Production Data and Metering Technician Foundation

GExperts Learning Academy | TV-X27 | TV | 3-12 months

Course overview

3-12 months TV programme focused on Production Data and Metering Technician Foundation, using energy-sector cases and applied decisions.

Designed for: Trade entrants with supervised practical assessment

Learning outcomes

- Explain core principles and terminology for Production Data and Metering Technician Foundation.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Course guide

Work through each module objective, lesson and teaching note, complete the applied activity and assessment, then use the separate Academy practice page for practice questions and answer feedback.

Separate practice questions:
https://www.globalexpertsconsultoria.com/training/academy/courses/questions/?course=TV-X27

Academic and certification status

Draft learning resource for study and review. It does not confer accreditation, external certification, a regulated qualification, professional licence, safety-critical competence or site authorisation. Confirm approvals, current laws, standards, approved procedures and awarding-body requirements before delivery.

Module 1: Production Data and Metering Technician Foundation: Core Conce

Learning objectives

- Explain production data and metering technician foundation: core concepts, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Production Data and Metering Technician Foundation: Core Concepts
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Production Data and Metering Technician Foundation

Detailed teaching notes

Teaching notes

Core explanation. Production Data and Metering Technician Foundation: Core Concepts describes a practical part of Production Data and Metering Technician Foundation. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for production data and metering technician foundation: core concepts. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans production data and metering technician foundation: core concepts while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for production data and metering technician foundation: core concepts: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Applied activity

Prepare a decision brief for production data and metering technician foundation: core concepts: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice

Use the separate Academy practice questions and answer key page for this module.

Module 2: Industrial instrumentation

Learning objectives

- Explain industrial instrumentation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Industrial instrumentation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Production Data and Metering Technician Foundation

Detailed teaching notes

Teaching notes

Core explanation. Sensors and transmitters convert process conditions into signals. Teach range, span, accuracy, calibration and measurement uncertainty. Pressure, temperature, flow and level measurements use different principles and installation constraints.

Decision logic. Trace a measurement from process interface through signal conversion to display. Incorrect range or units can mislead control and operations. An apparently stable value may be frozen or invalid. Actual instrument work follows authorised isolation and manufacturer procedures.

Worked example. A 4-20 mA signal represents 0-100 units; 12 mA corresponds to 50 units under a linear mapping.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Calculate the indicated value at 8 mA and identify assumptions.

Model answer guide. Twenty-five units with linear mapping and a valid signal; check range and status.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Applied activity

Calculate the indicated value at 8 mA and identify assumptions.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice

Use the separate Academy practice questions and answer key page for this module.

Module 3: Industrial data architecture and governance

Learning objectives

- Explain industrial data architecture and governance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Industrial data architecture and governance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Production Data and Metering Technician Foundation

Detailed teaching notes

Teaching notes

Core explanation. Industrial data flows from sensors through historians and integration platforms to analysis and decisions. Define asset identity, units, timestamps, quality status and ownership. A large dataset is not necessarily fit for purpose.

Decision logic. Check time synchronisation, missing values, calibration changes and access permissions before analysis. Keep provenance and revision history. Avoid transferring confidential operational data into exercises; all datasets in this package are fictional.

Worked example. A trend combines pressure in bar and kilopascals under one label, producing a false step change.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create a data dictionary and quality checks for a fictional dataset.

Model answer guide. Define units, time basis, validity flags, owner and transformations; resolve inconsistent units before interpretation.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Applied activity

Create a data dictionary and quality checks for a fictional dataset.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice

Use the separate Academy practice questions and answer key page for this module.

Module 4: Crude oil quality and assay interpretation

Learning objectives

- Explain crude oil quality and assay interpretation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Crude oil quality and assay interpretation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Production Data and Metering Technician Foundation

Detailed teaching notes

Teaching notes

Core explanation. Crude properties include density, sulfur, acidity, metals, salt, water and distillation behaviour. API gravity is a density scale, not a complete quality grade. Explain how crude assay and sampling representativeness affect refinery fit and valuation.

Decision logic. A light crude can still present processing or materials challenges. Compare whole-crude properties with fraction yields and contaminants. Distinguish a laboratory result, a contractual specification and a refinery's acceptable feed envelope.

Worked example. Two hypothetical crudes have similar API gravity but very different sulfur and metals contents.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Compare the two fictional assays and list additional data needed for refinery selection.

Model answer guide. Include contaminant management, fraction yields, blending and sampling quality; avoid ranking by API gravity alone.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Applied activity

Compare the two fictional assays and list additional data needed for refinery selection.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice

Use the separate Academy practice questions and answer key page for this module.

Module 5: Production Data and Metering Technician Foundation: Work Plann

Learning objectives

- Explain production data and metering technician foundation: work planning, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Production Data and Metering Technician Foundation: Work Planning
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Production Data and Metering Technician Foundation

Detailed teaching notes

Teaching notes

Core explanation. Production Data and Metering Technician Foundation: Work Planning describes a practical part of Production Data and Metering Technician Foundation. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for production data and metering technician foundation: work planning. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans production data and metering technician foundation: work planning while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for production data and metering technician foundation: work planning: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Applied activity

Prepare a decision brief for production data and metering technician foundation: work planning: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice

Use the separate Academy practice questions and answer key page for this module.

Module 6: Production Data and Metering Technician Foundation: Data and Pe

Learning objectives

- Explain production data and metering technician foundation: data and performance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Production Data and Metering Technician Foundation: Data and Performance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Production Data and Metering Technician Foundation

Detailed teaching notes

Teaching notes

Core explanation. Production Data and Metering Technician Foundation: Data and Performance describes a practical part of Production Data and Metering Technician Foundation. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for production data and metering technician foundation: data and performance. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans production data and metering technician foundation: data and performance while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for production data and metering technician foundation: data and performance: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Applied activity

Prepare a decision brief for production data and metering technician foundation: data and performance: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice

Use the separate Academy practice questions and answer key page for this module.

Module 7: Production Data and Metering Technician Foundation: Applied Cas

Learning objectives

- Explain production data and metering technician foundation: applied case, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Production Data and Metering Technician Foundation: Applied Case
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Production Data and Metering Technician Foundation

Detailed teaching notes

Teaching notes

Core explanation. Production Data and Metering Technician Foundation: Applied Case describes a practical part of Production Data and Metering Technician Foundation. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for production data and metering technician foundation: applied case. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans production data and metering technician foundation: applied case while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for production data and metering technician foundation: applied case: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Applied activity

Prepare a decision brief for production data and metering technician foundation: applied case: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice

Use the separate Academy practice questions and answer key page for this module.

Module 8: Production Data and Metering Technician Foundation: Communica

Learning objectives

- Explain production data and metering technician foundation: communication and escalation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Production Data and Metering Technician Foundation: Communication and Escalation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Production Data and Metering Technician Foundation

Detailed teaching notes

Teaching notes

Core explanation. Production Data and Metering Technician Foundation: Communication and Escalation describes a practical part of Production Data and Metering Technician Foundation. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for production data and metering technician foundation: communication and escalation. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans production data and metering technician foundation: communication and escalation while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for production data and metering technician foundation: communication and escalation: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Applied activity

Prepare a decision brief for production data and metering technician foundation: communication and escalation: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice

Use the separate Academy practice questions and answer key page for this module.

Module 9: Production Data and Metering Technician Foundation: Knowledge

Learning objectives

- Explain production data and metering technician foundation: knowledge check, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Production Data and Metering Technician Foundation: Knowledge Check
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Production Data and Metering Technician Foundation

Detailed teaching notes

Teaching notes

Core explanation. Production Data and Metering Technician Foundation: Knowledge Check describes a practical part of Production Data and Metering Technician Foundation. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for production data and metering technician foundation: knowledge check. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans production data and metering technician foundation: knowledge check while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for production data and metering technician foundation: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Applied activity

Prepare a decision brief for production data and metering technician foundation: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice

Use the separate Academy practice questions and answer key page for this module.

Module 10: Production Data and Metering Technician Foundation: Competen

Learning objectives

- Explain production data and metering technician foundation: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Production Data and Metering Technician Foundation: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Production Data and Metering Technician Foundation

Detailed teaching notes

Teaching notes

Core explanation. Production Data and Metering Technician Foundation: Competence Review describes a practical part of Production Data and Metering Technician Foundation. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for production data and metering technician foundation: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans production data and metering technician foundation: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for production data and metering technician foundation: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Applied activity

Prepare a decision brief for production data and metering technician foundation: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice

Use the separate Academy practice questions and answer key page for this module.

Facilitator close-out and resources

Facilitator close-out

Record attendance, assessment evidence, learner support needs, incidents and improvement actions according to approved provider processes. Do not sign learners off for regulated or safety-critical work without the authorised assessment and certification route.

Resources and references

- Supplied GExperts/IUM reference materials; verify reuse rights and currentness.
- Current applicable Namibian legislation, standards and approved site procedures supplied by the provider.
- Case worksheet and instructor slides must be produced and reviewed before course release.