

CAREER AND TECHNICAL EDUCATION CERTIFICATE

Licensure Requirement Details

PLUMBING AND PIPEFITTING #2537

Prepared by the Office Career and Technical Education

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INTRODUCTION

The following information is provided by the Department of Education to serve as a self-evaluation guide for individuals interested in applying for a career and technical education teaching certificate in the State of New Jersey using the alternate route program. The guide provides information about eligible degrees, employment experience, and self-employment experience that can be used to apply for a certificate. It also contains information regarding required state-issued licenses or credentials, when applicable. Note that this guide is not meant to be used to determine actual eligibility to apply, and it does not contain all of the requirements for an actual certificate application. For complete application information, visit the Office of Licensure and Credentials website at: <http://www.nj.gov/education/educators/license/>. **Individuals who do not hold the required credentials listed on this detail page should consult Part F: Other Credentials.**

PART A: CAREER AND TECHNICAL EDUCATION CERTIFICATE AND PROGRAM

The holder of a **Plumbing and Pipefitting Career and Technical Education Certificate #2537** issued by the New Jersey Department of Education is eligible to teach the following career and technical education programs and programs of study:

- *Plumbing Technology/Plumber, CIP Code 46.0503: A program that prepares individuals to practice as licensed plumbers by applying technical knowledge and skills to lay out, assemble, install, and maintain piping fixtures and systems for steam, natural gas, oil, hot water, heating, cooling, drainage, lubricating, sprinkling, and industrial processing systems in home and business environments. Includes instruction in source determination, water distribution, waster removal, pressure adjustment, basic physics, technical mathematics, blueprint reading, pipe installation, pumps, welding and soldering, plumbing inspection, and applicable codes and standards.*

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PART B: REQUIRED STATE-ISSUED OCCUPATIONAL LICENSE OR CREDENTIAL

Currently, there are no state-mandated occupational licenses required for this teaching certificate.

PART C: APPLICATION FOR CERTIFICATE USING A DEGREE

Option 1: Bachelor's degree or higher

Applicants using this option must meet all of the following requirements, and should review the requirements prior to submitting an application. The requirements include the following:

Requirements:

1. Applicants must submit an official, sealed copy of their transcript(s) for a bachelor's degree or higher in a Department-approved subject area for the certificate. Applicants must have completed at least 30 credits in a coherent sequence of courses in the subject area from a regionally accredited college or university. Examples of eligible subject areas include the following:

- *Mechanical engineer*
- *Plumbing engineer*
- *Sanitary engineer*

The applicant's GPA must be 2.75 or higher. Applicants with a bachelor's degree or higher who graduate on or after September 1, 2004, with a GPA that is below 2.75 in a four-year degree program, but at least 2.50 when a GPA of 4.00 equals an A grade, are eligible to apply for the career and technical education certificate by submitting evidence of a minimum of two years (4,000 hours) of full-time employment or part-time employment or self-employment as per the requirements of **PART D or PART E**, below.

2. Applicants must complete a 24-hour introduction to teaching course through an authorized provider, which serves as an introduction to the teaching profession for those individuals who are exploring career options. Topics include classroom management, lesson planning, introduction to New Jersey core curriculum content standards, and assessment of pupil progress. To obtain information regarding this requirement, read the section titled, "New Requirement for Certificate of Eligibility," on the following website: <http://www.nj.gov/education/educators/license/advisories/applicant.htm>
3. Applicants must pass an examination in physiology, hygiene and substance abuse issues pursuant to *N.J.A.C. 6A:9-5.9*, including the effects of narcotics and alcohol. The examination is administered at the county offices of education. In lieu of this examination, the applicant may present basic military training or college level study in areas such as biology, health or nutrition. To obtain details regarding this test, contact a county office of education: <http://www.state.nj.us/education/counties/>

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Option 2: Associate's degree

Applicants using this option must meet all of the following requirements, and should review the requirements prior to submitting an application.

1. Applicants must submit an official, sealed copy of their transcript(s) for an associate's degree in a Department-approved subject area for the certificate. Applicants must have completed at least 30 credits in a coherent sequence of courses in the subject area from a regionally accredited college or university:
 - *Mechanical Engineering Technology*
2. Applicants using a two-year degree must also submit evidence of at least two years (4,000 hours) of employment experience in accordance to the requirements of PART D or PART E, below.
3. Applicants must complete a 24-hour introduction to teaching course through an authorized provider, which serves as an introduction to the teaching profession for those individuals who are exploring career options. Topics include classroom management, lesson planning, introduction to New Jersey core curriculum content standards, and assessment of pupil progress. To obtain information regarding this requirement, read the section titled, "New Requirement for Certificate of Eligibility," on the following website:
<http://www.nj.gov/education/educators/license/advisories/applicant.htm>
3. Applicants must pass an examination in physiology, hygiene and substance abuse issues pursuant to *N.J.A.C. 6A:9-5.9*, including the effects of narcotics and alcohol. The examination is administered at the county offices of education. In lieu of this examination, the applicant may present basic military training or college level study in areas such as biology, health or nutrition. To obtain details regarding this test, contact a county office of education: <http://www.state.nj.us/education/counties/>

PART D: APPLICATION FOR CERTIFICATE USING EMPLOYMENT EXPERIENCE

Applicants using this option must meet all of the following requirements, and should review the requirements prior to submitting an application.

The federal Occupational Information Network (O*NET) lists the following additional applicable job titles for Drafter: *Plumber, Journeyman Plumber, Drain Technician, Plumber Gasfitter, Plumbing and Heating Mechanic, Residential Plumber, Service Plumber, and Commercial Plumber*

Requirements:

1. Applicants must submit evidence of at least four years (equivalent to 8,000 hours) of full-time or part-time employment under any of the job titles listed above.

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- a) The eligible employment experience must be within 10 years of the date of the application submitted to the New Jersey Department of Education. Employment experience that is older than 10 years will not be accepted.
- b) The eligible employment experience must be documented by the applicant's employer(s) using the Department of Education's Statement of Employment Experience form. If the applicant's eligible employment experience was obtained from more than one employer during the period of time for which eligible hours will be calculated, then a separate Statement of Employment Experience form must be completed by each employer. Employment experience submitted in any other format will not be accepted. Applicants may download the Statement of Employment Experience form from the Department of Education's website at the following link: http://www.nj.gov/education/educators/license/forms/voc_employer_experience.pdf
- c) The employer(s) completing a Statement of Employment Experience form(s) will comment on the applicant's work performance and safety practices the following general occupational competencies and tools¹ for this occupation, as follows:

TASKS:

- *Measure, cut, thread, or bend pipe to required angle, using hand or power tools or machines such as pipe cutters, pipe-threading machines, or pipe-bending machines.*
- *Study building plans and inspect structures to assess material and equipment needs, to establish the sequence of pipe installations, and to plan installation around obstructions such as electrical wiring.*
- *Locate and mark the position of pipe installations, connections, passage holes, or fixtures in structures, using measuring instruments such as rulers or levels.*
- *Fill pipes or plumbing fixtures with water or air and observe pressure gauges to detect and locate leaks.*
- *Assemble pipe sections, tubing, or fittings, using couplings, clamps, screws, bolts, cement, plastic solvent, caulking, or soldering, brazing, or welding equipment.*
- *Install pipe assemblies, fittings, valves, appliances such as dishwashers or water heaters, or fixtures such as sinks or toilets, using hand or power tools.*
- *Direct helpers engaged in pipe cutting, preassembly, or installation of plumbing systems or components.*
- *Cut openings in structures to accommodate pipes or pipe fittings, using hand or power tools.*
- *Review blueprints, building codes, or specifications to determine work details or procedures.*
- *Install underground storm, sanitary, or water piping systems, extending piping as needed to connect fixtures and plumbing.*
- *Knowledge of workplace safety/OSHA requirements for the occupation.*

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TOOLS & TECHNOLOGY:

- *Drain or pipe cleaning equipment — Drain cleaning cables; Hand spinners; Power sink machine drain cleaners; Toilet augers*
- *Pipe or tube cutters — Copper cutting machines; Power pipe cutters; Ratcheting polyvinyl chloride PVC cutters; Tubing cutters*
- *Pressure indicators — Air pressure gauges; Heavy duty water pressure gauges; Maximum reading water pressure gauges; Water pressure gauges*
- *Pullers — Compression sleeve pullers; Faucet handle pullers; Faucet stem and cartridge pullers; Tub drain removers*
- *Specialty wrenches — Chain wrenches; Spud wrenches; Strainer wrenches; Water heater element removal wrenches*
- *Accounting software — Intuit QuickBooks software; Intuit Quicken software; Job costing software; KRS Enterprises Service First!*
- *Analytical or scientific software — Elite Software DPIPE; Elite Software FIRE; Klear Estimator; Quote Software QuoteExpress*
- *Computer aided design CAD software — Autodesk Building Systems; Elite Software Plumbing CAD; Elite Software Sprinkler CAD; Horizon Engineering Sigma Plumbing Calculator*
- *Data base user interface and query software — Database software; Insight Direct ServiceCEO; PricePoint software; Wintac Pro Software*
- *Word processing software — Atlas Construction Business Forms; Contractor City Contractor Forms Pack; Microsoft Word; Wilhelm Publishing Threshold*

Applicants will attach the above list of tasks, tools and technology to the Statement of Employment Experience form(s) prior to submitting the form(s) to an employer(s) for completion.

¹Based upon O*NET: 47-2152.02 - Plumbers

O*NET Website: <http://www.onetonline.org/link/summary/47-2152.02>

2. Applicants must complete a 24-hour introduction to teaching course through an authorized provider, which serves as an introduction to the teaching profession for those individuals who are exploring career options. Topics include classroom management, lesson planning, introduction to New Jersey core curriculum content standards, and assessment of pupil progress. To obtain information regarding this requirement, read the section titled, “New Requirement for Certificate of Eligibility,” on the following website: <http://www.nj.gov/education/educators/license/advisorics/applicant.htm>
3. Applicants must pass an examination in physiology, hygiene and substance abuse issues pursuant to *N.J.A.C. 6A:9-5.9*, including the effects of narcotics and alcohol. The examination is administered at the county offices of education. In lieu of this examination, the applicant may present basic military training or college level study in areas such as biology, health or nutrition. To obtain details regarding this test, contact a county office of education: <http://www.state.nj.us/education/counties/>

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4. Applicants must pass the PRAXIS I[®] basic skills tests*, including the following:
 - Praxis Pre-professional Skills Test Reading (#10710)
 - Praxis Pre-professional Skills Test Writing (#20720)
 - Praxis Pre-professional Skills Test Mathematics (#10730)

For more information regarding the PRAXIS I[®] basic skills tests, visit the “New Jersey: Praxis Test Requirements” page of the Employment Testing Service (ETS) website at the following link: <http://www.ets.org/praxis/nj>. Scroll to the bottom of the page to “Career and Technical Education.” The three required tests are in the column to the right. Test preparation information and materials are also available from ETS. On the webpage, go to the “In This Section” selection in the upper left-hand corner and click on “For Test Takers.” Select the PRAXIS I[®] Pre-Professional Skills Test (PPST) link, which goes to the PRAXIS I[®] Overview page. Click on the light blue “Prepare for the Test” tab. Select one of the three PRAXIS I[®] tests. Each link goes to a page that contains free test prep information as well as test guides that may be purchased.

***NOTICE:** Applicants who have completed a college degree (two-year, four-year or higher) in any subject area and regardless of GPA are not required to take the PRAXIS I[®] tests.

PART E: APPLICATION FOR CERTIFICATE USING SELF-EMPLOYMENT EXPERIENCE

Applicants using this option must meet all of the following requirements, and should review the requirements prior to submitting an application.

1. Submit evidence of at least 8,000 hours of self-employment under any of the job titles listed under PART D. The self-employment experience must be within 10 years of the date of application to the New Jersey Department of Education for the career and technical education certificate. Self-employment experience that is older than 10 years will not be accepted. Documentation must be submitted as a notarized letter from the applicant’s accountant or attorney verifying the applicant’s dates of self-employment and verifying that the applicant has filed for state and/or federal taxes using one of the following federal U.S. Census North American Industry Classification Systems (NAICS) or the Standard Industrial Classification (SIC) numbers:

- *NAICS Code # 238220 Plumbing, Heating, and Air-Conditioning Contractors*

NAICS Website: <http://www.census.gov/eos/www/naics/index.html>

2. Applicants must complete a 24-hour introduction to teaching course through an authorized provider, which serves as an introduction to the teaching profession for those individuals who are exploring career options. Topics include classroom management, lesson planning, introduction to New Jersey core curriculum content standards, and assessment of pupil progress. To obtain information regarding this requirement, read the section titled, “New Requirement for Certificate of Eligibility,” on the following website: <http://www.nj.gov/education/educators/license/advisories/applicant.htm>

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3. Applicants must pass an examination in physiology, hygiene and substance abuse issues pursuant to *N.J.A.C. 6A:9-5.9*, including the effects of narcotics and alcohol. The examination is administered at the county offices of education. In lieu of this examination, the applicant may present basic military training or college level study in areas such as biology, health or nutrition. To obtain details regarding this test, contact a county office of education: <http://www.state.nj.us/education/counties/>
4. Applicants must pass the PRAXIS I[®] basic skills tests*, including the following:
 - *Praxis Pre-professional Skills Test Reading (#10710)*
 - *Praxis Pre-professional Skills Test Writing (#20720)*
 - *Praxis Pre-professional Skills Test Mathematics (#10730)*

For more information regarding the PRAXIS I[®] basic skills tests, visit the “New Jersey: Praxis Test Requirements” page of the Employment Testing Service (ETS) website at the following link: <http://www.ets.org/praxis/nj>. Scroll to the bottom of the page to “Career and Technical Education.” The three required tests are in the column to the right. Test preparation information and materials are also available from ETS. On the webpage, go to the “In This Section” selection in the upper left-hand corner and click on “For Test Takers.” Select the PRAXIS I[®] Pre-Professional Skills Test (PPST) link, which goes to the PRAXIS I[®] Overview page. Click on the light blue “Prepare for the Test” tab. Select one of the three PRAXIS I[®] tests. Each link goes to a page that contains free test prep information as well as test guides that may be purchased.

***NOTICE:** Applicants who have completed a college degree (two-year, four-year or higher) in any subject area and regardless of GPA are not required to take the PRAXIS I[®] tests.

PART F: OTHER CREDENTIALS

Individuals who possess a Bachelor’s degree or higher in a related content area not listed on this worksheet may submit their degree along with an application for a career and technical education certificate to the Department of Education, which will review the submission in order to determine eligibility. There is a fee associated with this service. However, the Department of Education does not guarantee that credentials submitted will be accepted by the Department of Education as satisfying the requirements for a career and technical education certificate. For more information, visit the Office of Licensure and Credentials homepage at <http://www.nj.gov/education/educators/license/>

PART G: MILITARY SERVICE/TROOPS TO TEACHERS

Individuals with military service may have obtained qualifying employment experience, education, and/or training during their military service via the New Jersey Troops to Teachers program. The Troops to Teachers program (TTT) assists eligible military personnel with the transition to a new career as public school teachers. The New Jersey TTT office will provide participants with counseling and assistance regarding certification requirements, routes to state

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teacher certification and employment leads. For information, contact the New Jersey Department of Education Troops to Teachers office at 800-680-0884 or e-mail ttnj@doe.state.nj.us.
New Jersey Troops to Teachers Website: www.nj.gov/njded/ttnj

PART H: ARE YOU LOOKING FOR A TEACHING JOB IN NEW JERSEY?

Visit NJHire today, the New Jersey Department of Education's free education recruitment website. NJ HIRE Website: <http://www.njhire.com>