FChE Milestones

Prof Dr Zain A Manan, Dean

Today

FChE contributes to UTM ASEAN Energy Award

FChE Winner of Academic Quality Award

FChE BOS 2012

Prof Dr Zain A Manan, Dean

2011

FChE was listed by QS World Ranking in @ position 179 (2011); 137 (2012)

(among possibly more than 10,000 universities offering ChEE program

Briefing on FChE EAC Audit Preparations

30 April 2013 @ FChE, UTM

Prof. Ir. Dr. Zaini Ujang, UTM Vice-Chancellor

1988

The first group of students graduated.

Prof Syed Fahmi, Dean

March 15, 1983

Faculty of Chemical and Natural Resources Engineering was established.

UTM
UNIVERSITI TEKNOLOGI MALAYSIA
Faculty of Chemical Engineering
RESEARCH UNIVERSITY

Engineering Accreditation Council (EAC) Audit of FChE programs 15-16 May 2013

FChE for

5-year Accreditation!

EAC
ENGINEERING ACCREDITATION COUNCIL MALAYSIA

LEMBAGA JURUTERA MALAYSIA

What is EAC accreditation?

EAC accreditation is an audit process undertaken to ensure that graduates of the accredited engineering programmes (e.g., UTM) satisfy the minimum academic requirements for registration as a graduate engineer with the Board of Engineers Malaysia (BEM) and for admission to graduate membership of IEM.

From 2009, degrees accredited by BEM pursue the Outcome-based Education (OBE); and are equivalent to all WA accord's signatories

Signatories Of Washington Accord

Washington Accord

Signatories have full rights of participation in the Accord; qualifications accredited or recognised by other signatories are recognised by each signatory as being substantially equivalent to accredited or recognised qualifications within its own jurisdiction.

Members Login

Organisation:

Password:

Forgotten password? Login

- **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*)
- **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*)
- **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 have been identified as having qualification accreditation or recognition procedures that are potentially suitable for the purposes of the Accord; those organisations are further developing those procedures with the goal of achieving signatory status in due course; qualifications accredited or recognised by organisations holding provisional status are not recognised by the signatories

- **Bangladesh** - Represented by Board of Accreditation for Engineering and Technical Education
- **Germany** - Represented by German Accreditation Agency for Study Programs in Engineering and Informatics
- **India** - Represented by National Board of Accreditation of All India Council for Technical Education
- **Pakistan** - Represented by Pakistan Engineering Council
- **Sri Lanka** - Represented by Institution of Engineers Sri Lanka

Why Accreditation?

- *helps students and their parents to choose quality college programmes.*
- *enables employers to recruit graduates they know are well-prepared*
- *gives colleges and universities a structured mechanism to assess, evaluate, and improve the quality of their programs*

Some bare facts

- Last EAC Accreditation: 19-20 April 2011
  - Verdict: 2 year accreditation (maximum 5-year)
  - among the main issues – staff and students are unaware of Oucome-based education (OBE)
- EAC accreditation visit - 15-16 May 2013!

LEMBAGA JURUTERA MALAYSIA

Day 1 (15/4 TH Month 2013) Wednesday

Time	Details of Programme	Venue	Involvement
07:45/08:00	Panel member leave the hotel (transport will be provided by XXX)		• EAC Panel members • EAD
08:30-09:00	**(Private Session)** Pre-Meeting among the evaluation panel		• EAC Panel members • EAD
09:00-09:10	Evaluation Panel briefing to the XXX Opening Remarks and Briefing by Head of Evaluation Panel on the objective of accreditation visit to XXX	*Note:This event will be chaired by the Head of Delegation from EAC.*	• EAC Panel members • EAD • XXX's engineering team
09:10-09:30	Opening / Welcoming Remarks by (VC or DVC or Dean) of XXX	*Note: (Presentation of the updated info and issues that are not found in the self assessment report.)*	• EAC Panel members • EAD • XXX's engineering team
09:30-10:30	Meeting with (Dean / Head of Department/ Head of Programme) to discuss curriculum design and quality system. (includes morning tea)		• EAC Panel members • EAD • XXX's engineering team
10:30-12:00	Meeting with Academic Staff	*Note: (Please standby additional room for each panel. Panel might want to do separate interview session)*	• EAC Panel members • EAD • Staff
12:00-14:00	**(Private Session)** to review displayed documents (includes a working lunch)		• EAC Panel members • EAD
14:00-15:00	Evaluation Panel Visit to supporting units and facilities	Libraries, Lecture Hall,Class rooms, Clinics, Sports centre and other facilities	• EAC Panel members • EAD • IHL's engineering team
15:00-16:00	Meeting with Students	*Note: (Please standby additional room for each panel. Panel might want to do separate interview session)*	• EAC Panel members • EAD • Student

EAC accreditation Visit

- Auditees – before 2012 - Faculty management, staff, students; After 2012 – include alumni, employer, industrial advisors
- Staff and students make impromptu preparations (left to their "natural instinct/ experiences")
- Faculty and departments make extensive preparations (never left to natural instinct, experiences)

Past Practices

Individual staff and students were

- caught unprepared to answer EAC panels
- had to improvise
- Fail to impress,
- (naturally) have been the casualty

The entire FChE should be well-prepared! (to secure a 5-year accreditation)!!

UTM conferred Self-Accreditation Status

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April 13, 2013
Published by sabri

Johor Bahru, 13 April 2013 – Universiti Teknologi Malaysia (UTM) has been conferred the self-accreditation status by the Ministry of Higher Education as announced by the Minister of Higher Education Dato' Seri Khalid Nordin.

The status enables UTM to accredit its own academic programmes, except professional programmes that require accreditation and recognition by the relevant professional bodies.

The decision was made upon recommendation by the panel of experienced auditors by the Malaysian Qualification Agency (MQA).

UTM conferred the *Self-Accreditation* Status

(13 April 2013)

Lessons from post grad experiences

Comments from Self-Accreditation Panels *(July 2012)*

1. *UTM has a big agenda! UTM's Mission and Vision are Shared for ALL!*
2. *UTM were different; very different, Everyone could articulate the vision and mission; "UTM students/postgraduates were very supportive of the of the UTM's agenda".*
3. *They defended UTM's til the end, instead of trying to complain about the University*
4. *"In UTM it is Publish and Flourish"*
5. *"UTM is like a racing car, on a super-highway going in full throttle; every single component of the car must be supported"*
6. *Students have a very-very strong engagement with VC and Deans "UTM has a big agenda"*

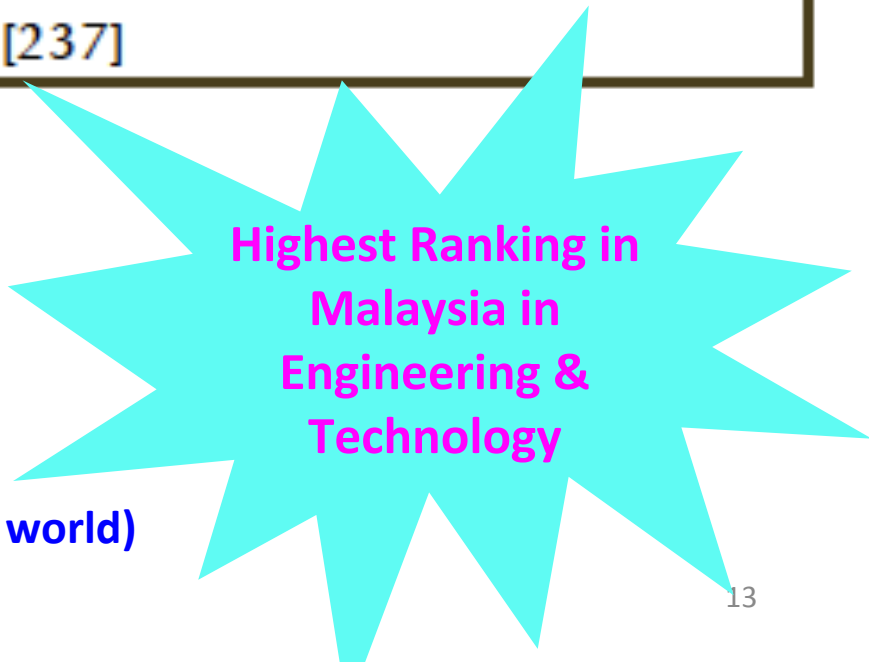
Why is it vital for all to be very well-prepared?

1. Secure a record 5-year accreditation (in >10 years)
2. Positive perception on UTM students (and of our programs) by
   - EAC
   - Industry
   - Public - stakeholde
3. Vital for students to secure

4. Must do justice to our great reputation as one of the best ChemE programs in the region

TOP UNIVERSITIES BY FACULTY AREA - QS World University Rankings 2012/2013

Engineering & Technology Top 5
Universiti Teknologi Malaysia (UTM) [163]
Universiti Malaya (UM) [164]
Universiti Sains Malaysia (USM) [206]
Universiti Putra Malaysia (UPM) [223]
Universiti Kebangsaan Malaysia (UKM) [237]



(*out of ~ possibly >30,000 E & T programs in the world)

Benchmarking via QS World University Rankings (Subject)

Results of FChE's Relentless Effort to be a Global Brand!

M Rank	QS Rank		Subject	Academic	Employer	Citations	Total
(2011)	188	UTM	Chem Eng	18.3	27.1	27.3	23.64
(2012)	137	UTM	Chem Eng	62.7	74.7	62.6	66.27

Each university subject ranking is grouped under one of five umbrella faculties: Arts and Huma s, Engineering and Technology, Life Sciences and Medicine, Natural Sci s, and Social Sc es and M ment. Choose your preferred faculty below for an overview, or jump straight t univers t ra

2012: Climbed 50 spots
– from Top 200 (2011)
to Top 150 in the world
FChE leads UTM!

(*~ possibly out of >10,000 ChEE programs in the world)

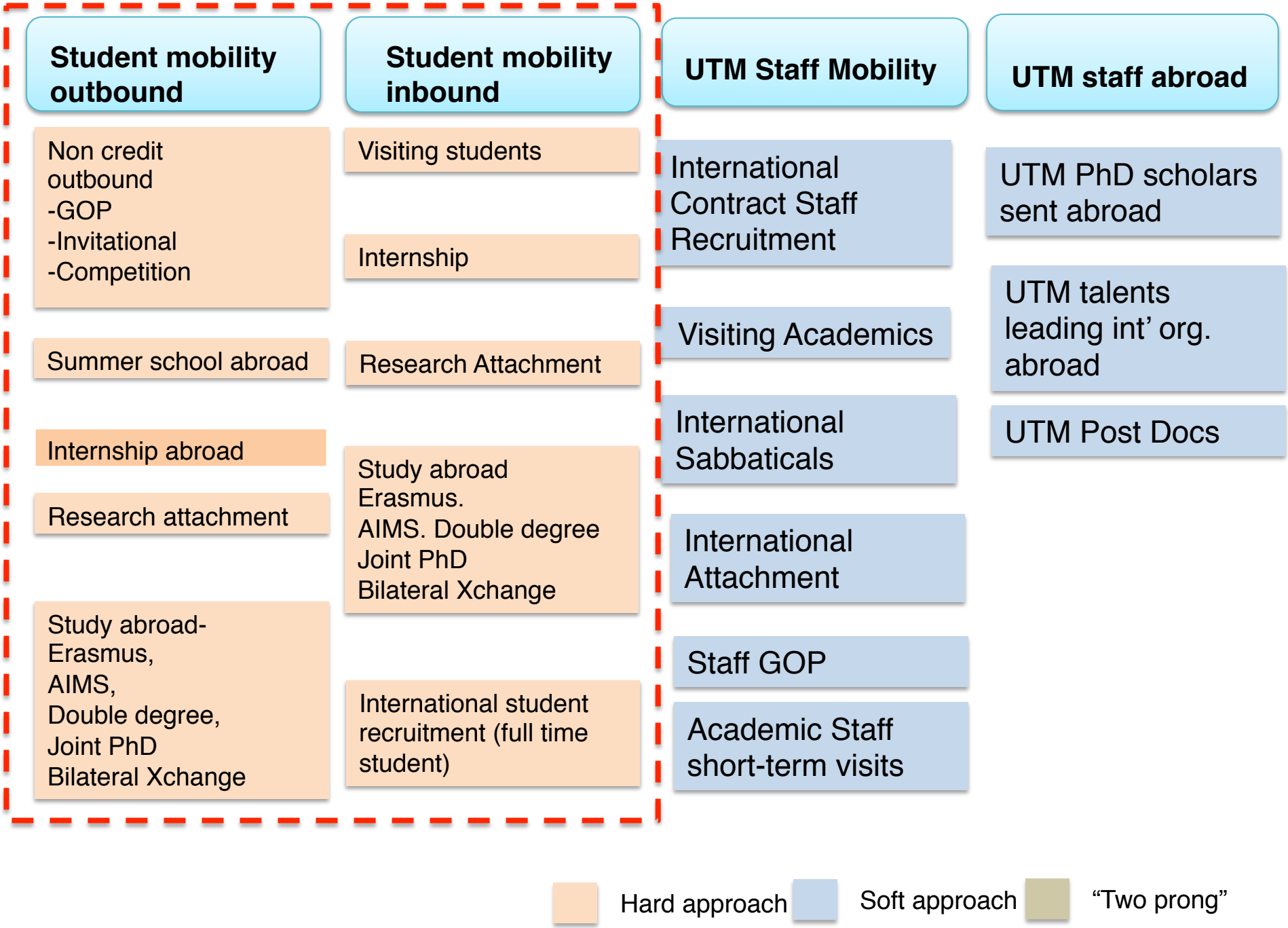
QS Rankings - Figure 4: Weightings by subject discipline

	Academic	Employer	Citation
Economics & Econometrics	50%	30%	20%
Engineering - Civil & Structural	50%	30%	20%
Psychology	50%	30%	20%
Chemistry	50%	20%	30%
Physics & Astronomy	50%	20%	30%
Biological Sciences	50%	10%	40%
Medicine	50%	10%	40%
Business & Management Studies	40%	40%	20%
Mathematics	40%	30%	30%
Engineering - Chemical	40%	30%	30%
Engineering - Electrical & Electronic	40%	30%	30%
Engineering - Mechanical, Aeronautical & Manufacturing	40%	30%	30%
Computer Science	40%	30%	30%

Why we have the best program?

- ✓ Entry CPA > 3.95
- ✓ Endowment Scholarship
- ✓ 5 Excellent Track Programs (ETP)
- ✓ GOP for 5000 students
- ✓ Most extensive network of industries and universities
- ✓ Five (5) World Class Centres of Excellences COES
- ✓ PBL, CPBL & Job Creation

UTM Internationalisation - overview



WHAT STUDENTS SHOULD KNOW ABOUT OUTCOME-BASED EDUCATION (OBE)?

1. What is OBE?
2. How's different from 'conventional /traditional education system' (CE)?
3. OBE implementation
   - ✓ Teaching & learning activities .. CL, PBL, demo, visit etc
   - ✓ Course Outcomes
   - ✓ Assessment tools…. Presentation, peer evaluation

WHAT STUDENTS SHOULD KNOW ABOUT PROGRAM OBJECTIVES (PEO) & PROGRAM OUTCOMES (PO) & COURSE OUTCOMES (CO)

1. What are PEO, PO & CO ? Briefly state differences
2. Identify a few examples of PEO & PO of your programme
3. Name / identify a few examples of CO in selected courses

OTHER ISSUES STUDENTS SHOULD KNOW OR BE AWARE OF…

1. What is sustainability or sustainable development? How's incoporated in your programme? i.e. name a few courses or T&L activities to enhance understanding of sustainability concept
2. Lab work…. Level of safety awareness, safety briefing or related activities
3. Capstone courses…what are they? How 's OBE incorporated in these courses?
4. Student's contributions toward program /OBEimprovement

Your experiences in UTM

- Good Experiences
- Bad Experiences
- Any complaints??? Facilities