



## Computer-Based Subsurface Mapping - CSM

### COURSE

#### About the Course

For geoscientists, contour maps have long been one of the most common tools used to convey information. In the modern petroleum industry, contour maps are generally derived from grids created in interpretation software packages. Maps, or the grids themselves, are used to evaluate prospectivity, estimate prospect volumes, pick drilling locations, and are the inputs for basin models, and static reservoir models. Despite the importance of these maps and the underlying grids, there is often a poor understanding of how the grids are generated and what the implications may be for the final map. The underlying theme in this course is to think about what you are mapping. Common gridding algorithms and parameters are reviewed, with an emphasis on their strengths and weaknesses for different geological problems and input data sets. Participants are asked to generate a variety of maps from different input data types, seeing the impact that varying parameters can have on a single input data set. Participants will also utilize various methods of quality control, grid editing, and grid manipulation (operations).

#### Target Audience

Geoscience professionals and support staff who generate structure, isochore, and other subsurface maps using interpretation or mapping software.

#### You Will Learn

Participants will learn how to:

- Understand the impact of different algorithms on output maps
- Determine appropriate choice of algorithm and gridding parameters for different data types and geologic scenarios
- Create structure, thickness, and attribute grids using different techniques
- Quality control and edit grids and contours
- Use grid operations to manipulate existing grids and create new grids through simple and complex operations
- Generate Combined Risk Element Maps
- Generate detailed gross rock volume grids

#### Course Content

- Introduction to mapping

- Contouring review
- Coordinate system overview
- Gridding introduction
- Gridding algorithms overview
- Creating structure maps from well data
- Creating maps from seismic data
- Incorporating faults in structure maps
- Creating isochore/attribute maps from well data
- Grid quality control
- Grid editing
- Grid operations
- Creating and combining stoplight maps
- Volumetrics

## Product Details

Categories: [Upstream](#)

Disciplines: [Geology](#)

Levels: [Foundation](#)

Product Type: [Course](#)

Formats Available: [In-Classroom](#)

Instructors: [Timothy McMahon](#)