IABEE

International-level accreditation for engineering and computing programs

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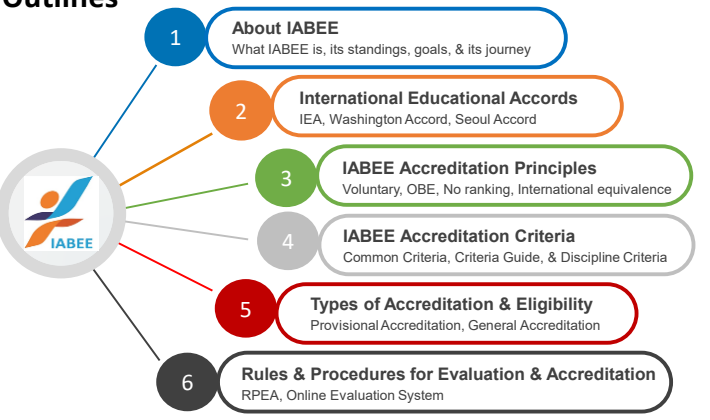
Outlines

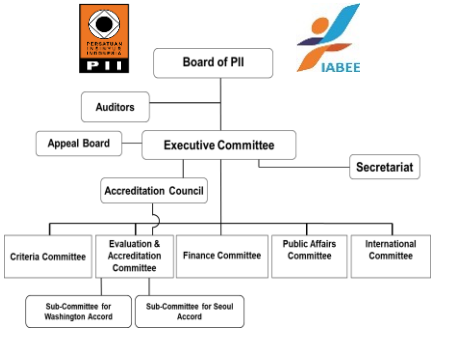


About IABEE

- IABEE is **an accreditation agency** for engineering and computing higher education **programs** in Indonesia
- IABEE accreditation is an **international-level** accreditation and is **voluntary**, unlike the mandatory accreditation by BAN-PT/LAM-PS
- IABEE accreditation is a means to improve **quality** of higher education and **accountability** to the society by implementing **Outcome-based Education**
- **Accreditation Criteria** developed by IABEE follow **substantial equivalency** requirements setup by the **Washington Accord** (for engineering programs) and the **Seoul Accord** (for computing programs)
- **The Accords** are multilateral agreements **between institutions** responsible for higher education **program accreditation** that work together to help the mobility of engineering/computing practitioners

About IABEE

- The Accords require that the **accrediting body is independent from the government** (NGO), therefore IABEE is established as an autonomous department within the Institution of Engineers Indonesia (PII)
- Accepted as **Signatory** to *Washington Accord* (WA) in July 2022.



International Educational Accords

International Educational Accords

"How do we build mutual understanding among nations about the quality of engineers who enter the globally connected workplace?" George Peterson, WA Secretariat 2001-2007

International Engineering Alliance (IEA)

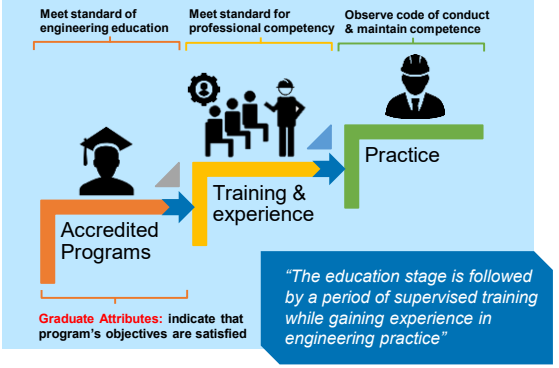
http://www.ieagreements.org/

IEA is an umbrella organization for 7 international agreements, which establish and enforce amongst their members internationally-benchmarked standards for **engineering education** and what is termed **"entry level" competence to practice engineering**

Educational Accords			Competence Recognition/Mobility Agreements			
Washington Accord	Sydney Accord	Dublin Accord	International Professional Engineers Agreement	International Engineering Technologists Agreement	Agreement for International Engineering Technicians	APEC Engineers
Professional Engineers	Engineering Technologists	Engineering Technicians	Professional Engineers	Engineering Technologists	Engineering Technicians	Professional Engineers (APEC Region)

International Educational Accords

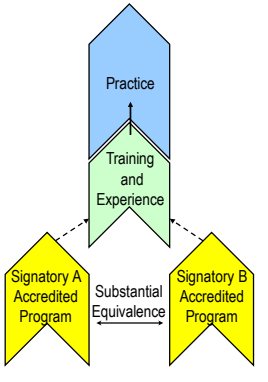
Education and Training in the Formation of a Practicing Engineer



Process to be a professional engineer: Japan's case

Substantial Equivalence and WA

means that two programs, while not meeting a single set of accreditation criteria, are both ***acceptable*** as preparing their respective graduates to enter formative development toward registration.



Washington Accord Membership

Founding Members:
- ABET (USA)
- Engineers Canada
- ECUK (UK)
- EA (Australia),
- EngIRE (Ireland)
- IPENZ (New Zealand)

Founded in 1989 by 6 founding members, currently has 23 signatory members and 6 provisional signatory members

The Seoul Accord

Accord for Computing & IT related programs

- Computing and IT related fields are classified as a different category of profession from engineering.
- Established in 2008 as a multi-lateral agreement among agencies responsible for accreditation or recognition of tertiary-level computing and IT-related qualifications.
- Founding members: ABEEK (Korea), ABET (USA), JABEE (Japan), Australian Computer Society, British Computer Society and Canadian Information Processing Society. The first 3 are signatories of the WA and the last 3 are computer societies.
- HKIE (Hong Kong) and IEET (Taiwan), which are both signatories of WA, joined the Seoul Accord in 2009, and CONAIC (Mexico) in 2021. Engineers Ireland, Institute of IT Professional New Zealand, The Philippine Information and Computing Accreditation Board, PII-IABEE, CSSL Sri Lanka, MBOT Malaysia are provisional members.

Principles of IABEE Accreditation

- ✓ 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)

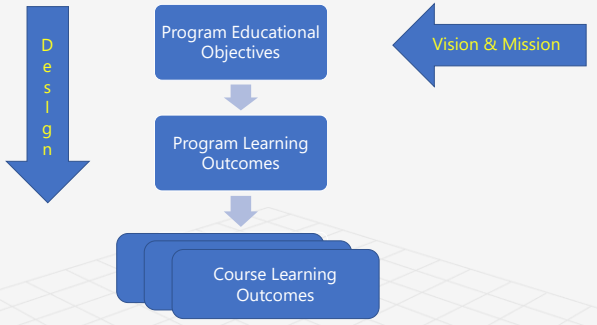
The Significance of IABEE Accreditation

- ❑ **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.

OBE as A Platform for International-Level Accreditation

- An educational philosophy/model where the teaching and learning approaches are based on a set of "**expected outcomes**" that have been previously set
- "**Outcomes**" are a set of values or attributes about what must be achieved/mastered by students after completing a certain level of learning
- Outcomes include aspects of **knowledge**, **skills**, and **attitudes/values**

OBE Model



OBE Principles

- *Focus on learning outcomes*
- *Deliver forward-design backward curriculum*
- *Constructive alignment*
- *Expanded learning opportunities*
- *Continual Quality Improvement*

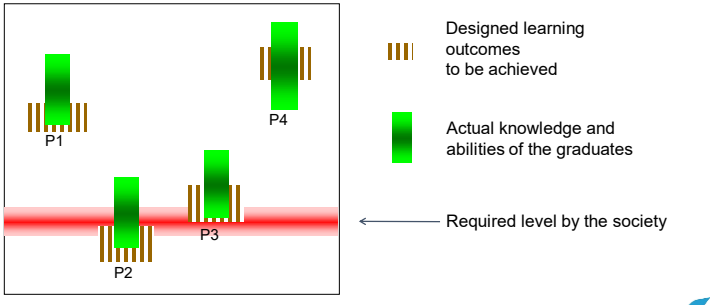
The Graduate Attributes

- Graduate attributes form a set of individually **assessable outcomes** that are the components indicative of the graduate's potential to acquire competence to practice at the appropriate level
- Graduate attributes are clear, succinct statements of the expected capability, qualified if necessary by a range indication appropriate to the type of program
- The Graduate Attributes provide a point of reference for Accord's Signatories to develop outcomes-based **Accreditation Criteria** of a **substantially equivalent qualification** for use by their respective jurisdictions

Elements of Graduate Attribute Profile for the Washington Accord and Seoul Accord

1. Engineering Knowledge	1. Academic Education
2. Problem Analysis	2. Knowledge for Solving Computing Problems
3. Design/development of Solutions	3. Problem Analysis
4. Investigation	4. Design/Development of Solutions
5. Modern Tool Usage	5. Modern Tool Usage
6. The Engineer and Society	6. Individual & Team Work
7. Environment and Sustainability	7. Communication
8. Ethics	8. Computing Professionalism and Society
9. Individual and Team Work	9. Ethics
10. Communication	10. Life-long Learning
11. Project Management and Finance	
12. Life-long Learning	

Concept of OBE Accreditation



IABEE Accreditation Criteria

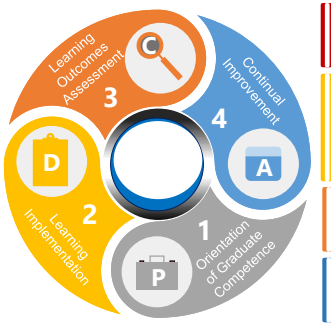
To be accredited, a program shall meet

- ❑ Accreditation Criteria
  - Common Criteria
  - Criteria Guide
  - Discipline Criteria (Chapters of PII)
- ❑ Rule and Procedure of Evaluation and Accreditation

The Central Role of Criteria in IABEE Accreditation

- ❑ As a reference for Program to conduct self-evaluation
- ❑ As a reference for IABEE evaluators to review Program's Self-Evaluation Report
- ❑ As a basis for IABEE to award accreditation status

The Accreditation Criteria: Common Criteria



1. Autonomous Professional Profile as PEO
2. APP Publicity & Review System
3. Program Learning Outcomes

1. Curriculum & Syllabus
2. Faculty: quality, quantity, role in student learning
3. Students & Academic Atmosphere
4. Facility: adequacy, proper & safe operations
5. Institutional Responsibility

1. Effective Assessment of Learning Outcomes
2. Assurance of LO Attainment by Graduates

1. Continual Improvement based on LO Assessment
2. Maintenance & Access of Documents & Records

Common Criteria & Criteria Guide are available for download from https://iabee.or.id/en/accrediation/accreditation-criteria/common-criteria/ and https://iabee.or.id/en/accrediation/accreditation-criteria/criteria-guide/

Engineering Discipline Criteria

Specific Learning Outcomes, Faculty, and/or Curriculum Requirements in ENG Disciplines:

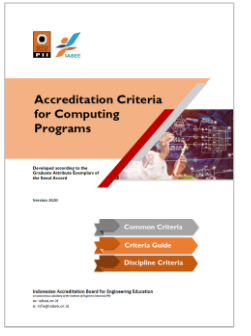
- Agricultural & Biosystem
- Agroindustry
- Chemical, Biochemical, Biomolecular
- Civil
- Earth & Energy
- Petroleum
- Mining
- Biomedical
- Electrical, Computer, Telecomunication
- Environ-mental
- Engineering Physics
- Geodetic, Geomatic
- General
- Ocean
- Nuclear
- Mechanical
- Materials, Metallurgical
- Industrial

Discipline Criteria are available for download from https://iabee.or.id/en/accrediation/accreditation-criteria/discipline-criteria/

Computing Discipline Criteria

Specific Learning Outcomes, Faculty, and/or Curriculum Requirements in Computing Disciplines:

- Computer Science/Informatics
- Information System
- Information Technology
- Software Engineering
- Computer System



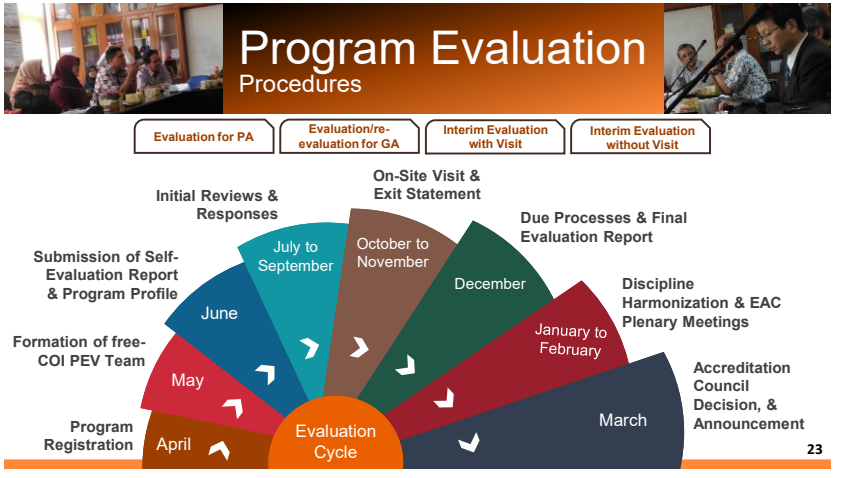
Discipline Criteria are available for download from https://iabee.or.id/en/accrediation/accreditation-criteria/discipline-criteria-for-computing-programs/

Accreditation Types

- IABEE offers two types of accreditation, namely **General Accreditation** and **Provisional Accreditation**. Each accreditation type entails specific eligibility requirements for programs to apply.
- **General Accreditation (GA)** is intended for programs seeking international recognition through IABEE accreditation.
- **Provisional Accreditation (PA)** is intended for programs newly adopting an outcome-based education system and have not yet produced graduates under the system. A program applying for PA will be evaluated to measure its potentials of meeting the Accreditation Criteria within a foreseeable future. PA is an accreditation status that is not recognized at the international level.

Eligibility

General Accreditation	Provisional Accreditation
(1) The associated Program Operating Institution (POI) has obtained National Accreditation for Institution status with a minimum rank of "B" or at least "Baik Sekali".	(1) The associated Program Operating Institution has obtained National Accreditation for Institution status with a minimum rank of 'B' or at least "Baik Sekali".
(2) The Program has obtained National Accreditation status ranked "A" or at least "Baik Sekali".	(2) The Program has obtained National Accreditation status at least ranked "B" or at least "Baik Sekali".
(3) The Program is a bachelor-level program in an engineering or computing discipline with a curricular study period of four years, and with a total course-load of a minimum of 144 credit units.	(3) The Program is a bachelor-level program in an engineering or computing discipline with a curricular study period of four years, and with a total credit of a minimum of 144 credit units.
(4) The Program is at least in the 4th year of continuous Outcome-Based Education (OBE) implementation.	(4) The Program has implemented Outcome-Based Education (OBE) at least for one year before applying for the evaluation.
(5) The OBE shall include assessment and evaluation of the Learning Outcomes of the students.	(5) The Program has established and publicized the Autonomous Professional Profile statement formulated as its educational objectives.
(6) By the time of the on-site visit evaluation, the Program has produced at least one graduate under its OBE system.	(6) The Program has established and publicized its Learning Outcomes as the basis for developing its curriculum and learning methods
(7) The Program has established and publicized the Autonomous Professional Profile statement formulated as its educational objectives.	
(8) The Program has established and publicized its Learning Outcomes as the basis for developing its curriculum and learning methods.	



Evaluation Team

- Consists of 3 evaluators, typically
  2 academics
  1 industry/practitioner
  Observers: evaluator-in-training, interested parties
- Evaluator competence
- Ethics (evaluator code of conduct)
- Conflict of interest
- Confidentiality

Evaluation & Decision of General Accreditation

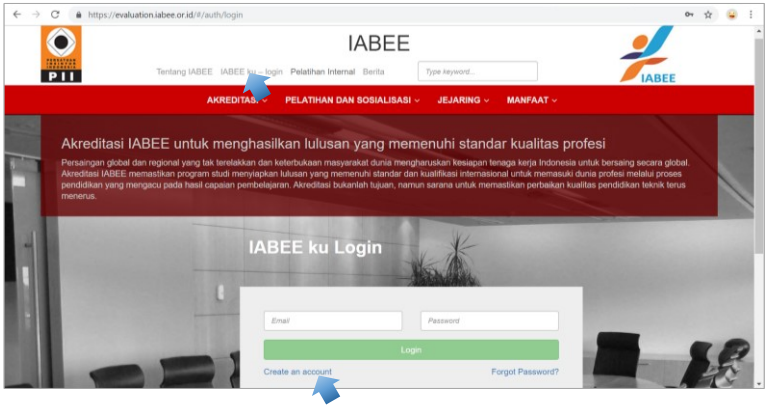
No	Kata Kunci Kriteria	Nilai
1.1	Formulasi Profil Profesional Mandiri	A/C/W/D
1.2	Publikasi Profil Profesional Mandiri	A/C/W/D
1.3	Formulasi Capaian Pembelajaran Lulusan	A/C/W/D
2.1	Kurikulum	A/C/W/D
2.2	Dosen	A/C/W/D
2.3	Mahasiswa & Suasana Akademik	A/C/W/D
2.4	Fasilitas	A/C/W/D
2.5	Tanggung Jawab Institusi	A/C/W/D
3.1	Penilaian CPL yang Efektif	A/C/W/D
3.2	Pemenuhan CPL oleh Lulusan	A/C/W/D
4.1	Evaluasi & Perbaikan Berkelanjutan	A/C/W/D
4.2	Pemeliharaan Dokumen & Rekaman	A/C/W/D

- Program will be judged against each of these 12 criteria (1.1 to 4.2)
- Four possible judgments for each criterion: (**A**)cceptable, (**C**)oncern, (**W**)eakness, or (**D**)eficiency
- Program will be accredited if there is no **"D"**
- 5-year accreditation (full) will be granted if Program receives **"A"** or **"C"** judgments
- 2-year accreditation (interim) will be granted if Program has **"W"** (improvement report and evaluation required)
- Program granted a "Not-Accredited" status is given a chance to appeal

General Accreditation Decision

- Accredited for a 5-year period
- Accredited for a 2-year period, followed by interim evaluation without site visit
- Accredited for a 2-year period, followed by interim evaluation with site visits
- Not accredited

Online Evaluation System



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