

**Title of module**

Modular Advanced Practical and Seminar  
in the Focal Point Programme  
"Molecular Medicine" VZ: 185780, 183781  
**"Redox Biology"**

**Credit points**

4

**Available in semester(s)**

1

**Hours per week**

5.25

**Compact course**



**Lecturer(s)**

L. Leichert and teaching assistants

**Teaching methods**

Two weeks advanced laboratory course with an integrated seminar, one of four lab courses to be completed in the first term

**Evaluation of learning progress**

Active participation in the laboratory tasks and seminar, feedback during the experiment

**Mode of examination**

Assessment of active and successful participation in the practical (50%) and a written project report (50%)

**Learning objectives**

Basics in experimental design, good laboratory practice, insights into protein redox biology, introduction to a variety of redox biology methods.

**Soft skills**

Team-work and collaboration, presentation skills, comprehension of original research papers, writing skills.

**Contents of module**

During this two-week course the student will be supervised by a graduate student or postdoc and will work on a small project related to our lab's research. These projects will include some or all of the following:

- Physiological stress experiments with *E. coli*.
- Cell culture of immune cell lines.
- Co-cultivation of immune cells and bacteria.
- Characterization of redox-active proteins with UV-VIS, CD, mass spectrometry, SDS PAGE, Western blot, HPLC.
- Molecular biology, rational mutagenesis of proteins.
- Protein purification.