

PAH / PYP EDUCATION PROGRAM

Online Training Update



The University of Texas at Austin
Petroleum Extension (PETEX®)
Cockrell School of Engineering



AGENDA

- Education Program Background
- Overview of Design Modules
- Live Demo
- Value of New Training
- Next Steps in Program
- Questions



NEXT GENERATION COMPETENCY



- Educate the future of our industry with applicable and easily available materials
- Close the potential loss of information our industry is facing through retirement by implementing a mentorship program
- Raise and encourage organizational awareness through networking



PAH / PETEX AGREEMENT

- PAH agreement with PETEX - 2019
 - Develop 3 Pipeline Technology online modules – Design, Operations, and Maintenance
 - Deliver the Design Module in 2020
 - PAH/PYP will provide SME's to develop and review content
 - PETEX to convert existing in-person classes to online versions
- Offer online modules at no cost to PAH members for 10 years
- Deliver content through UT-PETEX Learning Management System



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PETEX

- Petroleum Extension – Cockrell School of Engineering at The University of Texas at Austin
- Founded in 1944
- #1 Oil & Gas industry training program
- 5,000 companies trained, and over 700K students
- Upstream, Midstream, Downstream, and HSE Training
- In-person and Online training options available

PIPELINE ONLINE TRAINING

- Available to all members of the Pipeliners Association of Houston at no cost for the next 10 years
- 3 modules
 - 2020 – Pipeline Technology Design
 - 2021 – Pipeline Technology Operations
 - 2022 – Pipeline Technology Maintenance
- Convert in-person training sessions to online course
- PAH Subject Matter Experts (SMEs) help develop and review content with PETEX



PIPELINE TECHNOLOGY – DESIGN MODULE

1. Pipeline Regulations
2. Right-of-Way Contracts
3. Electric Prime Movers for Pipeline Pumps
4. Pipeline Pumps: Application, Parameters, and Operation
5. Pipeline Hydraulics
6. Analysis and Control of Hydraulic Surges: Theory and Equations
7. Analysis and Control of Hydraulic Surges: Hydraulic Surge Scenarios
8. Analysis and Control of Hydraulic Surges: Control Devices
9. Mainline Design and Construction on Land
10. Pump Station Design and Construction



EXAMPLES OF LESSONS & QUIZZES

Menu

Captions


- PLT1-10 Mainline Design and Con...
- Welcome
- Objectives
- Initial Planning for a Pipeline
- Resources and Funding
- Elements of Planning
- Project Phases
 - Selecting the Route
 - Surveying the Route
 - Acquiring Right-of-Way and ...
 - Obtaining Permits
 - Meeting Regulatory Require...
 - Design Engineering
 - Corrosion Control
 - Production of Drawings and ...
- Constructing the Pipeline
 - Activity: Constructing the ...
 - Constructing the Pipeline, ...
 - Construction Contractor R...
 - Construction Contracto...
 - Construction Contracto...
 - Construction Contracto...
 - Construction Contracto...
 - Construction Contracto...
 - Construction Contracto...
 - Construction Contracto...

PLT1-9 Mainline Design and Construction on Land

Resources

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Construction Contractor Responsibilities, cont.



After completing the ditching operation, the contractor strings pipe joints along the right of way.

PTD_101_C_001_000 > Quizzes > Lesson 9 Mainline Design and Construction on Land Quiz > History

PETEX

Home

Modules

Grades

Lesson 9 Mainline Design and Construction on Land Quiz Results for Edward Hetsko

Quiz Submissions

Attempt 1: 10

Edward Hetsko has 1 attempt left

← Back to Quiz

Answers will be shown after your last attempt

Score for this attempt: 10 out of 10

Submitted Nov 23 at 4:19pm

This attempt took 1 minute.

Question 1

1 / 1 pts

The cash flow for a pipeline is determined by _____. (Select one answer.)

☐ dividing the cost of operation by the capital costs

☒ subtracting the cost of operation from revenues

☐ multiplying the loan interest rate by a set number

Question 2

1 / 1 pts

Oil and gas companies sometimes form a joint venture to build and operate a pipeline in order to _____. (Select one answer.)

☐ manufacture pipe themselves to reduce costs

☐ avoid liability for accidents

☒ share costs and responsibilities

DEMO OF MODULE, LESSONS, & QUIZZES

- <https://houstonpipeliners.net/>
- Education
 - PYP/PAH/PETEX Registration
 - Login
 - Complete PETEX form and submit
- <https://engr.instructure.com/>
- PETEX site login
- Dashboard
- Pipeline Technology – Design
- Lessons



VALUE OF NEW TRAINING

- Increase Competency
- Anytime Training through Online Format
- Generate Interest in Pipeline Business
- PAH Membership Perk



LESSONS LEARNED

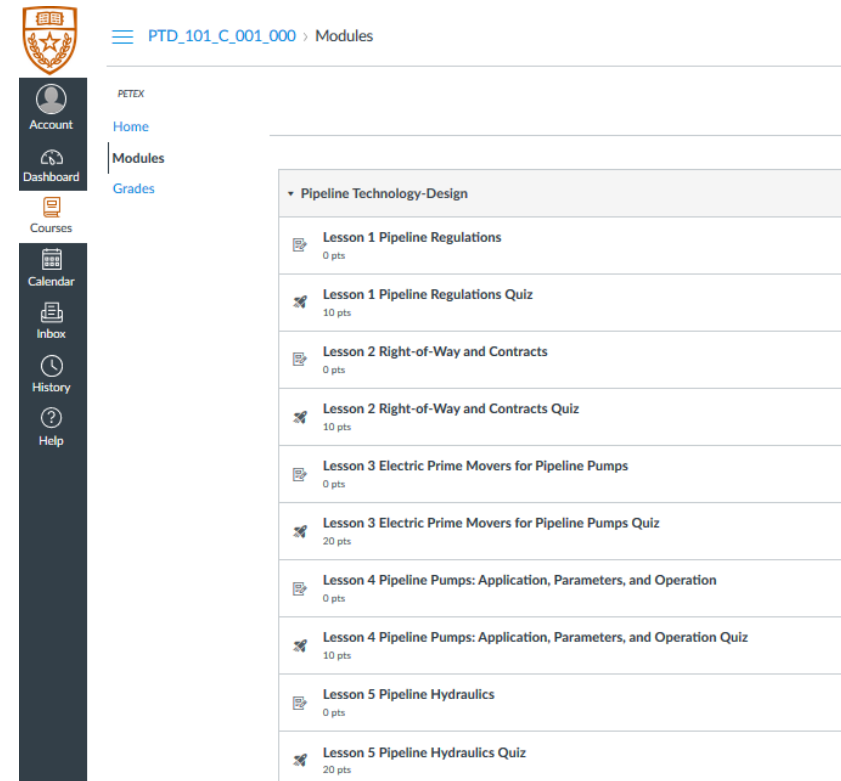
- Moving Classroom Training Online Takes Time
- SME Engagement Critical
- Information Refresh Schedule
- Feedback Mechanisms

The screenshot shows a web-based training interface. On the left is a dark sidebar with navigation icons for Account, Dashboard, Courses, Calendar, Inbox, History, and Help. The main content area has a breadcrumb trail: [PTD_101_C_001_000](#) > [Assignments](#) > Lesson 10 Pump Station Design and Construction. Below this, the title 'Lesson 10 Pump Station Design and Construction' is displayed, followed by status information: 'Due: No Due Date', 'Points: 0', and 'Submitting: an external tool'. A 'Menu' sidebar on the left lists topics under 'PLT1-10 StationDesignConst', with 'Hydraulic Profile' selected. The main content area shows a 'Hydraulic Profile' graph with a blue line representing the profile and dashed lines for the 'HYDRAULIC GRADIENT'. The graph includes labels for stations: CUSHING, CHELSEA, DIAMOND, BUFFALO, BLAND, and WOOD RIVER, with corresponding elevation values: 85.35, 71.92, 82.81, 92.39, and 100.84. A 'Key Question' is posed: 'What kind of station does this describe?'. Navigation buttons for 'Previous' and 'Next' are at the bottom.



POSITIVE NOTES

- Learn at Your Own Pace
- Flexibility to Pick and Choose Lessons
- Feedback on quizzes is given real time
- Continuing education for all levels of experience
- Knowledge share through familiar format



The screenshot displays the PETEX online learning platform. On the left is a dark sidebar with icons for Account, Dashboard, Courses, Calendar, Inbox, History, and Help. The main content area shows a breadcrumb trail: [PTD_101_C_001_000](#) > Modules. Below this, a list of modules is shown under the heading "Pipeline Technology-Design". Each module entry includes a document icon, the module name, and a score in points (pts).

Pipeline Technology-Design	
Lesson 1 Pipeline Regulations	0 pts
Lesson 1 Pipeline Regulations Quiz	10 pts
Lesson 2 Right-of-Way and Contracts	0 pts
Lesson 2 Right-of-Way and Contracts Quiz	10 pts
Lesson 3 Electric Prime Movers for Pipeline Pumps	0 pts
Lesson 3 Electric Prime Movers for Pipeline Pumps Quiz	20 pts
Lesson 4 Pipeline Pumps: Application, Parameters, and Operation	0 pts
Lesson 4 Pipeline Pumps: Application, Parameters, and Operation Quiz	10 pts
Lesson 5 Pipeline Hydraulics	0 pts
Lesson 5 Pipeline Hydraulics Quiz	20 pts



NEXT STEPS FOR TRAINING

- Get feedback on lessons
- Identify SME's for content review
- Develop next Module – Operations
- Update Agreement

Menu Captions


- ▶ Pump Configurations
- ▶ Location/Station Selection
- ▶ Design Engineering
- ▼ Pumps and Pump Piping Cons...
 - Pumps and Pump Hydraul...
 - Pumps and Pump Piping Fl...
- Design Engineering Specificati...
- ▶ General Rules on Pumps and ...
- Old Diesel Station
- Positive Displacement Pump ...
- Centrifugal Pump Room
- Early Outdoor Station
- Modern Outdoor Station Und...
- Modern Outdoor Station Under
- Large Centrifugal Pumps
- Large Vertical Suction Pumps
- Instrumentation Considerations
- ▶ Prime Movers Design Consid...
- ▶ Station Piping Wall Thickness
- ▶ Piping, Valves, and Appurtena...
- ▶ Instrumentation and Control ...
- Drawings and Specifications
- Corrosion Control
- Security Features
- Special Station Design Consid...
- Conclusion

Search...

PLT1-10 Station Design and Construction

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Modern Outdoor Station Under Construction



Key Question: What is the yellow structure, and what is its purpose?

◀ PREV NEXT ▶

FUTURE DEVELOPMENT

- Update Canvas Shell
- Interactive exercises and quizzes
- Get away from PowerPoint type lessons only
- Re-arrange content to fill-in gaps
- Tracking analytics

The screenshot shows a Canvas LMS interface. On the left is a sidebar with navigation links: Account, Dashboard, Courses, Calendar, Inbox, History, and Help. The main content area displays a lesson titled "Lesson 2 Right-of-Way and Contracts". Below the title, it shows "Due: No Due Date", "Points: 0", and "Submitting: an external tool". The lesson content is a slide titled "Constructability" from a presentation. The slide features a photograph of workers laying a large pipe and a bulleted text describing GIS data's role in pipeline construction. The slide content includes:

- A geographic information system (GIS) provides information on the Earth's surface—including elevations and the position of objects such as buildings and roads.
- GIS data is indispensable in determining the constructability of a pipeline at various locations.

At the bottom of the slide, there are navigation controls: "Previous", "Next", and a search bar.



QUESTIONS?

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