



AS Degree Program	Proficiency Certification Program
CORE PWR100: Introduction to the Electric Power Industry and Systems Operations PWR102: AC and DC Circuits with Electrical Print Reading PWR104: Power Plants PWR105: Substations PWR115: Distribution Systems	CORE PC100: Electric Power Systems Operations PC102: Distribution Systems Operations PC103: Safety, Grounding, and Switching PC104: Protection Principles PC105: Monitoring and Control Part I
ELECTIVES PWR106: Transmission Lines PWR110: Industrial Safety and Grounding PWR120: Electrical Metering PWR125: Advanced Metering PWR130: System Protection PWR135: Emergency Management and SCADA PWR190: NERC System Operator Certification Preparation PWR200: Power System Planning, Reliability, and Security PWR202: Transmission and Interconnected Systems PWR205: Generation and Interconnected Systems Operations PWR230: Emergency Operations, Restoration, and Situational Awareness PWR240: Telecommunications for Electric Utilities PWR250: High Voltage Protection and Safety for Telecommunications PWR270: Introduction to Solar Photovoltaic Systems PWR273: Solar Photovoltaics for Industrial and Commercial Systems PWR275: Introduction to Wind Power Systems	ELECTIVES PC101: Power System Equipment PC110: Power Calculations PC115: Electrical Print Reading PC120: Power Plant Operator Training PC130: Power Quality PC140: Maintenance Test Instruments and Procedures PC150: Communications and Telecommunications PC200: Principles of Generation Operations PC205: Monitoring and Control Part II PC210: Power System Planning PC215: Interconnected Systems PC220: Reliability and Security PC230: Voltage Control and Collapse - Load Shedding PC240: Emergency Operations and Restoration Part I PC245: Emergency Operations and Restoration Part II PC250: Situational Awareness Part I PC255: Situational Awareness Part II PC260: Utility Telecommunications Systems PC265: High Voltage Protection for Telecommunications PC345: Telecommunications Reliability Effects on Power Grid Operations PC365: Smart Grid Effects on Transmission and Generations PC366: Smart Grid Technologies for Grid Reliability PC375: Wind Dynamics on Power Grid Operations

Transfer Credit Equivalents between APT PWR and PC Courses

AS DEGREE COURSES (credits)	PC COURSES (hours)
PWR100: Introduction to the Electric Power Industry and Systems Operations (3)	PC100: Electric Power Systems Operations (24) PWR100a: Introduction to the Electric Power Industry (16)
PWR102: AC and DC Circuits with Electrical Print Reading (3)	PC115: Electrical Print Reading (16) TEL102a: Basic Electronics - Fundamentals (20) TEL102b: Basic Electronics - Advanced Concepts (12)
PWR104: Power Plants (3) choose PC120 or PC131	PC101: Power System Equipment (16) *required PC120: Power Plant Operator Training (16) PC131: Power Plant Fundamentals (16)
PWR105: Substations (3)	PC101: Power System Equipment (16) PC110: Power Calculations (16) PC140: Maintenance Test Instruments and Procedures (16)
PWR110: Industrial Safety Management (3)	PC103: Safety, Grounding, and Switching (16) PC266: High Voltage Safety for Electric Utility Telecommunications (16) PC111: Electrical Safety Management (8)
PWR115: Distribution Systems (3)	PC102: Distribution Systems Operations (24) PC130: Power Quality (16)
PWR130: System Protection (3)	PC104: Protection Principles (16) PC150: Communications and Telecommunications (8) PWR299: Independent Study (min 16)
PWR135: Energy Management and SCADA (3)	PC105: Monitoring and Control Part I (16) PC205: Monitoring and Control Part II (16) PWR135c: Cyber Security Impact on EMS and SCADA (8)
PWR200: Power System Planning, Reliability, and Security (3)	PC210: Power System Planning (16) PC220: Reliability and Security (16) PWR299: Independent Study (min 8)
PWR205: Generation and Interconnected Systems Operations (3) choose PC215 or PC230	PC200: Principles of Generation Operations (24) *required PC215: Interconnected Systems (16) PC230: Voltage Control and Collapse - Load Shedding (16)
PWR230: Emergency Operations, Restoration, and Situational Awareness (3)	PC240: Emergency Operations and Restoration Part I (16) PC245: Emergency Operations and Restoration Part II (16) PC250: Situational Awareness Part I (8) PC255: Situational Awareness Part II (8)
PWR250: High Voltage Protection and Safety for Telecommunications (3)	PC260: Utility Telecommunications Systems (16) PC265: High Voltage Protection for Telecommunications (16)
PWR265: Smart Grid Technologies (3)	PC365: Smart Grid Effects on Transmission and Generation (16) PC366: Smart Grid Technologies for Grid Reliability (16) PWR299: Independent Study (min 8)

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NOTE: A PC course can be used to fulfill the requirement of only one PWR course.