Geodesy and Geomatics Engineering Curriculum at Institut Teknologi Bandung (ITB), Indonesia

POERBANDONO* | KOSASIH PRIJATNA | ANDRI HERNANDI
*poerbandono@gd.itb.ac.id
www.gd.itb.ac.id

Brief of history

‘Geodesy’ at Institut Teknologi Bandung (ITB)

1920  Technische Hoogeschool (TH) Bandoeng

1950  Geodesy Section is separated from Civil Section, consecutively becoming Geodetic Engineering under the Faculty of Civil Engineering and Planning

2006  Reorganized under the Faculty of Earth Sciences and Technology: Geodesy and Geomatics Engineering Study Program
Programs offered

**Undergraduate**
- Regular: 8 semesters (bachelor degree)
- Fastrack: 10 semesters (bachelor and master degree)

**Graduate**
- Profession: 2 semesters
  - Hydrographic Surveyor Profession Education Program (being reviewed by FIG/IHO/ICA IBSC for recognition at the Category A level)
- Master Degree: 4 semesters
  - Master of Engineering
  - Master of Land Administration
- Doctor Degree: 6 semesters

Purpose of this presentation

To display present state of curricula design for the undergraduate program

Transformation of paradigm, i.e. recent from previous version of curriculum
- from resource-based to outcome-based
- from solution domain learning to problem domain learning
What we are now facing...

**Size of student body**
- Undergraduate: 351
- Master: 54
- Doctor: 18

**Staff growth**
Existing 42 (26 PhD), decrease by 30% within next 5 years

**Demand in the industrial and governmental spheres**

**Regional issue**
- AFTA 2015
- Standardization through accreditation and recognition

Strateg

**Resources optimization**
- Size of student body
- Staff growth

**Intensify students’ team work and exposure**
- Demand in the industrial and governmental spheres

**Activating regional scheme**

**Industrial affiliation**
- Community center, e.g. ESRI-ITB
Present curricula content: Composition

Total credit: 144

Aspects
- Engineering and science: 104
- Soft skill and humanity: 14
- Management, legal, and environment: 8
- Industrial contexts and problem domain: 12
- Undergraduate thesis: 6

XXV International Federation of Surveyors
Congress, Kuala Lumpur, Malaysia, 16 – 21 June 2014

Present curricula content: Learning ‘adds-on’

Team work and exposure
- 2nd year, geospatial expedition
- 3rd year, field camp
- 4th year, industrial internship
- South East Asian Networking Initiative in Geoinformation and Ocean Science (SEA I GO)
- Twinning program (presently with Chulalongkorn University, Bangkok-Thailand)

XXV International Federation of Surveyors
Congress, Kuala Lumpur, Malaysia, 16 – 21 June 2014
Outlook

Graduate program: Way forward

**Profession, i.e. Hydrographic Education:**
Under review by FIG/IHO/ICA IBSC

**Master level, i.e. Master of Engineering:**
Being prepared for ASIIN accreditation

---

XXV International Federation of Surveyors
Congress, Kuala Lumpur, Malaysia, 16 – 21
June 2014

Terima kasih (Thank you)