



CONTINUING EDUCATION
**COURSE
CATALOG**



2024



SOCIETY OF EXPLORATION
— G E O P H Y S I C I S T S —

Connecting the World of Applied Geophysics

Dear Valued Client,

Please find this current **SEG Continuing Education [CE] Course Catalog** containing both Public and Private or in-house courses for your review. Our Public courses typically offer one- or two-day instruction, either by virtual platforms or in-person settings.

Private courses are taught on-location and may range from one to five days in length depending on the client's wishes. These courses are **fully customizable** and **can also be taught via either virtual or in-person platforms**. In sending an instructor or instructors to your location, this is the most economical way to provide training to employees, while avoiding the expense of airfare and other travel-related costs per trainee. Courses are also conducted at a pace that maximizes hands-on instructor-to-student interaction.

Aside from forward-leaning content, the **SEG is an Accredited Provider of IACET Continuing Education Units [CEUs]** with the CE program undergoing a rigorous application and review process. Policies and processes are benchmarked against the ANSI/IACET Standard for Continuing Education and Training and represent the latest best practices in adult education.

Apart from valuable content and exacting standards, what makes SEG CE courses most attractive to our clients is **the passion for science**, the **industry-leading expertise**, and the **love of teaching demonstrated by our instructors**. Taken together, you have an unbeatable proposition that will save you training dollars while providing your employees with an unparalleled training experience.

Keep in mind that if you do not find a course in our catalog, let us know and odds are we can build it within a reasonable window of time.

Sincerely,

ANNABELLA BETANCOURT

Managing Director of Programs

1. 3C Seismic and VSP: Converted Waves and Vector Wavefield Applications

<https://seg.org/courses/3c-seismic-and-vsp-converted-waves-and-vector-wavefield-applications/>

Gaiser, James [2-day]

This short course discusses the growing importance of three-component (3C) seismic technology that combines shear waves with compressional waves in the acquisition, processing, and interpretation of surface-seismic and borehole data.

2. ▲ 3D Seismic Data Acquisition: An Update on Modern Technologies and Usage Methodologies

<https://seg.org/courses/3d-seismic-data-acquisition-an-update-on-modern-technologies-and-usage-methodologies/>

Malcolm, Lansley [2-day]

This course will provide information related to recent advances in data acquisition technology, equipment, and the methodologies that are being utilized to improve data quality and, in many cases, reduce the cost of 3D survey acquisition.

3. ▲ A Practical Understanding of Inversion for Exploration Geophysics

<https://seg.org/courses/a-practical-understanding-of-inversion-for-exploration-geophysics/>

Bancroft, John [1-day]

The course will identify what is meant by inversion and review the fundamentals of linear algebra with a visual emphasis on inversion techniques.

4. A Practical Understanding of Pre- and Poststack Migration

<https://seg.org/courses/a-practical-understanding-of-pre-and-poststack-migration/>

Bancroft, John [2-day]

This course presents the basic methods of migration in a simple manner and use diagrams and figures to illustrate principles.

5. Acoustic & Elastic Seismic Modeling and Imaging (Reverse-Time Migration)

<https://seg.org/courses/acoustic-elastic-seismic-modeling-and-imaging-reverse-time-migration/>

Bording, Phil [2-day]

This course deals with the analysis and application of the acoustic and elastic wave equations in exploration seismology. In particular, the course focuses on the finite-difference modeling of the full wave equation and its application to forward modeling and migration.

6. Advanced Seismic Techniques: Concepts & Examples

<https://seg.org/courses/advanced-seismic-techniques-concepts-examples/>

Godfrey, Robert [2-day]

This course consists of 6 modules covering data processing

and interpretation techniques used by geoscientists to extract structural, stratigraphic, and reservoir properties from seismic data.

7. Ambient Seismic Noise Surface Wave Tomography

<https://seg.org/courses/ambient-seismic-noise-surface-wave-tomography1/>

Mordred, et al. [2-day]

The goal of this course is to provide a fundamental understanding of ambient noise surface wave tomography (ANSWT) so that practitioners can decide if an ANSWT technique can help solve their problem, design a survey to image an objective, understand the interpretive choices made in data processing, and set realistic expectations for what information can be gleaned.

8. ▲ An Introduction to Migration and Velocity Model Building

<https://seg.org/courses/an-introduction-to-migration-and-velocity-model-building/>

Jones, Ian [2-day]

This course will commence with an overview of different migration schemes, cover the motivations for building detailed velocity models, and briefly discuss the inherent limitations of our ability to build a detailed model.

9. An Introduction to Perceptive Seismic Interpretation

<https://seg.org/courses/an-introduction-to-perceptive-seismic-interpretation/>

Lynch, Steve [2-day]

The objective of the course is to expose the audience to current trends in visualization and empower them to adopt these modern technologies and integrate them into their workflows.

10. Application and Interpretation of Converted Waves

<https://seg.org/courses/application-and-interpretation-of-converted-waves/>

Gaiser, Jim & Stewart, Rob [2-day]

This course provides a thorough overview of the methods of multi-component (3-C and 4-C) seismic exploration from basic petrophysical analysis and survey design through 3-D converted-wave migration.

11. ▲ AVO: Seismic Lithology

<https://seg.org/courses/avo-seismic-lithology/>

GRAUL, Mike & Hilterman, Fred [2-day]

This course updates the current state and future trends of AVO (e.g., azimuthal AVO, "Fizz water" discrimination, shale prospects) and dispels myths associated to this valuable technique.

▲ indicates availability as a recorded course

12. Basic Geophysics, Seismic Fundamentals and 3D Seismic Exploration

<https://seg.org/courses/basic-geophysics-seismic-fundamentals-and-3d-seismic-exploration/>

Lansley, Malcolm [2-5 days]

The course reviews current techniques of 3D seismic data acquisition and processing of land, marine, and ocean-bottom cable surveys.

13. Basic Machine Learning Tools for Subsurface Data

<https://seg.org/courses/basic-machine-learning-tools-for-subsurface-data/>

Misra, Siddharth, [1-day]

This course is a hands-on course that will use open-source Python computational platforms, including numpy, sklearn, pandas, and seaborn. This course will provide working knowledge about data analytics and machine learning tools suitable for petroleum engineers, geophysicists, geologists, and geoscientists. In this course, the participants get access to codes and workflows in Python, and they apply these pre-built software tools.

14. Basic Seismic Interpretation

<https://seg.org/courses/basic-seismic-interpretation/>

Herron, Donald & Wegner, Robert [2-day]

This course provides entry-level training in seismic interpretation and serves as a foundation for intermediate and advanced geophysics/seismic courses.

15. Business Fundamentals for Petroleum Geophysics

<https://seg.org/courses/business-fundamentals-for-petroleum-geophysics/>

Abriel, William [2-day]

This course is intended for new hires, experienced geologists, and geoscience technicians who work with seismic data and wish to learn and develop basic seismic interpretation skills.

16. Carbonate Essentials-Pore to Prospects

<https://seg.org/courses/carbonate-essentials-pores-to-prospect/>

Liner, Chris [2-day]

This course is an overview of carbonates from geology to seismic interpretation, with particular emphasis on karst topography and seismic expression thereof.

17. Concepts and Applications in 3D Seismic Imaging

<https://seg.org/courses/concepts-and-applications-in-3d-seismic-imaging/>

Biondi, Biondo [2-day]

The primary objective of this course is to provide a broad and intuitive understanding of seismic imaging concepts and methods that enable geoscientists to make the appropriate decisions during acquisition, processing, imaging, and interpretation projects.

18. Construction of fractured reservoir models for flow simulation incorporating geology, geophysics, and geomechanics

<https://seg.org/courses/construction-of-fractured-reservoir-models-for-flow-simulation-incorporating-geology-geophysics-and-geomechanics/>

Michelena, Reinaldo, et al, [2-day]

This course explains the steps necessary to build fractured reservoir models using sound stratigraphic and structural frameworks, calibrated 3D seismic attributes, and geomechanical information. Models and concepts are examined in the context of how they impact fluid flow, reservoir simulation results, field production, and forecast.

19. Converted-wave prestack imaging and joint inversion

<https://seg.org/courses/converted-wave-prestack-imaging-and-joint-inversion/>

Gaiser, James [2-day]

The course is recommended for geophysicists with an undergraduate background who are involved with seismic acquisition, processing, or interpretation.

20. Digital Signal Analysis in Seismic Data Processing

<https://seg.org/courses/digital-signal-analysis-in-seismic-data-processing/>

Hassan, Osman & Robinson, Enders [2-day]

This course equips the seismic data interpreter with information to determine a volume processed with a wavelet that has the sharpest (resolvable) peak possible at the geologic boundaries, minimum side lobes, and a wide band in the low and high ends of the spectrum.

21. Distributed acoustic sensing for seismic measurements – what geophysicists and engineers need to know [2022-23 DISC]

<https://seg.org/education/courses/current-disc/>

Willis, Marc [Available as a 1–2-day private course in 2024]


The goal of this course is to create a basic intuition for the value of DAS seismic measurements as well as the acquisition and processing decisions that affect its quality. The ever-present trade-offs will be discussed between resolution and signal-to-noise ratio. The limitation of one component measurements will be countered by the advantage of spatially dense sampling. After taking this course, it will be easier for the technologist to decide whether to acquire seismic data using DAS, as well as how to choose optimum acquisition and processing parameters.

22. Dynamic Reservoir Characterization: Multicomponent 4D

<https://seg.org/courses/dynamic-reservoir-characterization-multicomponent-4d/>

Davis, Tom & Roche, Steve [2-day]

The purpose of the course is to provide real case studies of multicomponent seismic applications towards an actual dynamic reservoir problem.

 indicates availability as a recorded course

23. ▲ Effective Scientific Writing

<https://seg.org/courses/effective-scientific-writing/>

Bin Waheed, Umair [1-day]

This course will develop participants' expertise in the writing process and provide insight into the readers' expectations.

24. ▲ Explorational Rock Physics and Seismic Reservoir Prediction

<https://seg.org/courses/explorational-rock-physics-and-seismic-reservoir-prediction/>

Avseth, Per & Johansen, Tor Arne [2-day]

This course covers fundamentals of Rock Physics, ranging from basic laboratory and theoretical results to practical recipes that can be immediately applied in the field.

25. Forensic Data Processing, 2021-2022 DISC

https://wiki.seg.org/wiki/Joe_Dellinger#2022_SEG_Distinguished_Instructor_Short_Course

Dellinger, Joe [Available as 1-2-day in-house course]

The goal of this course is to get you thinking more critically about your data: how was it recorded, what is in it, and what happened to it on the way from the field to numbers in a file. It should give you the basic concepts you need to learn more from your data by teaching you how to analyze your data quantitatively, like a scientist or engineer performing a forensic investigation. The concepts will be supported both by model and real-world examples. Although there will be a bit of math here and there, the emphasis will be on understanding the general principles -- what the math means, not the calculation. Much of the material will be familiar to those who attended my 2016 Distinguished Lecture of the same name. The material will be presented in a way that is accessible to as broad an audience as possible, while still providing rigorous detail to those who need it.

26. Full Waveform Inversion

<https://seg.org/courses/full-waveform-inversion/>

Sen, Mrinal, [2-day]

This course is designed for technical personnel of the oil and gas industry who are engaged or expected to be involved in seismic imaging, accurate velocity analysis, and interpretation. Seismic Inversion plays a key role in building reservoir models by integration of different data types.

27. Fundamentals of Rock Physics for Exploration

<https://seg.org/courses/fundamentals-of-rock-physics-for-exploration/>

Bakhorji, Aiman [2-day]

This course will discuss the principles of rock physics. A brief historical overview of the importance of rock physics in the oil industry, the course will demonstrate the necessity for understanding of how individual rock properties affect the P-wave and S-wave velocity variations within the earth.

28. Geophysical Application to Petroleum Engineering

<https://seg.org/courses/geophysical-application-to-petroleum-engineering/>

Bartok, Peter [2-day]

The main objective of the course is to apply geophysics to petroleum engineering aspects of reservoir analysis by demonstrating how the models arrived.

29. Geophysical Applications of Time-Frequency Analysis

<https://seg.org/courses/geophysical-applications-of-time-frequency-analysis/>

Matos, Marcilio [2-day]

This course shows how basic knowledge of joint time-frequency (JTF) analysis theory associated with pseudo-computer programming can help geoscientists to take full advantage of their real-world applications.

30. Geophysics for Petroleum and Energy Evolution Professionals

<https://seg.org/courses/geophysics-for-petroleum-and-energy-evolution-professionals/>

Duhault, John [2-day]

This course is designed to identify a specific operational problem and provide an integrated geophysical tool to help solve that problem.

31. Geophysics Under Stress: Geomechanical Applications of Seismic and Borehole Acoustic Waves

<https://seg.org/courses/geophysics-under-stress-geomechanical-applications-of-seismic-and-borehole-acoustic-waves/>

Sayers, Colin [2-day]

The course will provide the basis for applying geophysics and rock physics solutions to geomechanical challenges in exploration, drilling, and production. A variety of applications and real data examples will be presented.

32. ▲ Geopressure and Prospect's Risk Assessment

<https://seg.org/courses/geopressure-and-prospects-risk-assessment/>

Shaker, Salim [2-day]

This course examines integrated petrophysical properties to the subsurface geological, rock mechanics, and hydrodynamic models.

33. ▲ Gravity and Magnetism for Explorationists

<https://seg.org/courses/gravity-and-magnetism-for-explorationists/>

Ruder, Michal [2-day]

This course is designed for geologists and geophysicists with interests in potential fields and regional tectonics.

▲ indicates availability as a recorded course

34. Integrating Seismic, CSEM and Well Log Data for Reservoir Characterization

<https://seg.org/courses/integrating-seismic-csem-and-well-log-data-for-reservoir-characterization/>

MacGregor, Lucy [2-day]

This course will concentrate on three contrasting methods: surface seismic, marine controlled source electromagnetic (CSEM) and well-log data.

35. Interpretation Workflows for a Solid Seismic Interpretation

<https://seg.org/courses/interpretation-workflows-for-a-solid-seismic-interpretation/>

Tonn, Rainer [2-day]

This course covers the fundamentals of necessary post stack and prestack interpretation techniques to generate a successful seismic interpretation.

36. Introduction to 2D/3D Seismic Data Acquisition and Processing for Non-Geophysicists

<https://seg.org/courses/introduction-to-2d-3d-seismic-data-acquisition-and-processing-for-non-geophysicists/>

Fernando, John [2-day]

This course discusses the seismic principles necessary for understanding the concepts of seismic data acquisition and processing.

37. Introduction to Applied Depth Imaging

<https://seg.org/courses/introduction-to-applied-depth-imaging/>

Martinez, Ruben [2-day]

This course provides an understanding of the basic concepts and practical aspects used for building velocity models and generating seismic images.

38. Introduction to Field Safety Leadership

<https://seg.org/courses/introduction-to-field-safety-leadership/>

Bohacs, Kevin [1-day]

This field safety course is straightforward, widely applicable, and scalable to a wide range of field activities, from short roadside stops to long, backcountry expeditions.

39. Introduction to Geohazards Assessment

<https://seg.org/courses/introduction-to-geohazards-assessment/>

Onwajae, Agatha, [1-day]

This course provides participants with knowledge on various aspects of geohazards for shallow water, and deepwater environments, as well as an introduction to onshore issues.

40. ▲ Lithium Exploration and Development for a New Energy Economy

<https://seg.org/courses/lithium-exploration-and-development-for-a-new-energy-economy/>

Dorey, Kathleen & Hayes, Brad, [1-day]

This course is designed to arm the geoscientist with entry to intermediate-level oil and gas experience with enhanced

geological/geophysical knowledge for lithium exploration and development within a given area.

41. ▲ Machine Learning on Images, Waveforms, and Time Series Data

<https://seg.org/courses/machine-learning-on-images-waveforms-and-time-series-data/>

Misra, Siddharth [1-day]

In this course, the participants get access to codes and workflows in Python, and they apply these pre-built software tools on the various types of datasets. It is a hands-on course that allows participants to learn by assembling various pre-built programming modules to design interesting implementations of machine learning.

42. ▲ Machine Learning Techniques for Engineering and Characterization

<https://seg.org/courses/machine-learning-techniques-for-engineering-and-characterization/>

Misra, Siddharth [2-day]

This course will present an overview of some common machine-learning techniques deployed in reservoir characterization. Emphasis will be on the use of supervised learning, clustering, and neural networks using Python and TensorFlow. Subsurface engineers and geoscientists will learn about the latest applications of machine learning and neural networks.

43. ▲ Magnetotellurics for Natural Resources: From Acquisition through Interpretation

<https://seg.org/courses/magnetotellurics-for-natural-resources-from-acquisition-through-interpretation/>

Christopherson, Karen [1-day]

This course will provide the interested geophysicist with the knowledge and skills necessary to design and manage cost-effective MT field programs and to understand data processing and interpretation issues.

44. ▲ Modern Seismic Reservoir Characterization

<https://seg.org/courses/modern-seismic-reservoir-characterization/>

Thomsen, Leon [2-day]

This course summarizes the state-of-the-art of seismic reservoir characterization, using anisotropic seismic rock physics.

45. ▲ Near-surface Interferometry

<https://seg.org/courses/near-surface-interferometry/>

Hanify, Sherif [1-day]

The course covers the basics and field practices of interferometry, super-virtual interferometry, and parsimonious interferometry for near-surface seismic applications.

▲ indicates availability as a recorded course

46. ▲ Passive surface wave methods using ambient noise: from basic 1D soundings to high-resolution 3D imaging

<https://seg.org/courses/passive-surface-wave-methods-using-ambient-noise-from-basic-1d-soundings-to-high-resolution-3d-imaging/>

Hayashi, Koichi [1-day]

This eight-hour short course will include presentations on passive surface wave theory, data acquisition, data processing, and applications.

47. Petroleum Systems of Deepwater Settings

<https://seg.org/courses/petroleum-systems-of-deepwater-settings/>

Weimer, Paul [2-day]

This course is designed to enhance interpretation skill sets with regard to geologic interpretation of seismic data.

48. ▲ Petrophysics and Geophysics Relevant to CO₂ Enhanced Oil Recovery

<https://seg.org/courses/petrophysics-and-geophysics-relevant-to-co2-enhanced-oil-recovery/>

Harbert, William [1-day]

In this SEG two-day course the basic physics relevant to CO₂ is presented, including the descriptions of gas, liquid, and supercritical phases (scCO₂).

49. ▲ Petrophysics and Geophysics Relevant to Hydrogen (H₂) Storage, Monitoring and Utilization

<https://seg.org/courses/petrophysics-and-geophysics-relevant-to-hydrogen-h2-storage-monitoring-and-utilization/>

Harbert, William [1-day]

In this SEG eight-hour course the basic physics and associated modeled petrophysics relevant to Hydrogen are presented, including the descriptions of the gas, liquid, and supercritical phases (scCO₂).

50. Planning and Operating a Land 3D Seismic Survey

<https://seg.org/courses/planning-and-operating-a-land-3d-seismic-survey/>

Eick, Peter & Crook, Andrea [2-day]

This course will teach individuals to plan and oversee a 3D land seismic survey. It will expose the learner to the practical aspects of 3D survey design and then provide the basics of planning and designing a survey.

51. ▲ Practical Applications of Time-Lapse Seismic Data

<https://seg.org/courses/practical-applications-of-time-lapse-seismic-data/>

Johnston, David [2-day]

4D seismic interpretation is inherently integrative, drawing upon geophysical, geological, and reservoir engineering data and concepts. As a result, this course is appropriate for individuals from all subsurface disciplines. The presentations

will focus on fundamental principles and applications, emphasizing case studies and minimizing mathematics.

52. ▲ Practical Machine Learning Methods in the Geosciences

<https://seg.org/courses/practical-machine-learning-methods-in-the-geosciences/>

Schuster, Gerald [1-day]

This course is for physical scientists who have heard about ML and might know some details but lack enough knowledge to assess ML applications in their specialty.

53. Practical Mathematics and its Applications in Seismic Processing

<https://seg.org/courses/practical-mathematics-and-its-applications-in-seismic-processing/>

Bancroft, John [2-day]

This course reviews mathematics from high school and university and then expands their concepts with practical examples to provide the fundamentals that are required for developing practical applications and algorithms in seismic processing.

54. Practical Seismic Surface Wave Methods

<https://seg.org/courses/practical-seismic-surface-wave-methods/>

Ivanov, Julian [2-day]

This short course builds an understanding of, and skill set with the method sufficient that participants can confidently incorporate the MASW method in their work.

55. Processing, Inversion and Reconstruction of Seismic Data

<https://seg.org/courses/processing-inversion-and-reconstruction-of-seismic-data/>

Sacchi, M. D [2-day]

This course covers practical aspects of signal theory and inverse problems with application to seismic data processing. In particular, the course stresses regularization methods for inverse problems that arise in the inversion of seismic data, noise elimination, and reconstruction of seismic surveys.

56. ▲ Python Programming for Subsurface Data Analysis

<https://seg.org/courses/python-programming-for-subsurface-data-analysis/>

Misra, Siddharth [15 hours]

The course will emphasize developing and implementing Python programming for various types of subsurface data.

57. Reservoir Geophysics: Applications

<https://seg.org/courses/reservoir-geophysics-applications/>

Abriel, William [2-day]

The objective of the course is to demonstrate how and why geophysics adds value in reservoir management using examples from multiple geological environments (deepwater turbidites, onshore fluvial, near-shore deltaics, carbonates).

▲ indicates availability as a recorded course

58. Rock physics, geomechanics, and hazard of fluid-induced seismicity

<https://seg.org/courses/rock-physics-geomechanics-and-hazard-of-fluid-induced-seismicity/>

Shapiro, Serge [2-day]

The course provides systematic quantitative rock-physical and geomechanical fundamentals of fluid-induced seismicity.

59. ▲ Rock Physics: Seismic Reflections of Rock Properties

<https://seg.org/courses/rock-physics-seismic-reflections-of-rock-properties/>

Dvorkin, Jack [2-day]

Participants will learn the uses of rock physics in interpreting the elastic properties of the earth, as sensed by seismic radiation, for lithology, fluid, and porosity determination.

60. Seismic Anisotropy: Basic Theory and Applications in Exploration and Reservoir Characterization

<https://seg.org/courses/seismic-anisotropy-basic-theory-and-applications-in-exploration-and-reservoir-characterization/>

Tsvankin, Ilya [2-day]

This course provides the necessary background information regarding anisotropic wave propagation and discusses modeling, inversion, and processing of seismic reflection data in the presence of anisotropy.

61. ▲ Seismic Attributes - from Interactive Interpretation to Machine Learning

<https://seg.org/courses/seismic-attributes-from-interactive-interpretation-to-machine-learning/>

Marfurt, Kurt [2-day]

In this course, we will gain an intuitive understanding of the kinds of seismic features that can be identified by 3D seismic attributes, the sensitivity of seismic attributes to seismic acquisition and processing, and how “independent” seismic attributes are coupled through geology.

62. Seismic Data Acquisition: Modern Land and Marine Technologies and Methods

<https://seg.org/courses/3d-seismic-data-acquisition-an-update-on-modern-technologies-and-usage-methodologies/>

Lansley, Malcolm [5-day]

This course begins with the fundamentals of data acquisition and 3D survey design and will continue with a discussion of how survey design and acquisition have changed progressively over the years to improve the quality and cost-effectiveness of our 3D surveys.

63. Seismic Diffraction - Modeling, Imaging and Applications

<https://seg.org/courses/seismic-diffraction-modeling-imaging-and-applications/>

Moser, Jan Tijmen [2-day]

This course will focus on the forward problem, extending from the discovery of the phenomenon of diffraction and the

basic formulations of Fresnel and Kirchhoff to the evolution of modern seismic diffraction modeling. Diffraction imaging will be covered from the early works in the 1970s up to the present state of the art. Case studies will be presented covering examples from seismic exploration and other areas of geoscientific interest.

64. Seismic Interpretation in-deep-water-basins

<https://seg.org/courses/seismic-interpretation-in-deep-water-basins/>

Fainstein, Roberto [2-day]

This course is based on the systematic, comparative interpretation of modern, long offset, regional seismic profiles with time and depth migration and several suites of selected 3D data in the deep-water realm from around the world.

65. Seismic Stratigraphy and Seismic Geomorphology into the 21st Century

<https://seg.org/courses/seismic-stratigraphy-and-seismic-geomorphology-into-the-21st-century/>

Posamentier, Henry [2-day]

This course is designed to enhance interpretation skill sets with regard to geologic interpretation of seismic data. Additionally, methods will be discussed for reducing risk with regard to prediction of lithology, reservoir compartmentalization, and stratigraphic trapping potential in exploration and production.

66. ▲ Seismic Uncertainty Evaluation (SUE)

<https://seg.org/courses/seismic-uncertainty-evaluation-sue/>

Agarwal, Mannish, [2-day]

The course covers the assessment, quantification, and qualification of the seismic uncertainties in a systematic and technical manner in order to arrive at a risking scorecard.

67. ▲ Structural Geology in Seismic Interpretation

<https://seg.org/courses/structural-geology-in-seismic-interpretation/>

Mitra, Shankar [2-day]

The course is designed for geophysicists working on seismic interpretation of complex structures, who need to understand the seismic expression of structures in petroleum basins, and correctly apply structural models and techniques to seismic interpretation.

68. Synthetic Seismograms - Construction and Use

<https://seg.org/courses/synthetic-seismograms-construction-and-use/>

Kumar, D. J. [4 hours]

In this course, we will focus on the uses of synthetic seismograms in seismic interpretation.

▲ indicates availability as a recorded course

69. ▲ The Dynamics of Energy Use

<https://seg.org/courses/the-dynamics-of-energy-use/>

Sineva, Diana [1-day]

This course is designed for in-person/in-class teaching but can be adjusted for hybrid delivery. There are four thematic modules. Participants are required to follow the course contents, do pre-course reading, and actively participate.

70. The Geology of Unconventional Reservoirs

<https://seg.org/courses/the-geology-of-unconventional-reservoirs/>

Hart, Bruce [2-day]

This 16-hour course will include a mix of lectures, short exercises, and discussion sessions. The content will be prepared to anticipate the likelihood that participants will have various levels of technical knowledge about petroleum geology.

71. ▲ The Interpreter's Guide to Depth Imaging

<https://seg.org/courses/the-interpreters-guide-to-depth-imaging/>

MacKay, Scott [2-day]

The course focuses on intuitive quality controls and quantitative spreadsheet tools to plan and ensure stable depth solutions during the iterative imaging process.

72. ▲ The new seismic interpretation: Integrating Relative Geologic Time, Structural Geology and 3D seismic for more effective stratigraphic exploration and development

<https://seg.org/courses/the-new-seismic-interpretation-integrating-relative-geologic-time-structural-geology-and-3d-seismic-for-more-effective-stratigraphic-exploration-and-development/>

Tobias, Steve [2-day]

This course starts with a review of two important new paradigms. The first builds on Wheeler's work to show why the "Relative Geologic Time" or RGT model takes integrated interpretation to the next level. The second shows how the classic "G&G" approach my many holds us back from true integration, where an "S&S" approach that allows structural geoscientists and stratigraphic scientists to decouple RGT geomodels into structural and stratigraphic workflows in a way that yields superior results.

73. The seismic wavelet: Its modeling, acquisition, processing, interpretation, and inversion (In marine, transition, and land environment)

<https://seg.org/courses/the-seismic-wavelet-its-modelling-acquisition-processing-interpretation-and-inversion-in-marine-transition-and-land-environment/>

Hassan, Ossan [2-day]

This course is designed at an introductory level to cover in some detail the theoretical background and the practical applications of digital signal analysis in seismic data processing.

74. Understanding and Adapting Rockphysics Principles for Mudrock (Shale) Reservoirs

<https://seg.org/courses/understanding-and-adapting-rockphysics-principles-for-mudrock-shale-reservoirs/>

Prasad, Manka [2-day]

This course is meant to introduce attendees to basic mud rock characteristics and explain their differences from conventional reservoir lithologies. Using those differences, the rock physics principles will be developed initially as empirical and descriptive methods. After establishing a sound understanding, we will identify the seismic and transport properties of mud rocks, using well logs in rock physics model development for mud rocks.

75. ▲ Understanding Seismic Anisotropy in Exploration and Exploitation

<https://seg.org/courses/understanding-seismic-anisotropy-in-exploration-and-exploitation/>

Thomsen, Leon [2-day]

This short course discusses the growing importance of the seismic anisotropy of rock masses in seismic acquisition, processing, and interpretation.

76. Understanding Signals: Waveform Analysis from a Geophysical Perspective

<https://seg.org/courses/understanding-signals-waveform-analysis-from-a-geophysical-perspective/>

Burianyk, Michael [2-day]

This course presents a simple and informal discussion of the fundamental concepts that underlie the quantitative part of geophysical analysis and interpretation.

▲ indicates availability as a recorded course