UTEM Workshop
24-25 Apr 2019

Criterion 4: Students

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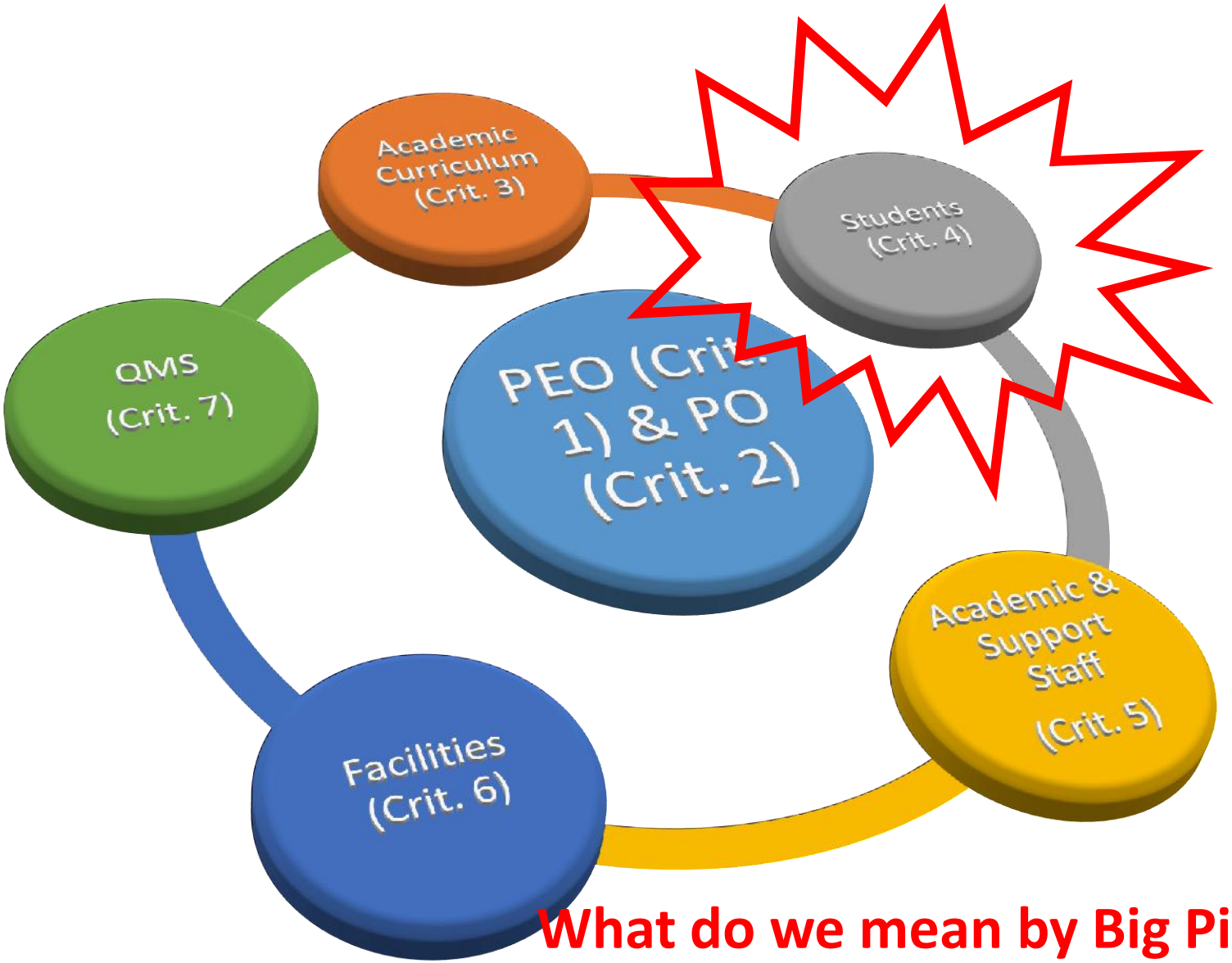
EAC/BEM

Main Criteria – The Big Picture



What do we mean by Big Picture?

- Attainment of outcome

SAR

1. Discuss the requirement and process for admission of students to the programme.
2. Discuss the policies and processes for credit transfer/exemption.
3. Discuss students' performance in relation to Programme Outcomes.
4. Discuss students' workload.
5. Discuss students' activities and involvement in student organisations that provide experience in management and governance, representation in education and related matters and social activities.
6. Additional info:

- The distribution of students' enrolment for all academic years for the past four years (Table 6 in Appendix G).
- The entry qualifications of final year students of the current semester (Table 7 in Appendix G).

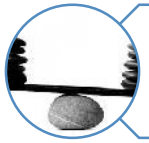
Evaluator Form

Entry Requirement (Academic) √

Transfer Policy/Selection Procedures √

4.1 Student Admission

Student Counselling



Workload √

Enthusiasm and Motivation

Co-Curricular Activities √

Observed attainment of PO by students √-

4.2 Student Development

4.1 Entry Requirements

Diploma

Good understanding of Maths & Physical Science

Pass SPM or equivalent with at least credit in Maths AND Science OR Technical-Based subjects, OR

Accredited Certificate in Engineering OR Technology, OR

Recognised related Technical/Vocational/Skills qualifications AND a bridging programme

4.1 Entry Requirements

Eng Technology

Good understanding of Maths & Physical Science

Pass STPM or equivalent with minimum Grade C (CGPA 2.0) in Mathematics and ONE relevant science subject, OR

Recognised Diploma in Engineering or Engineering Technology or equivalent with minimum CGPA 2.0, OR

Recognised related Technical/Vocational/Skills Diploma with minimum CGPA 2.0, OR

APEL A as prescribed by MQA based on appropriate justifications by the IHL

4.1 Entry Requirements

TABLE 6 Distribution of Student Enrolment for all Academic Years for the Past Four Year

YEAR	Year			
	201a/201b	201b/201c	201c/201d	201d/201e
1st Year				
2nd Year				
3rd Year				
4th Year				
Total No. of Students Per Year				

4.1 Entry Requirements

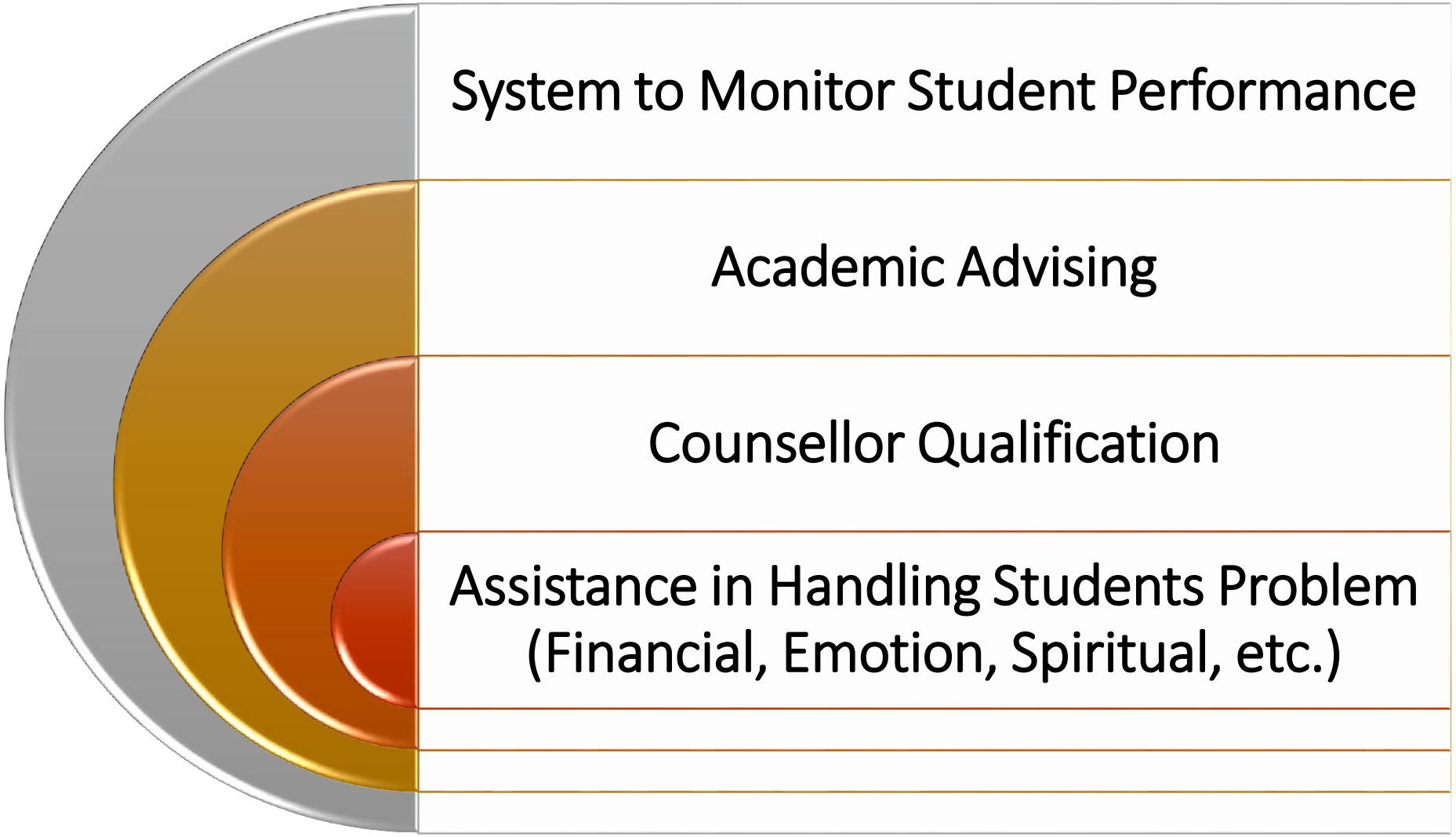
TABLE 7 Entry Qualifications of Final Year Students of the Current Year

Entry	Number
STPM	
Matriculation	
Diploma	
Others (credit transfer, etc.)	

4.1 Transfer Policy/Selection Procedure

- Clear, Documented & Enforced Policy on Admission & Transfer
- Mechanism of Credit Transfer/Exemption to allow for Alternative Education Pathways
- Vertical (max 30%) & Lateral Transfer (max 50%)
- Credit transfer may include APEL C components as prescribed by MQA (with justification by IHL)

4.2 Counselling



4.2 Workload

Student not to be burdened – Check SLT

Credit Hour - Optimal 17-18 SLT per semester

Is workload appropriate & allow for co-curricular, personal activities?

2.2 Enthusiasm and Motivation

Enthusiastic and motivated

- teaching-learning environment shall be conducive to ensure good learning experience
- e.g. wifi, computer, software, bus service
- Always link to their learning experience

4.2 Co-Curricular Activities

Student Organizations – Management & Governance, Leadership, Teamwork

Social, Technical, or Professional Activities - Outreach Programmes, Competition, Motivational talks, Visits, etc.

Support Programme – Improve Generic skills, e.g. Internship Abroad, Global Outreach Programme

2.2 Student Development

Observed Attainment of PO

- Your first-hand feel of the students' achievement of POs
- Interviewing
- Observing them at random
- Going through random samples of student's work
- Core principles of engineering
- Communication skills, confidence, critical thinking
- Contemporary, ethical, sustainability issues

Others

Student feedback mechanism

Students performance in relation to PO from overall holistic perspective

CQI strategies on Students

Sample Concerns

Some students intake below acceptable qualification, without remedial courses, and performed badly throughout the study

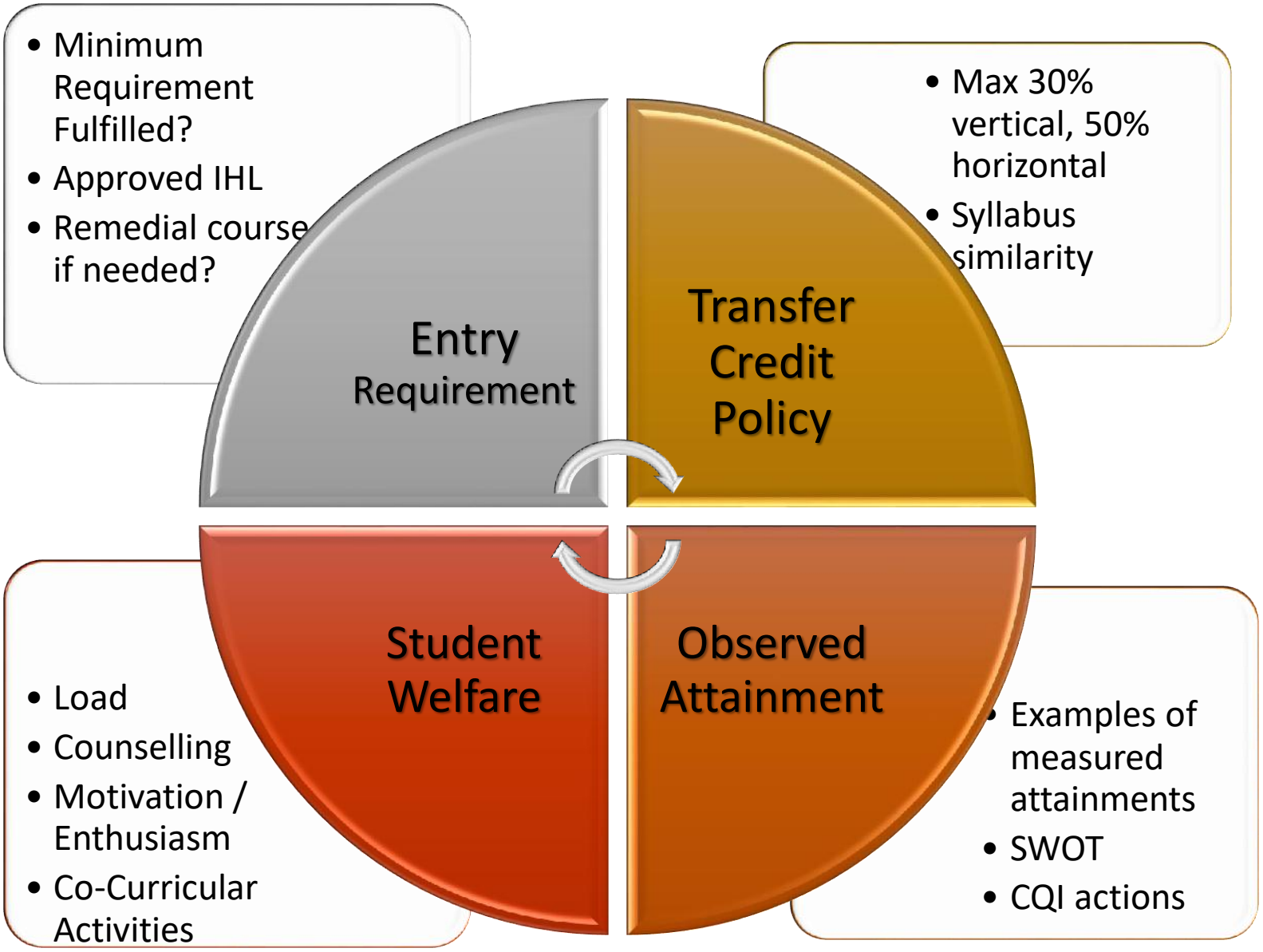
Some significant violation of the max. 30% (vertical) and 50% (horizontal) credit transfer

Credit transfer wrongly awarded

Heavy workload, and students are complaining

Students not able to communicate well, not familiar with environment and sustainability issues or other POs (widespread)

Closing Remark



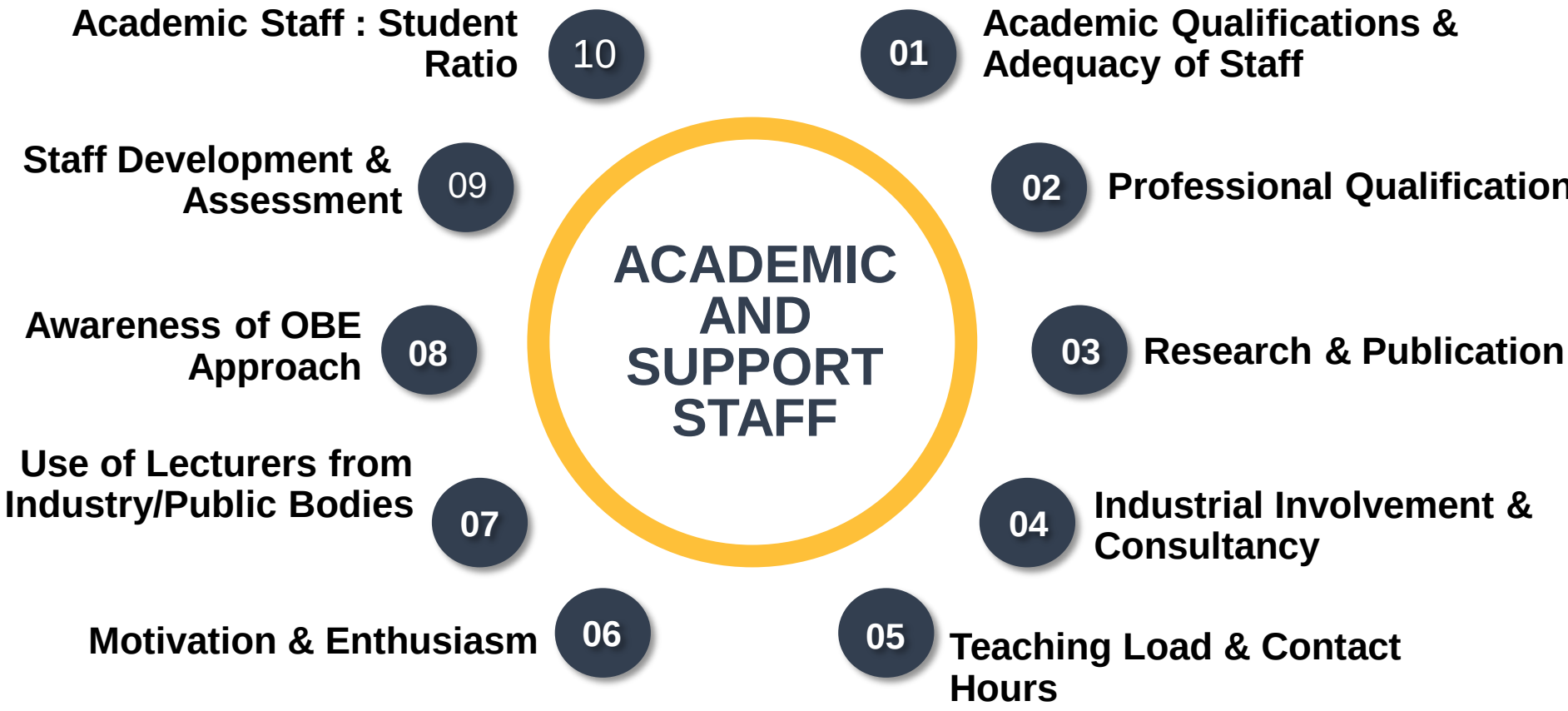
CRITERION 5:
ACADEMIC AND SUPPORT STAFF

SAR

1. Discuss the **strength and competencies** of the teaching staff / WBL industry mentor in covering all areas of the programme, and in **implementing the outcome-based** approach to education.
2. Discuss how the overall **staff workload** enables effective teaching, **student-staff interaction**, student advising and **counselling, IHL service and research** activities, **professional development** and **interaction with industry**.
3. Discuss the **sufficiency and competency** of technical and administrative staff in providing adequate support to the educational programme.
4. Additional info:

- Table 8 – Table 16 in App G
- A listing of lecturers/invited speakers from industry/public bodies and their level of involvement

Key Elements of Criterion 5



1. Adequacy & Qualification

Teaching Staff

Number of staff

- ✓ total number of academic staff in the programme?
- ✓ minimum of 8 full-time academic staff and are these staff registered persons?
- ✓ competencies in the key areas of the discipline?

Qualification of staff

- ✓ qualification of academic staff? PhDs or Masters degrees in related areas of the program?

Status of staff

- ✓ part time or full time staff?
- ✓ Part time staff with professional qualification can be considered
- ✓ full time staff equivalent to part time staff < 40%

Criteria for staff with B.Eng.

- ✓ > 10 years of working experiences in related field
- ✓ possess professional qualification in related field (PEng, CEng, etc.)

1. Adequacy & Qualification

Support Staff

Number of staff

- ✓ total number of support staff in the programme?
- ✓ good mixture of senior & junior staff

Competency of staff

- ✓ competencies in the key areas of the discipline?
- ✓ qualification in handling specialized equipment?

Criteria of staff

According to EAC Manual 2017, number of staff having certificates, diplomas and degrees:

- ✓ > 80% of staff = Good
- ✓ 60% - 80% of staff = Satisfactory
- ✓ < 60% of staff = Poor

1. Adequacy & Qualification (cont..)

Can be evaluated through interviews…

#1: Are they overloaded?

#2: Job scope of staff

#3: Distribution of workload among staff

#4: Fluctuation of workload throughout semester

According to EAC Manual 2017, adequacy of staff:

1 staff for 1 lab = Good

1 staff for 2 labs = Satisfactory

2. Professional Qualification

① Summary of teaching & industrial experience
② Good blend between young vibrant & senior experienced academics?
③ Number of PE among full time staff. Are they in the relevant discipline?
④ Is design course taught by experience academics (PE)? Similarly in specialized elective courses?
⑤ Staff development policy (scholarships for PhD, attachment in industry, drive for PE attainment, etc.?
⑥ Is the program meeting the minimum PE requirement?
⑦ What are the plans for achieving 30% criteria by 2020?

2. Professional Qualification

Overall competence can be judged by…

① Industrial and teaching experience.

② Enthusiasm in developing a more effective programme.

③ Involvement in research and consultancy.

④ Involvement in professional activities.

⑤ Attainment of Professional Engineer status – is there a policy, drive, incentive scheme to encourage staff to gain the PE status.

⑥ Participation in professional development activities.

⑦ Scholarship availability or incentive scheme to motivate staff.

⑧ Schemes or policy to encourage staff to increase their skill and knowledge (attending seminars, conferences, training).

⑨ Is there a plan to reach 30% target for PEs?

2. Professional Qualification

- From 1st January 2018 , the program must show plans to achive 30% PE requirement by 31st December 2020.
- Currently the program must have a minimum 3PEs (within the 8 minimum staff)
- Besides the PEng. (Ir.) status, **other equivalent PE qualification** can be accepted, i.e. CEng, UK, CPEng Australia, PEng Canada, etc.

3. Research & Publication

Overall competence can be judged by:

① Research grants secured.
② Publication activities.
③ Conference attendance.
④ Patents.
⑤ Postgraduate supervision.
⑥ Research that permeates in student's learning (FY
⑦ Collaborative research engagement.

4. Industrial Involvement & Consultancy

Can be any of the following:

① Visitation / attachment

② Consultancy activities or providing training to industry

③ Research collaboration

④ Expert advisor

⑤ Project supervision (i.e. PhD industry)

⑥ Mentoring Junior Engineers

⑦ Involvement through FYP or Capstone Projects

Any mechanism / policy / training schemes?

Are the staff motivated to get involved?

5. Teaching Load & Contact Hours

- The load should be reasonable.
- For average teaching load (teaching hours per week):
  < 12 hours = Good
  12 – 15 hours = Satisfactory
  > 15 hours = Poor

6. Motivation & Enthusiasm

Can be judged as follows:

① Passionate on teaching & research.
② Satisfaction towards:
- leadership in the Department / Faculty /University.
- transparency in policies (staff development & promotion).
- students & support services.
- work load.
- infrastructure to support teaching & learning.

③ Opportunities available for self-development & potential to grow.
④ Level of guidance / mentoring, etc.

7. Use Of Lecturers From Industry / Public Body

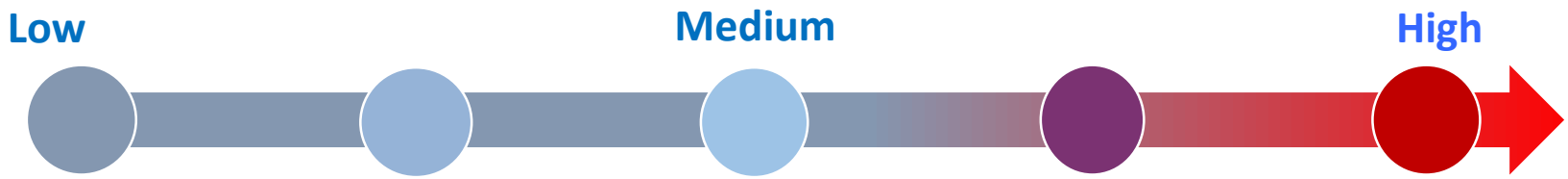
Evaluate:

① Engagement of invited lecturers to conduct seminars/lectures or talks/ become jury in student competition/ capstone design projects, etc.
② Mechanism/process to organize the activities. Is it effective?
③ Benefits from the activities. Ask the students during the interview.

8. Awareness Of OBE Approach

Evaluate:

① Level of awareness & understanding of OBE. Are they supportive & practicing OBE?
② Knowledge in implementing PEO, PO &CO assessment.
③ Training/ guidance on OBE.
④ Level of understanding on CQI.



9a. Staff Development

The staff will be assessed in the following aspects:

① Scheme for industrial attachment.
② A transparent policy on staff promotion & development.
③ Sabbatical leave for academic staff.
④ Training opportunities for support staff.
⑤ Staff welfare scheme.
⑥ Financial support to pursue studies.
⑦ Internal research grants.
⑧ Grants for conference, seminar, workshop.
⑨ Flexi hours to participate in professional activities.
⑩ Incentive scheme (ISI publication, allowance for attaining PE).
⑪ Financial support for professional membership.

9b. Staff Assessment

Evaluate if there is a systematic process of the following:

① Students evaluation/feedback.
② Research contribution.
③ Participation in professional bodies/scholarly activities.
④ Academic contribution.
⑤ Administrative contribution.
⑥ Service rendered to the university.
⑦ Community services.
⑧ Establishment of working system for student feedbac
⑨ The use of students feedback in CQI.
⑩ Excellent teaching award?

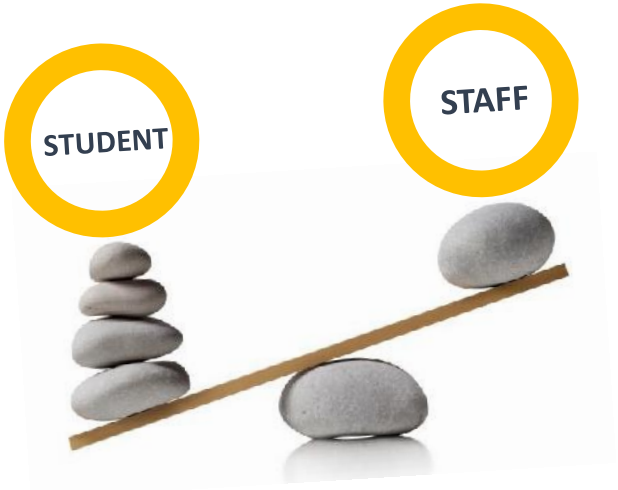
10. Academic Staff To Student Ratio

- Evaluate if full time academic staff : student is reasonable.
- Check for the ratio for the last four academic sessions.
- If the ratio is high or stagnant, panel shall probe why this has been the case.
- According to EAC Manual 2017, staff to student ratio:

  1:15 or better = Good

  1:15 - 1:20 = Satisfactory

  Poorer than 1:20 = Poor



Criterion 6: Facilities

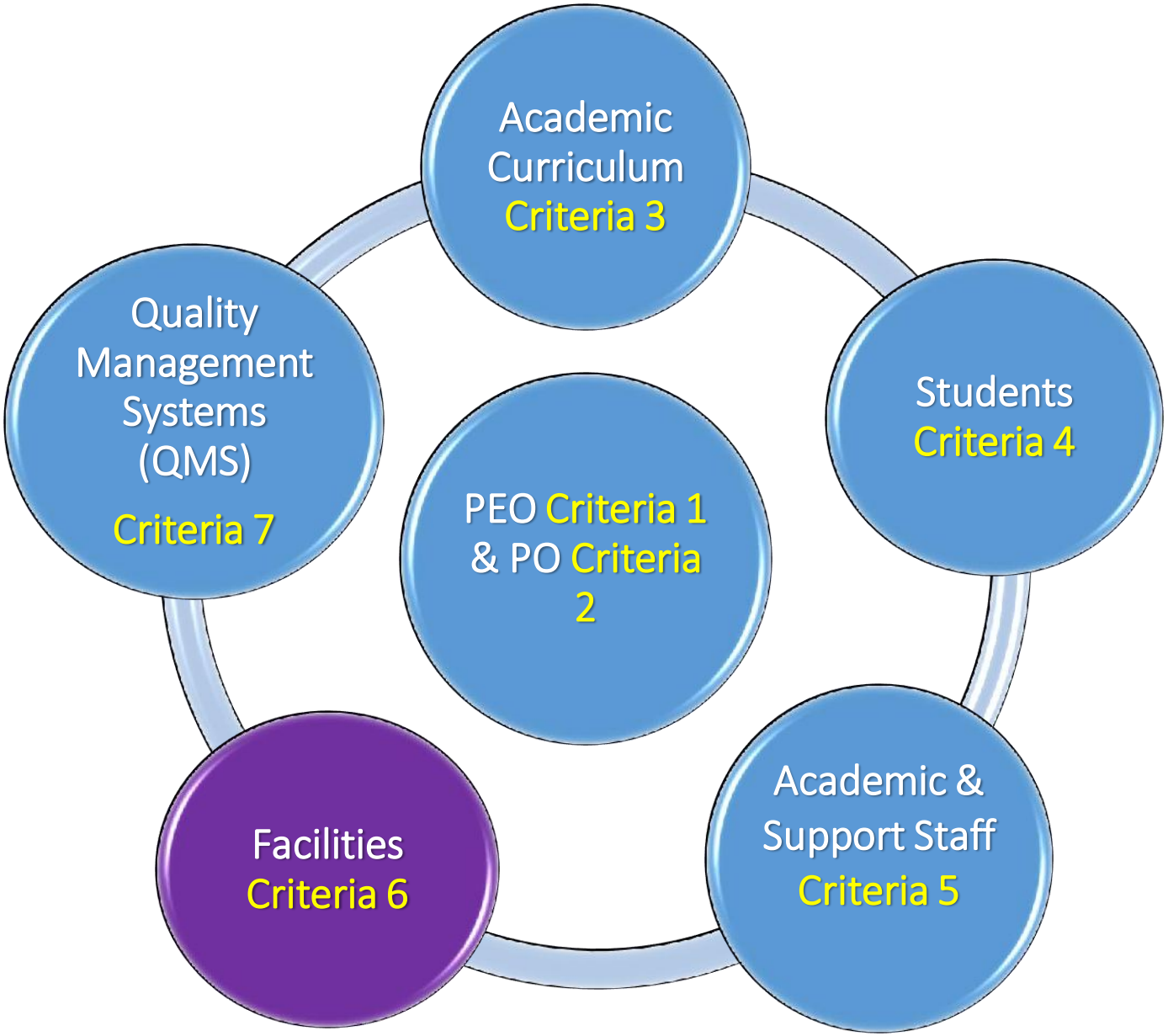
Ir. Prof. Dr. Law Chung Lim

Associate Director (Chemical)

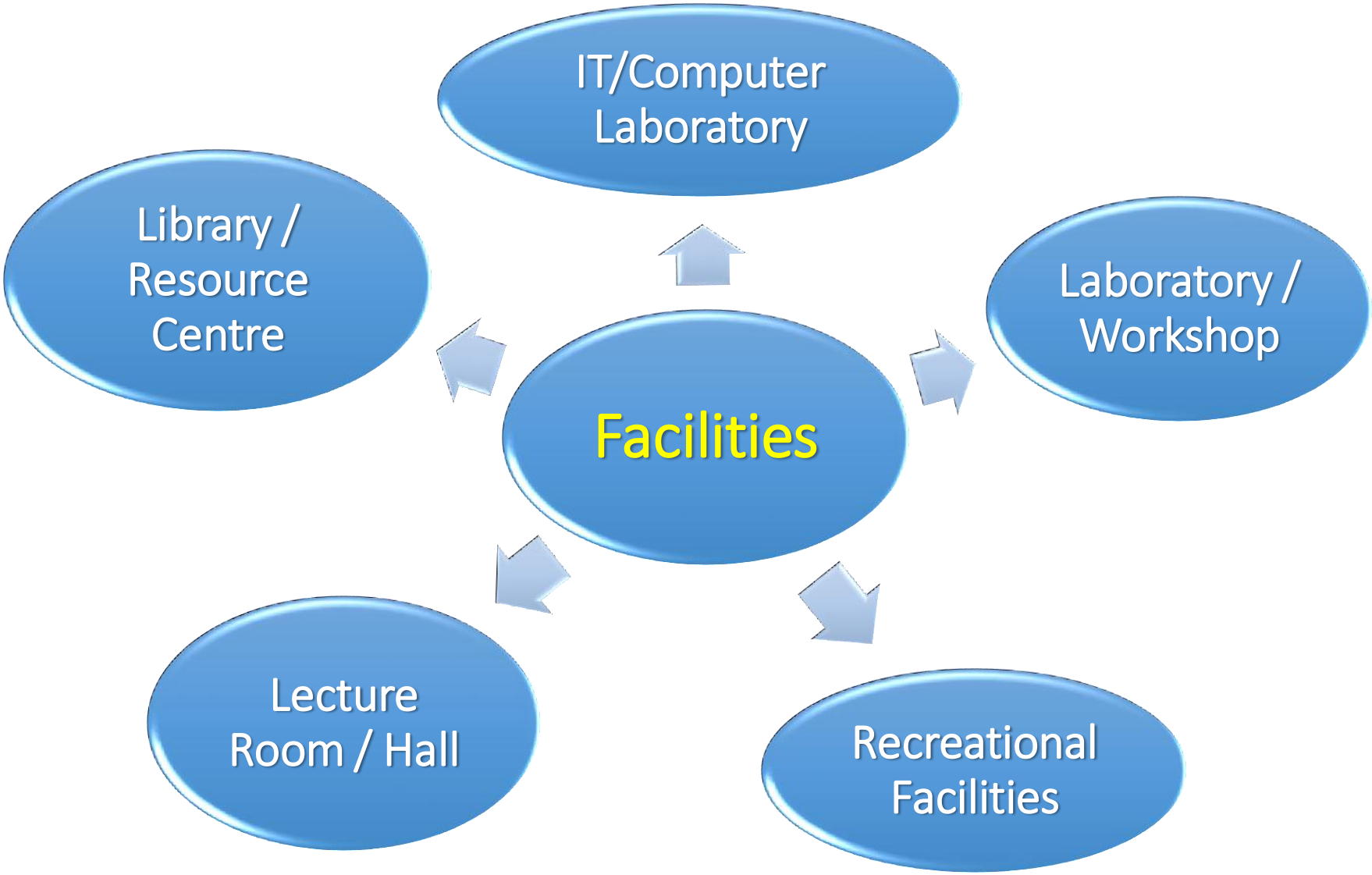
Engineering Accreditation Department (EAD)

EAC/BEM

Main Criteria – The Big Picture



Main Criteria – The Big Picture



What the Panels will Report?

Quantity and quality of **lecture rooms**

Student **lab** and equipment/**workshop**

Adequacy of **computers and software**

Quality and quantity of resources in **library**

Other Supporting Facilities (Recreational etc.)

SAR

1. Discuss the adequacy of teaching and learning facilities such as classrooms, learning-support facilities, study areas, information resources (library), computing and information-technology systems, laboratories and workshops, and associated equipment to cater for multi-delivery modes.
2. For programmes offered wholly or partly in distance mode, or at multiple or remote locations, describe how the facilities provided are equivalent to those provided for on-campus students.

SAR

3. Describe the adequacy of support facilities such as hostels, sport and recreational centres, health centres, student centres, and transport in facilitating students' life on campus and enhancing character building.
4. Additional info:

- Table: lecture facilities (give number, capacity, and audio video facilities)
- Table: laboratories (list down the equipment available)
- Table: workshops (list down the equipment/machinery)
- Table: computer laboratories (list down the hardware and software)
- Table: library (list down the titles of books/journals/magazines/standards)
- Table: recreational facilities.
- Table: recent improvements and planned improvements in these facilities

What the Panels will Report?

Quantity and quality of **lecture rooms** √

Student **lab** and equipment/**workshop** √

Adequacy of **computers and software** √

Quality and quantity of resources in **library** √

Other Supporting Facilities (Recreational etc.) √

Requirements stated in the Manual

Sufficient

substantial and appropriate practice-oriented learning (exp & prac)

Equipment must be reasonably representative of modern engineering practice

maintained and adhere to best practices in SHE

Adequacy & Quality of Teaching & Learning Facilities

- Classrooms, study areas
- Learning-support facilities
- Information resources (library),
- Computing and information technology systems, (min. 1 PC to 10 Students)
- Laboratories and workshops
- Associate equipment to cater for multi delivery modes

Also assess their availability and accessibility to students

Lab Facilities not at Site

Discuss the arrangements to provide reasonable accessibility and opportunity for learning.

Discuss the effectiveness if students complete the experiments over a short period of time rather than being spread out (as in the case of the main campus)

Discuss the no. of students per equipment

Part Time, Distant Mode

at multiple or remote locations, discuss how the facilities support student learning with respect to their equivalence to those provided for on-campus students.

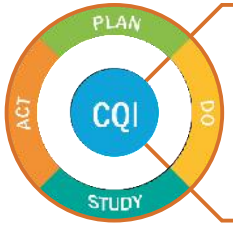
where the students are sent to the main campus to complete the experiments over a short period of time rather than being spread out (as in the case of the main campus), discuss the effectiveness of such a practice.

Support Facilities

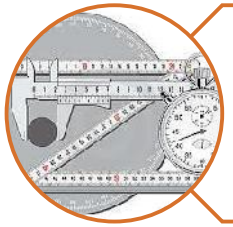
Discuss adequacies and relevancies of hostels, sport and recreational centres, health centres, student centres, etc. to enhance character building.

Also discuss transportation adequacy to facilitate students' life on campus

CQI & Maintenance



Assess CQI actions taken



Also assess maintenance procedures and calibration of laboratories

Assess SWOT

Asses Overall assess whether your facilities are Good, Satisfactory or Poor

Health, Safety & Environment

- Assess IHL HSE policy and procedures especially in the Laboratories. Are they pervasive? Publish publicly?
- Discuss procedures and monitoring of HSE of facilities.

Note: ETAC members are very particular of any concerns raised by Panels on this aspect.

ETAC Panel Checklist for Facilities

Laboratory / Workshop – Safety Issues

- It is of utmost importance for Evaluation Panel to observe matters related to **health and safety practices** during the facilities and laboratories tour.

- Record any safety issues, for example:
  - Expired fire extinguishers
  - No first aid kit or expired medicine
  - Low hanging air-cond compressor
  - No PPE in certain laboratories

Thank you

- Engineering Technology Programme Accreditation Standard 2019
- Engineering Technician Education Programme Accreditation Standard 2019
- IEA Graduate Attributes and Professional Competency Profiles, Version 3: 21 June 2013

POINTS FOR CLARIFICATIONS

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