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| **Topics and Pricing** | | | | | |
| **Introduction to Midstream** | 40 Slides | 60 minutes | | $695 | |
| The origins of oil and gas along with a discussion of “unconventional oil and gas” production and reserves starts this class, providing students an understanding of what is contained in the oil and gas production streams. The class then moves on to the pipeline value chain, types of pipelines, and their roles, before moving on to worldwide industry dimensions and gas processing. Next, the class includes a pictorial overview of crude oil, natural gas, refined products, and natural gas distribution lines. It concludes with an overview of truck, rail, barge, and ship transportation as well as storage terminals. | | | | | |
| **Equipment and Components** | 122 slides | 120 minutes | | $1195 | |
| Pipe, coating, meters, valves, pumps, compressors, motor engines, and a myriad of other pieces of equipment comprise pipeline systems. Photographs, drawings, and videos allow students to see what components actually look like. This module is especially appreciated by technical people new to the industry as well as by nontechnical professionals as it introduces both groups to the physical building blocks of the industry. | | | | | |
| **Pipeline Field Operations** | 77 Slides | 90 minutes | | $995 | |
| Measurement, quality testing, and the other receipt and delivery functions are the topics of this module. Also included is the critical role field operator’s play when it comes to landowner relations and working with local land use and emergency response officials. Metering is the pipeline “cash register” and field operators and technicians are the ones who insure accuracy. | | | | | |
| **Control Center Operations** | 63 slides | 60 minutes | | $695 | |
| Control rooms are the nerve center of the pipeline as control technicians monitor thousands of points; adjusting pressures and directing flow to meet customer needs. From nominations to final delivery, this module covers the control room work flow as it highlights control room tools and challenges. Control room and incident response videos add to this modules effectiveness. | | | | | |
| **Introduction to SCADA and Controls** | 32 slides | 45 minutes | $495 | |
| SCADA, communications, and controls are the pipeline’s nerves providing multiple inputs from the pipeline and carrying back control commands. From field instruments, station PLCs or computers, to the control room computers and operator consoles, this module provides a broad overview of the entire control scheme from a practical perspective. Students find the scada video particularly interesting. | | | | |

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| **Introduction to Leak Detection** | 36 Slides | 45 minutes | $495 |
| The two fundamental types of leak detection, internal and external are discussed along with sensitivity, accuracy, reliability, and robustness – the four key criteria. Key challenges of oil leaks and leak detection versus gas are covered during this module which makes extensive use of hydraulic gradients. This module simplifies and explains what to many is the “black art” of leak detection. | | | |
| **Pipeline Integrity 1 – Failure Mechanisms** | 60 slides | 60 minutes | $695 |
| Releases, past, current, and future, affect everyone working in the modern pipeline industry. This module stars with a discussion of currently risk based integrity management practices including an explanation of the integrity management process. It then moves on to explain easy to understand terms what causes releases. This module is the first in PKD’s Integrity Trilogy. It contains many pictures of failure mechanisms and is designed for those who want to understand the integrity processes and what causes releases. | | | |
| **Pipeline Integrity 2 – Preventing Failures** | 52 Slides | 60 minutes | $695 |
| The next step after understanding what causes failures is preventing them. This module spans the gauntlet from corrosion to outside force damage and everything in between. Cathodic protection, maintenance pigging, and an introduction to Internal Line Inspection (ILI), otherwise known as smart pigging are all included in this module. | | | |
| **Pipeline Integrity 3 – Finding and Repairing Defects** | 87 Slides | 90 minutes | $995 |
| From reading pipe to soil potentials and close interval surveys to report table from actual ILI reports this module introduces students to the integrity mangers tools. It also covers isolating and replacing sections of pipe, installing composite wraps and steel sleeves and finished with data analysis and informed decision making. | | | |
| **U. S. Pipeline Regulations** | 72 slides | 75 minutes | $795 |
| An introductory guide to safety, environmental, economic, and land use legislation and regulations, in the U. S. This module provides a valuable background to the rules and standards affecting this highly regulated industry and provides students resources for further investigation in to the regulatory regimes as they apply to pipelines. | | | |
| **Canadian Safety and Economic Regulations** | 30 Slides | 45 minutes | In development – call for price |
| An introductory guide to public safety, economic, and land use legislation and regulations. The national regulators and provincial regulators are discussed with the AER used as an example of provincial regulators. This module also covers the types of pipelines and pipeline failures in Canada. Students receive a valuable background to the rules and standards affecting this highly regulated industry. Students are also provided resources for further investigation in to the regulatory regimes as they apply to pipelines | | | |
| **Pipeline Economics** | 48 Slides | 60 minutes | $695 |
| The pipeline business in the US generates about $50 billion annual revenue, a small number when compared to the overall economy. But, given the large asset base these revenues generate a healthy margin. Revenues, expenses, and asset base, the three largest financial levers are each discussed along with current rate setting mechanisms. The section on project economics covers IRR, NPV and accretion calculations. Updated with additional materials and graphs for 2016, this module provides a valuable background and understanding company was well as support personnel, regulators, suppliers, and vendors. | | | |
| **Pipeline Construction** | 59 | 75 minutes | $795 |
| Pictures and videos taken along the pipeline right of way field engineers form the basis for this class. From staking and clearing the right-of-way, through ditching, welding, testing, directional drilling, lowering, backfilling, final clean up and restoration, this module takes the student through pipeline construction from start to finish. This module is especially appreciated by technical people new to the industry as well as by nontechnical professionals as it introduces both groups to the physical building blocks of the industry. Extensive video footage from construction projects allow students to see construction work in progress. | | | |
| **Facility Construction** | 30 Slides | 45 minutes | $495 |
| Pictures and videos taken at actual facility construction sites by field engineers form the basis for this class. From leveling the site and constructing equipment foundations and supports, through prefabbing and bolting up, and finally control building installation and systems commissioning and testing, this module takes the student through facility construction from start to finish. This module is especially appreciated by technical people new to the industry as well as by nontechnical professionals as it introduces both groups to the physical building blocks of the industry. Extensive video footage from construction projects allow students to see construction work in progress. | | | |
| **Hydraulics and Hydraulic Tools** | 112 slides | 120 minutes | $1195 |
| Pipeline hydraulics has all to do with understanding pressures and flow rates. The key focus of this class is teaching students the five basic hydraulics tools with include the systems resistance curve, hydraulic gradient, systems profile, pump and compressor curve, and operating point. These tools and how to use them are the focus of this module. It covers fluid properties and behavior, demonstrating the practical aspects of pipeline flow. Intended for those without a technical background, even veteran engineers comment they gain a fuller understanding of why pipelines behave the way they do. | | | |

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| **Pipeline and Facility Engineering and Design** | 97 slides | 90 minutes | $995 |
| Beginning with conceptual design and moving through front end engineering into detailed design and preparation of specifications, this module provides an overview of the engineering and design process. It is a valuable introduction for those working with engineers helping them understand more of the regulations, standards, and constraints. Students particularly appreciate the design modules and facility design rules of thumb included in this module. The module is not recommended for experienced engineers. | | | |
| **Energy Pipelines – Stand Along** | 91 slides | 90 minutes | $995 |
| The origins of oil and gas along with a discussion of “unconventional oil and gas” reserves starts this class, providing students an understanding of what is contained in the oil and gas production streams. The class moves on to the midstream industry along with the size and scope of the pipeline transmission business. Than it contains a pictorial overview of gas and oil gathering, transmission and distribution pipelines, as well as storage. This module is a comprehensive introduction to the oil and gas pipeline portion of the midstream industry and can be used on a stand-alone basis to understand the industry. | | | |
| **Origins of Oil and Gas** | 25 slides | 30 minutes | $295 |
| Discusses the theories of oil and gas formation, migration from source to reservoir, and how oil and gas are produced. Serves as a background for the balance of the class. | | | |
| **History of Pipelines** | 74 slides | 60 minutes | $695 |
| Starting from town or manufactured gas in the early 1800’s and crude oil gathering in the late 1800’s this class takes students right up to the current time. Business, technology, regulations, and pipeline milestones are all presented in 25 year increments. While the information is fascinating, the array of historic pictures is what captivates the class. | | | |
| **Successful Joint Ventures** | 40 slides | 45 minutes | $395 |
| Corporate, undivided interest, partnership and other forms of pipeline ownership are each discussed along with their pros and cons. Additional time is allocated to Master Limited Partnerships – what made them possible, popular, and profitable for the limited and especially the general partner. The module concludes with recommended practices for establishing joint ventures. | | | |
| **Oil Power and System Optimization** | 28 slides | 30 minutes | $395 |
| Electrical Power is the largest single expense for most oil pipeline companies. Using actual power bills and examples, this module examines operating and station control practices with a focus on reducing energy usage per barrel shipped. It includes discussions of basic hydraulics along with station control and system and pump curves. Coupled with effective communication between schedulers, control technicians and operators these tools can the power needed to pump the same number of barrels. | | | |

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| **Applied Pipeline Hydraulics** | 46 slides | 60 minutes | $695 |
| Through the use of 5 case studies each following batches of varying densities along a pipeline with 4 pump station, students learn to apply practical hydraulic principles. Some knowledge of hydraulics, hydraulic gradients, and centrifugal pump characteristics is a prerequisite. *Introduction to Hydraulics* combined with *Equipment and Components* provide the background needed for students who do not have the knowledge but would like to attend the course. For groups which have not already attended the *Introduction to Hydraulics* and *Equipment and Components* modules, and do not have the request background knowledge, 60 minutes and 43 slides can be added to provide students with the requisite background knowledge. | | | |
| **Pipeline Organizations and People** | 15 slides | 30 minutes | $395 |
| Most pipelines are organized in one of several manners. This module explores these basic organization forms and the roles and responsibilities of the various positions. A must have for companies seeking to do business with pipeline companies. | | | |
| **Abnormal Operations** | 39 slides | 60 to 90 minutes | $695 |
| Drawing on pipeline accident investigations conducted by the National Transportation Safety Board this course reviews past accidents in small working groups with are each assigned an accident to review. The small group reports back to the larger group which then discusses each accident in turn. Learning from these past situations prepares students to look into their assets and operations more closely to prevent accidents and respond appropriately when they must. | | | |
| **US Oil Pipeline Regulations** | 259 slides | 180 to 210 minutes | $1495 |
| This module is a detailed review of CFR Title 49, Part 195. Sections A through H and Appendices A through C are all discussed in detail. Those who need a thorough understanding of the safety regulations will find this module meets their needs. | | | |