



## BEM POLICY ON NAMING OF ENGINEERING PROGRAMMES AT BACHELOR LEVEL

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### 1. Preamble

- 1.1. The policy is to ensure programme names are streamlined to a common standard set out by existing MQA guidelines, as well as ensuring consistency with BEM guidelines and the EAC Manual.
- 1.2. It is also intended to provide clarity to the public, particularly to avoid misleading programme names.

### 2. Scope

The scope of the Policy includes the following:

- 2.1. All new programmes seeking approval.
- 2.2. All current programmes requesting for change of programme name.

### 3. Definitions

- 3.1. Definitions as per MQA Guidelines on programme names.

#### 3.1.1. Major

A **major** is the primary focus area of study in the programme. The **major** in programme naming must represent at least 70% of engineering content in curriculum.

#### 3.1.2. Specialisation

A **specialisation** is a sub-area within the **major** area of study. A specialisation in programme naming must represent between 25-30% of engineering content in curriculum. The specialisation, if present within a programme, is indicated within brackets in the programme name.

- 3.2. Definitions as per BEM Guidelines on registration.

#### 3.2.1. Main branch

The approved main engineering branches for BEM registration, namely civil, electrical, mechanical and chemical.

#### 3.2.2. Sub-set branch.

The approved sub-set engineering branches under any of the four (4) main branches for BEM registration.

- 3.3. Definitions as per EAC Manual.

#### 3.3.1. Engineering content

The minimum 90 SLT Credits for engineering content as specified in the EAC Manual.

#### 4. Programmes with a single major

4.1. The format of the naming shall be :-

Bachelor of “*major*” Engineering with Honours.

4.2. At least 70% of engineering content is in the major, and

4.3. The major must be either a main branch **or** sub-set branch of registration.

4.4. Example 1: **Bachelor of *Civil* Engineering with Honours**

(Civil is a main branch of registration)

4.5. Example 2: **Bachelor of *Mechatronics* Engineering with Honours**

(Mechatronics is a sub-set branch of registration)

#### 5. Programmes with a major with a specialisation.

5.1. The format of the naming shall be :-

Bachelor of “*major*” Engineering (“*specialisation*”) with Honours.

5.2. A minimum of 70% of engineering content shall be within the major.

5.3. A range of 25-30% of engineering content shall be within the specialisation.

5.4. The major must be a main branch of registration.

5.5. The specialisation must be a sub-set branch of registration.

5.6. Example 3: **Bachelor of *Civil* Engineering (*Building*) with Honours**

(“Civil” is a main branch, and “Building” is a sub-set branch)

5.7. The following is not allowed, **Bachelor of *Structural* Engineering (*Building*) with Honours**, because both “*Structural*” and “*Building*” are sub-set branches.

#### 6. Multi-disciplinary (general) programmes with no major but with a specialisation

6.1. The format of the naming shall be :-

Bachelor of Engineering (“*specialisation*”) with Honours.

6.2. A range of 25-30% of engineering content shall be in the specialisation.

6.3. The remainder range of 70-75% of engineering content is mixed such that it cannot be categorised under any of the main or sub-set branches.

6.4. The specialisation must be one of the sub-set branches of registration, i.e. it cannot be a main branch.

6.5. Example 4: **Bachelor of Engineering (*Manufacturing*) with Honours**

(“Manufacturing” is a sub-set branch)

6.6. The following is not allowed, **Bachelor of Engineering (*Mechanical*) with Honours**, because “*Mechanical*” is a main branch.

#### 7. Multi-disciplinary or general programmes with no major or specialisation.

7.1. The naming shall be :-

**Bachelor of Engineering with Honours.**

- 7.2. The engineering content is mixed which cannot be categorised under any of the main or sub-set branches.
- 7.3. The engineering content nevertheless meets the minimum 90 SLT credits as per EAC Manual and hence deserves accreditation (upon meeting other stipulated criteria).
- 7.4. It is recognised that IHLs should have the flexibility and freedom to innovate new engineering programmes which address pioneering frontier areas of engineering knowledge outside the current scope of registration branch recognised by the Board. This provision allows for such flexibility and freedom.

## 8. Engineering programmes with additional non-engineering major

8.1. For additional non-engineering **major** such as Law, Business or IT, the additional components must be over and above minimum of 135 SLT credits.

### 8.2. Example 5: **Bachelor of Civil Engineering and Law with Honours**

(Law discipline contents should meet the relevant standards for the law profession, over and above the minimum 135 SLT credits. Engineering contents must meet the preceding provisions).

## 9. Determination of Branch for Registration of Graduate Engineers with BEM

9.1. The branch for registration of Graduate Engineers with BEM is recommended to be based on the major in the name of the programme.

*Examples:-*

<b>Name of Programme</b>	<b>Branch of Registration</b>
<i>Bachelor of <b>Civil Engineering</b> with Honours</i>	<i>Civil Engineering</i>
<i>Bachelor of <b>Mechanical Engineering</b> with Honours</i>	<i>Mechanical Engineering</i>
<i>Bachelor of <b>Electrical Engineering</b> with Honours</i>	<i>Electrical Engineering</i>
<i>Bachelor of <b>Chemical Engineering</b> with Honours</i>	<i>Chemical Engineering</i>
<i>Bachelor of <b>Mechatronics Engineering</b> with Honours</i>	<i>Mechatronics Engineering</i>
<i>Bachelor of <b>Civil Engineering (Environment)</b> with Honours</i>	<i>Civil Engineering</i>
<i>Bachelor of <b>Mechanical Engineering (Materials)</b> with Honours</i>	<i>Mechanical Engineering</i>
<i>Bachelor of <b>Computer Engineering</b> with Honours</i>	<i>Computer Engineering</i>
<i>Bachelor of <b>Engineering (Computer)</b> with Honours</i>	<i>General Engineering, or a new branch category <u>to be approved by the Board</u></i>
<i>Bachelor of <b>Engineering</b> with Honours</i>	<i>General Engineering, or a new branch category <u>to be approved by the Board</u></i>

9.2. If IHLs feel that any programme deserves a new name outside the current list of registration branches as approved by the Board, they are at liberty to argue their case and present it as an exemption request as per (10) below. This provision allows for IHLs to innovate new pioneering frontiers of engineering disciplines.

9.2.1. Note: Many WA jurisdictions have among their IHLs programmes under the general engineering category, and a number of their graduates are Malaysians who have problems applying for graduate engineer registration because the category “Others” had been removed from the BEM list. Provision 9.2 addresses this issue.

## 10. Exemptions

10.1. Exemptions from the provisions of this policy may be considered on a case-to-case basis based on individual merit.

10.2. Exemption 1:

10.2.1. The phrase “Electrical & Electronics” be accepted as an alternative as to represent the programme major “Electrical” in programming naming.

10.2.2. The justification is its historical usage, and that it is widely accepted especially among the non-engineering stakeholders (e.g. the use of E&E in international trade negotiations).

10.2.3. Example 5: “Bachelor of **Electrical & Electronics** Engineering with Honours” is a programme with major in electrical engineering.

10.2.4. The recommended branch of registration for its graduates will be “electrical”.

## 11. Effective Date and Revision of Policy

11.1. The effective date for this policy is 1<sup>st</sup> of January 2017.

11.2. The Board reserves the right to review this policy from time to time.

## 12. References (attached)

12.1. MQA Guidelines on Programme Naming.

12.2. BEM’s Main and Sub-Sets – Main and sub-sets of field or discipline for BEM’s registration (attached next page).

## Main and Sub-Set Branches for BEM Registration

*Main and Sub-Sets Branches for BEM Registration as per March 2016.  
(BEM may review this classifications from time to time – refer to BEM’s website for the latest updates)*

<b>Civil</b>	<b>Mechanical</b>	<b>Electrical</b>	<b>Chemical</b>
1. Building	1. Aeronautical	1. Computer	1. Bio-Chemical
2. Construction	2. Agricultural	2. Electronics	2. Bio-Engineering
3. Environmental	3. Automotive	3. Telecom- munication	3. Energy (Fuel, Natural Gas)
4. Geotechnical	4. Building Services		4. Environmental
5. Highway	5. Manufacturing		5. Petroleum
6. Hydraulic	6. Marine		6. Process (Polymer, Textile, Pharmaceutical, Food)
7. Mining	7. Material		
8. Municipal	8. Mechatronic		
9. Structure	9. Metallurgy		
10. Transport	10. Mining		
11. Water Resources	11. Naval Architecture		
	12. Nuclear		