

Structural geological interpretation of reflection seismic
- COURSE SYLLABUS



1.	Course title: <i>Structural geological interpretation of reflection seismic</i>
2.	Lecturer: <i>Oscar Fernandez</i>
3.	Field, type and level of studies, year of study: <i>structural geology & geophysics, doctoral studies</i>
4.	Course character: <i>lecture and exercises</i>
5.	Teaching method: <i>in person</i>
6.	Language: <i>English</i>
7.	Course type and number of hours: <i>lectures 12 h</i>
8.	Estimated load of student's independent work: <i>12 h</i>
9.	Total workload and number of ECTS points: <i>24 h, 1 ECTS</i>
10.	Short description and main focus of the course: <i>Interpretation of reflection seismic data can be improved by applying structural geology criteria. This is of particular importance in settings of limited or poor data quality, as structural geology can provide crucial constraints on interpretation. In this course we review practical aspects of structural styles in different geodynamic contexts (passive margins, fold-and-thrust belts, transform margins), the implications of different deformation styles (thin-skinned, thick-skinned, salt tectonics, ...), and basic aspects of pre-interpretation data assessment. Lectures are accompanied by hands-on work on samples of industry-standard reflection seismic profiles. Students will be expected to actively engage in presenting results and discussing with colleagues.</i>
11.	References: <i>- Chapters 12&13 of Marshak & Mitra – Basic Methods of Structural Geology</i> <i>- Chapters 16-20 of Fossen – Structural Geology</i>

12.	Prerequisites: <i>Structural geology at undergraduate level</i>	
13.	Educational outcomes: <i>Knowledge: Students understand the difference between various geodynamic contexts and structural deformation styles and the implications for framing their structural interpretation.</i> <i>Practical Skills: Students are able to establish key criteria to validate the interpretation of a reflection seismic profile. Students can perform a basic assessment on the quality of the reflection seismic data.</i> <i>Social Skills: Students are able to defend their interpretation in front of the classroom and constructively contribute to improving the interpretations of their colleagues.</i>	PQF level 8 codes: P8S_WG P8S_UW P8S_KK
14.	Evaluation of the educational outcomes: <ul style="list-style-type: none"> - <i>Student presentations and discussions</i> - <i>Final exercise of seismic interpretation</i> 	
15.	Criteria to complete the course: <i>80% of course attendance, completion of all interpretation exercises (including final exercise), presentation of one interpretation to class</i>	
16.	Contact with the lecturer: <i>Via email: oscar.fernandez.bellon@univie.ac.at (Oscar Fernandez)</i>	