

THE REGISTERED APPRENTICESHIP OCCUPATIONS AND STANDARDS CENTER OF EXCELLENCE (AOSC)

Cargo and Freight Agent National Occupational Framework

ONET Code: 43-5011.00

RAPIDS Code: 0655

Created: January 2025

This project has been funded, either wholly or in part, with federal funds from the Department of Labor, Employment and Training Administration under Cooperative Grant Number AP-36653-21-75-A-11. The contents of this publication do not necessarily reflect the views or policies of the Department of Labor, nor does mention of trade names, commercial products, or organizations imply endorsement of the same by the US Government.





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Acknowledgments

We would like to thank several people who have contributed to the development and vetting of this National Occupational Framework. We would especially like to thank Amanda Briggs, Leslee Haisma, Diane Jones, and Jincy Wilson for their research, support, and contributions to developing the National Occupational Framework. Additionally, we had terrific experts lend their time, review, and support to the framework. They include Tosha Hudson, director of strategic partnerships at BridgePort, LLC; Sarah Janes, associate vice chancellor- continuing and professional development at San Jacinto College; Lesley Vizurraga, business development manager at Fleet Team, Inc.; Nathan Krivo, owner of Low Ship Rate; Marisa Ramos, head of operations—forwarding and customs services at Future Forwarding; Mark Ochoa, professor of supply chain management at Harper College; and Dorry Flynn, founder and CEO of BD Flynn Worldwide Custom Brokers & Freight Forwarders and member of the National Customs Brokers & Forwarders Association of America. Finally, we thank John Marotta and Lexi Mills for their thoughtful review.

Introduction to Using This Document

Under the Registered Apprenticeship Technical Assistance Centers of Excellence award, the Urban Institute leads the Occupations and Standards work. One of the main objectives of Urban's project is to create high-quality, well-researched, consensus-based work process schedules that are nonproprietary and widely available. This document is a product of that work and contains three sections: the occupational overview, the work process schedule, and the related technical instruction.

The **occupational overview** is a general introduction, including alternative job titles, any prerequisites, and, if applicable, the total number of hours needed to complete a time-based or hybrid program.

The **work process schedule** outlines the major job functions, competencies, and/or hours an apprentice completes in a registered apprenticeship program. It outlines what apprentices are expected to learn on the job with the support of a mentor or journeyworker (a worker mastering the competencies of an occupation in a particular industry), including both core competencies and those deemed optional by experts in the field. The work process schedule is the foundational document guiding a program.

Urban works with numerous experts to ensure the content is thoroughly researched and vetted to reflect the expectations of industry, educators, labor unions, employers, and others involved in apprenticeship for this occupation. Sponsors and employers can use the work process schedule as their program standards with assurances it has been approved by experts in the field.

The **related technical instruction** presents considerations for the coursework that apprentices will undertake to supplement on-the-job learning. It is intended to serve as a reference to sponsors exploring their options for the accompanying classroom, virtual, or hybrid training.

How to Use the Work Process Schedule

Sponsors can adapt the work process schedule to accommodate their needs for competency- or time-based or hybrid programs. In a **competency-based** apprenticeship, sponsors assess apprentices' progress across core and optional competencies listed in the work process schedule. In a **time-based** apprenticeship, apprentices complete a predetermined number of hours across major job functions and the program overall. In a **hybrid** apprenticeship, sponsors monitor apprentices' hours spent on major job functions and assess their proficiency across competencies.

Each program type has a different method of assessment:

- **For a competency-based program**, apprentices engage in activities and make progress toward proficiency in the identified competencies. Sponsors overseeing apprentices' work assess their mastery of the outlined competencies using the following rating scale:

- 4—Competent/proficient (able to perform all elements of the task successfully and independently)
- 3—Satisfactory performance (able to perform elements of the task with minimal assistance)
- 2—Completed the task with significant assistance
- 1—Unsuccessfully attempted the task
- 0—No exposure (note the reason—absence, skill isn't covered, etc.)

The competencies may be completed in any order. Apprentices must perform at a level 4 or 3 in all competencies listed as “core” to complete the apprenticeship program successfully.

- **For a time-based program**, sponsors monitor apprentices' completion of hours in training across major job functions. The total number of hours recommended for this occupation is listed in the occupational overview and is based on guidance from the US Department of Labor. Generally, apprentices must have at least 2,000 hours overall for on-the-job learning, but occupations of greater complexity may require more hours. Sponsors will provide apprentices with supervised work experience and allocate the total number of hours across the major job functions to adequately train their apprentices.
- **The hybrid approach** blends both competency- and time-based strategies. Sponsors measure apprentices' skills acquisition through a combination of completing the minimum number of hours of on-the-job learning successfully demonstrating identified competencies. Sponsors will assess apprentices' proficiencies as described for competency-based programs with a rating scale of 0–4 for every core competency. Generally, apprentices have at least 2,000 hours overall for on-the-job learning, but occupations of greater complexity may require more hours. Sponsors will document apprentices' completion within a minimum and maximum range of hours assigned for each major job function.

Cargo and Freight Agent Occupational Overview

Occupational Purpose and Context

Cargo and freight agents are a key component to the supply chain and logistics sector as they expedite and route movement of incoming and outgoing cargo and freight shipments in airline, train, and trucking terminals and shipping docks. Agents take orders from customers and arrange pickup of freight and cargo for delivery to loading platforms. They also prepare and examine bills of lading to determine shipping charges and tariffs.

Potential Job Titles

air export specialist, drop shipment clerk, freight broker, intermodal dispatcher, international coordinator, load planner, logistics coordinator, logistics service representative, ship broker, traffic and documentation clerk, transportation clerk

Apprenticeship Prerequisites

Apprentices should possess basic math and reading skills, computer literacy skills, be detail-oriented and have analytical and problem-solving skills. A high school diploma or equivalent is generally required. Apprentices should have the physical aptitude to perform required tasks.

Recommended Length of Apprenticeship (Time/Hybrid Programs Only)

The recommended length of time for on-the-job training in a cargo and freight agent apprenticeship is 2,000 to 4,000 hours.

Work Process Schedule

Cargo and Freight Agent

ONET Code: 43-5011

RAPIDS Code: 0655

Instructions for Use:

Competency-based programs: In the “performance level achieved” column of the work process schedule (see examples starting on the next page), assess apprentices’ performances on each competency with the scale below. No monitoring of hours is required for this approach. See “Guidelines for Competency-Based, Hybrid and Time-Based Apprenticeship Training Approaches,” US Department of Labor, Employment and Training Administration, Office of Apprenticeship, October 20, 2015, <https://www.apprenticeship.gov/sites/default/files/bulletins/Cir2016-01.pdf>.

- 4—Competent/proficient (able to perform all elements of the task successfully and independently)
- 3—Satisfactory performance (able to perform elements of the task with minimal assistance)
- 2—Completed the task with significant assistance
- 1—Unsuccessfully attempted the task
- 0—No exposure (note the reason—absence, skill isn’t covered, etc.)

Time-based programs: In the “hours” row, specify the number of hours apprentices will fulfill for each job function. No assessment of competencies is required for this approach.

Hybrid programs: In the “performance level achieved” column, assess apprentices’ performances on each competency using the 0–4 scale above. In the “hours” row, identify a range of hours apprentices should spend working on each major job function.

Job Function 1: Maintains a safe workplace		
Hours (time-based and hybrid programs only):		
Competencies	Core or optional	Performance level achieved (0–4) (competency-based and hybrid programs only)
A. Reports safety problems to prevent accidents and complications at the worksite	Core	
B. Adheres to safety principles in the operation of equipment	Core	
C. Maintains certifications for operating relevant heavy machinery (e.g., forklift operator certification, hazardous material handling certification)	Core	
D. Abides by OSHA 10 regulations	Core	
E. Wears appropriate protective gear when performing operations on warehouse floor	Core	
F. Practices situational awareness to adhere to safety protocols	Core	
G. Develops and maintains a training plan for staff, when managing a team	Optional	
H. Handles hazardous materials following proper protocols	Optional	

Job Function 2: Prepares materials for shipping and receiving		
Hours (time-based and hybrid programs only):		
Competencies	Core or optional	Performance level achieved (0–4) (competency-based and hybrid programs only)
A. Packs goods for shipping, using tools such as staplers, strapping machines, shrink wrap, and hammers	Core	
B. Assembles containers and crates using measurement and cutting applications to transport items via machines or vehicles	Core	
C. Directs cargo loading to ensure completeness of load and even distribution of weight	Core	
D. Installs straps, braces, and padding to loads to prevent shifting or damage during shipment	Core	
E. Attaches address labels, identification codes, and shipping instructions to containers	Core	

F. Routes received goods to first available flight or to appropriate storage areas or departments, using forklifts, hand trucks, or other equipment	Core	
G. Opens cargo containers and unwraps contents, using steel cutters, crowbars, or other hand tools	Core	
H. Inspects and counts items received and checks them against invoices or other documents, recording shortages, and rejecting damaged goods	Core	

Job Function 3: Manages transportation of materials

Hours (time-based and hybrid programs only):

Competencies	Core or optional	Performance level achieved (0–4) (competency-based and hybrid programs only)
A. Accesses transportation management system (TMS) to analyze shipping information to make routing decisions, track shipments, and optimize shipping	Core	
B. Uses geographic informational mapping system to determine most efficient method of transportation	Core	
C. Tracks delivery progress of shipment	Core	
D. Negotiates and arranges transportation of goods with shipping or freight companies	Core	
E. Directs delivery trucks to shipping doors or designated marshaling areas and helps load and unload goods safely	Core	

Job Function 4: Manages business operations

Hours (time-based and hybrid programs only):

Competencies	Core or optional	Performance level achieved (0–4) (competency-based and hybrid programs only)
A. Coordinates, collaborates, and supervises activities of workers engaged in packing and shipping merchandise	Core	
B. Retrieves stored items and traces lost shipments as necessary	Core	
C. Prepares manifest showing mail, freight weight, passengers and/or other baggage, as appropriate, and transmits data to destinations	Core	
D. Tracks throughput and labor capacity for operational optimization	Core	
E. Negotiates financial arrangements	Optional	

F. Calculates shipping costs	Optional	
G. Prepares bills of lading, invoices, and other shipping documents	Optional	
H. Collaborates with appropriate departments to estimate freight or postal rates and records shipment costs and weights	Optional	
I. Checks import or export documentation to determine cargo contents and uses tariff coding system to classify goods according to fee or tariff group	Optional	

Job Function 5: Oversees warehouse inventory

Hours (time-based and hybrid programs only):

Competencies	Core or optional	Performance level achieved (0–4) (competency-based and hybrid programs only)
A. Uses established organizational technology to track warehouse inventory	Core	
B. Maintains a supply of packing materials	Core	
C. Uses proper methods of storing and packing goods (i.e., hanging, stacking)	Core	
D. Processes and distributes inventory to necessary internal and external stakeholders	Core	

Job Function 6: Collects and maintains business records

Hours (time-based and hybrid programs only):

Competencies	Core or optional	Performance level achieved (0–4) (competency-based and hybrid programs only)
A. Arranges insurance coverage for goods	Core	
B. Keeps records of all goods shipped, received, and stored	Core	
C. Enters shipping information into a computer by hand or by a handheld scanner that reads bar codes on goods	Core	
D. Enters materials data into Enterprise Resource Planning (ERP) system to issue work orders and credit return of goods to stock	Core	
E. Follows compliance regulations and retains compliance documentation for auditing purposes	Core	

F. Compiles supplier and vendor contracts, including routing guides and electronic data interchange (EDI) guides	Core	
G. Uses warehouse management system (WMS) software for recordkeeping	Core	
H. Uses appropriate technology to track key performance indicators (KPIs)	Core	

Job Function 7: Collaborates and communicates with internal and external personnel		
Hours (time-based and hybrid programs only):		
Competencies	Core or optional	Performance level achieved (0–4) (competency-based and hybrid programs only)
A. Uses strong written and oral communication skills to coordinate with outside entities and provide customer service	Core	
B. Uses language and business communications techniques that are inclusive and respectful of diverse groups	Core	
C. Coordinates activities effectively within a team environment	Core	
D. Collaborates with appropriate departments to advise clients on transportation and payment methods	Core	
E. Coordinates with appropriate departments to notify consignees, passengers, or customers of freight or baggage arrival and arranges for delivery	Core	
F. Coordinates with appropriate departments to notify customers of delays, changes in pricing, or any other changes to the original agreement	Core	
G. Works with appropriate department to contact vendors or claims adjustment departments to resolve shipment problems or contact service depots to arrange for repairs	Core	
H. Uses reasoning skills to decipher work order documentation and communicates with customers about missing information	Core	
I. Maintains vendor relationship	Core	
J. Communicates with customers; completes status checks and gathers missing information on bill of lading	Core	

Related Technical Instruction

Cargo and Freight Agent

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Instructions for Use:

Registered apprenticeships must include at least 144 hours of related technical instruction (RTI). Courses offered by accredited colleges and universities may be assigned a credit hour determination rather than a contact hour determination. In general, an academic credit unit is the equivalent of 15 clock hours of instruction. [Insert specifications for this occupation]

Development and Use of This RTI Outline: Employers and academic institutions may approach RTI in markedly different ways. Our goal was not to identify the single best way to provide RTI or to identify a single provider whose content we deemed to be superior. Instead, our goal was to survey numerous education providers, including employers, institutions of higher education, high schools, private continuing education providers, labor organizations, professional associations and, in some cases, municipalities that provide worker training, to identify topics or courses common among those providers that align with the job functions included in this work process schedule. Those common topics or courses are reflected in the RTI outline provided below, which may be useful in developing your RTI program or communicating your needs to an educational partner.

Licensure or certification requirements: None
Degree requirements for licensure or certification, if applicable: None
Accreditation requirements of instructional provider for licensure or certification, if applicable: Not applicable
Anticipated changes in licensure or certification requirements, if known: None
Examples of state licensure or certification requirements: Not applicable

Examples of RTI providers for this occupation

Professional associations and labor organizations: Transportation Intermediaries Association (TIA) offers a New Broker Certification Program (<https://www.tianet.org/course-nbc/>).

Military: The US military provides training for cargo specialists through a combination of classroom and on-the-job instruction (<https://www.careersinthemilitary.com/career-detail/cargo-specialists>).

States/municipalities: Not applicable

Federal: The US Department of Transportation's Federal Highway Administration offers a Freight Professional Development program through the National Highway Institute. Training is offered through courses, workshops, etc.

Colleges and universities: There are cargo and freight agent training courses offered by community colleges and universities.

No-cost online providers: Online platforms like Udemy have paid courses on logistics related topics, including cargo and freight broker/agents.

Continuing education or specialty education providers: Employers like DAT Freight & Analytics, offer online training for cargo and freight agents (<https://www.dat.com/solutions/freight-broker-training>). There are many specialized schools such as the Freight Movers School offering classes online and in person (<https://freightmoversschool.com>).

Prerequisite knowledge, skills or experience typically required by RTI providers for this occupation

None

Employer Onboarding

Hours: 1-3

Sample learning objectives

- Explain the mission of the employer's organization.
- Explain the organizational structure of the employer's organization.
- Explain the chain-of-command in the employer's organization, as well as the steps an employee should take to report concerns about practices or behaviors in the workplace or to share ideas about how to improve processes or efficiencies.
- Explain the employer's policies for workplace conduct and ethics.
- Explain the employer's policies regarding medical leave and vacation.
- Explain the requirements of the apprenticeship program and the role of the apprentice in the organization's business activities.

Mathematics

Hours: 30–45

Sample learning objectives

- Demonstrate the ability to accurately add, subtract, multiply, and divide with and without a calculator.
- Demonstrate the ability to add, subtract, multiply and divide fractions.
- Demonstrate the ability to add, subtract, multiply and divide decimals.
- Demonstrate the ability to convert fractions to decimals and vice versa.
- Demonstrate the ability to solve problems using proportions and ratios.
- Demonstrate the ability to solve simple algebraic equations.
- Demonstrate the ability to determine the circumference and diameter of a circle.
- Demonstrate the ability to name and calculate the angles and lengths of the sides of different types of triangles.
- Properly use exponents and demonstrate the ability to mathematically manipulate numbers expressed with exponents.
- Demonstrate the ability to convert between the imperial system and the metric system.
- Demonstrate the ability to use the metric system, including performing commonly used metric conversions.

Introduction to Computer Technology

Hours: 20 hours

Sample learning objectives

- Properly use email, instant messaging, electronic calendar, and shared document editing technologies.
- Properly title and store documents according to employer requirements and protocols.
- Properly use Microsoft Excel to create and modify spreadsheets.
- Properly use technology to complete shipping documents, track shipments, and confirm receipt of shipments.
- Properly use technology to determine shipping costs based on weight, size, and travel distance of cargo.
- Use technology to identify shipping ports, routes, and destinations across the US and around the world.

Business Communication

Hours: 10–15

Sample learning objectives

- Maintain customer correspondence and records, including through customer management systems (CMS) or other data management systems.
- Demonstrate the ability to properly format and compose a memorandum, email, text message, or written report using proper grammar, punctuation, usage, and spelling.
- Explain the policies and safeguards that must be put in place to protect critical, sensitive, or proprietary information and the potential consequences for violating those policies and safeguards.
- Demonstrate the ability to engage in active listening, to lead a conversation, and ability to contribute to business conversations.
- Demonstrate the ability to properly document and justify rejection of materials due to quality control concerns, damage, late delivery, or other reasons.
- Describe the potential sources of discrimination found in business communication and effective strategies for using language and communications techniques that result in inclusiveness and improved diversity.
- Describe the appropriate way to communicate to individuals at different levels in the chain of command, including to make operational recommendations, ask for clarification of information, express concerns, alert supervisors to potential problems, and recognize excellence among colleagues.

Occupational Safety in the Warehouse Environment

Hours: 20–30

Sample learning objectives

- Describe the types of injuries common in warehouse settings, such as slip-and-fall hazards, tripping hazards, forklift-related injuries, hand injuries, eye and face injuries, foot and leg injuries, head injuries, and respiratory injuries, as well as techniques for preventing these injuries.
- Describe the importance of physical protective devices, such as masks, gloves, protective eyewear, hearing protection, steel-toed boots, respirators, hardhats, and fall prevention devices (such as harnesses).
- Demonstrate the proper use of ladders, lifts, and automated devices to retrieve items from elevated areas.

- Describe the use of first aid equipment, devices, and procedures for assisting injured workers while awaiting emergency response professionals, including applying pressure to a wound, using tourniquets to stop bleeding, supporting the head and neck in the event of a fall or other head or back injury, treating burns, using an emergency shower or eyewash station, or protecting the respiratory system in the event of harmful gas release.
- Demonstrate the ability to perform CPR and use an electronic defibrillator.
- Explain the proper procedure for blocking an area or using other barriers to prevent injury to others while moving, lifting or stacking items, and to prevent falls and other injuries on loading docks and platforms.

Shipping, Receiving, and Quality Assurance

Hours: 30–40

Sample learning objectives

- Explain the role of shipping and receiving in warehousing and supply chain management.
- Describe the steps for receiving, documenting, and inspecting incoming materials.
- Discuss the key elements of an effective quality assurance process, including the importance of thorough inspections and recordkeeping.
- Explain what types of information are critical in the shipping and receiving process, and demonstrate the ability to create or complete the necessary shipping and receiving forms.
- Describe the types of in-process quality assurance methods used to preserve the integrity of materials.
- Describe the quality assurance controls used when shipping or storing food products.
- Describe the role of dispatch in warehousing and shipping, and demonstrate the ability to develop and execute a dispatch plan.
- Explain the advantages and disadvantages of various forms of shipping, and select the proper shipping methodology based on cost or other parameters.
- Explain the impact of weather, political unrest, or other interferences on various shipping modes.
- Demonstrate the ability to calculate shipping costs for cargo.
- Demonstrate the ability to complete all necessary shipping documents.
- Demonstrate the ability to calculate tariffs that apply to shipping.

Relevant military experience

Cargo specialist occupation in the military offers training in this field. The relevant military code is 88H (<https://transportation.army.mil/enlisted/cmf88h.html>).

Diversity, equity, and inclusion

Demographic information is available separately for cargo and freight agents. For cargo agents, 68.6 percent are male and 31.4 percent are female. The numbers are similar for freight agents, 64.6 percent male and 35.4 percent female. 44.5 percent of cargo agents are white, followed by 27.5 percent Hispanic/Latino, 14.1 percent Asian, 6 percent Black, 0.8 percent American Indian and Alaska Native and 7.1 percent race unknown (<https://www.zippia.com/cargo-agent-jobs/demographics/>). For freight agents, these numbers are 58.3 percent White, 16.2 percent Hispanic/Latino, 12.9 percent Asian, 5.3 percent Black, 0.7 percent American Indian and Alaska Native and 6.6 percent race unknown (<https://www.zippia.com/freight-broker-jobs/demographics/>).

Works Consulted

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