





## INTERNATIONAL ENGINEERING ALLIANCE

<http://www.ieagreements.org/>

## WASHINGTON ACCORD

<http://www.ieagreements.org/washington-accord/>

‘Professional Engineer’ programs – founded in 1989.



# Washington Accord Engineering Education Accords

- Mutual recognition of accredited programs
- Recognised 'substantial equivalence' of accreditation systems
- Agreed exemplar framework of Graduate Attribute Profiles
- 6-year monitoring and peer review cycle
- Sharing of best practice



# Washington Accord Signatories

**Australia** - Represented by [Engineers Australia \(1989\)](#)

**Canada** - Represented by [Engineers Canada \(1989\)](#)

**Chinese Taipei** - Represented by [Institute of Engineering Education Taiwan \(2007\)](#)

**Hong Kong China** - Represented by [The Hong Kong Institution of Engineers \(1995\)](#)

**India** - Represented by [National Board of Accreditation \(2014\)](#)

**Ireland** - Represented by [Engineers Ireland \(1989\)](#)

**Japan** - Represented by [Japan Accreditation Board for Engineering Education \(2005\)](#)

**Korea** - Represented by [Accreditation Board for Engineering Education of Korea \(2007\)](#)

**Malaysia** - Represented by [Board of Engineers Malaysia \(2009\)](#)

**New Zealand** - Represented by [Institution of Professional Engineers NZ \(1989\)](#)

**Russia** - Represented by [Association for Engineering Education of Russia \(2012\)](#)

**Singapore** - Represented by [Institution of Engineers Singapore \(2006\)](#)

**South Africa** - Represented by [Engineering Council of South Africa \(1999\)](#)

**Sri Lanka** - Represented by [Institution of Engineers Sri Lanka \(2014\)](#)

**Turkey** - Represented by [MUDEK \(2011\)](#)

**United Kingdom** - Represented by [Engineering Council UK \(1989\)](#)

**United States** - Represented by [Accreditation Board for Engineering and Technology \(1989\)](#)



## Organisations holding provisional status

- **Bangladesh** - Represented by [Board of Accreditation for Engineering and Technical Education](#)
- **China** - Represented by [China Association for Science and Technology](#)
- **Costa Rica** - Represented by [Association of Engineers and Architects of Costa Rica](#)
- **Pakistan** - Represented by [Pakistan Engineering Council](#)
- **Peru** - Represented by [ICACIT](#)
- **Philippines** - Represented by [Philippine Technological Council](#)



[www.bem.org.my](http://www.bem.org.my)





# Board of Engineers Malaysia (BEM)

- The Board of Engineers Malaysia (BEM) is a statutory body constituted under the Registration of Engineers Act 1967 with perpetual succession and a common seal, which may sue and be sued. It was formed in 23rd August 1972.



- BEM falls within the ambit of responsibility of the Minister of Works. Vested with wide powers, the Minister may suspend the operation of the Registration of Engineers Act 1967 (REA 1967) in any part of Malaysia by notification in the gazette. The appointment of the Board Members and the Registrar is made by the Minister.



# Assessment of Academic Qualifications

- BEM through the Engineering Accreditation Council (EAC)\* conducts accreditation of engineering degree programmes offered by institutions of higher learning within Malaysia. Accreditation is done through the evaluation panel (from academic and industry/practice) whose members are appointed by EAC. The accreditation panel shall visit the institution to **evaluate** the curriculum, facilities and the quality management system and have dialogue with the management, academic and support staff, students and industry stakeholders.

# Accreditation

AIMST University

Asia Pacific University of Technology and Innovation (APU)

Curtin University of Technology, Sarawak Campus Malaysia

International Islamic University Malaysia (IIUM)

Infrastructure University Kuala Lumpur (IUKL)

INTI International University

KDU College, Penang Campus

Kolej Bandar Utama (KBU) (Twinning prog. with Nottingham Trent U.)

Kolej Uniti Negeri Sembilan

Malaysia-Japan International Institute of Technology (MJIIT)

Multimedia University (MMU), Kampus Cyberjaya

Multimedia University (MMU), Kampus Melaka

Monash University in Malaysia

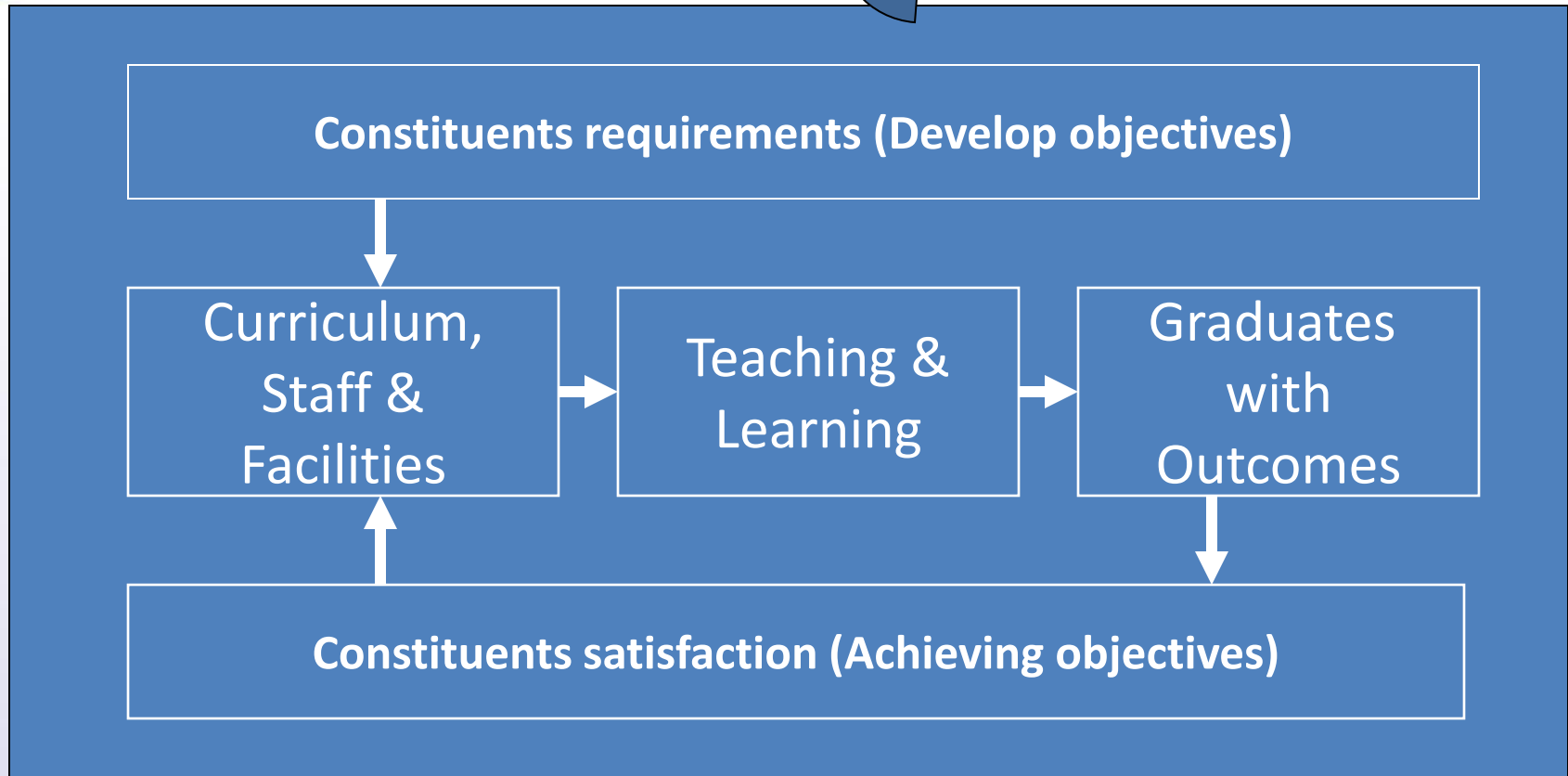
Nilai University

Prime College (Twinning with Universiti Putra Malaysia)



# Process

## Continual Improvement





# EAC Manual

- 1.0 Introduction
- 2.0 Accreditation Objective
- 3.0 Programme Objectives
- 4.0 Programme Outcomes**
- 5.0 Accreditation Policy
- 6.0 Accreditation Procedure
- 7.0 Qualifying Requirements and Accreditation Criteria
- 8.0 Accreditation Documents
- 9.0 Approval Procedure for a New Engineering Programme



# Outcomes

- i. Ability to acquire and apply knowledge of science and engineering fundamentals
- ii. Acquiring in-depth technical competence in a specific engineering discipline
- iii. Ability to undertake problem identification, formulation and solution
- iv. Ability to utilise systems approach to design and evaluate operational performance
- v. Understanding of the principles of sustainable design and development
- vi. Understanding of professional and ethical responsibilities and commitment to these



## Outcomes (cont)

- vii. Ability to communicate effectively, not only with engineers but also with the community at large
- viii. Ability to function effectively as an individual and in a group with the capacity to be a leader or manager as well as an effective team member
- ix. Understanding of the social, cultural, global and environmental responsibilities of a professional engineer, and the need for sustainable development
- x. Recognising the need to undertake life-long learning, and possessing/acquiring the capacity to do so



## 4.0 Programme Outcomes (cont)

- Published Programme Outcomes (formulated from (i) to (x) and additional outcomes
- Consider the Outcomes in designing a curriculum
- Establish a process of measuring, assessing and evaluating the achievement of outcomes
- Apply results of assessment (measuring, assessing and evaluating) to CQI

## 4.0 Programme Outcomes (cont)

- Assessment process and documented evidence
  - Anecdotal vs. measured results
  - Reliance on course grades only
  - Over-reliance on indirect assessment (survey)
  - Plan available but not implemented