



Protektz Training Brochure

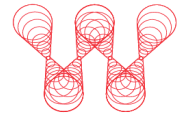
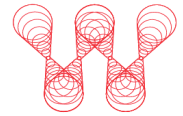


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Corporate Profile

Protekz Inc. is a completion and production engineering consultancy and training company. We apply our specialist petroleum engineering skills to the design and performance of oil, gas and water wells. Our aim is to help our clients optimise oil and gas production from their assets leading to maximum return on their investment.

Our specialised world-class specialised petroleum engineering training is focused towards bridging the knowledge gap in the area of well completion and production engineering specialisations in the industry.

Our engineers have over 50 years of combined operating oil company experience.

Professional Approach

Our philosophy is to deliver on time and within budget with engineering excellence and a high level of professionalism.

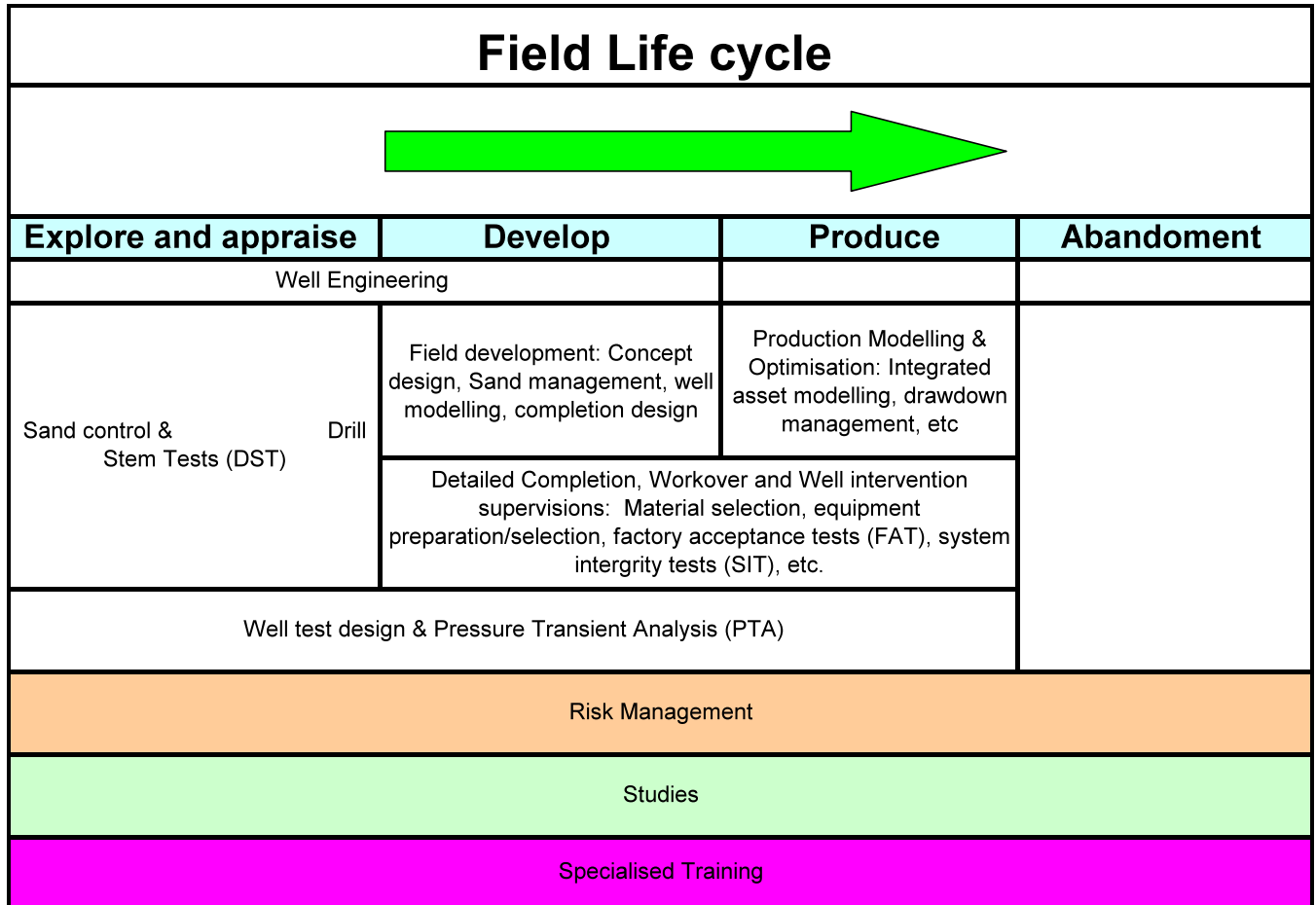
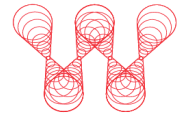
We operate ethically and with integrity to develop optimum solutions that conform to the highest possible health, safety and environmental standards.

Services Provided

Protekz Inc. has expertise in a broad range of upstream disciplines. We provide well completion and production engineering consultancy and training services spanning the entire field life cycle from exploration phase to well abandonment.

At every stage, we use our knowledge, experiences and judgement of the available technologies to help our clients strike the best balance between well performance, cost and well integrity.

Our main service offerings are best described in terms of the field life cycle.



For more details, visit www.protekzinc.com

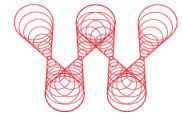
Protekz Training Courses

Protekz offers completion and production engineering and related courses.

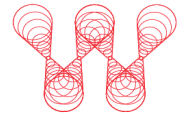
Our courses feature excellent instruction by experienced and qualified instructors.

The objective of our training courses is to equip oilfield personnel with technical skills required to be proficient in their various positions.

The detailed outlines of our courses are as follows:



Course	Well Completion & Intervention School (WCI)
Location	Calgary, Canada or Client specified
Duration	10 days
Target Attendee: <ul style="list-style-type: none"> • Completion, Drilling, Reservoir, Production and Research Engineers, • Drilling and Completion Supervisors / Foremen, • Drilling and Completion Superintendents, • Drilling, Completion and Production Managers, • Field supervisors and managers, technical personnel who supplies well completions and intervention services / equipment. • Those involved in well completions operations in different installation environments (land, offshore and deepwater offshore). 	
<p>Protekz Well Completion & Intervention School is very practical and complete training package designed to bridge the knowledge gap, as fast as possible, in this area of specialisation.</p> <ul style="list-style-type: none"> • <i>It is first of its kind in the industry.</i> • <i>It is delivered by professionals with at least 20 years of practical experience in well completions, well intervention and related fields.</i> • <i>It is delivered to trainees in 2 levels during 10 working days. Teaching methods include presentations, videos, some exhibits (e.g. corroded and collapsed tubing, packers, safety valves, etc.)</i> • <i>This special course is loaded with practical examples and exercises. Trainees are followed up to ensure they can handle all the calculations, without stress.</i> • <i>It could be designed to meet the need of the clients on specific topics of interest.</i> • <i>In this course you will be given a field project to design. All the elements of the course will help you in your completion design. At the end of the course the teams formed in the class will present their completion designs to a 'management committee'.</i> • <i>Trainees could come with their own projects of interest which they could substitute for the class field project design work.</i> • <i>Graduates of Protekz Completion and intervention school are ready to take responsibility in their various companies to work as a competent Well Completions and Intervention Engineer, straight away.</i> • <i>The course is worth the investment. Excellent return to clients for money spent!</i> 	
<p>Course Objective:</p> <p>In the completion school training package you will learn how to:</p> <ul style="list-style-type: none"> • Design, plan and execute safe and efficient well completions. • Evaluate the flow capacity of a well. • Select the best tubing size • Ascertain why formations are damaged and how to prevent or correct such damage. • Select the best materials for your well completions. • Select the best sand control method. • Work with other professionals (Reservoir, Production, Productivity, Fluid, Drilling Engineers/Supervisors and contractors) in the team for a successful well completion. • Etc. 	



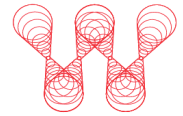
Course Outline:

Level I

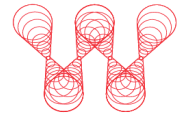
- Completion Design and Selection: inflow and outflow modeling, completion equipment/architecture, completion fluids, perforation design selection, sub-assembly design, etc.
- Material selection. Special applications to sweet and sour gas environments.
- Tubing Stress Analysis: tubing properties, tubing stress analysis, load cases, completion equipment, etc.
- Sand Control Design: Formation Sand Analysis, Gravel Selection Screen sizing, etc.
- Artificial lift: ESP, gas lifts, beam pump, etc.

Level II

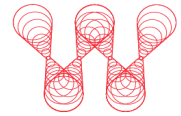
- Formation Damage: causes, prevention and remediation.
- Reservoir drilling fluid design.
- Well stimulation in sandstone and carbonate reservoirs.
- Well intervention practices: slick line operations, electric operations, coiled tubing operations, hydraulic work-over/snubbing operations.
- Well killing: lubricate and bleed, bull heading, reverse circulation, kill graph construction, etc.
- “Best Practices for Successful well completion”:
 - call for tender,
 - equipment procurement,
 - factory acceptance tests,
 - system integrity tests/ yard tests,
 - service contract, equipment preparation/testing,
 - technical program, rig preparation and equipment reception,
 - casing/riser cleaning, completion installation,
 - well clean-up, reporting,...
- Successful Workover Operations
- Novel Technology applications (fibre optics, ESS, intelligent completion, Downhole video, etc)



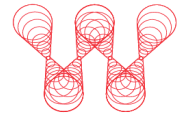
Course	Sand Control School
Location	Calgary, Canada or Client specified
Duration	5 days
Target Attendee: <ul style="list-style-type: none"> • Completion, Drilling, Reservoir, Production and Research Engineers, • Drilling and Completion Supervisors /foremen, • Drilling and Completion Superintendents, • Drilling, Completion and Production Managers, • Field supervisors and managers, technical personnel who supplies well completions services and equipment. • Those involved in sand control applications in different installation environments (land, offshore and deepwater offshore). 	
Course Objective: In the Sand Control Technology course, you will learn how to: <ul style="list-style-type: none"> • Determine the causes of sand production • Determine the need for sand control • Select the best sand control method • Prepare the well for gravel packs • Apply “Best Practices” to ensure successful sand control completions • Conduct successful “frac packs” • Evaluate sand control performance 	
Course Outline: <ul style="list-style-type: none"> • Requirement for Sand Control • Sand Prediction and Monitoring • Sand Control Completion: selective perforation method, gravel pack, frack pack, High rate water pack, screen only completion • Sand Control Design: formation sand analysis & GP screen sizing • Perforating for sand control • Frac pack completion: success of a frac pack, frac pack limitations, • Frac pack fluids, frac pack installation and treatment procedure. • Screen only completions: Reservoir Fluid Design, QA/QC before and during running-in-hole screens, • Expandable completions • Horizontal well completions • Alternate path technology • One trip perforation and Sand Control technology 	



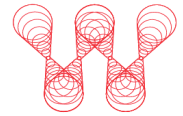
Course	Tubing Stress Analysis
Location	Calgary, Canada or Client specified
Duration	5 days
Target Attendee: <ul style="list-style-type: none"> • Completion, Drilling, Production and Research Engineers, • Well service personnel 	
<i>We are not linked into the sale or promotion of any software and offer unbiased opinion.</i>	
Course Objective: <ul style="list-style-type: none"> • To fully understand how to use Wellcat software for tubing stress analysis on a variety of different completion configurations. • The use of Prod for pressure and temperature prediction. • How to check Wellcat input and results against hand calculations. • Improving completion designs with respect to reducing stresses. 	
Course Outline: The course will cover the following: <ul style="list-style-type: none"> • Tubing properties. • Type of loads: burst, collapse, axial and triaxial loads. • Impact of corrosion and erosion. • Performance criteria required for completion equipment (e.g. tubing connections, packers, PBR, seal bores, latches, expansion sleeves, etc.) • Tubing Stress Analysis using hand calculations. • Tubing Stress Analysis using Wellcat software: <ul style="list-style-type: none"> • to perform temperature and pressure modeling for drilling and cementing operations • to perform triaxial and full API stress analysis for tubing string • to accurate temperature and pressure modeling for production, injection, completion and workover operations. • to perform annulus fluid expansion and/or wellhead movement analysis using the Multistring module. 	



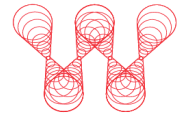
Course	Well Productivity and Production Engineering Awareness School
Location	Calgary, Canada or Client specified
Duration	5 days
Target Attendee: <ul style="list-style-type: none"> • Production engineers, production analyst and asset team engineers involved in monitoring and analysis of producing fields • Drilling, Petroleum and Completion Engineers carrying out conceptual designs for brown and green field developments • The course is taught at a basic foundational level 	
Course Objective: To develop a basic understanding of the petroleum production system and the factors that drive well completion design and well productivity. At the end of the course, participants should have a basic working knowledge of well performance modeling, problem well analysis and production optimisation	
Course Outline: <ul style="list-style-type: none"> • Overview of the Petroleum Production System <ul style="list-style-type: none"> ○ Reservoir ○ Near-Wellbore / Sand face ○ Well and Well Completion ○ Wellhead & Surface Facilities • Geologic & Reservoir Considerations in Completion Design • Conceptual Well Completion Design <ul style="list-style-type: none"> • Perforation • Sand Control • Drill-in/Completion fluids • Well Performance Concepts <ul style="list-style-type: none"> ○ Inflow Performance Relationship (IPR); Skin factor ○ Vertical Lift Performance (VLP) ○ Wellhead, Choke and Flowline Performance ○ Natural flow • Artificial Lift Fundamentals • Well Testing Fundamentals • Production Forecasting/Decline Analysis • Well Stimulation 	



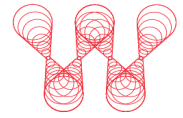
Course	Artificial Lift Technology
Location	Calgary, Canada or Client specified
Duration	5 days
Target Attendee: The course is designed for production engineers, production analyst and asset team engineers involved in monitoring and analysis of producing fields. And also for completion engineers wishing to gain a deeper understanding of artificial lift considerations for conceptual well design and field development planning	
Course Objective: <ul style="list-style-type: none"> • This course gives an insight into the artificial lift techniques commonly available today, with details of the artificial lift techniques likely to be utilised in land, offshore and deepwater production environment. • At the end of the class, the participants should have the basic knowledge to identify candidates for artificial lift, to determine the most suitable artificial lift method and to conceptually design the selected method. 	
Course Outline: <ul style="list-style-type: none"> • Introduction: Natural flow limits & Artificial Lift Considerations. • Overview of artificial lift techniques. • Gas lift <ul style="list-style-type: none"> ◦ Gas lift Valves ◦ Gas lift Design Objectives & Considerations ◦ Casing Pressure Operated Valves ◦ Fluid Pressure Operated Valves ◦ Compression Requirements ◦ Gas lift Optimisation • Pumping <ul style="list-style-type: none"> ◦ Calculation of Pumping Requirements ◦ Pump Types <ul style="list-style-type: none"> ▪ Electrical Submersible Pump ▪ Bean (sucker) Pump ▪ Hydraulic (jet) Pumping ◦ Pump design & sizing. • Screening & Selection of Artificial Lift Methods • Management of artificially lifted wells • Data acquisition issues • Economics of artificial lift 	



Course	Introduction to Drilling & Completion (Basic Drilling & Completion Technology)
Location	Calgary, Canada or Client specified
Duration	5 days
Target Attendee: <ul style="list-style-type: none"> • Newly employed drilling, completion, production, engineers • Facilities and Project Engineers, • Geologists and geophysicists, • Reservoir and Petrophysical engineers, • Commercial and contracts personnel, • Operations and rig personnel. 	
Course Objective: This is a well awareness course. It covers the basics of drilling, completion and intervention operations in the industry. The purpose is to give a strong awareness of well construction and operation issues to new engineers with less than 2 years of experience and to other professionals who are not normally responsible for well design and operations, but who need to interact with the wells team.	
Course Outline: <ul style="list-style-type: none"> • Rig types and components • Drilling operations: Overall drilling process/terminologies, bits, solids management, hole problems, MWD, DD, well control, etc. • Formation damage • Mud, casing and cement • Well Completion: Conceptual design, completion architecture / equipment, etc. • Well performance and monitoring • Well interventions (coil tubing, slickline, e-line, snubbing, etc.) • Sand Control • Well stimulation • Hydraulic Fracturing • Introduction to Workover 	



Course	Introduction to Well Testing
Location	Calgary, Canada or Client specified
Duration	5 days
Target Attendee: <ul style="list-style-type: none"> • Production engineers, production analyst and asset team engineers involved in monitoring and analysis of producing fields • Well Testing/Intervention Engineers • Field supervisors and managers, technical personnel who supplies well testing services and equipment. • Those involved in well test operations in different installation environments (land, offshore and deepwater offshore). 	
Course Objective: This class covers different aspects of well test evaluation and design. It provides a comprehensive overview of well test theory, operations and interpretation. At the end of this class, participants should have working knowledge of the key considerations in the planning, supervising, and analysis of a well test.	
Course Outline: <ul style="list-style-type: none"> • Introduction to Well Testing <ul style="list-style-type: none"> ○ Well testing objectives ○ Well testing basics ○ Well test on-site measurements • Well test Designs • Well Test Types • Well Test Operations <ul style="list-style-type: none"> ○ Safety and Environmental considerations ○ Well Test Requirements. ○ Surface Equipment ○ Downhole Equipments ○ Operational Procedure / Sequence of events ○ Data acquisition (surface/downhole) and field validation ○ Pitfalls and common errors in Well testing and how to avoid them • Introduction to Sub-sea Well Test Operations 	



Learning

Through participation in the Protekz Training School you will gain the following competences:

- understanding of challenges, problems and principles within the oil & gas well and production engineering
- understanding of the functions and main elements of the oil and gas drilling and production facilities
- experience in applying your own knowledge to specific oil and gas drilling & production challenges teamwork in an international and multidiscipline environment

In-House Training

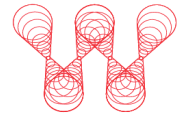
We do offer In-House Training programs which can be delivered at your selected training facility. We can tailor the agenda to fit your locality, your problems, and your personnel. Your training is customized to the exact group you assemble, whether managers, engineers, or field supervisors, and whether they have one year's experience or twenty-five! You get time allocated to the subjects in accordance with your priorities.

You can specify parts of two courses, or substitute a topic of your choice. Ask us for a proposal. We are pleased to be a part of improving your profit picture.

These in-house programs require a minimum of 10 students.

Language Requirement

All Protekz courses are offered in English Language



Course Registration

To register in any of our courses, please fill out the information below and fax this page to our office at +1 403 452 9127, Calgary Canada.

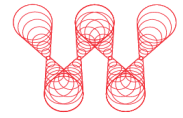
Alternatively, you can enroll on our web site (www.protekzinc.com) or send an e-mail to info@protekzinc.com

Course Title	
Dates/Location	
Your Name	
Your Job Title	
Company	
Mailing Address	
Country	
Your Phone	
Fax	
Your E-mail	
Approving Supervisor	
Supervisor's E-Mail	
Supervisor's Phone	

When we receive your registration request, we will respond with a written confirmation with details concerning venue, hotel accommodations and other information. Unless you direct us otherwise, we will submit an invoice upon confirmation of the course registration. Payment is due upon receipt.

For Calgary courses attendants, would you like us to reserve a hotel room for you? If yes, please provide your date of arrival, date of departure, type of room, and credit card information.

Arrival Date	
Departure Date	
Single / Double	
Credit Card No	
Expiration Date	
Name as it appears on card	
Additional comments	



Registration / Enrolment Policies

Tuition is due and payable upon written confirmation of the enrollment by Protekz Inc. The tuition fee also includes a set of course materials that provide a permanent reference for each participant. Tuition fees do not include meals or lodging.

If you must cancel a registration, full tuition will be re funded if the cancellation is received in our office 2 weeks or more prior to the course start date. Similarly, paid registrations can be transferred to a future course if we receive this request 2 weeks or more prior to the course start date. However, no refunds can be made for a cancellation or transfer less than 2 weeks prior to the course start date.

Attendance is limited to allow for ample discussion and personal participation. There is no dead line for application, but in the event that a particular session is completely subscribed, applicants may be placed on a waiting list.

Our office will book a room for you if the re quest is made 2 weeks prior to the course date. Room reservations will re quire a major credit card to be guaranteed.

Circumstances some times make it necessary to cancel courses if enrollment is insufficient. In order to give maximum notice, especially to international travelers, this decision is made 3-4 weeks before a course start date. Protekz Inc. will re fund full tuition to those affected by a cancellation. We urge you to consider this possibility when making travel arrangements as we can not assume responsibility for non-refundable air line tickets.

Seminar Tuition

All tuition will have local sales and/or withholding taxes added, when applicable.

**Ask about our
CUSTOMIZED
In-House Training!**