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

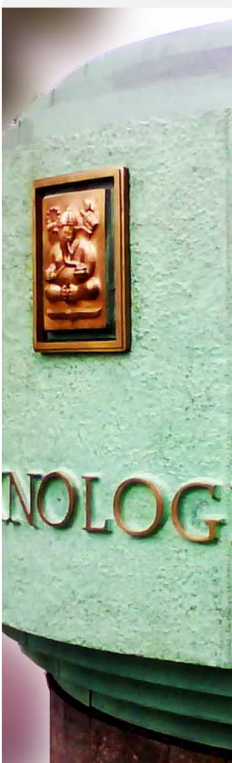
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## Brief of history

### '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



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## 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**

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## 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

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# 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

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# Strategy



## 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

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## 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   |

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## Present curricula content: Learning 'adds-on'

### Team work and exposure

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

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# 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

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# Terima kasih (Thank you)



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