

## African Mineral Resources: the Science and Politics of Sustainable Extraction of Mineral Resources (I002408)

Due to Covid 19, the education and evaluation methods may vary from the information displayed in the schedules and course details. Any changes will be communicated on Ufora.

**Course size** *(nominal values; actual values may depend on programme)*  
**Credits** 5.0      **Study time** 150 h      **Contact hrs** 45.0 h

### Course offerings in academic year 2021-2022

A (semester 2)      English      Gent

### Lecturers in academic year 2021-2022

Musa, Manzi      UPPSAL01 lecturer-in-charge

### Offered in the following programmes in 2021-2022

	crdts	offering
<a href="#">International Master of Science in Sustainable and Innovative Natural Resource Management</a>	5	A

### Teaching languages

English

### Keywords

### Position of the course

### Contents

Future availability of minerals and expected demand trends with respect to economic development. Projections of global demand and supply of minerals and metals over the next century. The genesis of African ore bodies and great mineral fields with emphasis on stratigraphy, tectonics, site classification, depth, and other geoscientific and technical parameters. Deposits of resources such as chrome, copper, diamonds, gold, iron, manganese, platinum group elements, uranium, rare earth elements, and vanadium. Fossil fuels and energy minerals.

Geoscientific exploration of primarily Sub-Saharan deposits and suitable explorations strategies for currently under-explored regions within Africa. Economic geology and feasibility of exploitation. Current issues related to natural resource exploitation such as illegal mining, smuggling, mining rights, worker safety, and other socio-political issues. Development of mining policies and the connection between mining and economy and the globalized market in various countries. Environmental issues like waste rock management, tailings, acid mine drainage, air and water pollution, greenhouse gas emissions, and other local and global impacts from mining operations. The course will make extensive use of case histories.

### Initial competences

### Final competences

On completion of the course the student shall be able to:

- critically assess and describe Africa's major mineral provinces and resources, their properties and suitability for exploitation
- provide informed insight and proficient discussion around exploration and exploitation strategies for primarily Sub-Saharan resources
- account for management and awareness of social challenges of sustainable mining in Africa
- critically evaluate potential environmental hazards and suitable mitigation strategies

**Conditions for credit contract**

This course unit cannot be taken via a credit contract

**Conditions for exam contract**

This course unit cannot be taken via an exam contract

**Teaching methods****Extra information on the teaching methods**

Lectures, seminars, case-based learning and practical exercises

**Learning materials and price****References**

The Future Availability of Natural Resources: a new paradigm for global resource availability, World Economic Forum, 2014

The great mineral fields of Africa : Special issue for the 35 IGC, Cape Town, South Africa 27

August - 4 September 2016, Beijing: International Union of Geological Sciences, 2016

Geological Atlas of Africa : With Notes on Stratigraphy, Tectonics, Economic Geology,

Geohazards, Geosites and Geoscientific Education of Each Country

Berlin, Heidelberg: Springer-Verlag Berlin Heidelberg, 2008.

**Course content-related study coaching****Evaluation methods****Examination methods in case of periodic evaluation during the first examination period****Examination methods in case of periodic evaluation during the second examination period****Examination methods in case of permanent evaluation****Possibilities of retake in case of permanent evaluation**

not applicable

**Extra information on the examination methods**

Individual project report and oral presentation (2 hp), participation in group work and seminars

(1 hp), written examination (2 hp).

**Calculation of the examination mark**