

2006 Transportation Systems Competency Chart

At the end of the secondary program (12) and associate degree (AD) each competency is coded:
I = Introductory; P = Proficient; R = Reinforce. In addition, the business, industry, and labor
partnership (BIL) validated each competency: BIL: E = Essential; R = Required

Competency	Ford PAS Modules
TRANSPORTATION SYSTEMS CORE	
Unit 1: Career Exploration and Development	
1.1 Explore career pathways in transportation systems	4
1.2 Explore professional development and career advancement opportunities for a transportation professional	4
1.3 Demonstrate positive work behaviors and personal qualities	4,6
1.4 Develop personal career goals and the objectives to meet those career goals	4
Unit 2: Business Processes	
2.1 Analyze the role and major function of transportation systems	–
2.2 Develop a business process model for a transportation organization	–
2.3 Explain the impact of economic, social and technological changes on a transportation organization	1,4,8
2.4 Explain how planning and budgeting are used to accomplish organizational goals and objectives	1,6,7,8,9,11
2.5 Explain material control and product inventories necessary to meet customer and business requirements	6,7,8,11
2.6 Maintain compliance with organizational policies and government laws and regulations	–
2.7 Explain how <i>transportation</i> businesses manage customer relationships	1,8,15
2.8 Describe a management plan for business	5,6,7
2.9 Identify basic procedures in the accounting cycle	7
2.10 Define and explain the major measures used by a transportation organization to manage and improve performance	8
2.11 Explain the role of risk management in reducing risks and improving performance	3,5,6
2.12 Explain entrepreneurship	7
2.13 Explain the role of small business in the economy	7
Unit 3: Communications	
3.1 Utilize reading strategies to interpret <i>transportation systems</i> data, information and analysis	3
3.2 Locate, organize and reference written <i>transportation systems</i> information from various sources	3
3.3 Write and utilize coherent and focused technical communications that support a defined perspective <i>for transportation systems</i>	1,2,10,11
3.4 Deliver formal and informal presentations that demonstrate organization and delivery skill	2,4,5,6,7,11,12
3.5 Listen and speak effectively to contribute to group discussions and meetings	1,2,5,6,10,12

Competency		Ford PAS Modules
3.6	Apply active listening skills to obtain and clarify information provided in oral communications	1,2,3,4,10,12,15
3.7	Utilize written documents to direct <i>the transportation systems</i> operations	1,2,3,4,5,8,9,11,12,15
3.8	Research and respond to customer needs	1,7,8,9,10,11,15
Unit 4: Problem Solving and Critical Thinking		
4.1	Employ critical thinking and problem solving skills independently and in teams to formulate solutions to problems	1,2,5,6,8,9,10,11,12,13,14,15
4.2	Apply problem solving and critical thinking techniques to the conflict between available resources, requirements of the project, and timelines	1,4,6,8,10,11
4.3	Combine critical thinking and team-building skills to solve problems	1,2,5,6,8,10,11,12,13
4.4	Evaluate and adjust plans/schedules to respond to unexpected events and conditions	1,6,7,8
4.5	Apply mathematical principles and formulas to transportation systems problems	–
4.6	Apply science theory and applications to transportation systems problems	–
Unit 5: Leadership and Teamwork		
5.1	Summarize the interpersonal skills that contribute to positive leadership and teamwork	1,2,5,6,7,11,13,14,15
5.2	Demonstrate the ability to work on a team and recognize the importance of teamwork and its impact on business in a transportation environment	1,4,6,10,11
5.3	Perform responsibly as a team member	1–15
5.4	Use motivational techniques to enhance performance in others	1–15
5.5	Examine the different responses to conflict as they relate to results	1,5
5.6	Resolve conflicts to maintain a smooth workflow	1,5,6
Unit 6: Legal and Ethical Aspects		
6.1	Differentiate between legal and ethical issues	3,5,9,10
6.2	Complete work-related duties within an ethical framework	5,9,10,11,15
6.3	Assess the implications of ethical/unethical behavior	5,7,9,10,15
6.4	Perform duties according to laws, regulations, contract provisions and policies	3,5,10,14,15
6.5	Comply with applicable governmental regulations and codes	3,5,15
6.6	Explain employee and employer liability (e.g., monetary and personal)	–
Unit 7: Information Technology Applications		
7.1	Use computer-based technology	1–15
7.2	Employ information technology applications	1,2,3,4,5,6,7,8,9,10,11,12,14
7.3	Use geographic information systems	9
Unit 8: Safety, Health and Environment		
8.1	Maintain general safety in accordance with government regulations, health standards, company policy, procedure and practices	–
8.2	Evaluate the human and ergonomic factors <i>associated with the transportation industry</i>	11
8.3	Identify state, federal, and local worker safety, health and environment regulations	3,5,14,15
8.4	Demonstrate practices that contribute to a safe work place environment	–
8.5	Complete requirements for First Aid/CPR certification	–
8.6	Complete and apply operations and safety training on pertinent equipment	–
8.7	Identify practices that contribute to a healthy environment	5,15

Competency		Ford PAS Modules
8.8	Handle hazardous materials in accordance with government regulations and health standards	–
8.9	Analyze regulations for transporting hazardous materials	–
Unit 9: Transportation Fuels		
9.1	Discuss the historical and economic impact of the petroleum industry	5,7,12
9.2	Discuss the alternative vehicular fuel industry	12
9.3	Compare and contrast viable fuels	12
9.4	Discuss engine modifications related to the use of alternative fuels	–
9.5	Discuss future vehicular fuel sources	12
Unit 10: Transportation Systems Technical Skills Set		
10.1	Explore the performance skills of an automotive technician	–
10.2	Explore the performance skills of a medium/heavy transportation technician	–
10.3	Explore the performance skills of a collision repair technician	–
10.4	Explore the performance skills of an aviation maintenance technician	–
10.5	Explore the performance skills of an aviation technology employee	–
10.6	Explore the performance skills of a power equipment technician	–
GROUND TRANSPORTATION PATHWAY		
Automotive Technician		
Unit 11: Orientation to the Automotive Industry		
11.1	Define the industry	–
11.2	Determine the skills needed to work in the automotive industry	–
Unit 12: Tools and Equipment		
12.1	Identify basic tools and equipment appropriate to the automotive industry	–
12.2	Demonstrate appropriate use of basic hand tools to complete work functions	–
12.3	Operate power tools and stationary equipment	–
12.4	Maintain hand and power tools appropriate to the automotive industry	–
12.5	Use appropriate personal protective equipment (PPE)	–
Unit 13: Engine Repair		
13.1	Perform general engine diagnosis, removal and reinstallation (R&R)	–
13.2	Perform cylinder head and valve train diagnosis and repair	–
13.3	Perform engine block assembly diagnosis and repair	–
13.4	Perform lubrication and cooling systems diagnosis and repair	–
Unit 14: Automatic Transmission and Transaxle		
14.1	Perform general transmission and transaxle diagnosis	–
14.2	Perform transmission and transaxle maintenance and adjustment	–
14.3	Perform in-vehicle transmission and transaxle repair	–
14.4	Perform off-vehicle transmission and transaxle repair	–
14.5	Inspect, measure and reseal oil pump and converter	–
14.6	Inspect and measure gear train, shafts, bushings and case	–
14.7	Inspect and determine necessary action for friction and reaction units	–
Unit 15: Manual Drive Train and Axles		
15.1	Perform general drive train diagnosis	–
15.2	Perform clutch diagnosis and repair	–
15.3	Perform transmission/transaxle diagnosis and repair	–
15.4	Perform drive shaft and half shaft, universal and constant-velocity (CV) joint diagnosis and repair	–

Competency	Ford PAS Modules
15.5 Evaluate ring and pinion gears and differential case assembly	–
15.6 Diagnose limited slip differential	–
15.7 Inspect drive axle shaft	–
15.8 Perform four-wheel drive/all-wheel drive component diagnosis and repair	–
Unit 16: Suspension and Steering	
16.1 Perform general suspension and steering systems diagnosis	–
16.2 Perform steering systems diagnosis and repair	–
16.3 Remove, inspect and install front suspension	–
16.4 Remove, inspect and install rear suspension	–
16.5 Perform miscellaneous service	–
16.6 Perform wheel alignment diagnosis, adjustment and repair	–
16.7 Perform wheel and tire diagnosis and repair	–
Unit 17: Brakes	
17.1 Perform general brake systems diagnosis	–
17.2 Perform hydraulic system diagnosis and repair	–
17.3 Perform drum brake diagnosis and repair	–
17.4 Perform disc brake diagnosis and repair	–
17.5 Perform power assist units diagnosis and repair	–
17.6 Perform miscellaneous (wheel bearings, parking brakes, electrical, etc.) diagnosis and repair	–
17.7 Diagnose antilock brake and traction control systems	–
Unit 18: Electrical/Electronic Systems	
18.1 Perform general electric system diagnosis	–
18.2 Remove and replace terminal end from connector	–
18.3 Perform battery diagnosis and service	–
18.4 Perform starting system diagnosis and repair	–
18.5 Perform charging system diagnosis and repair	–
18.6 Perform lighting systems diagnosis and repair	–
18.7 Perform gauges, warning devices, and drive information systems diagnosis and repair	–
18.8 Perform horn and wiper/washer diagnosis and repair	–
18.9 Perform accessories diagnosis and repair	–
Unit 19: Heating and Air Conditioning (A/C)	
19.1 Perform A/C system diagnosis and repair	–
19.2 Perform refrigeration system component diagnosis and repair – Compressor and Clutch	–
19.3 Remove and inspect evaporator, condenser and related components	–
19.4 Perform heating, ventilation, and engine cooling systems diagnosis and repair	–
19.5 Perform operation systems and related controls diagnosis and repair	–
19.6 Perform refrigerant recovery, recycling and handling	–
Unit 20: Engine Performance	
20.1 Perform general engine diagnosis	–
20.2 Perform computerized engine controls diagnosis and repair	–
20.3 Perform ignition system diagnosis and repair	–
20.4 Perform fuel, air induction and exhaust systems diagnosis and repair	–
Unit 21: Emissions Control Systems Diagnosis and Repair	
21.1 Diagnose positive crankcase ventilation	–

Competency		Ford PAS Modules
21.2	Evaluate exhaust gas recirculation	–
21.3	Evaluate exhaust gas treatment	–
21.4	Diagnose evaporative emissions controls	–
21.5	Perform engine related service	–
Collision Repair Technician		
Unit 22: Orientation to the Collision Repair Industry		
22.1	Analyze and explain the scope, trends and issues in the collision repair industry	–
22.2	Determine skills needed to work in the collision repair industry	–
Unit 23: Tools and Equipment		
23.1	Identify basic tools and equipment appropriate to the collision repair industry	–
23.2	Demonstrate appropriate use of basic hand tools to complete work functions	–
23.3	Operate power tools and stationary equipment	–
23.4	Maintain hand and power tools appropriate to the collision repair industry	–
23.5	Use appropriate personal protective equipment (PPE)	–
Unit 24: Collision Repair Basics		
24.1	Access needed information using available references and resources	–
24.2	Perform basic collision related mechanical skills	–
24.3	Prepare and explain estimates	–
24.4	Identify and acquire parts	–
Unit 25: Structural Analysis and Damage Repair		
25.1	Inspect, diagnose and repair full frame	–
25.2	Inspect, diagnose, measure and repair unibody	–
25.3	Perform fixed glass repair	–
25.4	Weld and cut materials for collision repair	–
Unit 26: Non-Structural Analysis and Damage Repair		
26.1	Organize repair preparation	–
26.2	Perform outer body panel repairs, replacements and adjustments	–
26.3	Perform metal finishing and body filling	–
26.4	Repair moveable glass and hardware	–
26.5	Perform metal welding and cutting	–
26.6	Repair plastics and adhesives	–
Unit 27: Mechanical and Electrical Components		
27.1	Inspect, diagnose and repair suspension and steering	–
27.2	Diagnose and perform electrical repairs	–
27.3	Diagnose and perform repairs to brake systems	–
27.4	Diagnosis and repair heating and air conditioning systems (A/C)	–
27.5	Diagnosis and repair cooling systems	–
27.6	Diagnosis and repair drive train	–
27.7	Diagnosis and repair fuel, intake and exhaust systems	–
27.8	Diagnosis and repair active restraint systems	–
27.9	Diagnosis and repair passive restraint systems	–
27.10	Diagnosis and repair supplemental restraint systems (SRS)	–
Unit 28: Painting and Refinishing		
28.1	Demonstrate safety precautions	–
28.2	Prepare surface for refinishing	–

Competency	Ford PAS Modules
28.3 Properly operate spray gun and related equipment	–
28.4 Mix, match and apply paint	–
28.5 Identify and correct paint defects	–
28.6 Perform final detailing	–
Medium/Heavy Transportation Equipment Technology	
Unit 29: Orientation to the Medium/Heavy Transportation Industry	
29.1 Analyze the scope, trends and issues in the medium/heavy transportation industry	–
29.2 Determine skills needed to work in the medium/heavy transportation industry	–
Unit 30: Tools and Equipment	
30.1 Identify basic tools and equipment appropriate to the medium/heavy transportation industry	–
30.2 Demonstrate appropriate use of basic hand tools to complete work functions	–
30.3 Operate power tools and stationary equipment	–
30.4 Maintain hand and power tools appropriate to the medium/heavy transportation industry	–
30.5 Use appropriate personal protective equipment (PPE)	–
Unit 31: Medium/Heavy Transportation Basics	
31.1 Perform basic mechanical skills	–
31.2 Perform basic welding and cutting tasks	–
Unit 32: Diesel Engines	
32.1 Perform general engine diagnosis and determine needed action	–
32.2 Diagnose and repair cylinder head and valve train	–
32.3 Diagnose and repair engine block	–
32.4 Diagnose and repair lubrication system	–
32.5 Diagnose and repair cooling system	–
32.6 Diagnose and repair air induction and exhaust systems	–
32.7 Diagnose and repair fuel system	–
32.8 Diagnose and repair mechanical fuel injection	–
32.9 Diagnose and repair electronic fuel management system	–
32.10 Inspect and adjust engine brakes	–
32.11 Inspect and adjust cooling systems	–
Unit 33: Drive Train	
33.1 Diagnose and repair clutch	–
33.2 Diagnose and repair transmission	–
33.3 Diagnose and repair driveshaft and universal joint	–
33.4 Diagnose and repair drive axel	–
Unit 34: Brakes	
34.1 Diagnose and repair air brakes	–
34.2 Diagnose and repair mechanical/foundation	–
34.3 Diagnose and repair parking brakes	–
Unit 35: Hydraulic Brakes	
35.1 Diagnose and repair hydraulic brakes	–
35.2 Diagnose and repair mechanical/foundation brakes	–
35.3 Diagnose and repair power assist units	–

Competency		Ford PAS Modules
35.4	Diagnose and service air and hydraulic antilock brake systems (ABS) and automatic traction control	–
Unit 36: Suspension and Steering		
36.1	Diagnose and repair steering column	–
36.2	Diagnose and repair steering units	–
36.3	Diagnose and repair steering linkage	–
36.4	Diagnose and repair suspension systems	–
36.5	Diagnose, adjust and repair wheel alignment	–
36.6	Diagnose and repair wheels and tires	–
36.7	Diagnose and repair frame	–
Unit 37: Electrical/Electronic Systems		
37.1	Diagnose general electrical systems	–
37.2	Diagnose and repair battery	–
37.3	Diagnose and repair starting system	–
37.4	Diagnose and repair charging system	–
37.5	Diagnose and repair lighting system	–
37.6	Diagnose and repair gauges and warning devices	–
37.7	Diagnose and repair related electrical systems	–
Unit 38: Heating, Ventilation and Air Conditioning (HVAC)		
38.1	Diagnose, service and repair HVAC systems	–
38.2	Diagnose, service and repair A/C system and components	–
38.3	Diagnose, service and repair heating and engine cooling systems	–
38.4	Diagnose, service and repair operating systems and related electrical controls	–
38.5	Diagnose, service and repair operating systems and related air/vacuum/mechanical controls	–
38.6	Recover, recycle and handle refrigerant	–
Unit 39: Preventive Maintenance Inspection		
39.1	Perform preventative engine system maintenance	–
39.2	Perform preventative fuel system maintenance	–
39.3	Perform preventative air induction and exhaust system maintenance	–
39.4	Perform preventative cooling system maintenance	–
39.5	Perform preventative lubrication system maintenance	–
39.6	Perform preventative instruments and controls maintenance	–
39.7	Perform preventative safety equipment maintenance	–
39.8	Perform preventative hardware maintenance	–
39.9	Perform preventative heating, ventilation and air conditioning (HVAC) maintenance	–
39.10	Perform preventative battery and starting systems maintenance	–
39.11	Perform preventative charging system maintenance	–
39.12	Perform preventative lighting system maintenance	–
39.13	Perform preventative air brakes maintenance	–
39.14	Perform preventative hydraulic brakes maintenance	–
39.15	Perform preventative drive train maintenance	–
39.16	Perform preventative suspension and steering systems maintenance	–
39.17	Perform preventative tires and wheels maintenance	–
39.18	Perform preventative frame and fifth wheel maintenance	–

Competency	Ford PAS Modules
Unit 40: Hydraulics	
40.1 Perform general system operations	–
40.2 Diagnose and repair pumps	–
40.3 Diagnose and repair filtration/reservoirs (tanks)	–
40.4 Diagnose and replace hoses, fittings and connections	–
40.5 Diagnose and repair control valves	–
40.6 Diagnose and repair actuators	–
Power Equipment Technology	
Unit 41: Power Equipment Overview	
41.1 Analyze the scope, trends and issues in the power equipment industry	–
41.2 Determine skills needed to work in the power equipment industry	–
Unit 42: Tools and Equipment	
42.1 Identify basic tools and equipment appropriate to power technology	–
42.2 Utilize test equipment in service operations	–
42.3 Demonstrate appropriate use of basic hand tools to complete work functions	–
42.4 Operate power tools and stationary equipment	–
42.5 Maintain hand and power tools appropriate to power technology	–
42.6 Use appropriate personal protective equipment (PPE)	–
Unit 43: Service Operations	
43.1 Locate, interpret and utilize parts and service information	–
43.2 Remove and install engines to manufacturer's technical manual	–
43.3 Explain four-cycle engine theory	–
43.4 Explain two-cycle engine theory	–
43.5 Disassembly, inspect, service and reassembly of two-cycle and four-cycle engines to manufacturer's technical manual	–
43.6 Explain basic electrical theory	12
43.7 Explain basic ignition system theory	–
43.8 Inspect and service ignition systems	–
43.9 Explain carburetion theory	–
43.10 Explain fuel injection theory	–
43.11 Explain composition and inspection of fuels	–
43.12 Inspect and service fuel systems	–
43.13 Diagnose and repair fuel system	–
43.14 Diagnose and repair mechanical fuel injection	–
43.15 Explain alternate fuel systems	–
43.16 Explain turbo-charged induction	–
43.17 Explain super-charged induction	–
43.18 Inspect and service governor systems	–
43.19 Explain the composition of the various oils used for lubrication	–
43.20 Inspect and service lubrication systems to manufacturer's specifications	–
43.21 Describe the function and operation of the cooling system	–
43.22 Inspect and service cooling systems	–
43.23 Inspect and service lighting, accessory and charging systems	–
43.24 Inspect and service batteries	–
43.25 Perform gas and diesel engine tune-up	–
43.26 Analyze the various power takeoff (PTO) accessories	–
43.27 Inspect and adjust power takeoff (PTO) accessories	–

Competency	Ford PAS Modules
43.28 Analyze the operational features of motion drive systems	–
43.29 Inspect and service motion drive systems	–
43.30 Analyze the operational features of frame, suspension and steering systems	–
43.31 Inspect and service frame, suspension and steering systems	–
43.32 Inspect and service tires, wheels and brakes	–
43.33 Service multi-cylinder engines to manufacturer's specifications	–
43.34 Perform equipment maintenance and storage to manufacturer's specifications	–
43.35 Demonstrate welding, soldering and heat-treating operations	–
AIR TRANSPORTATION PATHWAY	
Aviation Maintenance Technician	
Unit 44: Orientation to the Aviation Maintenance	
44.1 Analyze the scope, trends and issues in aviation industry	–
44.2 Determine skills needed to work in aviation industry	–
Unit 45: General Aviation	
45.1 Assess basic electricity concepts	12
45.2 Utilize aircraft drawings	–
45.3 Assess weight and balance	–
45.4 Fabricate fluid lines and fittings	–
45.5 Evaluate materials and perform processes	6,8
45.6 Demonstrate ground operation and servicing	–
45.7 Demonstrate cleaning and corrosion control	–
45.8 Integrate mathematics	8
45.9 Complete maintenance forms and records	–
45.10 Utilize basic physics	12
45.11 Utilize maintenance publications	–
45.12 Exercise mechanic privileges and limitations	–
Unit 46: Airframe Structures	
46.1 Perform wood structure maintenance	–
46.2 Perform aircraft covering maintenance	–
46.3 Apply aircraft finishes	–
46.4 Evaluate and repair sheet metal and non-metallic structures	–
46.5 Demonstrate welding operations	–
46.6 Demonstrate assembly and rigging operations	–
46.7 Complete airframe inspection	–
Unit 47: Airframe Systems and Components	
47.1 Evaluate and repair aircraft landing gear systems	–
47.2 Evaluate and repair hydraulic and pneumatic power systems	–
47.3 Evaluate and service cabin atmosphere control systems	–
47.4 Troubleshoot and repair aircraft instrument systems	–
47.5 Evaluate and repair communication and navigation systems	–
47.6 Evaluate and service aircraft fuel systems	–
47.7 Evaluate and service aircraft electrical systems	–
47.8 Evaluate and service position and warning systems	–
47.9 Evaluate and service ice and rain control systems	–
47.10 Evaluate and service fire protection systems	–
47.11 Describe avionic systems	–

Competency	Ford PAS Modules
Unit 48: Powerplant Theory and Maintenance	
48.1 Evaluate and service reciprocating engines	–
48.2 Evaluate and service turbine engines	–
48.3 Complete engine inspection	–
Unit 49: Powerplant Systems and Components	
49.1 Evaluate and service engine instrument systems	–
49.2 Evaluate and service engine fire protection systems	–
49.3 Evaluate and service engine electrical systems	–
49.4 Evaluate and service lubrication systems	–
49.5 Evaluate and service ignition and starting systems	–
49.6 Evaluate and service fuel metering systems	–
49.7 Evaluate and service engine fuel systems	–
49.8 Evaluate and service induction and engine airflow systems	–
49.9 Evaluate and service engine cooling systems	–
49.10 Evaluate and service engine exhaust and reverser systems	–
49.11 Evaluate and service propellers	–
49.12 Inspect and troubleshoot unducted fan systems and components	–
49.13 Assess auxiliary power unit	–
Aviation Technology	
Unit 50: Overview	
50.1 Explain the historical evolution of transportation	–
50.2 Explain the structure of the air transportation industry	–
50.3 Explain the numerous careers and respective training for the air transportation industry	4
50.4 Identify the various aerospace organizations	4
50.5 Examine the regulator framework of aviation	–
Unit 51: Types of Aviation	
51.1 Examine the aspects of general aviation	–
51.2 Identify the aspects of commercial aviation	–
51.3 Examine the aspects of military aviation	–
51.4 Identify fixed base operators and their role in general aviation	–
51.5 Explain business and commercial aviation	–
51.6 Explain the use of helicopters	–
51.7 Explain the evolution of jet transportation	–
Unit 52: Aircraft Systems and Technology	
52.1 Describe the powerplant and related systems	–
52.2 Examine the aircraft instruments	–
Unit 53: Airport Environment	
53.1 Examine the national airport network	–
53.2 Explain airport design	–
Unit 54: Air Traffic Control and Communication	
54.1 Explore sources for air traffic control (ATC) information	–
54.2 Analyze radar and ATC services	–
54.3 Explain radio procedures	–
Unit 55: Meteorology	
55.1 Discuss the atmosphere and atmospheric elements	–
55.2 Explain basic weather theory	–
55.3 Interpret weather patterns	–

Competency	Ford PAS Modules
55.4 Discuss weather hazards	–
55.5 Interpret weather data	–
55.6 Describe the printed weather reports and forecasts	–
55.7 Describe graphic weather products	–
55.8 Identify sources of weather information	–
Unit 56: Flight Environment	
56.1 Identify and define the rules of flight	–
56.2 Explain the grid system used in navigation	–
56.3 Explain the pilotage and dead-reckoning methods of navigation	–
56.4 Explain the VHF Omnidirectional Range (VOR) navigation systems	–
56.5 Explain the Automatic Direction Finding (ADF) navigation systems	–
56.6 Discuss advanced navigation systems	–
56.7 Explain the classification and control of airspace	–
Unit 57: Aerodynamics	
57.1 Describe the basics of aeronautics and aerodynamics	–
57.2 Describe aerodynamic principles	–
57.3 Explain the aerodynamic principle of stability	–
57.4 Explain the aerodynamics of maneuvering flight	–
57.5 Explain aircraft performance factors	–
57.6 Discuss advances in aeronautics	–
Unit 58: Aviation Human Factors	
58.1 Explore aviation physiology	–
58.2 Analyze aeronautical decision making	–
Unit 59: Safety	
59.1 Analyze the importance of safety compliance management in accident prevention	–
59.2 Distinguish between security and safety	–
59.3 Analyze the impact of safety data analysis on aviation safety	–
59.4 Explain the nature of the human factor on accidents	5,10
59.5 Explain strategies to manage human error	5,10
59.6 Describe the impact of air traffic systems on safety	–
59.7 Explain the role of National Transportation Safety Board (NTSB) in accident investigations	–
59.8 Describe flight standards and rulemaking policies	–
Unit 60: Rocket Fundamentals	
60.1 Evaluate the role rockets play in the aviation industry	–
60.2 Explain the fundamental concept of chemical propulsion	–
60.3 Explore orbits and trajectories	–
Unit 61: Space Environment	
61.1 Explore the space environment	–
61.2 Examine our solar system	–
61.3 Summarize unmanned space exploration	–
61.4 Summarize manned space exploration	–
Unit 62: Management	
62.1 Summarize the structure and function of aviation based businesses and services	–
62.2 Describe management concepts	–
62.3 Manage human resources	2,6,8

Competency	Ford PAS Modules
62.4 Perform personnel staffing functions	2
62.5 Conduct orientation and training sessions	–
62.6 Discuss leadership principles in aviation based businesses and services	–
62.7 Explain how planning and budgeting are used to accomplish organizational goals and objectives	1,6,7,8,9,11
62.8 Explore budgeting skills to determine staffing levels	–
62.9 Explain the nature and scope of finance and controlling functions	–
62.10 Explain basic accounting concepts and principles	7
62.11 Establish criteria for purchasing products/services	–
62.12 Explain material control and product inventories necessary to meet customer and business requirements	6,7,8,11
62.13 Manage customer relationships	1,8,15
62.14 Examine risk management	3,5,6
62.15 Describe business risks	3,5,6,7
62.16 Complete a business plan	7
Unit 63: Marketing Functions	
63.1 Examine marketing <i>and its role in an aviation based business and service</i>	7
63.2 Complete a marketing plan	1,2,7
63.3 Describe the Promotion function	7
63.4 Identify targeted markets	7
63.5 Explain the sales cycle	–
63.6 Explain role of customer service as a component of marketing relationships	7,8
63.7 Describe selling process/techniques	–
63.8 Describe sales support activities	–
63.9 Manage selling activities	–
63.10 Evaluate pricing fundamentals	7
63.11 Evaluate pricing strategies	–