Couplings
LAP 7 Heavy-Duty Chain Drives

MECHANICAL DRIVES 3 - ZTEC 313
Average time for course completion: 35 hours
Investment: $869
LAP 1 Plain Bearings
LAP 2 Ball Bearings
LAP 3 Roller Bearings
LAP 4 Antifriction Bearing Selection and Maintenance
LAP 5 Gaskets and Seals
LAP 6 Advanced Gear Drives
LAP 7 Gear Drive Selection and Maintenance

MECHANICAL DRIVES 4 - ZTEC 314
Average time for course completion: 20 hours
Investment: $495
LAP 1 Brakes and Clutches
LAP 2 Brake/Clutch Selection and Maintenance
LAP 3 Linear Ball Bushings
LAP 4 Ball Screw Drives

FLOOR STANDING CONVEYORS - ZTEC 315
Average time for course completion: 4 hours
Investment: $139

VIBRATION ANALYSIS - ZTEC 316
Average time for course completion: 12 hours
Investment: $349
LAP 1 Intro to vibration analysis
LAP 2 Vibration condition monitoring
LAP 3 Vibration analysis

LASER ALIGNMENT - ZTEC 317
Average time for course completion: 8 hours
Investment: $239
LAP 1 Intro to laser shaft alignment
LAP 2 Laser shaft alignment operation

Pumps, Piping

PIPING SYSTEMS - ZTEC 310
Average time for course completion: 35 hours
Investment: $899
LAP 1 Metal Piping Systems
LAP 2 Metal Piping Installation
LAP 3 Plastic Piping Systems
LAP 4 Metal Tubing Systems
LAP 5 Hoses
LAP 6 Two-Way Valves
LAP 7 Check Valves and Sloan Valves

CENTRIFUGAL PUMP SYSTEMS - ZTEC 319
Average time for course completion: 20 hours
Investment: $505
LAP 1 Centrifugal Pump Operation
LAP 2 Centrifugal Pump Characteristics
LAP 3 Centrifugal Pump Troubleshooting
LAP 4 System Characteristics
LAP 5 Centrifugal Pump Performance

DIAPHRAGM PUMP - ZTEC 320
Average time for course completion: 4 hours
Investment: $139

PERISTALTIC PUMP - ZTEC 321
Average time for course completion: 4 hours
Investment: $139

MAGNETIC PUMP - ZTEC 322
Average time for course completion: 4 hours
Investment: $139

CENTRIFUGAL PUMP /STUFFING BOX - ZTEC 323
Average time for course completion: 4 hours
Investment: $139

MULTIPLE PUMP LEARNING SYSTEM - ZTEC 352
Average time for course completion: 4 hours
Investment: $139

GEAR PUMP - ZTEC 353
Average time for course completion: 4 hours
Investment: $139

PISTON PUMP - ZTEC 354
Average time for course completion: 4 hours
Investment: $139

TURBINE PUMP - ZTEC 372
Average time for course completion: 4 hours
Investment: $139

These courses have an open start date.
Contact 610.372.4721, ext 5716 or jvecchio@racc.edu for details.
<table>
<thead>
<tr>
<th>Course Name</th>
<th>Course Code</th>
<th>Duration</th>
<th>Investment</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC/DC Electrical System - ZTEC 205</td>
<td></td>
<td>30 hours</td>
<td>$729</td>
<td>NEW TO ELECTRICAL? START HERE.</td>
</tr>
<tr>
<td>ELECTRICAL RELAY CONTROL SYSTEMS - ZTEC 231</td>
<td></td>
<td>15 hours</td>
<td>$359</td>
<td>Control Logic, Sequencing Control, Timers and Advanced Systems</td>
</tr>
<tr>
<td>Electric Motor Control - ZTEC 207</td>
<td></td>
<td>50 hours</td>
<td>$1,215</td>
<td>Introduction to Electric Motor Control, Manual Motor Control and Overload Protection, Control Transformers</td>
</tr>
<tr>
<td>Advanced Electric Motor Controls - ZTEC 208</td>
<td></td>
<td>50 hours</td>
<td>$1,215</td>
<td>Motor Braking System, Reduced Voltage Starting Circuits, Power Generation and Distribution, Electronic Sensors, Timers and Counters, Variable Frequency AC Drive, Motor Speed and Torque, Fault Diagnostics and troubleshooting, SCR Speed Motor Control</td>
</tr>
<tr>
<td>Electrical Control System Wiring - ZTEC 209</td>
<td></td>
<td>10 hours</td>
<td>$275</td>
<td>(Allen Bradley or Siemens)</td>
</tr>
<tr>
<td>Control Panel Wiring - ZTEC 260</td>
<td></td>
<td>15 hours</td>
<td>$359</td>
<td>Introduction to Electrical Control Wiring, Electrical Control System Wiring</td>
</tr>
<tr>
<td>ELECTRICAL FABRICATION - ZTEC 253</td>
<td></td>
<td>12 hours</td>
<td>$230</td>
<td>Introduction to Electrical System, Service Connections and Circuit Protection</td>
</tr>
<tr>
<td>BASIC ELECTRICAL ROTATING MACHINES - ZTEC 206</td>
<td></td>
<td>32 hours</td>
<td>$825</td>
<td>DC Series Motors, DC Shunt and Compound Motors, Motor Performance, Split-Phase AC Motors, Capacitor-Start AC Motors, Permanent-Capacitor and Two-Capacitor Motors, Three-Phase AC Induction Motors</td>
</tr>
<tr>
<td>ELECTRICAL POWER DISTRIBUTION - ZTEC 210</td>
<td></td>
<td>25 hours</td>
<td>$609</td>
<td>Introduction to Raceways, Basic Conduit Bending, Advanced Raceways, Conductors, Disconnects and Overcurrent Protection, Conduit Sizing and Wire Pulling Techniques</td>
</tr>
<tr>
<td>ELECTRO-FLUID POWER SYSTEM - ZTEC 303</td>
<td></td>
<td>40 hours</td>
<td>$959</td>
<td>Introduction to Electrical Control Systems, Basic Control Devices, Power Devices, Control Relays, Sequencing Control, Timer Control, Pressure Control Applications, Circuit Applications</td>
</tr>
</tbody>
</table>

These courses have an open start date. Contact 610.372.4721, ext 5716 or jvecchio@racc.edu for details.
INDIVIDUAL COURSES
UPGRADE YOUR SKILLS - ELECTRICAL LAB

Electronics

POWER & CONTROL ELECTRONICS – ZTEC 252
Average time for course completion: 50 hours
Investment: $1,215
LAP 1  Oscilloscopes
LAP 2  Linear Power Supplies
LAP 3  Power Supply Filtration and Regulation
LPA 4  Solid State Relays
LAP 5  Discrete Sensing Devices
LAP 6  Thermal Sensing Devices
LAP 7  Amplifiers and Operational Amplifiers
LAP 8  Analog Sensing Devices
LAP 9  Solid State Switching
LAP 10 Solid State Speed and Power Control

AC ELECTRONIC DRIVES – ZTEC 400
Average time for course completion: 25 hours
Investment: $609
LAP 1  Introduction to AC Motion Control
LAP 2  AC Vector (Spindle) Drives
LAP 3  AC Axis Drives
LAP 4  General-Purpose AC Drives
LAP 5  AC Drive Troubleshooting

DC ELECTRONIC DRIVES – ZTEC 401
Average time for course completion: 30 hours
Investment: $729
LAP 1  Introduction to DC Motion Control
LAP 2  Basic DC Drives - SCR Control
LAP 3  DC Spindle Drives
LAP 4  DC Axis Drives
LAP 5  DC Pulse Width Modulation Drives
LAP 6  DC Drive Troubleshooting

ELECTRONIC SENSORS – ZTEC 304
Average time for course completion: 8 hours
Investment: $239
LAP 1  Introduction to Electronic Sensors
LAP 2  Electronic Sensor Applications

These courses have an open start date.
Contact 610.372.4721, ext 5716 or jvecchio@racc.edu for details.

racc.edu
INDIVIDUAL COURSES
UPGRADE YOUR SKILLS - PLC LAB

Allen Bradley

PLC ALLEN BRADLEY SLC500 W/ TROUBLESHOOTING – ZTEC 402
Average time for course completion: 80 hours
Investment: $2,025
LAP 1  Introduction to Programmable Controllers
LAP 2  Basic PLC Programming
LAP 3  PLC Motor Control
LAP 4  Discrete I/O Interfacing
LAP 5  Introduction to PLC Troubleshooting
LAP 6  PLC Systems Troubleshooting
LAP 7  Event Sequencing
LAP 8  Application Development
LAP 9  PLC Timer Instructions
LAP 10  PLC Counter Instructions
LAP 11  Program Control Instructions
LAP 12  Math and Data Move Instructions

PLC ALLEN BRADLEY SLC500 ANALOG APPLICATION SYSTEM – ZTEC 403
Average time for course completion: 15 hours
Investment: $379
LAP 13  Analog Input Modules
LAP 14  Analog Output Modules
LAP 15  Analog Scaling

PLC ALLEN BRADLEY SLC500 DATA HIGHWAY 485 SYSTEM – ZTEC 404
Average time for course completion: 10 hours
Investment: $239
LAP 16  Introduction to DH-485
LAP 20  Remote I/O

PLC ALLEN BRADLEY SLC500 PANELVIEW PLUS 61 DH-485 SYSTEM W/ KEY PAD – ZTEC 405
Average time for course completion: 15 hours
Investment: $379
LAP 17  Introduction to Panelview
LAP 18  Panelview Application Editing 1
LAP 19  Panelview Application Editing 2

PLC ALLEN BRADLEY CONTROLLOGIX LEARNING SYSTEM WITH TROUBLESHOOTING – ZTEC 406
Average time for course completion: 80 hours
Investment: $2,025
LAP 1  Introduction to Programmable Controls
LAP 2  Basic PLC Programming
LAP 3  PLC Motor Control
LAP 4  Discrete I/O Interfacing
LAP 5  PLC Timer Instructions
LAP 6  PLC Counter Instructions
LAP 7  Introduction to PLC Troubleshooting
LAP 8  PLC Systems Troubleshooting
LAP 9  Event Sequencing
LAP 10  Application Development
LAP 11  Program Control Instructions
LAP 12  Math and Data Move Instructions

PLC ALLEN BRADLEY CONTROLLOGIX ANALOG INPUT/OUTPUT – ZTEC 407
Average time for course completion: 20 hours
Investment: $505
LAP 13  Analog Input Modules
LAP 14  Analog Input Configuration and Troubleshooting
LAP 15  Analog Output Modules
LAP 16  Analog Output Configuration and Troubleshooting

PLC ALLEN BRADLEY PANELVIEW PLUS LEARNING SYSTEM – ZTEC 408
Average time for course completion: 15 hours
Investment: $379
LAP 1  Introduction to PanelView Plus
LAP 2  PanelView Plus Application Editing 1
LAP 3  PanelView Plus Application Editing 2

PLC ALLEN BRADLEY CONTROLLOGIX ETHERNET – ZTEC 411
Average time for course completion: 25 hours
Investment: $525
LAP 1  Industrial Communications Networks
LAP 2  Remote Input/Output
LAP 3  Produced/Consumed Data and Messages
LAP 4  Troubleshooting EtherNet/IP

PLC ALLEN BRADLEY DEVICENET FOR CONTROLLOGIX – ZTEC 429
Average time for course completion: 15 hours
Investment: $379
LAP 1  Industrial Communication Networks
LAP 2  DeviceNet Input/Output
LAP 3  DeviceNet Troubleshooting

PLC ALLEN BRADLEY CONTROLNET FOR CONTROLLOGIX – ZTEC 430
Average time for course completion: 15 hours
Investment: $379
LAP 1  Industrial Communications Networks
LAP 2  Remote Input/Output
LAP 3  Produced/Consumed Data and Messages

These courses have an open start date. Contact 610.372.4721, ext 5716 or jvecchio@racc.edu for details.
Allen Bradley (cont.)

**PLC ALLEN BRADLEY COMPACTLOGIX - L16**

ZTEC 454

Average time for course completion: 80 hours
Investment: $2,025

- LAP 1: Introduction to Programmable Controllers
- LAP 2: Basic PanelView Terminal Operation
- LAP 3: PLC Program Operations
- LAP 4: PLC Programming
- LAP 5: PLC Motor Control
- LAP 6: PLC Timer and Counter Instructions
- LAP 7: Event Sequencing
- LAP 8: Program Control Instructions
- LAP 9: Math and Data Move Instructions
- LAP 10: PanelView Plus Application Editing
- LAP 11: PanelView Plus Application Editing 2
- LAP 12: Analog Inputs
- LAP 13: Analog Outputs
- LAP 14: Variable Output Applications

**PLC TROUBLESHOOTING ALLEN BRADLEY COMPACTLOGIX - L16**

ZTEC 455

Average time for course completion: 20 hours
Investment: $505

- LAP 1: Introduction to PLC Troubleshooting
- LAP 2: PLC Systems Troubleshooting
- LAP 3: Analog Input/Output Troubleshooting
- LAP 4: Analog Application Troubleshooting

**MECHATRONICS HMI TERMINAL - ZTEC 456**

Average time for course completion: 15 Hours
Investment: $379

- Basic HMI Panel Operation
- HMI Application Editing
- HMI Application Editing 2

These courses have an open start date.
Contact 610.372.4721, ext 5716 or jvecchio@racc.edu for details.
PLC SIEMENS S7-300 LEARNING SYSTEM WITH TROUBLE-SHOOTING - ZTEC 412
Average time for course completion: 80 hours
Investment: $2,025
LAP 1  Introduction to Programmable Controllers
LAP 2  Basic PLC Programming
LAP 3  PLC Motor Control
LAP 4  Discrete I/O Interfacing
LAP 5  PLC Timer Instructions
LAP 6  PLC Counter Instructions
LAP 7  Introduction to PLC Troubleshooting
LAP 8  PLC Systems Troubleshooting
LAP 9  Event Sequencing
LAP 10 Application Development
LAP 11 Program Control Instructions
LAP 12 Math and Data Move Instructions

PLC ANALOG LEARNING SYSTEM
SIEMENS S7-300 – ZTEC 413
Average time for course completion: 25 hours
Investment: $525
LAP 13 Analog Input Modules
LAP 14 Analog Input Applications and Troubleshooting
LAP 15 Analog Output Modules
LAP 16 Analog Output Applications and Troubleshooting

PLC PROFIBUS SYSTEM SIEMENS S7 – ZTEC 414
Average time for course completion: 15 hours
Investment: $365
LAP 1  Industrial Comm Network  (Siemens S7-300 Profibus)
LAP 2  Data Exchange

PLC SIEMENS TP1200 OPERATOR PANEL LEARNING SYSTEM – ZTEC 415
Average time for course completion: 15 hours
Investment: $379
LAP 1  Introduction to Siemens HMI Panel
LAP 2  Application Editing 1
LAP 3  Application Editing 2

PLC SIEMENS S7-300 REMOTE I/O – ZTEC 444
Average time for course completion: 5 hours
Investment: $139
LAP 1 - Remote Input/Output

PROCESS CONTROL SYSTEM – ZTEC 416
Average time for course completion: 60 hours
Investment: $1,425
LAP 1  Introduction to Process Control
LAP 2  Instrument Tags
LAP 3  Piping and Instrumentation Diagrams
LAP 4  Loop Controllers
LAP 5  Final Control Elements
LAP 6  Level Measurement
LAP 7  Liquid Level Control
LAP 8  Methods of Automatic Control
LAP 9  Basic Flow Measurement and Control
LAP 10 Control Loop Performance
LAP 11 Ultrasonic Level Measurement and Control
LAP 12 Differential Pressure Flow Measurement and Control

THERMAL PROCESS CONTROL – ZTEC 417
Average time for course completion: 60 hours
Investment: $1,425
LAP 1  Introduction to Process
LAP 2  Control Instrument Tags
LAP 3  Piping and Instrumentation Diagrams
LAP 4  Thermal Energy
LAP 5  Basic Temperature Control Elements
LAP 6  Loop Controllers
LAP 7  Final Control Elements
LAP 8  Temperature Sensors and Transmitters
LAP 9  Temperature Transmitters
LAP 10 Basic Temperature Control
LAP 11 Methods of Automatic Control
LAP 12 Control Loop Performance

ANALYTICAL PROCESS CONTROL – ZTEC 432
Average time for course completion: 60 hours
Investment: $1,205
LAP 1  Introduction to Process Control
LAP 2  Instrument Tags
LAP 3  Piping and Instrumentation Design
LAP 4  Introduction to Analytical Process Control
LAP 5  pH Electrodes
LAP 6  pH Meters and Transmitters
LAP 7  Loop Controllers
LAP 8  pH Control Systems
LAP 9  Methods of Automatic Control
LAP 10 Control Loop Performance

These courses have an open start date.
Contact 610.372.4721, ext 5716 or jvecchio@racc.edu for details.
Automation has crossed into all plateaus of modern manufacturing. From raw materials to the finished product, manual labor has been replaced with robots, automatic equipment and computer networks, all in effort to produce items that are more accurately made and less costly to manufacture. The workforce needed to service these industries now and in the future will require additional skills.

The Flexible Manufacturing System builds on basic robot operation and programming and adds linear motion, serial communications and multitasking applications.

**FLEXIBLE MANUFACTURING SYSTEMS – ZTEC 510**
- Average time for course completion: 50 hours
- Investment: $1,375
- LAP 1 Intro to Flexible Manufacturing Systems
- LAP2 Point-to-Point Assembly
- LAP 3 Linear Motion Assembly
- LAP 4 Palletizing
- LAP 5 Robot FMS Workcell
- LAP 6 Robot Communications
- LAP 7 Serial Device Applications
- LAP 8 Multitasking

**MOTION CONTROL (SERVO) LEARNING SYSTEM – ZTEC 520**
- Average time for course completion: 36 hours
- Investment: $1,155
- Teaches the fundamentals of current industrial servo drive systems. Servo drives are the core components to precise positioning in packaging, labeling, conveying and CNC machining environments.
- LAP 1 AC Motion Control
- LAP 2 Drive Configuration, Tuning and Operation
- LAP 3 Motion Control System Configuration
- LAP 4 Motion Control System Programming
- LAP 5 Position Control
- LAP 6 Velocity and Current Controls

**MOTION CONTROL (SERVO) LEARNING SYSTEM 2 – ZTEC 521**
- Average time for course completion: 24 hours
- Investment: $765
- Teaches multi-axis servo drive configurations as essential for synchronizing multiple operations in packaging, labeling, conveying, CNC machining environments and warehouse management systems.
- LAP 1 Multi-Axis Motion Control Systems
- LAP 2 Motion Control Camming
- LAP 3 Synchronized Motion

**ROBOTICS AND COMPUTER PROGRAMMING – ZTEC 543**
- Average time for course completion: 50 hours
- Investment: $1,375
- LAP 1 Basic Robot Operation
- LAP 2 Basic Robot Programming
- LAP 3 Interfacing & Material Handling
- LAP 4 Application Development
- LAP 5 Flexible Manufacturing Cells
- LAP 6 Quality Control
- LAP 7 Production Control
- LAP 8 Workcell Development

These courses have an open start date.
Contact 610.372.4721, ext 5716 or jvecchio@racc.edu for details.
Schmidt Training and Technology Center

STRATEGY – RESONANCE – RESULTS™

Partnered with Nimble Leader to Deliver Actionable Expertise

Tools for Profit™
A powerful framework. Think, analyze, discuss, act. Link what you stand for in the minds of customers to improved Operating Profit and Cash-flow.

SHAPE
A catalyst for action to efficiently focus the attention and discussion of your management team to prioritize limited resources to achieve maximum gain.

FAST START OPPORTUNITIES

SMART Leadership Roundtable
Embrace the Transition!
Monthly | Beginning November 2019
Bob Jarvis | Drew Ortyn
Schmidt Training and Technology Center

SHAPE Diagnostic
Identify the Gaps!
Beginning November 2019
Bob Jarvis | Drew Ortyn
Schmidt Training and Technology Center

SMART Boot Camp
2 Day Leadership Off Site
Q1 2020
Drew Ortyn
Schmidt Training and Technology Center

Recover Hidden Cashflow
No Obligation Audit
Beginning October 2019
Ed Flanagan
Schmidt Training and Technology Center

On-Time Edge Plant Audit
No Obligation Audit
Beginning October 2019
Scott McMartin | Bruce Rubin
Schmidt Training and Technology Center

Sales Agility Assessment
No Obligation Audit
Beginning October 2019
Michael Nolan
Schmidt Training and Technology Center

Brand Story Express
Half Day Session @ STTC
Beginning November 2019
Gerry Lantz
Schmidt Training and Technology Center

Growth Through Digital Transformation
Half Day Exploration @ STTC
November 2019
Gigi JK | Paul Mosenson
Schmidt Training and Technology Center

Stop Cold Calling
Half Day Session @ STTC
Beginning November 2019
Todd Staples
Schmidt Training and Technology Center

Our Workforce Development Team delivers custom training solutions that meet your needs. Contact Allison Creveling (610.607.6208, acreveling@racc.edu) or Mike Salute (msalute@racc.edu) for details.
Schmidt Training and Technology Center

Operational Excellence
Improving Productivity

Skill Building for Supervisors / Team Leads
All Workshops Available and Easily Customized - Call for Details

We can deliver these Workshops at your facility, to meet the needs of your rotating shifts

Leading Highly Productive Teams
Skill Building for Supervisors / Team Leads

This 6 hour workshop presents supervisors and team leads with a series of recognized Best Practices to successfully coach and lead highly productive teams.

- Effective Coaching Techniques
- Effective Time Management Strategies
- Communication Skills; Giving and Receiving Constructive Feedback
- Understanding and Supervising Different Generations
- Conflict Management / Dealing with Difficult Behaviors

Skill Building
- Clarify objectives, plan for results
- Set-up group goals and priorities
- Identifying your personality style
- Communicate effectively to different personality types
- Be more assertive without being aggressive
- Understand behaviors that lead to conflict
- Quickly resolve conflict situations

Offered - 8:30am-3:30pm $495
Contact us for scheduled Workshop dates.

Customizable SHORT COURSES tailored to meet your operational goals.

Conducting Performance Appraisals & Evaluations
Learn how to create an Evaluation & Appraisal meeting, how to measure exceeds, meets and needs improvement, how to tie your appraisal into organization goals, how to use the appraisal process daily, how to deal with the unexpected behaviors, being comfortable and confident in this process.

Conflict Management & Dealing with Difficult Behaviors
Understand the thinking and behaviors that lead to conflict, identify new ways to communication in a conflict situation, establish a new process for conflict resolution, steps on how to deal with that angry person, techniques on how to manage different types of difficult people, stress management techniques.

Understanding & Supervising Different Generations
Understand different generations; Old School, Baby Boomers, Gen X, Millennials, or Gen Y. Techniques to create a more productive workplace. Learn how to cope and communicate effectively with each generation. Techniques to motivate each generation.

Visit https://sttc.racc.edu to learn more

Our Workforce Development Team delivers custom training solutions that meet your needs. Contact Allison Creveling (610.607.6208, acreveling@racc.edu) or Mike Salute (msalute@racc.edu) for details.
Leadership Development
Strengthening the three pillars of leadership.

Designed for Supervisors / Team Leads
3 Skill Building Workshops with Clear, Relatable Implementation Tools

- Effective Communication
- Team Building
  - Defining a good leader
  - Your role in the workplace
  - How do I rate now?, How do I improve?
  - The #1 skill needed to succeed.

- Time Management and Goal Setting
- Leading as a Coach

- Communication with difficult people
- Handling stress in the workplace
- Managing Conflict
  - Authentic Leadership - remaining true to yourself in difficult situations
  - Documentation Best Practices

SKILL BUILDING TOOLS
Goal Setting Worksheets | Ideal Leader | Performance Management | Skill Review Checklist | Leadership Assessment

Take one as a refresher, take all three for a solid foundation in Leadership Development.

Offered to accommodate rotating shifts: 6 am – 9 am | 1 pm – 4 pm | 5 pm to 8 pm. Contact us for scheduled Workshop dates / times.

Training the Trainer  New technologies have resulted in the “age of specialization”. Can your key employees “teach” the job they perform daily to your new hires? Stay competitive, productive and profitable by adopting results-driven training methodologies that engage the adult learner.

Our Workforce Development Team delivers custom training solutions that meet your needs. Contact Allison Creveling (610.607.6208, acreveling@racc.edu) or Mike Salute (msalute@racc.edu) for details.
Introducing OSHA General Industry 10 and 30 Hour Courses

OSHA GENERAL INDUSTRY 10 AND 30 HOUR COURSES


Emergency Response Preparedness

Industrial Fire Brigade, Basic
Provides basic incipient level fire training for general employee groups, or dedicated incipient level fire brigades. Course covers chemistry of fire, hose and nozzles, fire streams, portable fire extinguishers, automatic systems, and live fire fighting exercises on incipient level fires with extinguishers and small hose streams.

Industrial Fire Brigade, Extended
Provides fire brigade training per the OSHA Guidelines. Course covers or refreshes all items covered in the Basic Fire Brigade Training Program, plus self-contained breathing apparatus, ropes and knots, ladders, search and rescue practices, and interior structural fire fighting exercises.

Fire Extinguishers
Prepares employees to properly and safely react to a fire in their workplace. Trains new employees or refreshes current employees in their fire safety responsibilities. Topics covered: basic fire prevention, evacuation, extinguisher selection and use.

Hazardous Materials Awareness (HAZWOPER)
Recognize the presence of a hazardous material/WMD and to call for trained personnel to assist, secure and protect the area. This course will meet the requirement for annual review under 29 CFR 1910.120 for emergency response.

Hazardous Materials Operations (HAZWOPER)
Comply with Operations Level training identified in the NFPA 472 Core Competencies and in the Hazardous Materials Waste Operations and Emergency Response regulations.

Hazardous Materials Technician (HAZWOPER)
Recognize the presence of a hazardous material or WMD, select applicable decontamination procedures, and control a release using specialized protective clothing and control equipment and meet the competencies at the awareness and operations level.

SPECIALTY TRAINING

ON-LINE PROGRAMS • ADVANCED CAREER TRAINING

Our online course can start you on a path to an in-demand profession or help advance your current career with industry certification. You may begin these programs at any time and learn at your own pace. Upon successful completion of all coursework you will receive a certificate of completion.

Features: 6-18 month self-paced, start anytime, Textbook and materials included, Prepare for industry certification, Certification exam vouchers are included, Financial assistance available, Student advisors provide you coaching, motivation, and career readiness support.

Certified Administrative Professional with Microsoft Office Master 2016 (Vouchers Included)
This program provides the information you need to know to sit for the Certified Administrative Professional (CAP) exam offered by the International Association of Administrative Professionals (IAAP) and the Microsoft Office Master 2016 Certification exams. 335 HRS

Certified Bookkeeper
The Certified Bookkeeper Online Training Program helps professional bookkeepers earn prestigious American Institute of Professional Bookkeepers (AIPB) certification. 340 HRS

Grant Writing + Non-Profit Management
In this program, you will learn how to write a grant proposal, how to supervise employees, as well as the liabilities that non-profits encounter. 600 HRS

Home Inspection Certificate
Learn about standards of practice, defects recognition, inspection guidelines, reporting methodologies, and liability management as you prepare to become a home inspector. 200 HRS

Human Resources Professional
Master the skills you need to gain an entry-level position in human resources and prepare to take the PHR (Professional in Human Resources) certification exam. 120 HRS

Paralegal (Voucher Included)
In this program you will prepare you to become a legal secretary or paralegal and to take the Certified Paralegal certification exam. 300 HRS

Web Applications Developer
Master the skills you need to create dynamic database-driven websites using the latest technologies. 380 HRS

HVAC/R Certified Technician (Voucher Included)
Through hands-on simulations and in-depth course material, you will strengthen your understanding of HVAC/R service, repair, and maintenance. You will also learn about sustainable technology, environmental challenges, and their solutions, industry advancements, and develop customer-facing professional skills. 162 HRS

To Enroll or learn more visit - https://careertraining.ed2go.com/readingacc/training-programs
### MECHANICAL TRAINING

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Average Time for Course Completion</th>
<th>Investment</th>
<th>Modules</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZTEC 311</td>
<td>MECHANICAL DRIVES 1</td>
<td>35 hours</td>
<td>$869</td>
<td>LAP 1: Intro to Mechanical Drive Systems  &lt;br&gt; LAP 2: Key Fasteners  &lt;br&gt; LAP 3: Power Transmission Systems  &lt;br&gt; LAP 4: Intro to V-Belt Drives  &lt;br&gt; LAP 5: Intro to Chain Drives  &lt;br&gt; LAP 6: Spur Gear Drives  &lt;br&gt; LAP 7: Multiple Shaft Drives</td>
</tr>
<tr>
<td>ZTEC 312</td>
<td>MECHANICAL DRIVES 2</td>
<td>35 hours</td>
<td>$869</td>
<td>LAP 1: Heavy-Duty V-Belt Drives  &lt;br&gt; LAP 2: V-Belt Selection and Maintenance  &lt;br&gt; LAP 3: Synchronous Belt Drives  &lt;br&gt; LAP 4: Lubrication Concepts  &lt;br&gt; LAP 5: Precision Shaft Alignment  &lt;br&gt; LAP 6: Couplings  &lt;br&gt; LAP 7: Heavy-Duty Chain Drives</td>
</tr>
<tr>
<td>ZTEC 301</td>
<td>INTERMEDIATE HYDRAULICS</td>
<td>25 hours</td>
<td>$609</td>
<td>LAP 1: Hydraulic DCV Applications  &lt;br&gt; LAP 2: Hydraulic Cylinder Applications  &lt;br&gt; LAP 3: Hydraulic Relief Valve Operation  &lt;br&gt; LAP 4: Hydraulic Check Valve Applications  &lt;br&gt; LAP 5: Accumulator Applications</td>
</tr>
<tr>
<td>ZTEC 308</td>
<td>HYDRAULIC TROUBLESHOOTING</td>
<td>45 hours</td>
<td>$1,115</td>
<td>LAP 1: Introduction to Pressure-Compensated Pumps  &lt;br&gt; LAP 2: Pressure-Compensated Pump Performance  &lt;br&gt; LAP 3: Troubleshooting Hydraulic Pumps  &lt;br&gt; LAP 4: Troubleshooting Hydraulic Actuators  &lt;br&gt; LAP 5: Troubleshooting Hydraulic DCVs  &lt;br&gt; LAP 6: Troubleshooting Flow Control and Check Valves  &lt;br&gt; LAP 7: Troubleshooting Pressure Control Valves  &lt;br&gt; LAP 8: Troubleshooting Unloader and Counter Balance Valves  &lt;br&gt; LAP 9: Troubleshooting Hydraulic Systems</td>
</tr>
<tr>
<td>ZTEC 305</td>
<td>BASIC PNEUMATICS</td>
<td>16 hours</td>
<td>$405</td>
<td>LAP 1: Pneumatic Power Systems  &lt;br&gt; LAP 2: Basic Pneumatic Circuits  &lt;br&gt; LAP 3: Principles of Pneumatic Pressure and Flow  &lt;br&gt; LAP 4: Pneumatic Speed Control Circuits</td>
</tr>
<tr>
<td>ZTEC 306</td>
<td>INTERMEDIATE PNEUMATICS</td>
<td>15 hours</td>
<td>$359</td>
<td>LAP 1: Pneumatic DCV Applications  &lt;br&gt; LAP 2: Air Logic  &lt;br&gt; LAP 3: Pneumatic Maintenance</td>
</tr>
<tr>
<td>ZTEC 315</td>
<td>FLOOR STANDING CONVEYORS</td>
<td>4 hours</td>
<td>$139</td>
<td>LAP 1: Intro to vibration analysis  &lt;br&gt; LAP 2: Vibration condition monitoring  &lt;br&gt; LAP 3: Vibration analysis</td>
</tr>
<tr>
<td>ZTEC 316</td>
<td>VIBRATION ANALYSIS</td>
<td>12 hours</td>
<td>$349</td>
<td>LAP 1: Intro to vibration analysis  &lt;br&gt; LAP 2: Vibration condition monitoring  &lt;br&gt; LAP 3: Vibration analysis</td>
</tr>
</tbody>
</table>

These courses have an open start date. Contact 610.372.4721, ext 5716 or jvecchio@racc.edu for details.
<table>
<thead>
<tr>
<th>Course Title</th>
<th>Code</th>
<th>Average time for course completion</th>
<th>Investment</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC/DC ELECTRICAL SYSTEM – ZTEC 205</td>
<td></td>
<td>30 hours</td>
<td>$729</td>
<td>LAP 1 Introduction to Basic Electrical Circuits, LAP 2 Electrical Measurements, LAP 3 Circuit Analysis, LAP 4 Inductance and Capacitance, LAP 5 Combination Circuits, LAP 6 Transformers</td>
</tr>
<tr>
<td>ELECTRICAL RELAY CONTROL SYSTEMS – ZTEC 231</td>
<td></td>
<td>15 hours</td>
<td>$359</td>
<td>LAP 1 Control Logic, LAP 2 Sequencing Control, LAP 3 Timers and Advanced Systems</td>
</tr>
<tr>
<td>ELECTRIC MOTOR CONTROL – ZTEC 207</td>
<td></td>
<td>50 hours</td>
<td>$1,215</td>
<td>LAP 1 Introduction to Electric Motor Control, LAP 2 Manual Motor Control and Overload Protection, LAP 3 Control Transformers Control, LAP 4 Ladder Logic, LAP 5 Control Relays and Motor Starters, LAP 6 Introduction to Troubleshooting, LAP 7 System Troubleshooting, LAP 8 Reversing Motor Control, LAP 9 Automatic Input Devices, LAP 10 Basic Timer Control: On-Delay and Off-Delay</td>
</tr>
<tr>
<td>ELECTRICAL POWER DISTRIBUTION – ZTEC 210</td>
<td></td>
<td>25 hours</td>
<td>$609</td>
<td>LAP 1 Introduction to Raceways, LAP 2 Basic Conduit Bending, LAP 3 Advanced Raceways, LAP 4 Conductors, Disconnects and Overcurrent Protection, LAP 5 Conduit Sizing and Wire Pulling Techniques</td>
</tr>
<tr>
<td>ELECTRICAL CONTROL SYSTEM WIRING – ZTEC 209</td>
<td></td>
<td>10 hours</td>
<td>$275</td>
<td>LAP 1 Introduction to Electrical Control Wiring, LAP 2 Electrical Control System Wiring</td>
</tr>
<tr>
<td>ADVANCED ELECTRIC MOTOR CONTROLS – ZTEC 208</td>
<td></td>
<td>50 hours</td>
<td>$1,215</td>
<td>LAP 11 Motor Braking System, LAP 12 Reduced Voltage Starting Circuits, LAP 13 Power Generation and Distribution, LAP 14 Electronic Sensors, LAP 15 Timers and Counters, LAP 16 Variable Frequency AC Drive, LAP 17 Variable Frequency AC Drive, Speed &amp; Torque Control, LAP 18 Variable Frequency Drives Acceleration, Deceleration, &amp; Braking, LAP 19 Variable Frequency Drives Fault Diagnostics and TS, LAP 20 SCR Speed Motor Control</td>
</tr>
<tr>
<td>AC ELECTRONIC DRIVES – ZTEC 400</td>
<td></td>
<td>25 hours</td>
<td>$609</td>
<td>LAP 1 Introduction to AC Motion Control, LAP 2 AC Vector (Spindle) Drives, LAP 3 AC Axis Drives, LAP 4 General-Purpose AC Drives, LAP 5 AC Drive Troubleshooting</td>
</tr>
<tr>
<td>DC ELECTRONIC DRIVES – ZTEC 401</td>
<td></td>
<td>30 hours</td>
<td>$729</td>
<td>LAP 1 Introduction to DC Motion Control, LAP 2 Basic DC Drives - SCR Control, LAP 3 DC Spindle Drives, LAP 4 DC Axis Drives, LAP 5 DC Pulse Width Modulation Drives, LAP 6 DC Drive Troubleshooting</td>
</tr>
<tr>
<td>SUPPLY CHAIN/ WAREHOUSING PLANT TECHNICIAN</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MACHINERY MOVING TRAINING</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RIGGING SYSTEMS 1 – ZTEC 357</td>
<td></td>
<td>15 hours</td>
<td>$359</td>
<td>LAP 1 Wire Mesh Slings, LAP 2 Synthetic Slings, LAP 3 Equipment Movement</td>
</tr>
<tr>
<td>RIGGING SYSTEMS 2 – ZTEC 358</td>
<td></td>
<td>35 hours</td>
<td>$809</td>
<td>LAP 1 Introduction to Rigging, LAP 2 Hoists, LAP 3 Slings and Lifting, LAP 4 Wire Rope, LAP 5 Chain Slings, LAP 6 Fiber Rope, LAP 7 Industrial Cranes</td>
</tr>
</tbody>
</table>

These courses have an open start date. Contact 610.372.4721, ext 5716 or jvecchio@racc.edu for details.
Schmidt Training and Technology Center

SUPPLY CHAIN/ WAREHOUSING PLANT TECHNICIAN

CONTROLS & SMART AUTOMATION TRAINING

PLC ALLEN BRADLEY COMPACTLOGIX - L16 - ZTEC 454
Average time for course completion: 80 hours
Investment: $2,025
LAP 1 - Introduction to Programmable Controllers
LAP 2 - Basic PanelView Terminal Operation
LAP 3 - PLC Program Operations
LAP 4 - PLC Programming
LAP 5 - PLC Motor Control
LAP 6 - PLC Timer and Counter Instructions
LAP 7 - Event Sequencing
LAP 8 - Program Control Instructions
LAP 9 - Math and Data Move Instructions
LAP 10 - PanelView Plus Application Editing
LAP 11 - PanelView Plus Application Editing 2
LAP 12 - Analog Inputs
LAP 13 - Analog Outputs
LAP 14 - Variable Output Applications

MECHATRONICS HMI TERMINAL - ZTEC 456
Average time for course completion: 15 Hours
Investment: $379
Basic HMI Panel Operation
HMI Application Editing
HMI Application Editing 2

INTRODUCTION TO SMART AUTOMATION AND INDUSTRIAL INTERNET OF THINGS (IIOT) - ZTEC 905
Average time for course completion: 65 Hours
Investment: $1,695
Topics include:  
- Automation Operations  
- Cloud Based Data Acquisition  
- Programmable Logic Controller Operation (Allen-Bradley Micro820)  
- Basic PLC Programming  
- PLC Motor Control  
- PLC Timer and Counter Instructions  
- Pick and Place Feeding  
- Smart Sensors  
- PLC Event Sequencing  
- Database Concepts  
- Indexing  
- Sorting and Parts Storage  
- Automated Storage and Retrieval Systems

These courses have an open start date.  
Contact 610.372.4721, ext 5716 or jvecchio@racc.edu for details.
Program Description - This 180-hour certification program prepares you for licensing as a wastewater treatment plant operator. The curriculum was developed by the Pennsylvania Department of Environmental Protection (DEP) to prepare for the DEP’s Operator Certification Exams. Combining this program with work at a local treatment facility will prepare participants for licensing.

How You Will Learn – We combine course work with onsite visits to local WWT facilities, plus interactive class discussion with certified operators, out of class assignments, and module end exams.

PROGRAM COMPONENTS

ZWTR 120 – 90 HRS – FALL 2020 - $1,375

Component 1: Intro to Wastewater Treatment – 18 hours
- Fundamentals of Wastewater Treatment
- General Math, General Chemistry

Component 2: Collection System – 18 hours
- Wastewater Collection System I & II
- Land Application of Wastewater
- Infiltration & Inflow/Wet Weather
- Solids Handling & Disposal
- Pumps & Hydraulics, Intro & Advanced Flow Meter
- Sequential Batch Recorders, Biosolids, Chemical Feed Systems

Component 4: Miscellaneous Topics – 18 hours
- Energy Efficiency
- SOP Preparation/NPDES Permit
- Discharge Monitoring Reports
- Administration of Treatment Plants
- Industrial Pretreatment

Component 5: Laboratory and Maintenance – 18 hours
- Wastewater Laboratory Basics
- Treatment Plant Maintenance

ZWTR 121 – 90 Hrs - Spring 2021 - $1,375

Component 6: Treatment Types – 18 hours
- Ponds & Lagoons
- Trickling Filter Process
- Rotating Biological Contactors

Component 7: Land Applications & Solids – 18 hours
- Land Application of Wastewater
- Solids Handling and Disposal
- Sequential Batch Recorders
- Biosolids

Component 8 & 9: Activated Sludge – 36hours
- Activated Sludge Math
- Activated Sludge 1-4

Component 10: Advanced Topics – 18 hours
- Communication Techniques
- Disinfection and Chlorination
- Effluent Filtration
- Advanced Wastewater Treatment

Learn More - Contact Allison Creveling at acreveling@racc.edu or call 610.607.6208.

To Register By Phone (610.607.6235) | Register On-line www.racc.edu/academics/course-registration-course-catalogs

Cost for the full 180-hour certification program for program year 2020-21 is $2,750. The second half of the program includes a scholarship opportunity. Cost for each 18-hour component is $285.
Schmidt Training and Technology Center

ELECTRIC UTILITY TECHNOLOGY (EUT)

First Energy Lineman and Substation - Associate Degree Program

What’s Your Goal?
If your goal is to start or improve your career in the electric utility field as an Electrical Line or Substation Worker, then completion of RACC’s Electric Utility Technology Associate of Applied Science degree is a great place to start.

We Help You Get There With . . .
- Lecture class sizes of 33 students or fewer
- Engaging classroom experiences
- Hands-on training
- Learner-focused faculty

Program Description
This program is offered in partnership with FirstEnergy. Students gain knowledge and skills in AC/DC electricity, electrical circuits, electrical control wiring, wiring systems, transformers, power generation and power distribution. In addition to classroom and laboratory instruction, students also participate in hands-on training at a local FirstEnergy electric utility company training facility.

Enrollment in the program is restricted by a selection process conducted by FirstEnergy and employment for graduates with FirstEnergy is not guaranteed.

Career Outlook
Electrical Line and Substation Workers are in high demand with an expected increase of 15% in employment in Pennsylvania from 2012 to 2022 and 190 job openings every year in the state.

What You Will Learn
- The OSHA safety guidelines for the electric utility industry.
- The operation of equipment used in the maintenance and repair of electric utility systems.
- The experience and knowledge needed for a Commercial Drivers License (CDL).
- The skills to work on above ground and underground circuits and de-energized and energized circuits

Admission Requirements
- Be a graduate of an approved secondary school or hold a high school equivalency diploma (GED®).
- Complete and submit the RACC Application for Admission.
- Students must complete a placement test to assess writing and math levels. If you have completed a college level Math and or English course with a C- or better at another institution, please submit your college transcript to RACC as soon as possible. Additional coursework may be required before the June selection deadline.

Course Completion Information
- Students must be accepted into FirstEnergy’s Power Systems Institute program and meet the following additional requirements in order to be considered for the program: Technical Evaluation, Physical Capabilities Assessment, Background Check, DOT Medical Examiner’s Certificate, Potential Drug Test, Qualifying School and an Interview.
- The number of students who can be accepted into FirstEnergy’s Power Systems Institute is limited due to operational staffing needs.

Please call Debbie Hettinger at 610.372.4721, ext. 5130 for additional information on this program.
Everyone who successfully meets the scoring requirements established by the state of Pennsylvania will receive a High School Equivalency Diploma from the Department of Education. This diploma is accepted, by law, as a legitimate high school diploma by business, industry, colleges, and most branches of the armed services.

**Note to previous test takers:** If you have passed part of the GED® test between January 1, 2002 and December 31, 2013, you may be eligible to receive credit for those sections. You will need to create an account at www.MyGED.com. One of the questions during registration asks, “Did you take any sections of the 2002 Series GED® test in Pennsylvania between 1/1/2002 and 12/31/13?” If you respond “yes,” the reply alerts you that the Pennsylvania Department of Education will verify your prior test score(s) and notify you by email with the sections of the 2002 Series GED® that you will be credited and not have to retest with the 2014 test.

### Literacy Programs Information Center

The Literacy Programs Information Center is located in Schuylkill Hall 2nd floor and serves as an informational hub for those inquiring about RACC’s ABE/HEP/ESL non-credit Literacy Programs. Whether you have questions about specific classes, registration and/or testing dates, contact the Literacy Programs Information Center staff.

### Literacy Programs Information Center Hours

**Monday through Friday**

8:00 a.m. - 4:00 p.m.

**Literacy Programs Information Center**

Contact Information:

610.372.4721, Ext. 5322

---

### GED® TRANSCRIPT INFORMATION

Individuals who have passed the GED® test may request a transcript through DiplomaSender. Visit diplomasender.com, create an account, request documents (electronic or paper).

Effective October 1, 2016, all Pennsylvania high school equivalency diplomas and transcripts for the GED® test will be handled by DiplomaSender.

Initial diploma and transcript will continue to be free. All documents are $15.00 per document. Documents include: transcripts, duplicate diplomas and letters of verification.

To earn a GED®, candidates must demonstrate a specific level of competency in the following four content areas:

- Reasoning Through Language Arts
- Mathematical Reasoning
- Science
- Social Studies

Please call 610.372.4721, Ext. 5322 for additional information about literacy programs.

---

### GED® TEST

The GED® test is administered at Reading Area Community College through Pearson Vue testing. Pennsylvania residents (adults 18 years and older, as well as 16- and 17-year-old participants meeting specific qualifications) are eligible to take the computerized exam. All registrations, testing times, locations and payment with credit card are completed at the website gedtestingservice.com. Payment is required at the time of registration.

To prepare a student for the General Educational Development (GED®) test of high school equivalency, Reading Area Community College offers preparation classes, free of charge, to adults in our community. These classes meet both days and evenings at different locations throughout the county. An annual graduation is held in late Spring. Tutors are available to help students achieve success in their coursework.

---

racc.edu
Literacy Programs • Be a Volunteer Tutor

LET YOUR FREE HOURS MAKE A DIFFERENCE IN SOMEONE’S LIFE!

Volunteer tutors are needed at Reading Area Community College for students taking classes in Adult Basic Education (ABE), General Education Development (GED) or English for Speakers of Other Languages (ESL). Are you interested?

QUALIFICATIONS
Volunteer tutors in RACC’s Adult Literacy Program must have a minimum of a bachelor’s degree.

TRAINING AND SUPPORT
As a volunteer tutor, you will receive a tutor orientation seminar that introduces you to the Adult Literacy Program at RACC, along with providing you with materials and tips. We offer an extensive library of books, and other educational materials for your use.

OPPORTUNITIES
There are several ways you can help. You may choose to tutor an individual student. A small group of students, or you may be a classroom aide. Our students are eager to learn and are very appreciative of your encouragement and support.

HOW CAN YOU BECOME A TUTOR?
Please call the Adult Literacy Program, Reading Area Community College at 610-372-4721 ext. 5155 or 5156. A Tutor Coordinator will be in touch with you to provide you more information about the program and answer any questions you may have about becoming a volunteer tutor.

HERE’S WHAT SOME OF OUR TUTORS HAD TO SAY:

“I learn more from my students than they may learn from me! (This is the best unpaid job I ever had!)”

“We tutors learn as well as the students! I find it so rewarding—that’s why I come back, year after year, after year!”

“Through being a volunteer tutor, doors have been opened that have allowed me to communicate with people that otherwise I would never have had the opportunity to meet.

Please call 610.372.4721, Ext. 5322 for additional information about literacy programs.
Associate Degree and Certificate (Credit) Programs

HOW DO I GET STARTED?

Stop by the Welcome Center in Berks Hall or complete the online application for admission at racc.edu. Whether you have questions about specific classes or programs or you are ready to enroll in classes, Enrollment Coordinators are available to help you every step of the way.

Welcome Center Hours of Operation:
Mondays 8 am-5 pm
Tuesdays 8 am-7:30 pm
Wednesdays 8 am-7:30 pm
Thursdays 8 am-5 pm
Friday 8 am-5 pm

Or call 610.607.6224

COLLEGE CREDITS FOR LIFE EXPERIENCE
Did you know that you may be able to turn life experiences and professional knowledge into college credit? To learn more, call the Welcome Center at 610.607.6224.

For more information and to view the Admissions Event calendar, go to racc.edu/AdmissionsEvents.

Associate Degrees and Certificates

Accounting –Also fully Online!
Addictions Studies/Human Services
Administrative Office Specialist
Art
Bookkeeping
Business Administration –Also fully Online!
Business Management
Communications
Computer Information Systems
Computer Technology –Also fully Online!
Creative Writing
Criminal Justice/Law Enforcement
Cyber Defense - Also fully Online!
Early Childhood Programs
Early Childhood Teaching (PreK-Grade 4)
Electric Utility Technology
Elementary Education (Grades 4-8)
Engineering
Fine Arts
General Science
General Studies –Also fully Online!
Health Sciences
Liberal Arts
Machine Tool Technology
Mechatronics Engineering Technology
Medical Coding and Billing Specialist
Medical Laboratory Technician
Medical Office/Health Records Specialist
Nanoscience Technology
Network Support Specialist
Nursing
Occupational Therapy Assistant*
Physical Therapist Assistant*
Practical Nursing
Psychology –Also fully Online!
Respiratory Care
Science
Secondary Education
Social Science –Also fully Online!
Social Work –Also fully Online!
Technology Studies
Web Site Development

*Offered in cooperation with Lehigh Carbon

Please call an Enrollment Coordinator at 610.607.6224 for additional information on these programs.
Enroll immediately in the classes you want!
The online registration system saves you time and postage costs
and is available at your convenience.

• Go to rac.edu/academics/course-registration-course-catalogs
  - Select the “Register and Pay for Community Education Classes” link in
  order to search for a class.
  - EASY SEARCH: Select only the drop-down box next to “Topic Code” to find the class
  for which you would like to register and click “Submit”.
  - Select the course that you wish to register for and click the “Submit” button.
  - Enter your information and click “Submit”.
• Proceed through the next several registration screens entering the required information and
submitting at end of each screen.

CLASS LOCATIONS: Reading Area Community College (RACC)
If the College withdraws a course, your tuition will be refunded. Instructor substitutions may be made in emergencies and at the discretion of RACC.
Written refund requests must be received one week before classes begin. No refunds will be issued after this date. Please allow 4–6 weeks for a refund.
Students must be 18 years old to register for adult classes.

To register:
By Mail:
Visit rac.edu/academics/course-registration-course-catalogs and print out the Workforce and Economic Development/Community Education Registration Form.

By Phone:
Call 610.607.6235 or 610.607.6231 to register with VISA, MasterCard or Discover.

In Person:
At Berks Hall, Room 107,
RACC, 10 South 2nd Street, Reading, PA.
Monday and Thursday 8:00 AM–4:30 PM;
Tuesday and Wednesday 8:00 AM–7:00 PM;
Friday 8:00 AM–4:30 PM.

MAIL TO: Cashier’s Office, Reading Area Community College, P.O. Box 1706, Reading, PA 19603

Amount Enclosed $_________________________ DO NOT SEND CASH. Make check payable to Reading Area Community College.

☐ VISA ☐ MasterCard ☐ Discover Card No. _______________________________ Exp. Date _________ 3 Digit Code ______
Authorized Signature ___________________________________________________________________________________________

This form may be duplicated for additional registrations.
RACC is proud to introduce our 15-week Pharmacy Technician Program.

RACC, in partnership with Tower Health, is proud to announce the new 15-week Pharmacy Technician Program coming Spring 2020.

The new pharmacy technician program will prepare students to take the national certification examination administered by the Pharmacy Technician Certification Board (PTCB). Students who complete the pharmacy technician program can seek employment in hospital settings and or retail pharmacies.

Pharmacy Technician positions are in high demand and will continue to grow 10%.

To learn more, call 610.375.8188 or visit racc.edu/PharmTech.
Free 6-Week Manufacturing Skills Building Program

RACC is offering a 6-week skills building program, designed and endorsed by local employers to give you the training you need to qualify for an interview.

For more information and application for the Basic Manufacturing Skills Program:
- Send Text Message “EZSKILLS” to 474747
- Go to Schmidt Training and Technology Center Blog @ RACC.edu
- Contact Sarah at 610.372.4721 Ext. 5312 or sstapleton@racc.edu

*Supports Manufacturing Skill Standards Council’s Certified Production Technician Plus certification. An industry-led standards-based training, assessment and certification system focused on the core skills and knowledge needed by the nation’s advanced manufacturing workforce.

Looking for an entry-level, direct-hire job in manufacturing, with good pay and benefits? Are you having trouble checking the boxes that ask about prior certification, training or experience?

Look inside for Spring 2020 Course Offerings!