

Society of Mining Professors 20th Annual General Meeting

27th June – 5th July, 2009

MINING ENGINEERING EDUCATION at INSTITUT TEKNOLOGI BANDUNG

Dr.-Ing. Aryo P. Wibowo, M.Eng.

Dr. Budi Sulistianto, MT.

Dept. of Mining Engineering

Faculty of Mining and Petroleum Engineering ITB

Background



- 1920 - 1959 → Technische Hochschule (TH)
→ Kogyo Daigaku
→ Technical Faculty of Universitas Indonesia
- 1959 - 2000 → Institut Teknologi Bandung as state University
- 2000 – now → Govern't Decree No. 155/2000 : ITB as a
Legal Enterprise (Badan Hukum Milik Negara).

ITB become autonomous, implies a freedom for the institution to manage its own business in an effective and efficient way, and to be fully responsible for the planning and implementation of all program and activity, and the quality control for the attainment of its institutional objectives. The institution has also freedom in deciding their measures and taking calculated risks in facing tight competition and intense pressures.



Background



Educational System

There are three kinds of academic programs at ITB, namely:

- Undergraduate Program
- Master's Program
- Doctoral Program

Background



MINING ENGINEERING

- 1949 → Mining Division at Fakulteit van Technische Wetenschappen
- 1953 → First graduate from the Department of Mining Engineering, Faculty of Engineering
- 1961 → Department of Mineral Technology is developed, consist of two divisions: Mining and Geology
- 1962 → Division of Petroleum is established and become member of the Department of Mineral Technology
- 1973 → Mining, Geology, and Petroleum moved to the Faculty of Industrial Engineering together with Mechanical, Electrical, Physical, and Chemical Engineering
- 1984 → Divisions of Mining, Geology, and Petroleum become Departments and clustered into new Faculty of Mineral Technology
- 1998 → The Faculty changed its name into Faculty of Earth Sciences and Mineral Technology. A new member is added, i.e. Geophysical Engineering
- 2006 → The name of the Faculty changed into the Faculty of Mining and Petroleum Engineering, consists of: Mining, Petroleum, Metallurgy, and Geophysical Engineering



Mining Education in Indonesia



CHARACTERISTICS

- Many Universities (≥ 20 state and private Universities); various degree (Bachelor, Master, Doctoral); various quality
- Large number of students
- Conventional education system: teaching-based
- Lack of field experience



Competencies according to ABET (1)

- the ability to apply mathematics through differential equations, calculus-based physics, general chemistry, and probability and statistics as applied to mining engineering problems applications;
- fundamental knowledge in the geological sciences including characterization of mineral deposits, physical geology, structural or engineering geology, and mineral and rock identification and properties;
- proficiency in statics, dynamics, strength of materials, fluid mechanics, thermodynamics, and electrical circuits;



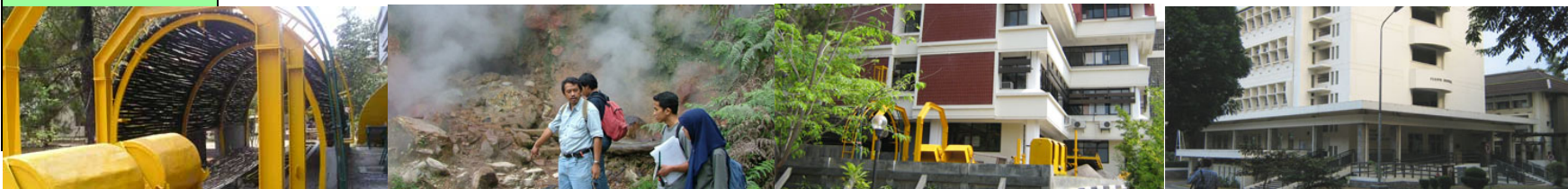
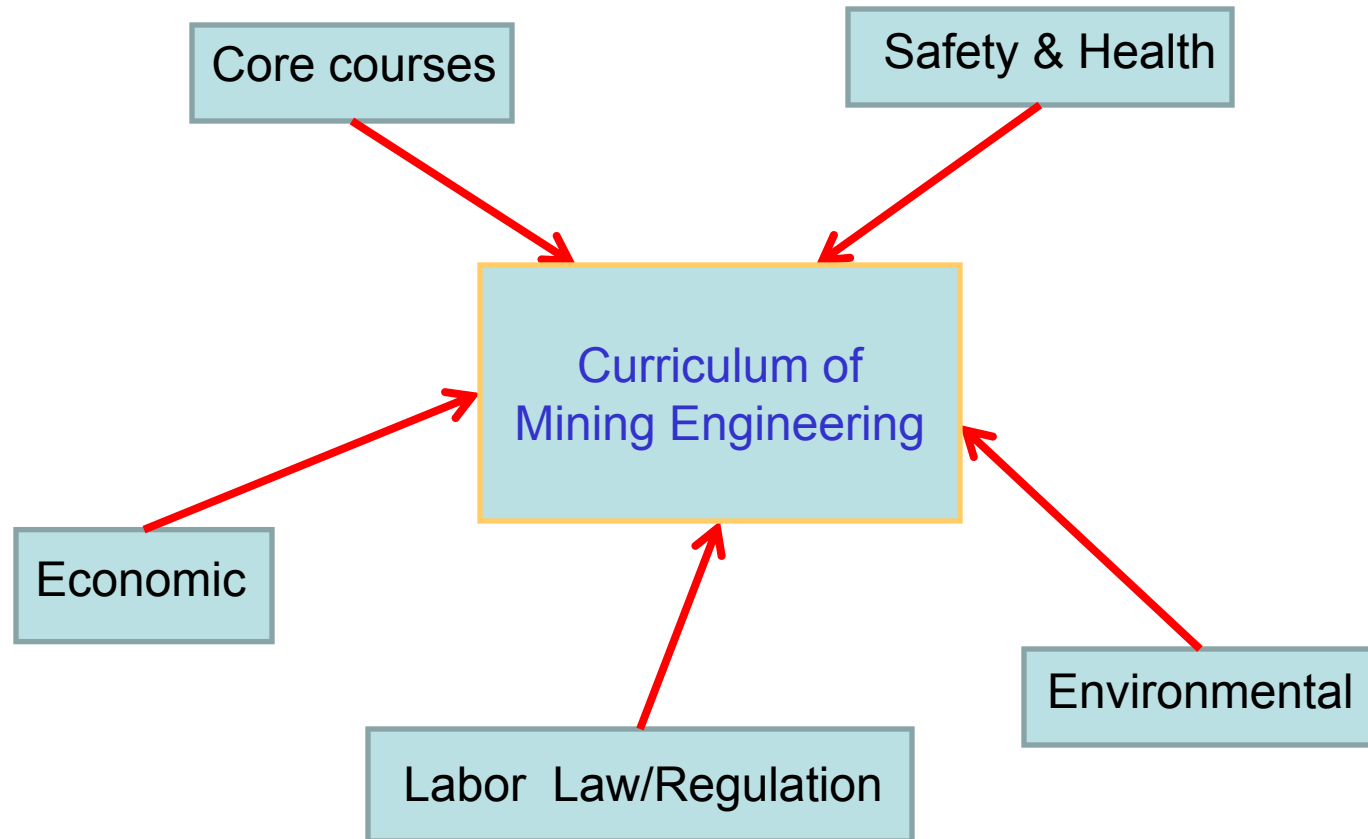
Competencies according to ABET (2)

- proficiency in engineering topics related to both surface and underground mining, including: mining methods, planning and design, ground control and rock mechanics, health and safety, environmental issues, and ventilation;
- proficiency in additional engineering topics such as rock fragmentation, materials handling, mineral or coal processing, mine surveying, and valuation and resource/reserve estimation as appropriate to the program objectives.



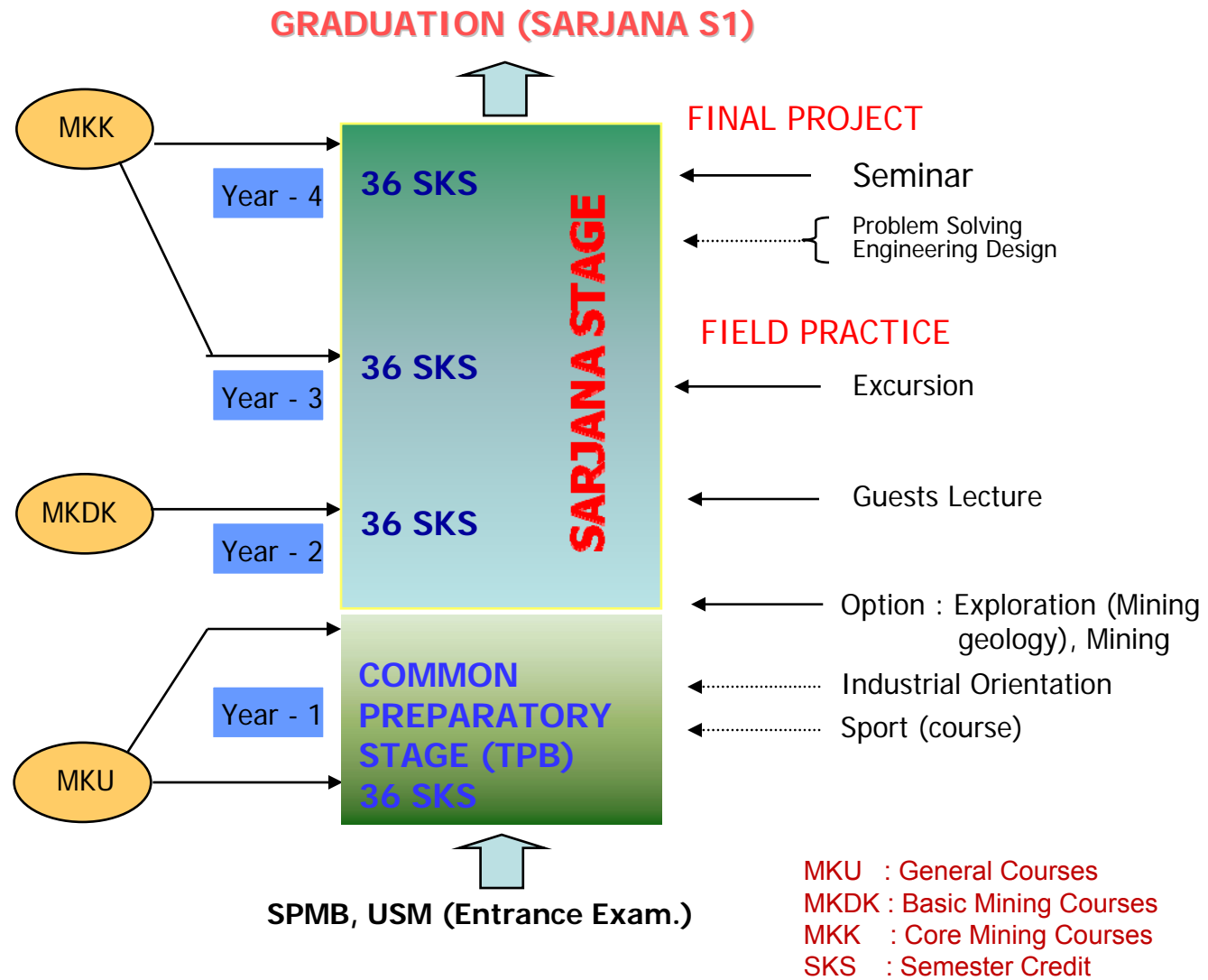
Mining Education at ITB

BODY OF CURRICULUM

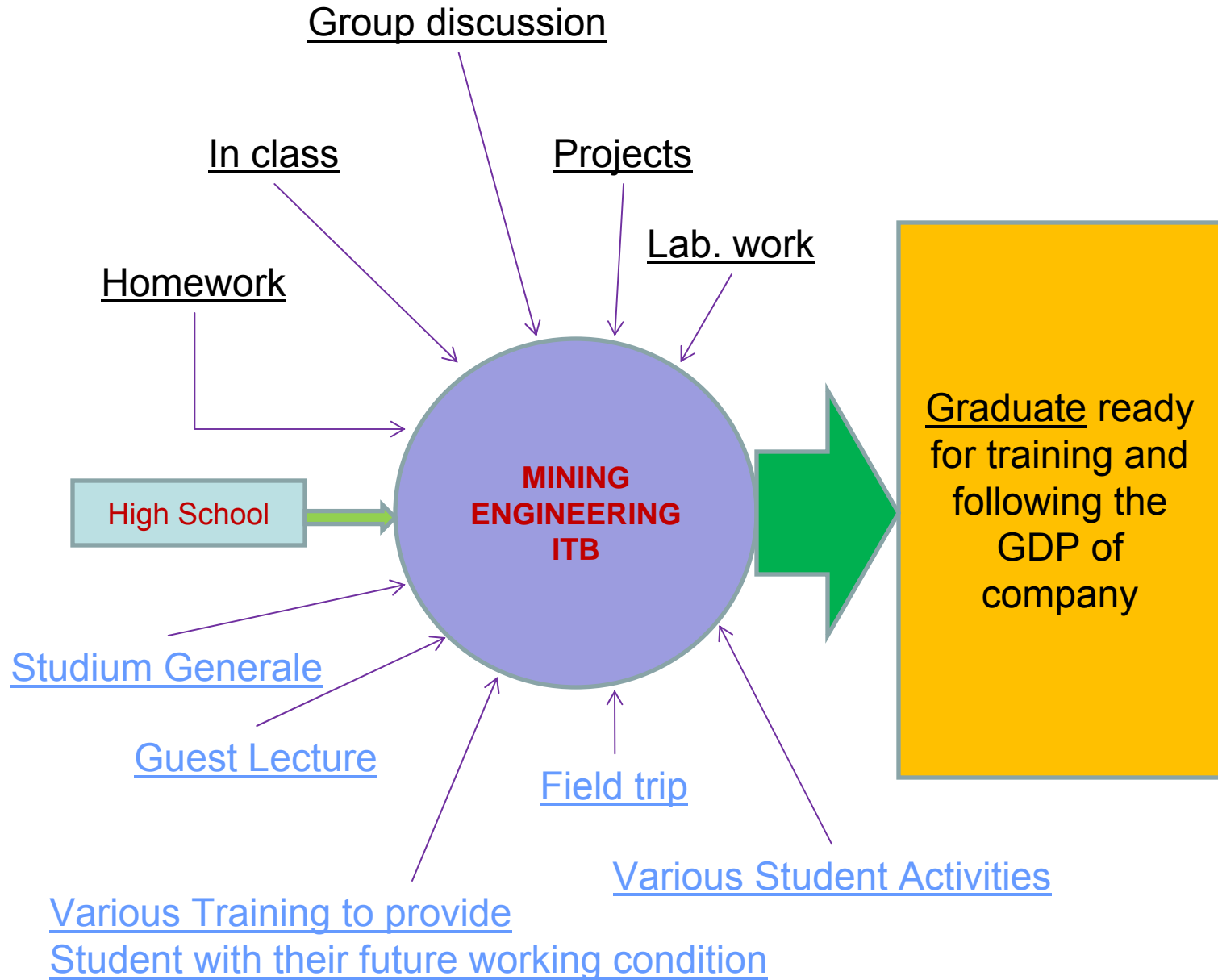


Mining Education at ITB

Curriculae S-1 Degree (Bachelor)



Learning Methods



Quality Improvement

- Student exchange program
 - sending final year student to UNSW (2006: 2 students, 2007: 3 students, 2009: 1 student)
- Bench marking program
 - some of core mining courses are bench marked with similar courses from reputable university (course content, textbooks, evaluation system)

Thank you

