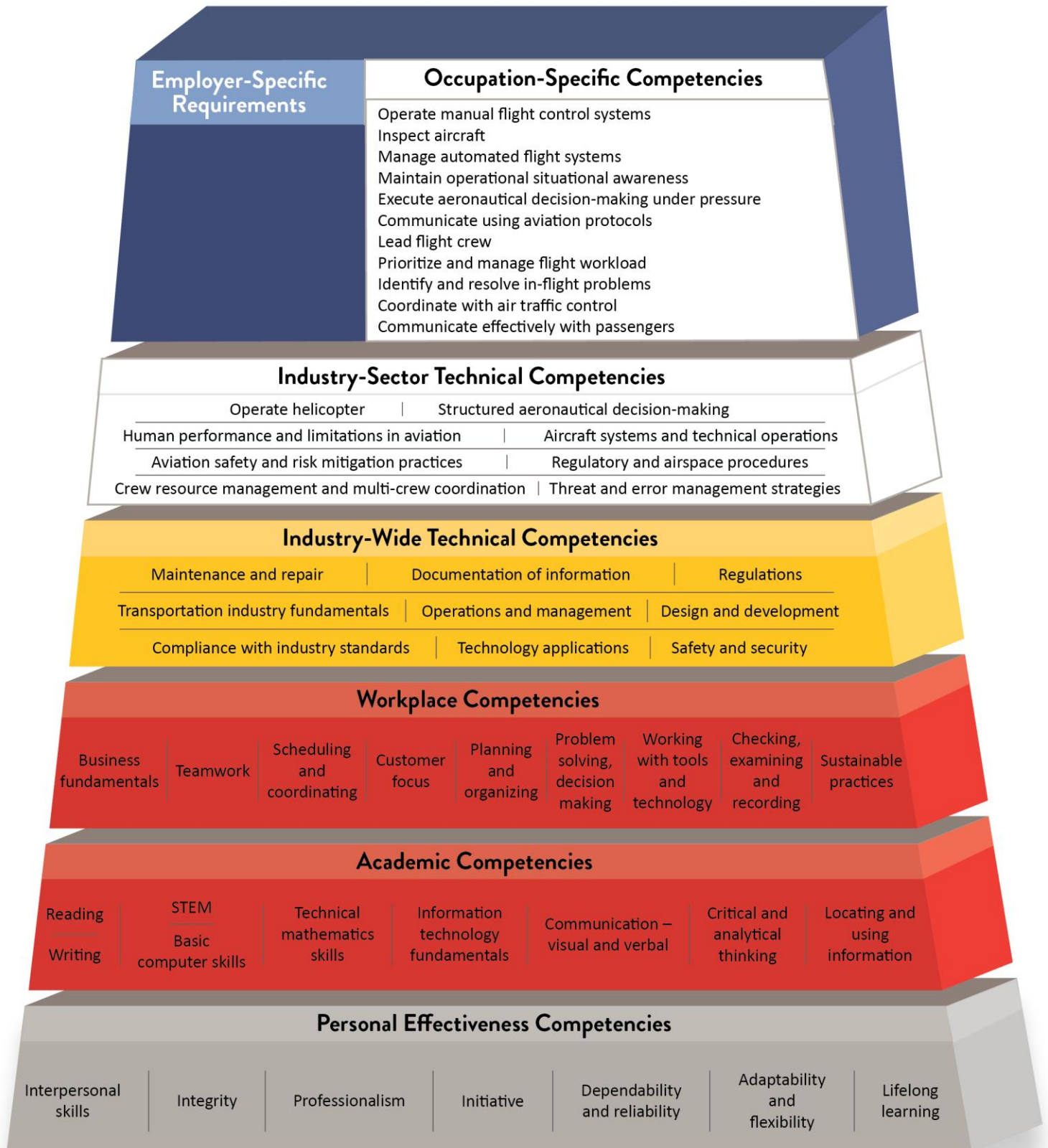


Minnesota Dual-Training Pipeline

Competency Model for Transportation

Occupation: Commercial Pilot



Based on: Transportation, Distribution and Logistics Competency Model, Employment and Training Administration, United States Department of Labor, February 2025. For more detailed information about competency model creation and sources, visit dli.mn.gov/business/workforce/transportation.



DRAFT Competency Model for Commercial Pilot

Commercial Pilot – A commercial pilot is a highly trained and certified professional responsible for piloting and navigating fixed-wing aircraft, typically on nonscheduled air carrier routes, or helicopters. This role requires a Federal Aviation Administration (FAA) Airplane Commercial Pilot Certificate in airplane with instrument rating (ASEL). There are additional ratings depending on the aircraft type (multi-engine, seaplane, tailwheel, CFI in airplane and/or rotorcraft or rotary wing helicopter). An individual must also obtain at least a second-class medical certificate issued by an FAA Aviation Medical Examiner.

*Pipeline recommends the Industry-Sector Technical Competencies as formal training opportunities (provided through related instruction) and the Occupation-Specific Competencies as on-the-job (OJT) training opportunities.

Industry-Sector Technical Competencies

Related Instruction for dual training means the organized and systematic form of education resulting in the enhancement of skills and competencies related to the dual trainee's current or intended occupation.

- **Structured aeronautical decision-making** – Use a formalized approach to assess risks and make informed decisions in aviation operations.
- **Crew resource management fundamentals** – Engage in communication, leadership, and coordination techniques to optimize crew performance and safety.
- **Threat and error management strategies** – Identify, mitigate, and manage operational threats and human errors.
- **Human performance and limitations in aviation** - Recognize physiological and psychological factors that influence pilot performance, including fatigue, stress, and sensory perception.
- **Regulatory and airspace procedures** - Follow aviation laws, operational regulations, and airspace classifications as mandated by governing authorities.
- **Aircraft systems and technical operations** - Examine airframe, powerplant, and electrical systems, avionics, propulsion, and emergency protocol.

- **Aviation safety and risk mitigation practices** - Use hazard identification, safety procedures, and proactive risk management strategies to maintain operational safety.
- **Operate helicopter** - Know how to fly a helicopter, completing all steps of pre-trip inspection, take-off and landing.

Occupation-Specific Competencies

On-the-Job Training is hands-on instruction completed at work to learn the core competencies necessary to succeed in an occupation. Common types of OJT include job shadowing, mentorship, cohort-based training, assignment-based project evaluation and discussion-based training.

- **Operate manual flight control systems** – Ability to manually control the aircraft's trajectory using flight controls, navigation inputs, and visual cues.
- **Inspect aircraft**– Understand how to inspect the aircraft and look for defects and malfunctions, according to pre-flight checklists.
- **Manage automated flight systems** – Proficiency in managing automated systems like autopilot and flight management systems to maintain safe and efficient flight.
- **Maintain operational situational awareness** - Capacity to perceive, understand, and anticipate environmental and operational factors affecting flight safety.
- **Execute aeronautical decision-making under pressure** - Skill in evaluating options and making timely, effective decisions during routine and emergency flight scenarios.
- **Lead flight crew** - Know how to lead and collaborate with flight crew members to maintain operational harmony and safety.
- **Coordinate with air traffic control** - Understand how to interact with air traffic control by sharing updated instrument flight plans to assure minimal disruption of other air traffic.
- **Prioritize and manage flight workload** - Organize tasks, manage time, and maintain situational control during high workload conditions.
- **Identify and resolve in-flight problems** - Capability to detect operational issues, analyze root causes, and implement corrective actions during flight.
- **Communicate effectively with passengers** - Understand how to speak politely with passengers before, during and after the conclusion of the flight.

- **Communicate using aviation protocols** - Effectively use standardized aviation language and procedures to communicate with crew, air traffic control, and ground personnel.

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