Indonesian Accreditation Board for Engineering Education (IABEE)

At a glance

INTERNATIONAL CONFERENCE

OUTCOME-BASED
INTERNAL QUALITY ASSURANCE (IQA) SYSTEM

8-9 August 2018, Pekanbaru-Riau, Indonesia
Higher Education Act No. 12/2012

- Shifting the role of National Accreditation Agency of Higher Education (BAN-PT) from Program accreditation to HE Institution accreditation.

- Independent accreditation bodies (LAM-PS) shall be established for each education field, by community or government, for conducting study program accreditation.
Current Accreditation of Engineering Programs by BAN PT

- 2,500 Bachelor engineering programs
- 222 (9 %) engineering programs ranked A
  - 139 programs from 24 public universities
  - 83 programs from 19 private universities
- 5 years accreditation validity
An accreditation agency for engineering higher education program

IABEE is not a LAM-PS. IABEE accreditation is voluntary, unlike the mandatory accreditation by LAM-PS

A means to improve quality of engineering higher education and accountability to the society by implementing OBE

Currently in the process of applying for the provisional status of the Washington Accord (WA) in 2019

WA is a multilateral agreement between the institutions responsible for engineering higher education accreditation that works together to help the mobility of engineering practitioners
WA requires that the accrediting body be independent of the government (NGO)

Therefore, IABEE is established as an autonomous department within the Institution of Engineers Indonesia (PII)

IABEE was initiated by DGHE with the support from JICA

Declared in November 19, 2015; inaugurated in March 13, 2018
Importance of IABEE Accreditation

- **For students and graduates**
  Gain education basics that meet global standards, in line with science and technology development, support career and professional success, and wider employment opportunities.

- **For programs and education institutions**
  By voluntary nature, programs demonstrate a commitment to provide quality education and global recognition.

- **For industry, government and stakeholders**
  Opportunity to provide feedback on employment needs, facilitate professional mobility, more accountable to the community.
JICA Project for IABEE

ODA (Official Development Assistance)

- The Indonesian Government requested the Japanese Government to assist Indonesia to establish an international level accreditation body for engineering education in 2013
- Signing cooperation between DGHE with JICA in 2014
- JICA (Japan International Cooperation Agency) made a contract with JABEE to prepare and implement a 5-year technical cooperation project (2014-2019)
Scope of Project

- Development of accreditation criteria
- Training IABEE key personnel in different countries (evaluator trainers training)
- Development of program evaluation procedure and instruments
- Training evaluators in Indonesia (250 evaluators)
- Socialization to education institutions
- Pilot accreditations
- 25 programs accreditation by 2019
- Provisional status in WA in 2019
Project Overall Goals

3-5 years after project completion

- Engineering education in Indonesia will be shifted from input-based teaching to outcome-based learning
- 10% of 2,500 S1 programs will be accredited at international level
- Signatory status of the Washington Accord
IABEE Organization

- Board of PII
  - Auditors
  - Executive Committee
    - Appeal Board
    - Accreditation Council
      - Criteria Committee
      - Eval / Accreditation Committee
      - Finance Committee
      - Public Affairs Committee
      - International Affairs Committee
        - Sub-committee for Washington Accord
        - Sub-committee for Seoul Accord
    - Secretariat

International Conference on Outcome-based Internal Quality Assurance System, Riau, 8-9 August 2018
IABEE Accreditation Principles

- Voluntary, *internally driven* (program attitude towards quality); and therefore accreditation is not the purpose, rather a means for improvement.

- Accreditation is based on *Learning Outcomes*, which is self-determined by the program according to the vision, identity and uniqueness, resources, and user needs; and therefore accreditation is not to rank nor to compare among programs.

- International *equivalency* (*IEA graduate attributes*)

- *Third-party* evaluation (independent, autonomous, NGO)

- *Accountable* to society (*outcome-based*, answering the need of stakeholders)
# Engineering Program Accreditation

<table>
<thead>
<tr>
<th>BAN PT</th>
<th>IABEE</th>
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</thead>
<tbody>
<tr>
<td>• Compulsory</td>
<td>• Voluntary</td>
</tr>
<tr>
<td>• Input-based evaluation</td>
<td>• Outcome-based</td>
</tr>
<tr>
<td>• One size fits all criteria</td>
<td>• Field specific criteria</td>
</tr>
<tr>
<td>• Ranking system</td>
<td>• No ranking</td>
</tr>
<tr>
<td>• National level</td>
<td>• International level</td>
</tr>
<tr>
<td></td>
<td>• Continual improvement</td>
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</table>
IABEE Accreditation Criteria

To be accredited, a program shall meet

- Accreditation Criteria
  - Common Criteria
  - Criteria Guide (13/19 Chapters of PII)
  - Discipline Criteria
  - Category Criteria (S1, S2 and S3)

- Rule and Procedure of Evaluation and Accreditation
IABEE Common Criteria

• Orientation of Graduate Competence
  • 3 elements

• Education Improvement
  • 2 elements

• Education Methods
  • 5 elements

• Achievement of Learning Outcomes
  • 2 elements

PLAN

DO

ACT

CHECK
Discipline Criteria for Industrial and Similarly Named Engineering Programs

Leading society:
- Badan Kerja Sama Penyelenggara Pendidikan Tinggi Teknik Industri Indonesia (BKSTI)
- Badan Kejuruan Teknik Industri, Persatuan Insinyur Indonesia (BKTI, PI)

Curriculum
The program shall prepare graduates to be proficient in design, improve, and implement integrated systems that include people, materials, equipment, energy and information. To meet these needs, the curriculum must provide adequate knowledge about the application of mathematics, statistics and probabilistic theory as well as analysis and design engineering as well as knowledge with regard to social sciences. The education programs should ensure the provision of an integrated system design experiences to students. The curriculum must include in depth instruction to accomplish the integration of systems using appropriate analytical, computational and experimental practices.

Faculty Members
Faculty members must understand the professional practice and maintain currency in their respective professional areas. Faculty members must be responsible and able to make the definition, evaluation, implementation and improvement on the achievement of learning outcomes in the framework of an continuous improvement of the study program.

Discipline Criteria for Materials, (Metallurgical) Engineering and Similarly Names

Leading society:
- BK Material PI

These program criteria apply to engineering programs including "materials," "metallurgical," "ceramics," "glass", and "composites", in their respective areas.
Accreditation Category

- **General Accreditation**, intended for programs that have implemented outcome-based education system and at the time of the evaluation process has produced graduates with the system
  - *A-accredited program; min B-accredited institution*

- **Provisional Accreditation**, intended for programs that have implemented outcome-based education system and at least the first year students have completed learning with the system.
  - *Min B-accredited program and institution*
Accreditation Procedure

Application/Registration → Eligibility Check → Program Profile & SER Submission → Desk/Initial Review

Program Profile & SER Submission → Desk/Initial Review

Evaluator Final Report → Program Response → Evaluator Exit Statement → Campus Visit

Evaluator Exit Statement → Evaluation Team

Discipline Harmonization → EAC Harmonization → Accreditation Council

Accreditation Council → DECISION
# Online Evaluation System

<table>
<thead>
<tr>
<th>Program / Institution</th>
<th>IABEE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.</strong> Online registration</td>
<td><strong>2.</strong> Program eligibility verification; issuance of P-SER preparation notice, invoice, &amp; P-SER online access code</td>
</tr>
<tr>
<td><strong>4.</strong> Payment of evaluation fees</td>
<td><strong>3.</strong> Formation of EAC Evaluation Team</td>
</tr>
<tr>
<td><strong>5.</strong> Program Self-Eval Report preparation &amp; submission</td>
<td><strong>6.</strong> P-SER examination &amp; initial assessment</td>
</tr>
<tr>
<td><strong>7.</strong> 1st response from Program (additional information / data)</td>
<td><strong>8.</strong> On Site Review: detailed plan, execution, Exit Meeting, Draft Statement</td>
</tr>
<tr>
<td><strong>9.</strong> 2nd response from Program (7-day response to factual errors &amp; omissions)</td>
<td><strong>10.</strong> Program Evaluation interim Report notice of start of 30-day Evaluation Process Response period</td>
</tr>
<tr>
<td><strong>11.</strong> 3rd response from Program (30-day Evaluation Process Response)</td>
<td><strong>12.</strong> Program Evaluation Final Report Draft</td>
</tr>
<tr>
<td><strong>17.</strong> RECEIPT OF FINAL DECISION</td>
<td><strong>13.</strong> EAC Working Group Harmonization</td>
</tr>
<tr>
<td></td>
<td><strong>14.</strong> EAC Interdisciplinary Harmonization</td>
</tr>
<tr>
<td></td>
<td><strong>15.</strong> Final Decision formulation by Accreditation Commission</td>
</tr>
<tr>
<td></td>
<td><strong>16.</strong> Program Evaluation Final Report by EAC ET</td>
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International Conference on Outcome-based Internal Quality Assurance System, Riau, 8-9 August 2018
Evaluation Team

- Consists of 3 evaluators, typically
  - 2 academics
  - 1 industry/practitioner
  - (optional) observers: evaluator-in-training, interested parties

- Evaluator competence
- Ethics (evaluator code of conduct)
- Conflict of interest
General Accreditation Decision

- Accredited for a 5-year period
- Accredited for a 3-year period, followed by interim evaluation without site visit
- Accredited for a 3-year period, followed by interim evaluation with site visits
- Not accredited
IABEE Key Personnel International Training

- 44 experts at 3 training at JABEE
- 14 experts at 6 training at ABET
- 5 experts to CAST’s on-site evaluation
- 3 experts to EA’s on-site evaluation
- Observer at 4 pilot accreditations with JABEE

- More than 20 socialization seminars on WA, IABEE, and OBE to universities
Candidate Evaluator Training

1. Application
2. Eligibility Check
3. Online Module Training
4. Performance Evaluation
5. Face-to-Face Training
6. Performance Evaluation
7. Assignment as Observer
8. Performance Evaluation

Evaluator Appointment
## Progress of IABEE

<table>
<thead>
<tr>
<th>Year</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>Establish Steering and Criteria Committees</td>
</tr>
</tbody>
</table>
| 2014 | • Develop Accreditation Criteria  
      | • Disseminate OBE, IABEE and WA to universities (> 20) |
| 2015 | • Establish technical committees: EAC, International and Public Affairs, Finance, Accreditation Council  
      | • Conduct international training of key personnel (66) |
| 2016 | • Develop Rule and Procedure of Accreditation  
      | • Develop Web and Online Evaluation System;  
      | • Conduct program accreditation (2 programs GA)  
      | • Develop Evaluator Training Materials |
## Progress of IABEE ...

<table>
<thead>
<tr>
<th>Year</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>• Conduct program accreditation  &lt;br&gt; ➢ 3 programs GA  &lt;br&gt; ➢ 6 programs PA  &lt;br&gt; • Conduct Evaluator Training (11 participants)</td>
</tr>
<tr>
<td>2018</td>
<td>• Conduct program accreditation  &lt;br&gt; ➢ 27 programs GA  &lt;br&gt; ➢ 22 programs PA  &lt;br&gt; • Conduct Evaluator Training (59 participants)  &lt;br&gt; • Prepare proposal for WA membership</td>
</tr>
<tr>
<td>2019</td>
<td>• Apply for Provisional Membership of WA  &lt;br&gt; • Conduct accreditation and Evaluator Training</td>
</tr>
</tbody>
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IABEE Accredited Programs

<table>
<thead>
<tr>
<th>Institution</th>
<th>Study Program</th>
<th>Discipline</th>
<th>Status</th>
<th>Valid Until</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institut Pertanian Bogor</td>
<td>Teknik Mesin dan Biokimia</td>
<td>Agricultural Engineering</td>
<td>Accredited</td>
<td>2023</td>
<td>VIEW</td>
</tr>
<tr>
<td>Institut Teknologi Sepuluh November</td>
<td>Teknik Kelautan</td>
<td>Ocean Engineering</td>
<td>Provisional</td>
<td>-</td>
<td>VIEW</td>
</tr>
<tr>
<td>Telkom University</td>
<td>Teknik Telekomunikasi</td>
<td>Electrical, Computer, Communications, Telecommunication Engineering</td>
<td>Provisional</td>
<td>-</td>
<td>VIEW</td>
</tr>
<tr>
<td>Telkom University</td>
<td>Teknik Industri</td>
<td>Industrial Engineering</td>
<td>Provisional</td>
<td>-</td>
<td>VIEW</td>
</tr>
<tr>
<td>Universitas Indonesia</td>
<td>Teknologi Bioproses</td>
<td>Chemical Engineering</td>
<td>Accredited</td>
<td>2024</td>
<td>VIEW</td>
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<tr>
<td>Universitas Indonesia</td>
<td>Teknik Kimia</td>
<td>Chemical Engineering</td>
<td>Accredited</td>
<td>2023</td>
<td>VIEW</td>
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<tr>
<td>Universitas Islam Indonesia</td>
<td>Teknik Sipil</td>
<td>Civil Engineering</td>
<td>Accredited</td>
<td>2023</td>
<td>VIEW</td>
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<tr>
<td>Universitas Islam Indonesia</td>
<td>Teknik Lingkungan</td>
<td>Environmental Engineering</td>
<td>Accredited</td>
<td>2023</td>
<td>VIEW</td>
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<td>Provisional</td>
<td>-</td>
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<td>Universitas Surabaya</td>
<td>Teknik Elektro</td>
<td>Electrical, Computer, Communications, Telecommunication Engineering</td>
<td>Provisional</td>
<td>-</td>
<td>VIEW</td>
</tr>
</tbody>
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IABEE Website

Gambar: Website IABEE

Caption: Website IABEE menunjukkan informasi mengenai akreditasi, pelatihan, dan sosialisasi terkait keakraban dan kualifikasi profesi. Website ini dibuat oleh Indonesian Accreditation Board for Engineering Education (IABEE) untuk memfasilitasi program studi yang memenuhi standar kualitas profesi.

THANK YOU