







Niedersächsisches Ministerium für Wissenschaft und Kultur

I+MC: Development and implementation of a modern mine closure course

A. Hutwalker, A. Binder, O. Langefeld

Windhoek, 12.09.2022





SOCIETY OF MINING PROFESSORS

32<sup>ND</sup> SOMP

ANNUAL MEETING AND CONFERENCE



















#### **Our mission for Mine Closure**



#### **Development of a Mine closure course for**

3 hpw / 3 CP (28+62)h workload

Master Mining Eng. 4<sup>th</sup> (& 2<sup>nd</sup>) semester

Summer term 2022



- Globally heterogenous legal situation
- Case-driven developments
- Highly influenced by project charecteristics

- **Skill-oriented** course
- Case-based teaching and learning activities and assessment
- Blended learning for focus on interactivity



















#### 1. Formulation of an Overall Intended Learning Outcome

After taking the course "Mine Closure", the student is able to plan a mine closure process on an advanced conceptual level by

identifying the influencing factors for a given case and

deducing and assessing relative risks for the whole process.

and also to plan a communication strategy on the closure plan for a specific target group by

performing a stakeholder assessment and

analyzing and incorporating its results.

The outcomes enable the learner to integrate closure aspects in mine planning of all stages and in various environments aiming for a sustainable mine practice.











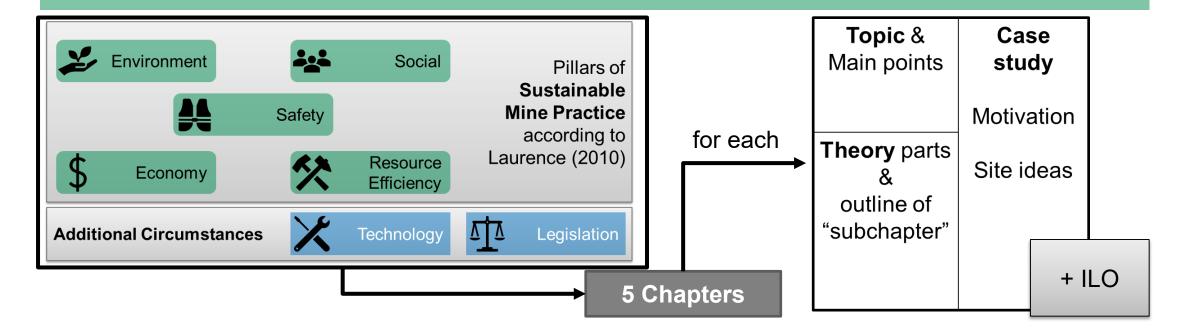








- 1. Formulation of an Overall Intended Learning Outcome (ILO)
- 2. Set topics, define sub-ILOs, workout outlines and cases



















- 1. Formulation of an Overall Intended Learning Outcome (ILO)
  - 2. Set topics, define sub-ILOs, workout outlines and cases
    - 3. Design a format & materials



















- 1. Formulation of an Overall Intended Learning Outcome (ILO)
  - 2. Set topics, define sub-ILOs, workout outlines and cases
    - 3. Design a format & materials
    - 4. Develop a evaluation concept











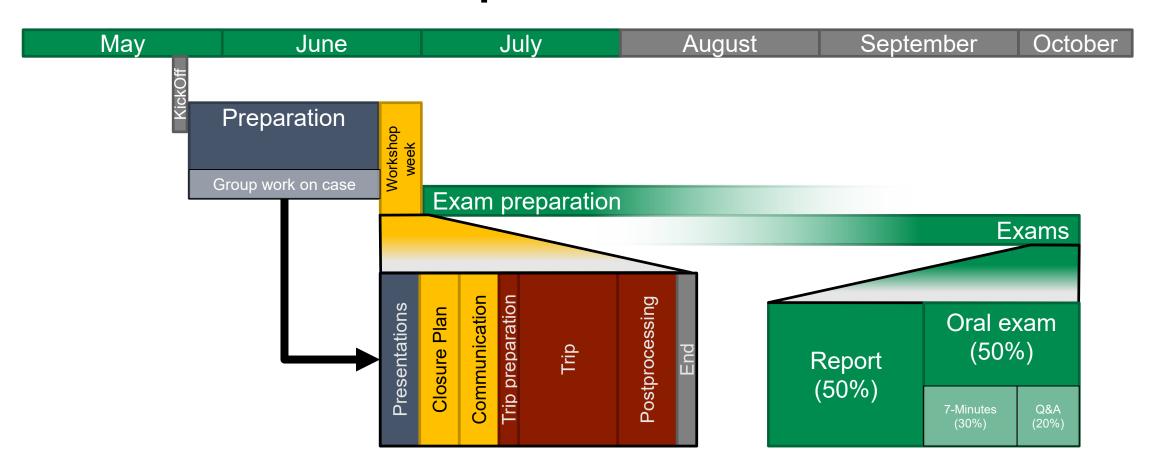








## General course concept











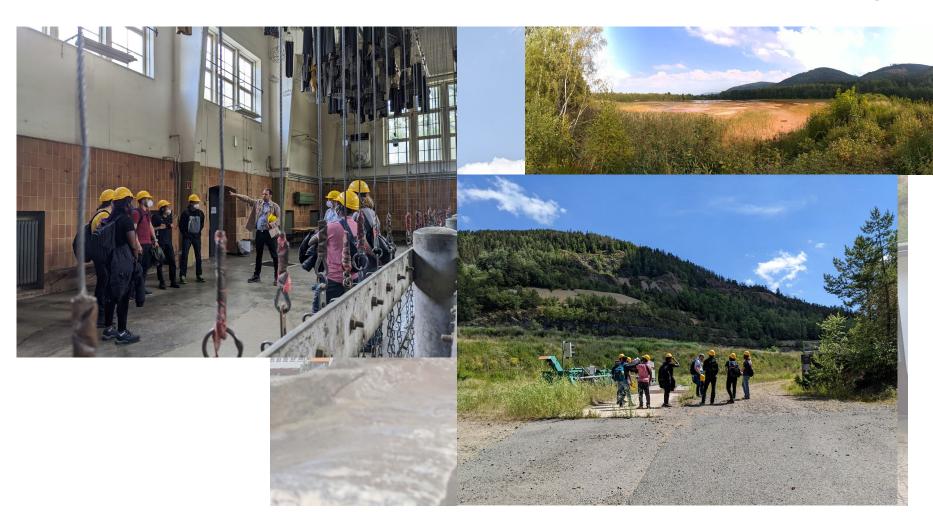








# Case in the workshop week: Rammelsberg mine













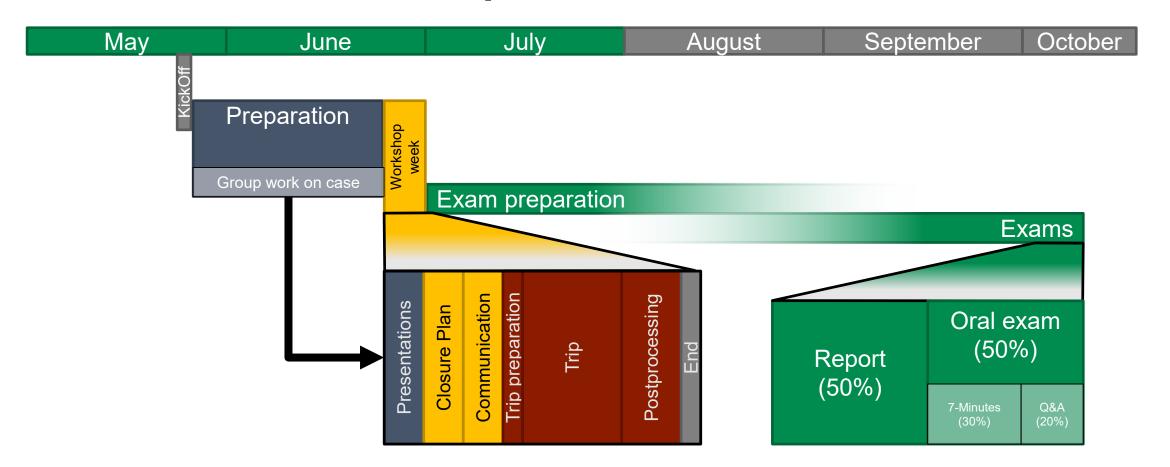








### General course concept













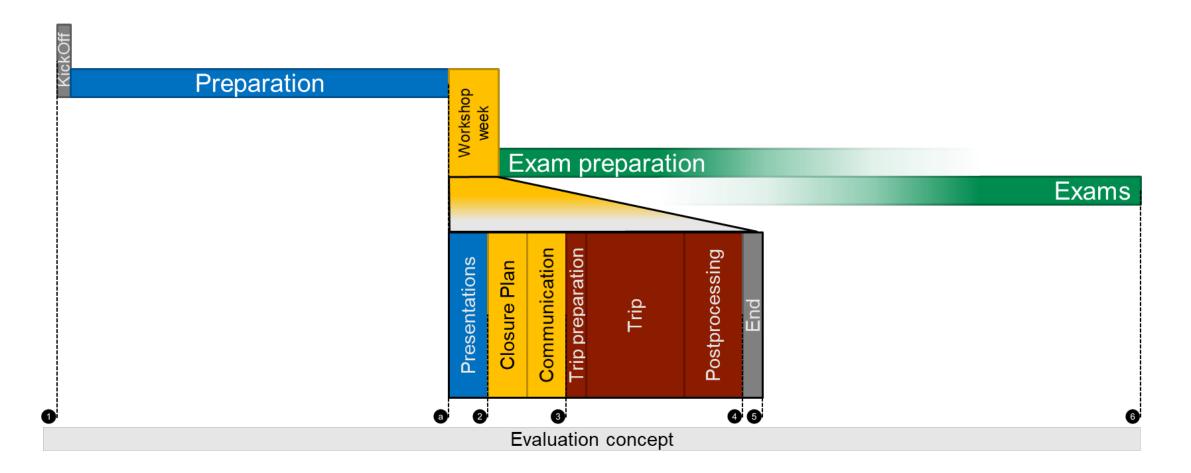








# **Evaluation concept and results**









#### **Conclusion & Outlook**



#### **Development of a Mine closure course for**

3 hpw / 3 CP (28+62)h workload

Master Mining Eng. 4<sup>th</sup> (& 2<sup>nd</sup>) semester

Summer term 2022





Final evaluation results

→ end of 2022

Course workover until April 2023

Open to share more ©



















# Glückauf!

Institute of Mining

Angela Binder

www.bergbau.tu-clausthal.de

angela.binder@tu-clausthal.de



SOCIETY OF MINING PROFESSORS

32<sup>ND</sup> SOMP

ANNUAL MEETING AND CONFERENCE