

IMPRS SusMet Curriculum Overview

Welcome Days

Duration: 3 days

When: in the first half year of the PhD

- workshop on time and project management
- workshop on intercultural awareness
- introduction into good scientific practice
- get-together

Lectures

Duration: block lecture of 2 days followed by a written exam one week later

When: 2 lectures per year in year one and two of the PhD

Two basic lectures

- Basic materials-related aspects of sustainability
- Large-scale metallurgical processes

and six advanced lectures the doctoral students select 2 of

- Materials science topics of a hydrogen-based economy
- Sustainable primary synthesis of aluminum and iron: electrolysis, plasma and direct reduction
- The role of multi-scale modelling in metallurgical processes and materials sustainability
- Characterization techniques for materials: from atomistics to the meso-scale
- Elementary mechanics and damage processes
- Component life extension: corrosion, stress-corrosion, abrasion, tribology and fatigue

Retreat

Duration: 3 days

When: once a year, three retreats all in all

Workshop

Duration: 1 day

When: once a year

Lab-exchange

Duration: at least 2 weeks

When: once, recommended in year two of the PhD

Thesis Advisory Board (TAC) Meeting: once a year

Soft and professional skills workshops, German language courses on a regular basis, attendance voluntary