

National Association of Elevator Contractors

CAT[®] EDUCATION

Program Guide



Table of Contents

Program Introduction and Definitions.....	3
Education Program Outline.....	4
Curriculum Outline.....	6
CAT-S.....	7
Program Fees.....	9
Codes of Conduct.....	10
Curriculum Details.....	11

NAEC'S CAT® EDUCATION PROGRAM

The Certified Accessibility and Private Residence Lift Technician (CAT®) Education Program is sponsored and administered by the National Association of Elevator Contractors (NAEC). The purpose of the CAT® Education Program is to provide the accessibility/residential lift industry technical, mechanical, construction, and maintenance workforces with a means of obtaining and verifying critical education and training requirements related to compliance with industry codes, private residence elevator and accessibility equipment specific technical theory, components, and competencies. It is a program which spans two years and 5 courses of study. In addition to unit exams given during the coursework, an exam will be given at the completion of the program. Each course will include skills verifications related to the coursework. The skills must be completed in the presence of a CAT or CAT-S before going onto the next course.

The CAT® Education Program is the nationally recognized training program included in NAEC's National Guidelines for Apprenticeship Standards (C2011-03) approved by the U.S. Department of Labor Office of Apprenticeship.

All CAT® Education course materials are available from Elevator World, Inc. They may be purchased on their website, www.elevatorbooks.com, or by calling 251.479.4514. Purchasers will need to provide their candidate number assigned to each CAT® candidate.

Program information may be obtained from the NAEC website at www.naec.org, or by calling 800.900.6232 or 770.760.9660.

Program Definitions

- **Candidate** is a participant/learner in the CAT® Education Program; an individual who has met all of the application requirements of the NAEC CAT® Education Program and has been accepted into the program.
- **CAT®** is a Certified Accessibility and Private Residence Technician who has met all the application requirements of the NAEC CAT® Certification Program, passed the required certification exam and has maintained their certification by completing all requirements of the annual renewal process. A current CAT® will hold a CAT® ID issued by the NAEC Certification Board
- **CAT-S** is a CAT® supervisor/administrator; an individual who is a CAT® (see definition above) and who has successfully completed the NAEC CAT® Supervisor Training Course. Each participating candidate must have access to a CAT-S. *

***Temporary Modification: Effective March 30, 2014 through March 30, 2018.**

A CAT-S will be allowed to administer the CAT program skills portion for a period of 3 years. (March 30, 2014 through March 30, 2017). Remote proctoring will be required on all exams for this option.

Education Program Outline

Candidate Application Process

- CAT Candidate Qualifications:
 - Must have a high school diploma, GED or equivalent;
 - Must be at least 18 years of age;
 - Must have access to the supervision of a CAT-S;
 - Must pay the application fee and annual candidate administration fee;
 - Must be able to read and write in English;
 - Must be a citizen of the United States or be legally authorized by the United States government to work and participate in a training program. The exception to this requirement is for individuals living outside the United States and not working in the United States; and
 - In addition to the above criteria NAEC strongly recommends that the CAT Candidate complete a Basic Skills Assessment (TABE test).
- Complete and submit online application at www.naec.org.
- NAEC will return your application for review and signature.
- Return to NAEC.
 - Application signed by candidate and authorized representative of employer;
 - Copy of High School Diploma or GED transcript;
 - Copy of photo ID that includes date of birth;
 - Certification Statement signed by candidate, CAT-S and authorized representative of employer;
 - Code of Ethics signed by candidate;
 - Application fee of \$200 for NAEC members or \$625 for non-members

Curriculum

- Consists of 5 courses:
 - Course 1: Introduction to the Vertical Transportation Industry
 - Course 2: Vertical Platform Lifts
 - Course 3: Inclined Platform Lifts
 - Course 4: Inclined Stairway Chairlifts
 - Course 5: Private Residence Elevators
- Courses must be completed in order;
- Approximately 2 years to complete; 300 total classroom hours;
- Course units consist of three basic parts:
 - Text based workbook.
 - On the job skills verification.
 - Unit/course exams (minimum passing score 85%).
- On the job skills must be completed in the presence of a CAT® or CAT-S.
- Upon completion of each unit or course an exam will be given. The exam will be
 - Online.
 - Closed book.
 - Questions chosen from study questions at the end of each unit/course chapter of the core curriculum.
 - Proctored by the candidate's CAT-S and carried out in accordance with NAEC testing guidelines.
- Curriculum can be purchased from approved NAEC vendor, Elevator World, Inc., at www.elevatorbooks.com using the candidate number assigned upon approval of program application.

Certificate of Completion

An individual will be awarded a Certificate of Completion for the CAT® Education Program and can apply for CAT® Certification based on the following criteria:

- Has met all of the application requirements of the NAEC CAT® Education Program;
- Has successfully completed all course requirements of CAT Education Program's curriculum (Course 1-5);
- Has documented at least 4,200 additional on-the-job training hours from the time of their candidate application approval;
- Has completed the required skills verifications; and
- Has passed the Final Exam

The Final Exam will be:

- Online;
- Closed book;
- Questions randomly chosen from study questions in the curriculum;
- Proctored by the candidate's CAT-S and a competent adult who is not the supervisor or related to the candidate in accordance with proctoring guidelines;
- Carried out in accordance with NAEC testing guidelines.

Minimum passing score for Final Exam is 85%. If the applicant fails the Final Exam, the following process will be applicable:

- After the 1st Time – The candidate may retake the examination (2nd attempt) after a 15-day waiting period,
- After Failing the 2nd Time – The candidate may retake the examination(3rd attempt) after a 15-day waiting period and paying a \$100 fee,
- After Failing the 3rd Time – The candidate may retake the examination (4th attempt) after a 60-day waiting period and paying a \$100 fee. Additionally, the candidate's CAT-S, and an officer of the candidate's company, must submit a signed and dated statement certifying that the candidate studied the respective curriculum chapter(s) that the candidate failed.
- After Failing the 4th Time – The candidate must repeat the entire Curriculum.

Curriculum Outline

COURSE 1: INTRODUCTION TO VERTICAL TRANSPORTATION INDUSTRY

Course 1 total: Class hours – 76
Field hours – 1000

COURSE 2: VERTICAL PLATFORM LIFTS

Course 2 total: Class hours – 40
Field hours – 500

COURSE 3: INCLINED PLATFORM LIFTS

Course 3 total: Class hours – 40
Field hours – 500

YEAR 1: TOTAL CLASS HOURS = 156 / TOTAL FIELD HOURS = 2,000

COURSE 4: INCLINED STAIRWAY CHAIRLIFTS

Course 4 total: Class hours – 20
Field hours – 400

COURSE 5: PRIVATE RESIDENCE ELEVATORS

Course 5 total: Class hours – 124
Field hours – 1,800

YEAR 2: TOTAL CLASS HOURS = 144 / TOTAL FIELD HOURS = 2,200

Total Class hours 300

Total Field hours4200

CAT-S

Each candidate must have access to a CAT-S. In order to qualify as a CAT-S, an individual must first be certified as a CAT® and then must take and pass the CAT-S Examination. The CAT-S Examination is an online open book exam. An individual must obtain a score of 85% in order to pass the examination.

For a period of one year, beginning July 1, 2016 and ending June 30, 2017, the status of an archived CAT/CAT-S based on experience can renew and qualify to take the CAT-S examination. All the following criteria must be met for an archived individual to reinstate their CAT/CAT-S and become a CAT-S:

- An individual must first have been certified as a CAT/CAT-S for a minimum of one year prior to becoming archived
- Worked in the elevator/escalator industry a minimum of 30 years (documented proof required)
- Achieved the age of 60 years
- Pay a \$1,000 application fee
- Pass/re-pass the CAT-S examination
- Obtain 10 hours annually of CAT approved continuing education to maintain the CAT-S status once reinstated

At the end of the one year period, expiring June 30, 2017, the criteria for an archived individual to reinstate their CAT/CAT-S to CAT-S eligibility will become:

- Certified as a CAT/CAT-S for a minimum of ten years prior to becoming archived
- Worked in the elevator/escalator industry a minimum of 30 years (documented proof required)
- Achieved the age of 60 years
- Pay a \$1,500 application fee
- Pass/re-pass the CAT-S examination
- Obtain 10 hours annually of CAT approved continuing education to maintain the CAT-S status

Contact Kathy Bell regarding enrollment in the CAT-S program at kathy@naec.org or 800-900-6232.

ROLE OF THE CAT-S

- Help the Candidate succeed in completing the CAT® Education Program
- Ensure that candidates have the required basic skills to complete the program study materials.
- Assist candidates with their program application.
- Ensure that candidates have met all their requirements prior to taking each exam.
- Ensure that the online exams are taken in accordance with NAEC Testing Guidelines.

CAT-S RESPONSIBILITIES TO THE EMPLOYER

Like any industry-based training program, the CAT® Education program requires coordination between the learner and company operations to help ensure consistency in training, conservation of human and fiscal resources, and assurance that the related activities are conducted within the company policies, procedures, and respective industry safety rules, regulations, and codes. There are several key responsibilities associated with the CAT-S and company operations. These responsibilities include the following:

- To help screen and identify new employees who have the potential to successfully complete the training program.
- To ensure that all of the internal company paperwork for the candidate is properly completed and maintained (e.g., purchase orders and checks if the company is paying for the program, training records, etc.). Although the CAT-S would not actually be responsible for completing this paper work, the CAT-S would supervise the completion of such requirements.
- To ensure that the candidate has opportunities to learn and complete the various skills and tasks correlated with the CAT® Education Program and that appropriate supervisors assist in the skills verification portion of the program.
- To ensure that all program assessments and examinations are taken by each assigned Candidate and that these assessments and examinations were conducted in an environment conducive for such activities as specified by the NAEC Education Program. This responsibility includes ensuring that the assessments and examinations are properly proctored.
- To ensure that company management is kept up-to-date with the progress of each assigned candidate.
- To serve as a liaison between NAEC and the respective company.
- To ensure that the CAT® Education Program within the company is conducted in accordance with program guidelines.
- To ensure that all company and pertinent industry safety standards, procedures, and codes are followed throughout the candidate training activities.

CAT-S RESPONSIBILITIES TO THE CANDIDATE

The role of the CAT-S in the education program is a required element to help ensure that the candidate completes the program as designed and in a timely manner. This role should be viewed as more of a mentoring process where the CAT-S helps guide the candidate through the many steps of the education program. The specific responsibilities of the CAT-S as associated with the Candidate are as follows:

- To ensure that the reading and mathematics assessments are completed by each employee that may potentially participate in the education program and that these assessments are conducted in an environment conducive for such activities as specified in other portions of this publication.
- To assist identified employees with completing the online application for the education program.
- To assist the employee, once he or she officially becomes a candidate, in developing a study schedule and assist the candidate in developing good study habits.
- To assist the employee through the study process by providing a schedule and being available regularly to answer any technical questions the candidate may have.
- To ensure that all training assessments and examinations are taken by each assigned candidate and that these assessments and examinations are conducted in an environment conducive for such activities as specified by the NAEC Certification Board.
- To ensure that all Candidates have access to company personnel to facilitate the skills verification check-off.
- To review the results of examinations taken by the Candidate and to make arrangements for additional study activities in the event that a candidate has failed an examination.
- To take other reasonable efforts to help the candidate successfully complete the NAEC CAT® Education Program.

CAT-S TRAINING KIT

CAT-S applicants can purchase the CAT-S kit from Elevator World at www.elevatorbooks.com. The kit contains all of the coursework. However some reference materials that the Candidate receives are not in the CAT-S kit. Attached is a book list broken down by year. A CAT-S may order these books separately as needed or as a supplemental library for the company. The supplemental books for the CAT-S are available at Elevator World.

SUPPLEMENTAL BOOKS FOR CAT-S

- Core Curriculum
 - Elevator Industry Field Employees Safety Handbook
 - ADA
 - Building Transportation
 - National Electrical Code 2011 (NEC)
 - *Compilation of VPL Manufacturer Information*
 - *Compilation of IPL Manufacturer Information*
 - *Compilation of ISC Manufacturer Information*
 - *Compilation of PRE Manufacturer Information*

NAEC CAT Education Program Fees

First Year Candidate Fees

	NAEC Member	Non-Member
Candidate Fee includes: ▪ Application, Administration Fee & Testing	\$ 200.00	\$ 625.00
Course I – Introduction to the Vertical Transportation Industry ▪ Course Guide ▪ Introduction to Vertical Transportation Industry Textbook	\$ 315.00	\$ 420.00
▪ Skills Verification Portfolio ▪ <i>Elevator Industry Field Employees' Safety Handbook</i>		▪ ADA ▪ <i>Building Transportation</i> ▪ Poster of Accessibility Systems
Course II – Vertical Platform Lifts ▪ Course Guide ▪ Vertical Platform Lifts textbook ▪ Skills Verification Portfolio	\$ 420.00	\$ 525.00
▪ <i>Compilation of VPL Manufacturer Information</i>		▪ <i>National Electrical Code 2011 (NEC)</i>
Course III – Inclined Platform Lifts ▪ Course Guide ▪ Inclined Platform Lifts textbook	\$ 262.00	\$ 367.00
▪ Skills Verification Portfolio		▪ <i>Compilation of IPL Manufacturer Information</i>
Cost for First Year of Program per Candidate	\$ 1,197.00	\$ 1,937.00

Second Year Candidate Fees

	NAEC Member	Non Member
Candidate Fee includes: ▪ Administration Fee & Testing	\$ 170.00	\$ 625.00
Course IV – Inclined Stairway Chairlifts ▪ Course Guide ▪ Inclined Stairway Chairlifts textbook	\$ 210.00	\$ 315.00
▪ Skills Verification Portfolio		▪ <i>Compilation of ISC Manufacturer Information</i>
Course V – Private Residence Elevators ▪ Course Guide ▪ Private Residence Elevators Vol 1 & 2 textbooks	\$ 420.00	\$ 525.00
▪ Skills Verification Portfolio		▪ <i>Compilation of PRE Manufacturer Information</i>
Cost for Second Year of Program per Candidate	\$ 800.00	\$ 1,465.00

Please note that the above fees are subject to change without notice.

CAT-S Kit Fees

CAT-S Core Curriculum Kit ▪ CAT-S Training Manual ▪ CAT-S Log Book ▪ Course 1 – Intro to Vertical Transportation Industry	▪ Course 2 – Vertical Platform Lifts ▪ Course 3 – Inclined Platform Lifts ▪ Course 4 – Inclined Stairway Lifts	\$ 630.00	\$ 785.00
(Please note each CAT-S Kit can be one-time purchases – the kits can be maintained in-house and used by more than one CAT-S. The CAT-S Training Manual and CAT-S Log Books are elements of the kit that cannot be shared. They can be purchased separately after the purchase of the initial Kit if you have multiple CAT-S' in your company)			
Additional CAT-S Training Manuals		\$ 55.00 EACH	\$ 70.00 EACH
Additional/replacement CAT-S Log Books		\$ 30.00 EACH	\$ 35.00 EACH
TABE Assessment Materials:			
▪ TABE-PC Starter Set – includes starter software & 7 test admins		\$ 175.00	\$ 200.00
▪ TABE-PC 50 – includes 50 test admins (requires starter set)		\$ 442.00	\$ 530.00
▪ TABE-PC 100 - includes 100 test admins (requires starter set)		\$ 837.00	\$1,005.00

Please note that the above fees are subject to change without notice.

Code of Ethics

Every program participant is required to sign a document attesting that he or she will follow the NAEC CAT[®] Code of Ethics.

CANDIDATE CODE OF ETHICS

In studying to become a CAT[®], studying to renew a CAT certification, and working as a CAT[®], I understand and agree to follow all elements of the NAEC CAT[®] Code of Ethics as specified in the following:

- *Providing falsified or misleading information related to my CAT[®] renewal constitutes good and sufficient grounds for the immediate cancellation of my CAT[®] Certification.*
- *Providing falsified or misleading information related to my CAT[®] Candidate Skills Verification constitutes good and sufficient grounds for the immediate cancellation of my CAT[®] Candidate status. Providing falsified or misleading information related to a CAT[®] Candidate Skills Verification constitutes good and sufficient grounds for the immediate cancellation of my CAT[®] status.*
- *Cheating or receiving help of any type not authorized by the NAEC on any education program examination or test constitutes good and sufficient grounds for the immediate cancellation of my CAT[®] Candidate status.*
- *Providing falsified or misleading information on work related documents, reports, and logs while working as a CAT[®] constitutes good and sufficient grounds for the immediate cancellation of my CAT[®] status.*
- *Failing to follow related industry codes, standards, local and federal laws related to my work related duties, and company work rules constitutes good and sufficient grounds for the immediate cancellation of my CAT[®] status.*

CAT-S CODE OF ETHICS

In carrying out the responsibilities of a CAT-S, I understand and agree to follow all elements of the NAEC CAT-S Code of Ethics as specified in the following:

- *Ensure that every candidate under my charge is dealt with in a fair and unbiased manner. Ensure that the confidentiality of every CA^T[®] candidate under my charge is protected and that personal and CA^T[®] program progress information will only be provided to the management of the sponsoring company and supervisors required to know to properly conduct their jobs.*
- *Ensure that CAT[®] program assessments and examinations of every CAT[®] under my charge are properly proctored and that verification by legal identification with pictures is provided to the proctor before the respective CAT[®] candidate takes each assessment and examination. In the case of the CAT[®] program, proper proctoring means that the CAT[®] candidate will not be permitted to use books, notes, or any other information during the examinations and that no one is permitted to help or coach the CAT[®] candidate during the examinations. Also, there will be at least one company employee in the same room with the CAT[®] candidate during the entire assessment and examination process.*
- *Ensure that the skills verification for every CAT[®] candidate under my charge is signed off only by a qualified CAT[®] and that verification by legal picture identification is provided to the CAT[®] who will be conducting skills verification for the respective CAT[®] candidate.*
- *Notify my employer and the NAEC in the event that I have witnessed, or have reason to believe, that an individual has obtained CAT[®] candidate status, CAT[®], or CAT-S certification under false pretenses.*
- *Not use any questions in the training of candidates that are known to be on the final CAT[®] Certification Exam.*
- *To act in a professional manner when conducting CAT-S responsibilities*

Education Program Curriculum Details

Core Curriculum

The CAT Education Core Curriculum covers approximately two years of study and is divided into five courses. All coursework is available in complete kits from Elevator World, Inc. at www.elevatorbooks.com. Kits include required supplemental materials.

COURSE 1: INTRODUCTION TO THE VERTICAL TRANSPORTATION INDUSTRY

Class hours: 76 / Field hours: 1,000

LEARNING OBJECTIVES

Upon completion of Course 1, the candidate should have:

- Gained knowledge of basic safety
- Demonstrated instruction on proper use of tools
- Gained general knowledge of National Applicable Codes and Regulations
- Gained knowledge of basic electricity
- Demonstrated the ability to print reading
- Gained knowledge of installation basics

- | | |
|---|---|
| 1. Vertical Transportation History | 5. Types of Accessibility & Residential Equipment |
| 2. Organizations Relevant to the Vertical Transportation Industry | 6. General Safety |
| 3. National Applicable Codes and Regulations | 7. Introduction to Basic Electricity |
| 4. Accessibility Industry Glossary of Terms | 8. Print Reading |
| | 9. Installation |

ADDITIONAL REFERENCE MATERIALS

- | | |
|--------------------------------|---|
| ➤ Accessibility Systems Poster | ➤ <i>Elevator Industry Field Employees' Safety Handbook</i> |
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COURSE 2: VERTICAL PLATFORM LIFTS

Class hours: 40 / Field hours: 500

LEARNING OBJECTIVES

Upon completion of Course 2, the candidate should have:

- Gained fundamental knowledge of the overview of equipment
- Gained fundamental knowledge of the safety procedures
- Gained fundamental knowledge of the installation procedures
- Gained fundamental knowledge of the wiring, power supplies and control circuits
- Gained fundamental knowledge of the operation of equipment

- | | |
|--|---|
| 1. Overview | 6. Safeties and Governors |
| 2. Landing Doors and Gates | 7. Hoistway/Runway Enclosure |
| 3. Landing Door and Gate-Locking Devices | 8. Wiring, Power Supplies, Control Circuits and Operation |
| 4. Machinery Tower/Mast | 9. Other Components |
| 5. Platforms | |

ADDITIONAL REFERENCE MATERIALS

- | | |
|---|--|
| ➤ <i>National Electrical Code (NEC)</i> | ➤ <i>VPL Manufacturers Compilation</i> |
|---|--|

COURSE 3: INCLINED PLATFORM LIFTS

Class hours: 10 / Field hours: 500

LEARNING OBJECTIVES

Upon completion of Course 3, the candidate should have gained:

- Fundamental knowledge of the overview of equipment

- Fundamental knowledge of the safety procedures
- Fundamental knowledge of installation procedures
- Fundamental knowledge of wiring, power supplies and control circuits
- Fundamental knowledge of operation of equipment

1. Overview
2. Power Supply and Wiring
3. Stairways
4. Power Transfer/Landing Calls

5. Battery-Operated Models
6. Barrier Arms
7. Controls and Operation
8. Platforms, Safeties and Governors

ADDITIONAL REFERENCE MATERIALS

- *IPL Manufacturers Compilation*

COURSE 4: INCLINED STAIRWAY CHAIRLIFTS

Class hours: 20 / Field hours: 400

LEARNING OBJECTIVES

Upon completion of Course 4, the candidate should:

- Fundamental knowledge of the overview of equipment
- Fundamental knowledge of the safety procedures
- Fundamental knowledge of installation procedures
- Fundamental knowledge of wiring, power supplies and control circuits
- Fundamental knowledge of operation of equipment

1. Overview
2. Power Supply and Wiring

3. Track Installation

ADDITIONAL REFERENCE MATERIALS

- *ISC Manufacturers Compilation*

COURSE 5 – PRIVATE RESIDENCE ELEVATORS

Class hours: 124 / Field hours: 1,800

LEARNING OBJECTIVES

Upon completion of Course 5, the candidate should:

- Fundamental knowledge of the overview of equipment
- Fundamental knowledge of the safety procedures
- Fundamental knowledge of installation procedures
- Fundamental knowledge of wiring, power supplies and control circuits
- Fundamental knowledge of operation of equipment

1. Overview
2. Drive Types General
3. Power Supply and Wiring
4. Hoistway

5. Car and Sling
6. Landing Door/Gate Interlocks & Lock and Contacts
7. Before Leaving the Jobsite

ADDITIONAL REFERENCE MATERIALS

- *PRE Manufactures Compilation*