UNIVERSITI TEKNOLOGI MARA

SPECIAL MISSION UNIVERSITY

be the first UiTM

QS WORLD UNIVERSITY RANKINGS

UiTM di hatiku

QS World University Ranking 2020	Overall Rank 651-700	**QS Asia University Ranking 2020**	Overall Rank 119	QS World Graduate Employability Ranking 2020	Overall Rank 301-500	QS World University Ranking By Subject 2019	Overall Rank 9 Subjects
Students	47,801	International Students	529	Faculty	3,313	International Faculty	59

*Data @main campus

Pemantapan Kurikulum UTEM

10 Dec 2019

Educational Background

PhD (Statistics), Universiti Kebangsaan Malaysia 2003
PG Dip in Education, Universiti Teknologi Malaysia 1989
MSc (Mathematics), West Virginia University, USA 1987
BA (Mathematics), State University of New York @ New Paltz, USA 1985
Additional:
Knowledge Management Cert. 2003
Associate Alumni (SMDP) Harvard Business School 2018

Experience

Professor Dr Roziah Mohd Janor is Professor of Statistics at the Faculty of Computer Sciences & Mathematics, UiTM, Malaysia. Her area of teaching and research include Statistical Modelling, Measurement in Quality, Data Envelopment Analysis ON Departmental Efficiency, University Impact Study, Structural Equation Modelling, Customer Satisfaction Modelling, and Survey Design, Learner Success Model, Values Survey, Online CPI.

She has served UiTM for 28 years in various capacities as fellow at the then Institute of Quality and Knowledge Advancement, as head of strategic information UiTM, as director of academic quality, and as Director of Curriculum Affairs, UiTM.

Current Engagement

Currently serving as Assistant Vice Chancellor at Institute Quality & Knowledge Advancement, UiTM and is overseeing all the quality initiatives of the university, including institutional accreditation, programme accreditation, quality excellence model, quality management systems, Innovation @ Work and the University Ranking Project. Since 2016, she served as the treasurer of the MyQAN, a quality assurance network for 53 Malaysian higher education institutions. And from 2018 she was made the President of the network.

An official trainer for MQATC on MRCIIQ

Key Takeaways

Participants will be able to

- Translate MQF 2.0 Learning Descriptors to suit curriculum review needs of a specific program
- Identify keywords in Learner Profile of MQF 2.0 for diploma and degree program.
- Extract keywords in all Level Descriptor of each five clusters to fit to the diploma and degree program outcomes.
- Evaluate current PEO and propose a revised version that aligns to future needs and MQF 2.0
- Relate new PEO-PLO-CLO and vice-versa

Programme

9:00 – 10:45	Penyediaan PEO, PLO, CLO Programme Akademik
10:45-11:00	Minum Pagi
11:00 – 1:00	Pemantapan dan Pemetaan PEO, PLO, CLO
1:00 – 2:00	Makan Tengahari/ Solat
2:00 – 4:30	Pemantapan dan Pemetaan PEO, PLO, CLO
4:30- 5:00	Minum Petang/ bersurai

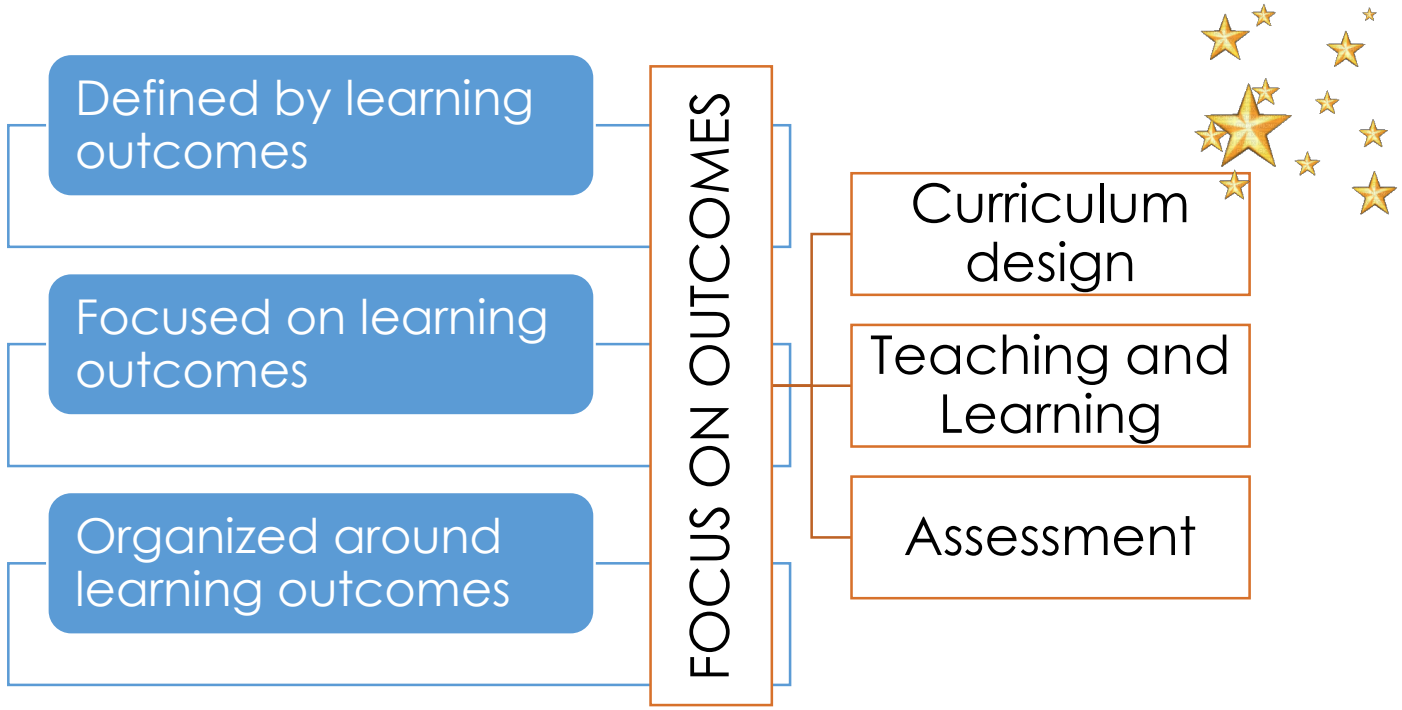
Getting to know participants' knowledge level on Curriculum Review

MQF 1.0/ 2.0	***Summarise your experience***
PEO/ PLO/ CLO Constructive Alignment	***Summarise your experience***
CD/CR/CQI	***Summarise your experience***

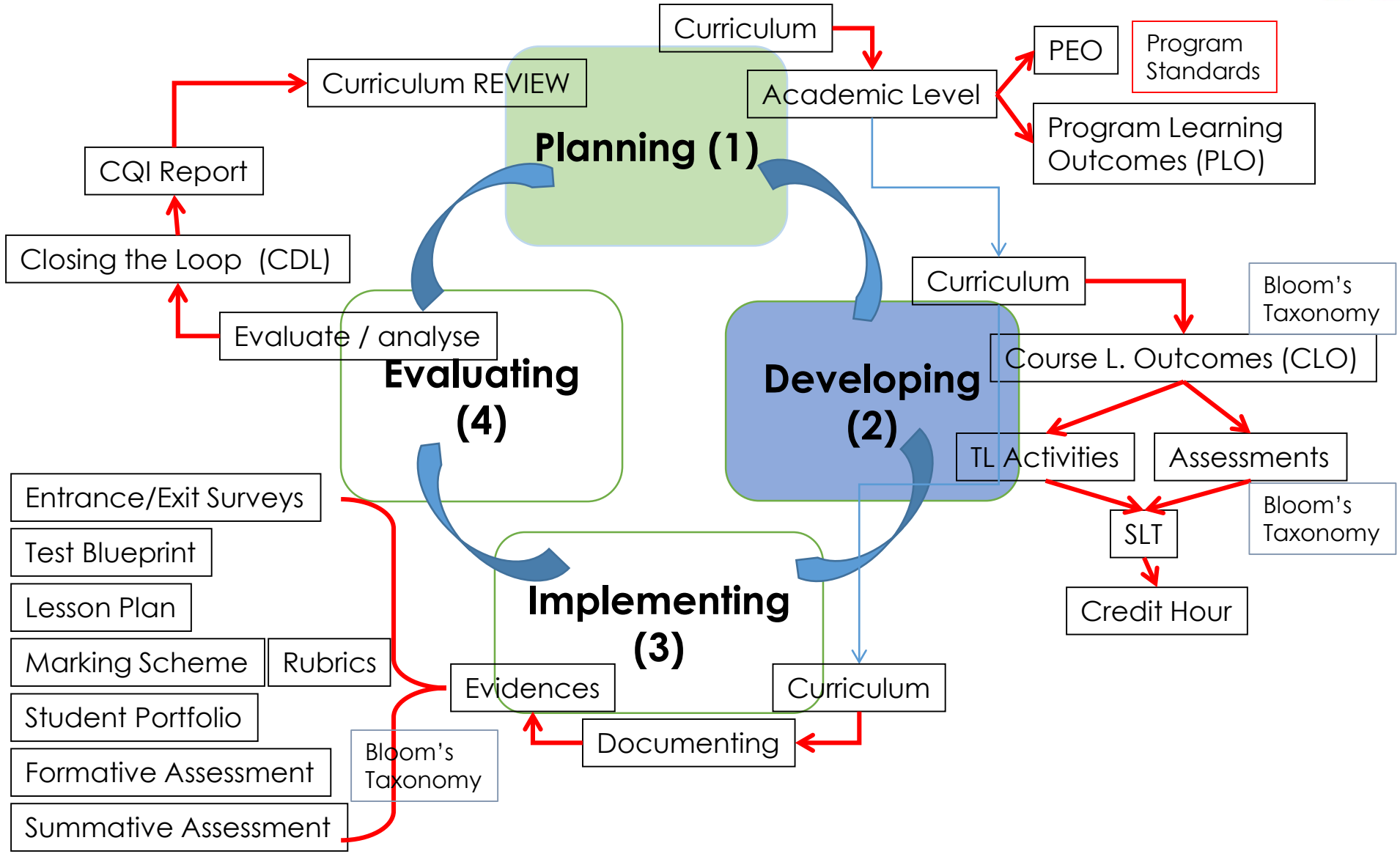
Write on a POST IT NOTE

Revisit the Curriculum Development Process

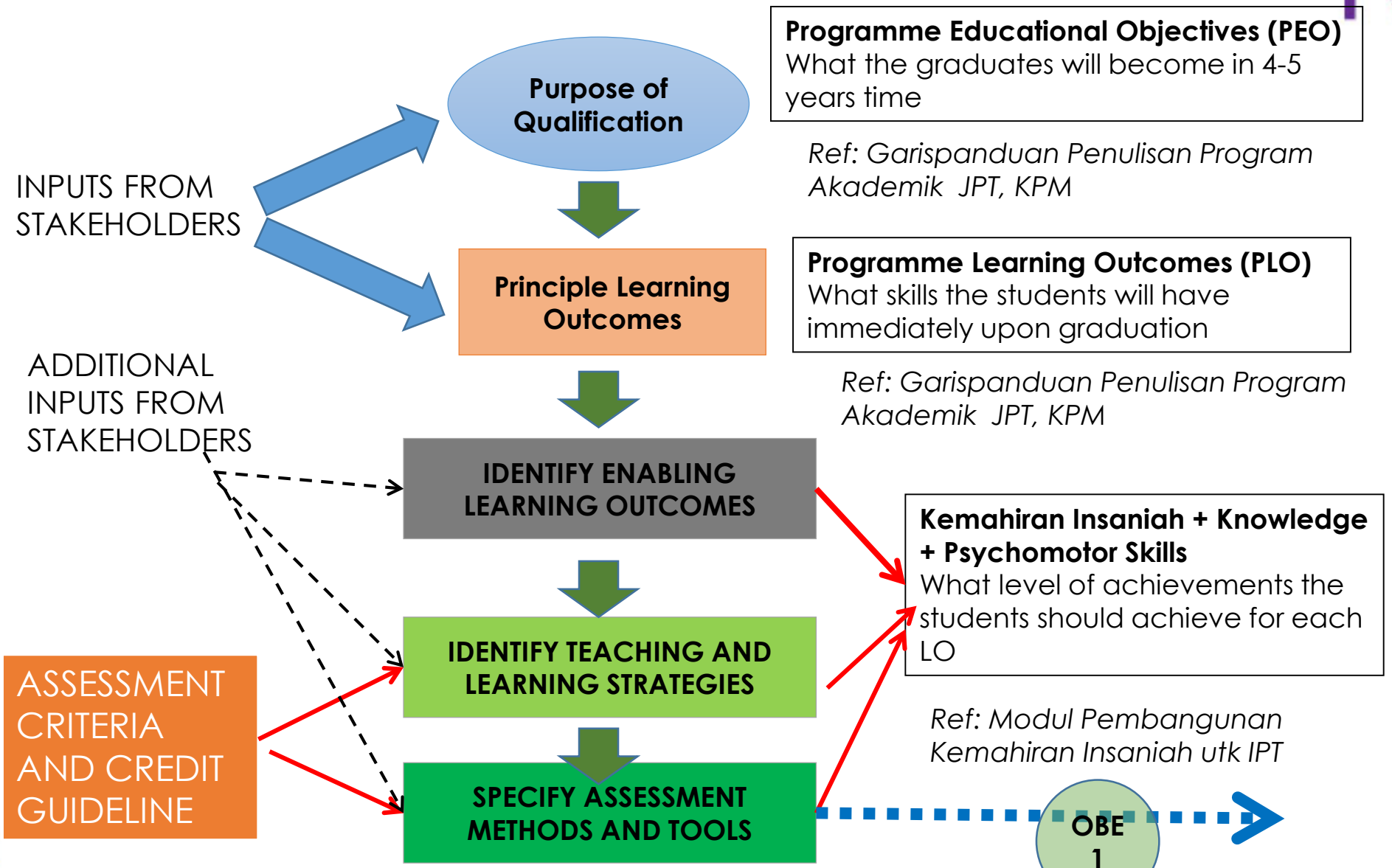
Review….OBE PHILOSOPHY



OBE PROCESS


Curriculum
Curriculum REVIEW
Academic Level
PEO
Program Standards
Program Learning Outcomes (PLO)
Planning (1)
CQI Report
Closing the Loop (CDL)
Evaluate / analyse
Evaluating (4)
Developing (2)
Curriculum
Bloom's Taxonomy
Course L. Outcomes (CLO)
TL Activities
Assessments
SLT
Bloom's Taxonomy
Credit Hour
Entrance/Exit Surveys
Test Blueprint
Lesson Plan
Marking Scheme
Rubrics
Student Portfolio
Formative Assessment
Summative Assessment
Implementing (3)
Evidences
Curriculum
Documenting
Bloom's Taxonomy

Curriculum Development Process (New)



Programme Educational Objectives (PEO)
What the graduates will become in 4-5 years time

Ref: Garispanduan Penulisan Program Akademik JPT, KPM

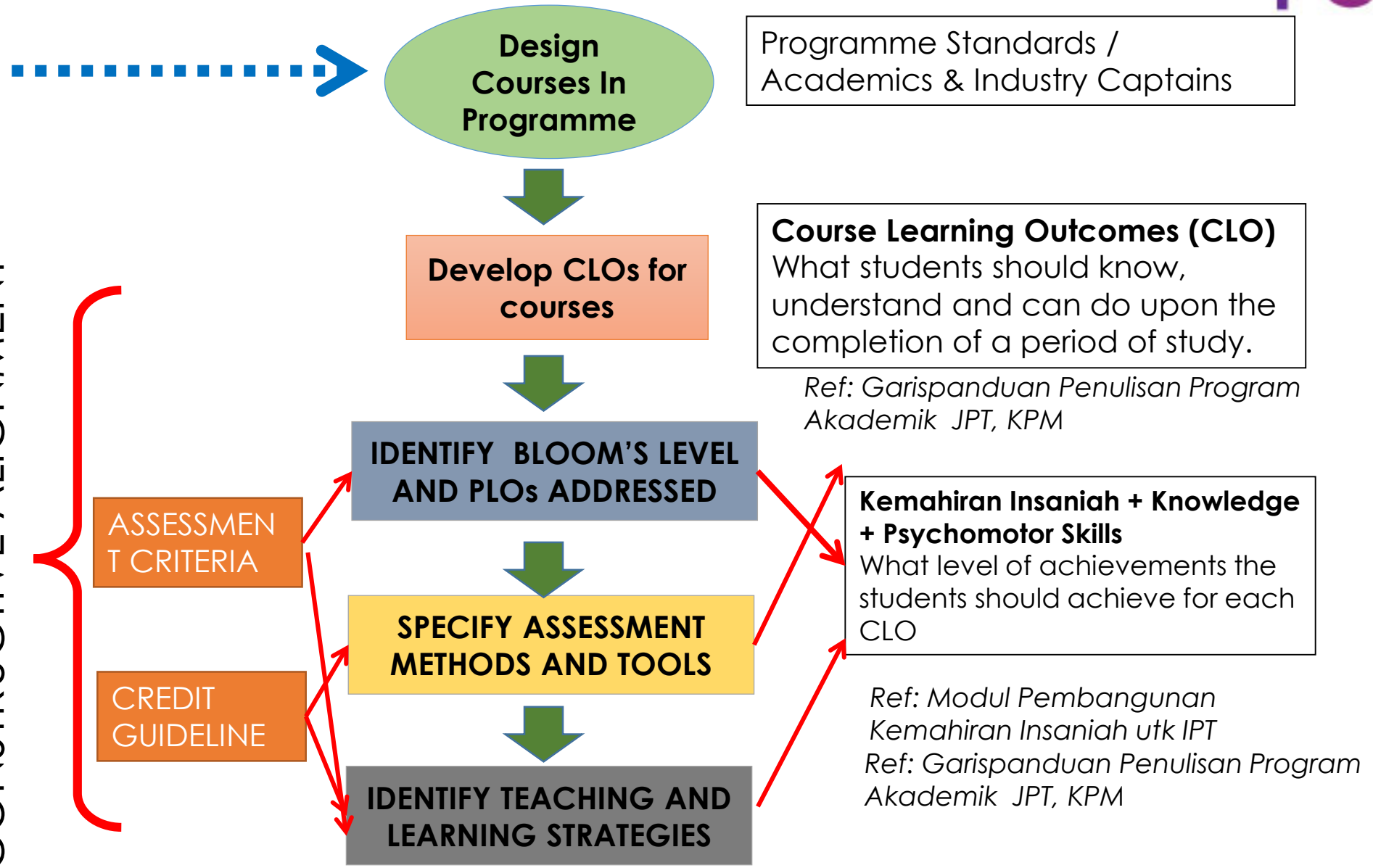
Programme Learning Outcomes (PLO)
What skills the students will have immediately upon graduation

Ref: Garispanduan Penulisan Program Akademik JPT, KPM

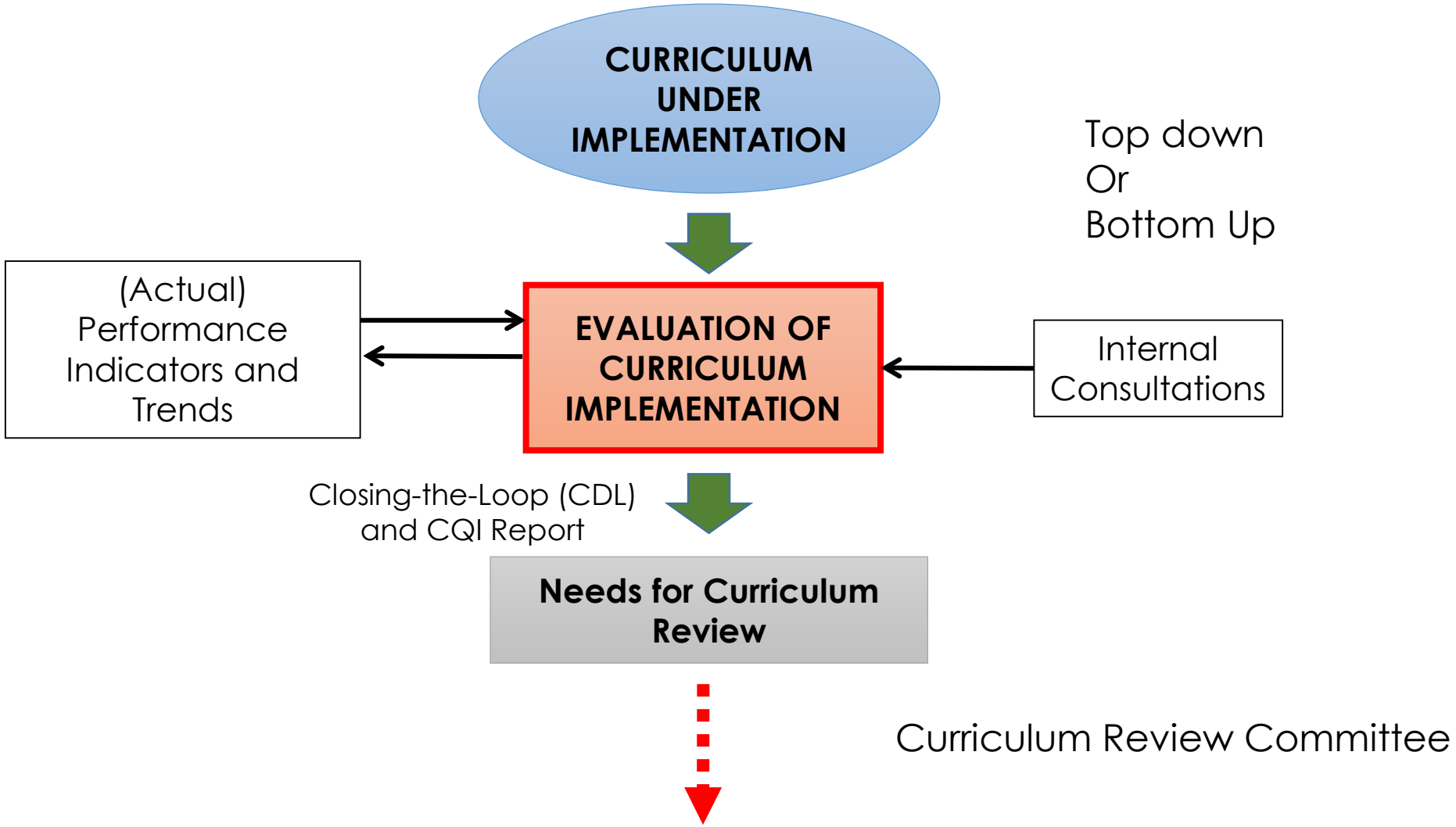
Kemahiran Insaniah + Knowledge + Psychomotor Skills
What level of achievements the students should achieve for each LO

Ref: Modul Pembangunan Kemahiran Insaniah utk IPT

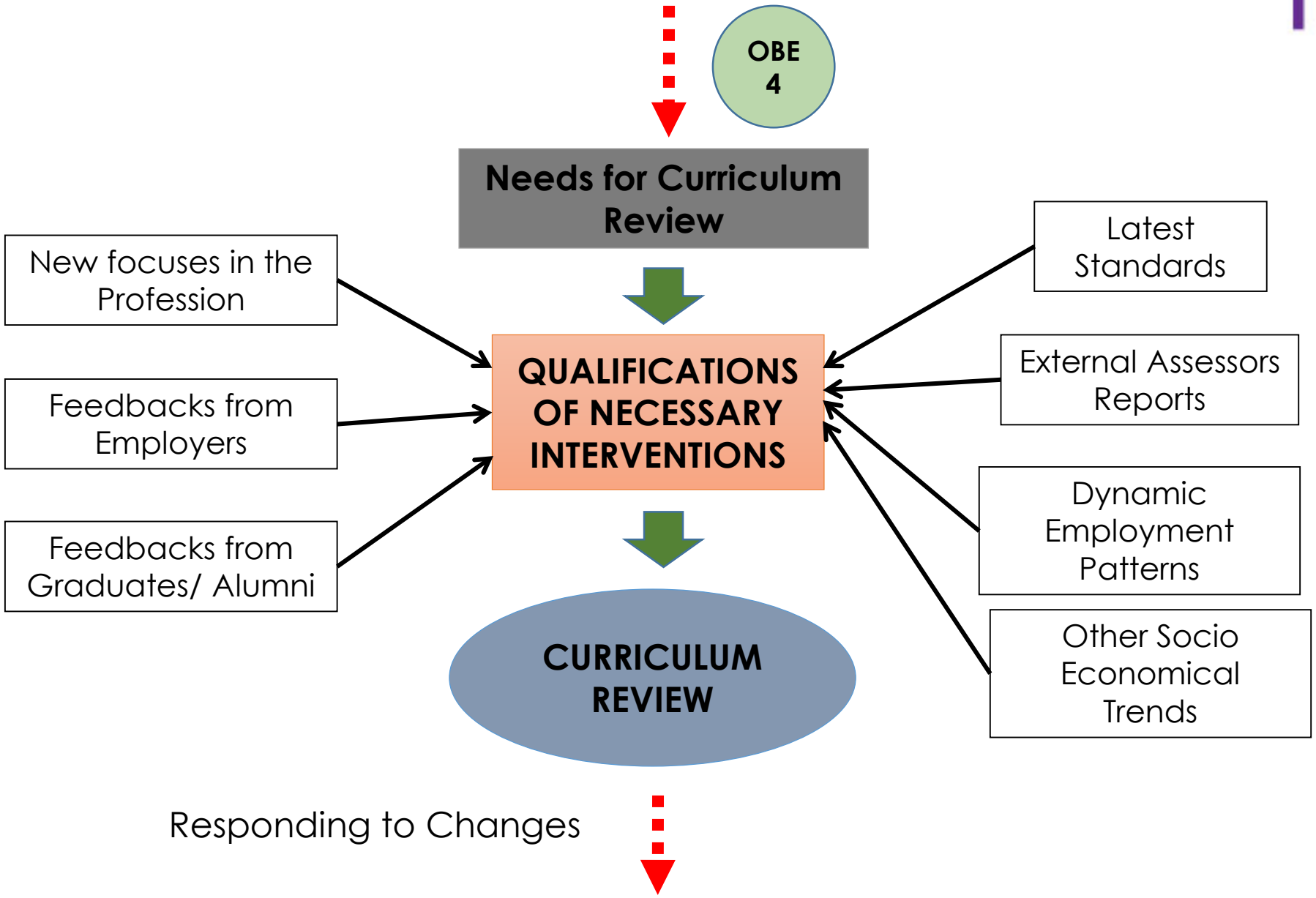
Curriculum Development Process



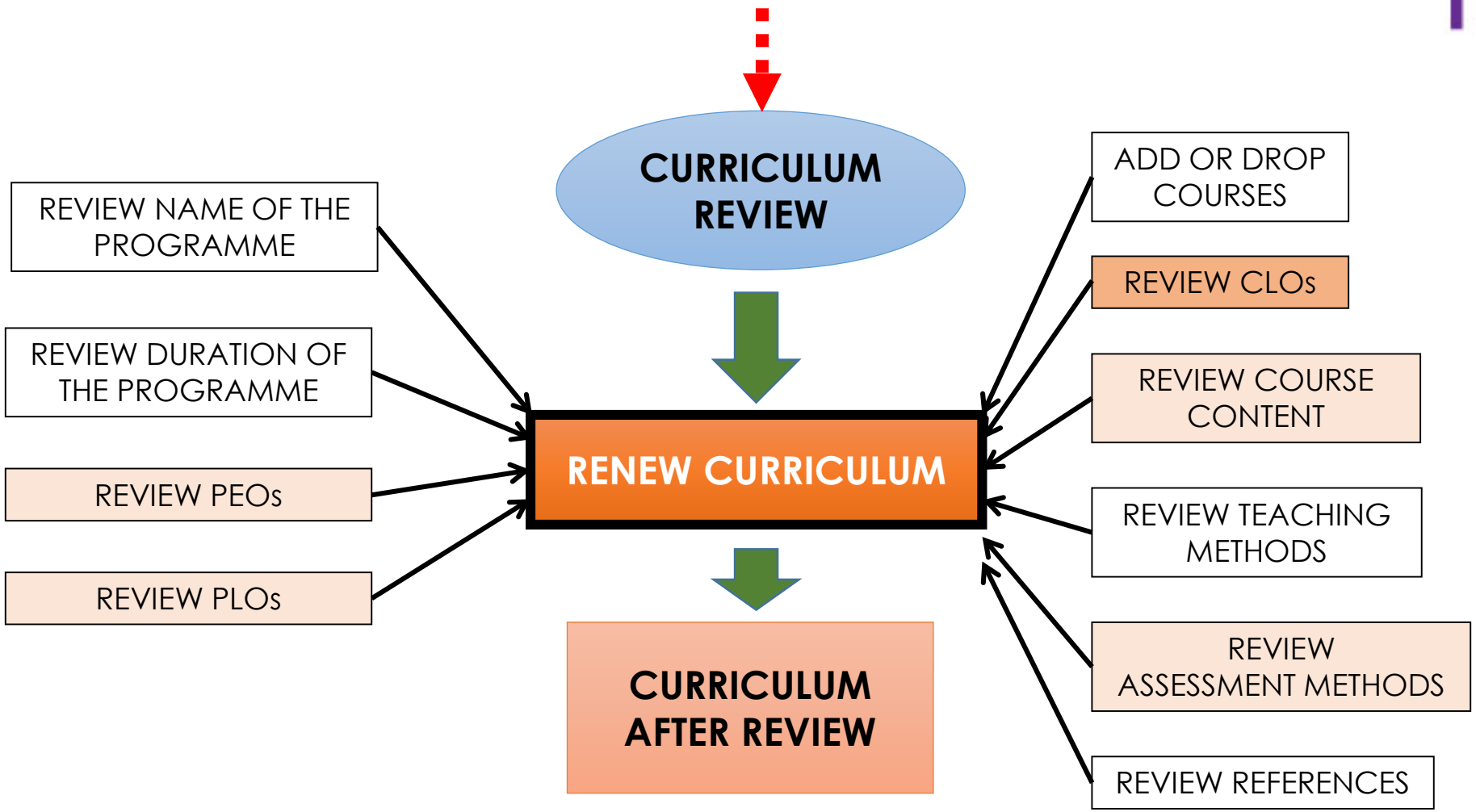
Curriculum Review Process



Curriculum Review Process



Curriculum Review Process



Changes of more than 30% of the entire curriculum must be submitted to MQA and KPM for approval – *Ref: Surat Makluman MQA Bil.5/2013 MQA 07 Jld.3 (88) 29 Julai 2013, Surat JPT:JPT(A) 1000/001/012/23 Jld.2(9) 10 Disember 2013*

mnz

Global Changes and Disruptive Future Impacting Higher Education

- World Economic Forum Report on Future of Work
- Industrial Revolution 4.0
- UNESCO report on Sustainable Development Goal 2016-2030
- Education Blueprint (Higher Education) 2016-2025
- Malaysian Qualification Framework 2.0
- COPPA 2.0
- IMF recent economic report https://www.imf.org/external/datamapper/NGDP_RPCH@WEO/OEMDC/ADVEC/WEOWORLD

Davos 2019

We're in a new economic era: Globalization 4.0. This is the theme of Davos 2019, which will bring together leaders from every sector and every part of the world to discuss how to cooperate on the challenges ahead. Find out more about the big ideas behind our Annual Meeting in this collection of articles by and about Davos participants.

Global Governance

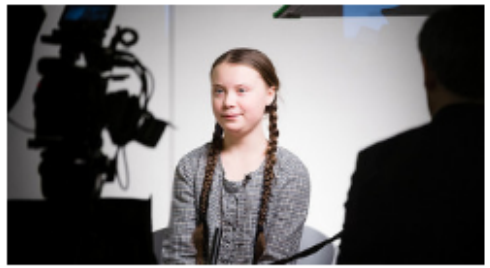
8 top stories from Davos 2019

From the destruction of the garden of Eden to the future of Venezuela.

Fourth Industrial Revolution

Future of work: 5 top insights from Davos experts

1) It's smart to hire people smarter than you



Environment and Natural Resource Security

"Our house is on fire." 16 year-old Greta Thunberg wants action

The Swedish student activist who has galvanized 100,000 fellow teens around the world to follow her example in striking for the climate.

2) New collar workers are the future

IBM CEO Ginni Rometty says that as automation continues apace the skills gap and job insecurity fears are real.

“When we talk of a skills crisis, I really do believe that 100 % of jobs will change,” she said.

But she argues the crisis is not impossible to overcome.

Rometty wants to see the development of a new education and career model: new collar, not blue collar or white collar. This means investing in skills development and responding in real time to the changing skills landscape. It also means breaking free from traditional models of recruiting those with 4-year and advanced degrees.

"We as a company are passionate that if we don't fix this issue, to bridge this skill right now, at the rate it's moving, you will have unrest," Rometty said. "And so people have to have a route in."

https://www.weforum.org/agenda/2019/01/future-of-work-tk-top-trends-from-davos/


WORLD ECONOMIC FORUM
Agenda
Initiatives
Reports
Events
About
English
TopLink
System Initiatives
Shaping the Future of Education, Gender and Work
Filter
Shaping the Future of Education, Gender and Work
How can talent be developed and deployed to ensure that more than 7 billion people can fulfil their potential?
Technology and globalization are significantly transforming work. However, education and training systems, having remained mostly static and underinvested
Read more
Overview
Contact

October 11, 2018

Regional Economic Outlook: Asia Pacific

Description:

Asia has achieved remarkable economic success over the past five decades. Hundreds of millions of people have been lifted out of poverty, and successive waves of economies have made the transition to middle-income and even advanced-economy status. And whereas the region used to be almost entirely dependent on foreign know-how, several of its economies are now on the cutting edge of technological advance. Even more striking, all of this has happened within just a couple of generations, the product of a winning mix of integration with the global economy via trade and foreign direct investment (FDI), high savings rates, large investments in human and physical capital, and sound macroeconomic policies.

https://www.imf.org/en/Publications/REO/APAC

SUSTAINABLE DEVELOPMENT GOALS

Search SDG Site

A-Z Site In

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Home | About | Campaigns | Goals | Take Action | Partnerships | News And Media | Learn More

About the Sustainable Development Goals

The Sustainable Development Goals are the blueprint to achieve a better and more sustainable future for all. They address the global challenges we face, including those related to poverty, inequality, climate, environmental degradation, prosperity, and peace and justice. The Goals interconnect and in order to leave no one behind, it is important that we achieve each Goal and target by 2030. Click on any specific Goal below to learn more about each issue.

https://www.un.org/sustainabledevelopment/sustainable-development-goals/

Goal 1: No Poverty

Goal 2: Zero Hunger

Goal 3: Good Health and Well-Being

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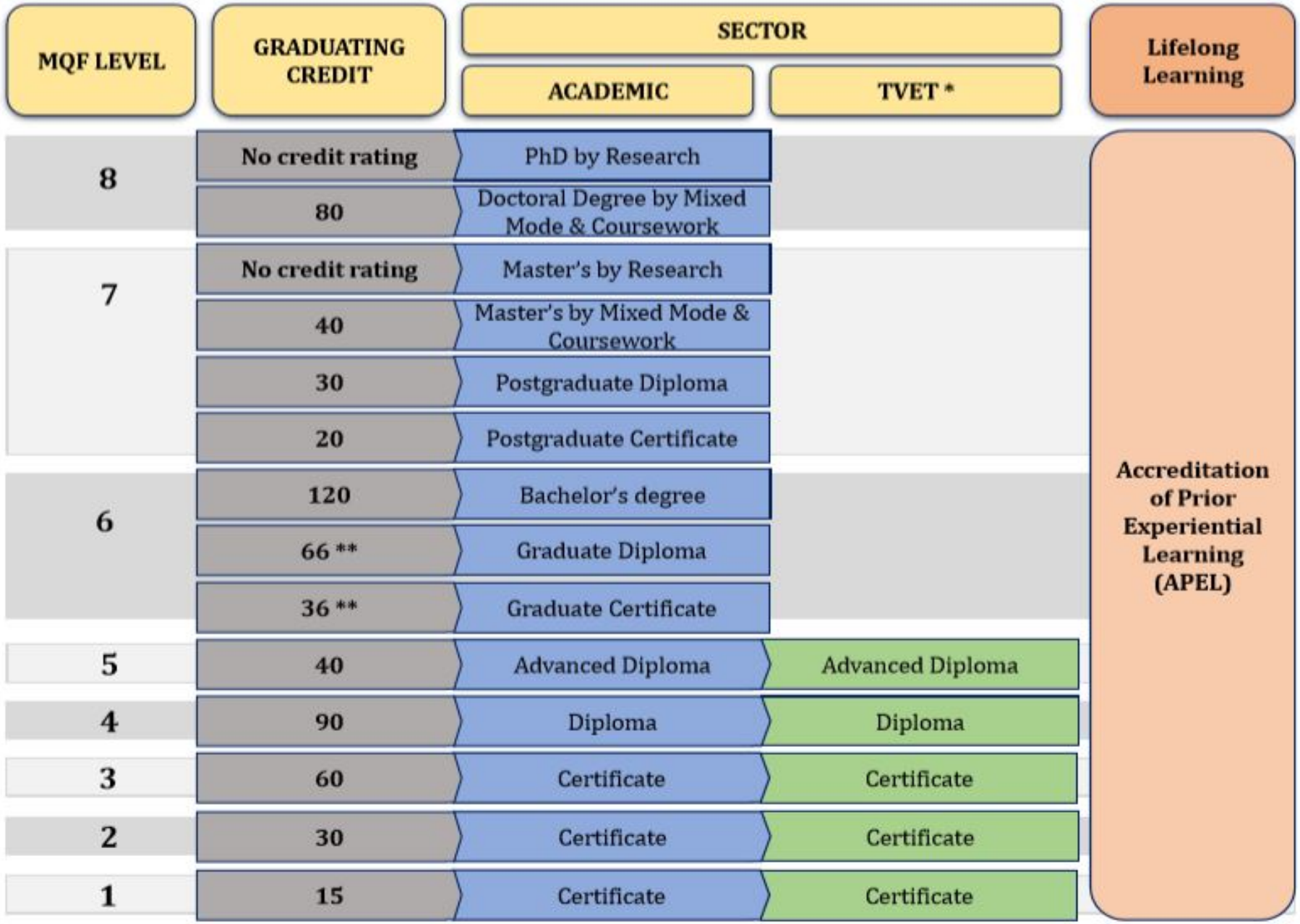
Malaysian Qualifications Framework 2nd Edition

Changes from MQF to MQF 2.0



* Technical and Vocational Education and Training

** Inclusive of 6 credits for U1 courses from general studies

Cluster of LO Domain

i. Knowledge and understanding
ii. Cognitive skills
iii. Functional work skills with focus on:
    a. Practical skills
    b. Interpersonal skills
    c. Communication skills
    d. Digital skills
    e. Numeracy skills
    f. Leadership, autonomy and responsibility
iv. Personal and entrepreneurial skills
v. Ethics and professionalism .

The level descriptors differentiate the:

i. **depth**, complexity and comprehension of	knowledge;	ii. cognitive skills;
iii. application of functional skills as well as the	breadth and sophistication of practice;	iv. personal skills;
v. ethics and professionalism; and	vi. scope and complexity of application, and	responsibilities.

		CLUSTER 1: Knowledge and Understanding
Diploma		Demonstrate systematic comprehension (understanding) of a broad range of complex technical and theoretical knowledge and skills to undertake varied, complex, routine and non-routine tasks/ study within a field/discipline.
Degree		**Describe** advanced and comprehensive, theoretical and technical knowledge and demonstrate relevant skills in a specialized field, or of a multidisciplinary nature related to the field of study, work and/or practice
Masters		**Demonstrate originality** and independence in undertaking analytical and critical evaluation, and synthesis of complex information, specialized concepts, theories, methods and practice in a field(s) of study/practice as a basis for research. **Apply** knowledge critically and integratively to manage and resolve complex problems/issues in a field(s) of study/practice through research, using advance techniques, tools, skills or by a range of approaches or (integrative) combination of approaches for decision making and producing new ideas, and/or innovative solutions or practice.

Mapping 8 vs 5 Domain LO

MQF Edition 1		MQF Edition 2
1. Knowledge;		Knowledge and understanding
2. Practical skill;		Cognitive skills
3. Social skills and responsibilities;		iii. Functional work skills with focus on: a. Practical skills b. Interpersonal skills c. Communication skills d. Digital skills e. Numeracy skills f. Leadership, autonomy and responsibility
4. Values, attitudes and professionalism;		Personal and entrepreneurial skills
5. Communication, leadership and team skills;		Ethics and professionalism
6. Problem solving and scientific skill;		
7. Information management and lifelong learning skill; and		
8. Managerial and entrepreneurial skills		

#Readittogether

- Pick one level
- Describe the Learner's Profile
- Describe the Level Descriptor of 5 clusters
- Understand the descriptions through keywords

Learner's Profile for Diploma

- Learners will have a broad knowledge of the general theories, principles and demonstrate skills in a focused area of study/discipline enabling them to undertake specialized work leading to a career path in technical, professional or management fields.
- Learners express interest in pursuing further education.
- Learners will have a commitment for appropriate ethical behaviour and express an appreciation of national aspirations within global perspectives.

Learner's Profile for Diploma in Information Technology

- Learners will have a broad knowledge of the general theories, principles and demonstrate skills in a focused area of Information Technology enabling them to undertake specialized work leading to a career path in technical, professional or management fields.
- Learners express interest in pursuing further education.
- Learners will have a commitment for appropriate ethical behaviour and express an appreciation of national aspirations within global perspectives.

Cluster 1: Knowledge & Understanding

- Demonstrate systematic comprehension (understanding) of a broad range of complex technical and theoretical knowledge and skills to undertake varied, complex, routine and non-routine tasks/ study within an information technology field.

Generic MQF 2.0

Cluster 1: Knowledge & Understanding

- Demonstrate systematic comprehension (understanding) of a broad range of complex technical and theoretical knowledge and skills to undertake varied, complex, routine and non-routine tasks/ study within an Information Technology field.

For Dip in IT, UTEM

Cluster 2: Cognitive Skills

- Identify, interpret, apply and evaluate general concepts, theory and/or operational principles within a well-defined context of a subject/discipline and/or work with minimal supervision.
- Solve problems of a common and well-defined kind as well as those others of a non-routine nature.

Generic MQF 2.0

Cluster 2: Cognitive Skills

- Identify, interpret, apply and evaluate general concepts, theory and/or operational principles within a well-defined context of a subject/discipline related to IT and/or work with minimal supervision.
- Solve problems of a common and well-defined kind as well as those others of a non-routine nature.

For Dip in IT, UTEM

Cluster 3: Practical Skills

- Apply a limited range of practical skills, essential tools, methods and procedures to perform required tasks/work.
- Reflect and make adjustments to practices and processes, as necessary, related to routine or non-routine tasks.

Generic MQF 2.0

Cluster 3: Practical Skills

- Apply a limited range of practical skills, essential tools, methods and procedures to perform required tasks/work.
- Reflect and make adjustments to practices and processes, as necessary, related to routine or non-routine tasks.

Dip in IT UTEM

Cluster 3: Interpersonal & Communication Skills

- Communicate clearly, both orally and in writing, ideas, information, problems and solutions, to others including peers, experts and non-experts.
- Interact effectively, individually or as member of a team with supervisors, peers and subordinates.
- Demonstrate a high level of proficiency in at least one other language besides the national language.

Generic MQF 2.0

Cluster 3: Digital & Numeracy Skills

- Use a range of digital applications to support study/work as well as to seek and process data related to work or study.
- Demonstrate skills to use and interpret routine and complex numerical and graphical/visual data.

Generic MQF 2.0

Cluster 3: Leadership, Autonomy & Responsibility

- Perform work with significant degree of personal responsibility and autonomy under broad guidance and direction on well-defined and non-routine study/work activities performed in a variety of contexts.
- Lead and manage diverse teams to manage issues at work.

Generic MQF 2.0

Cluster 4: Personal & Entrepreneurial Skills

- Identify self-improvement initiatives and possibilities for further education.
- Develop realistic career and professional goals.
- Explore and engage in activities relating to entrepreneurship.
- Show interest in and participate at professional and civic activities leading to local and region wide communities building.

Generic MQF 2.0

Cluster 5: Ethics & Professionalism

- Demonstrate ability to understand and comply with, organizational and professional ethics in work environment.
- Demonstrate ability to apply sustainable practices in the context of local and global work and social environment.

Generic MQF 2.0

Learner's Profile: Degree

- Learners will demonstrate a thorough comprehension of broad based and coherent body of knowledge and skills for para and full professional work embedding research, innovation and creativity in specialized areas.
- Demonstrate professionalism, resilience commitment to an ethical work culture, sustainability issues and an awareness of global citizenship in alignment with national aspirations.

MQF 2.0 2019

Learner's Profile: Degree in Computer Science

- Learners will demonstrate a thorough comprehension of broad based and coherent body of knowledge and skills for para and full professional work embedding research, innovation and creativity in computer science.
- Demonstrate professionalism, resilience commitment to an ethical work culture, sustainability issues and an awareness of global citizenship in alignment with national aspirations.

Activity: group

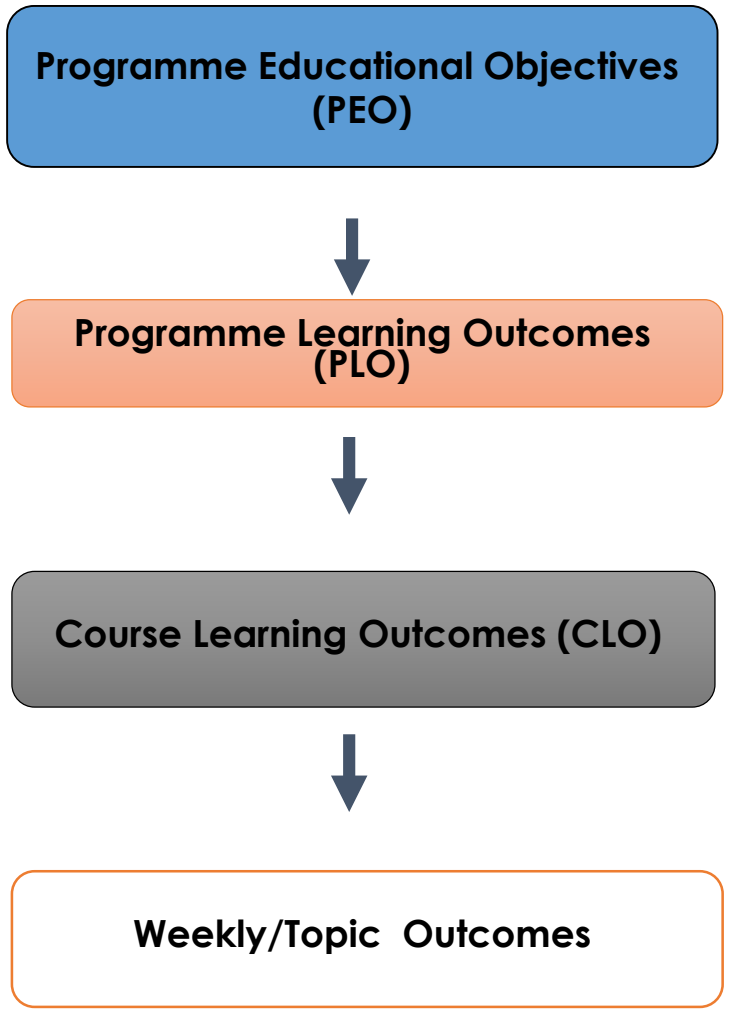
- Do it for each cluster
- Add specific terminology, suitable nomenclature to replace the generic level descriptor.
- Re write the descriptor in each cluster so that it will be comprehensible as Program Learning Outcome.
- Take note that these are attainable 3 years after the student first enrolled.

Reference Materials

- MQF 2.0
- COPPA 2.0
- GGP Curriculum Development
- Programme Standard Computer & Information Technology
- SDG Goals Report for Malaysia
- SDG Goals Report for the world
- IR 4.0 Document

Mapping PEO-PLO

Different Levels of Learning Outcomes



Few years after Graduation – 4 to 5 years

Employer Survey, Alumni Survey

Competent engineers who are leaders in …..

Upon graduation - Nine (9) MOE Learning Outcomes

My3S, Exit Survey, Prog.Survey

..will be able to demonstrate critical thinking skills to solve

Upon course completion Use Bloom's Taxonomy of Learning Domains (C/A/P)

Sum/Form/Cont. Assessments

.. will be able to explain the physical principles of ……

Upon topic completion Use Bloom's Taxonomy of Learning Domains (C/A/P)

Sum/Form/Cont. Assessments

.. will be able to explain Archimedes principle of ……

Shahrin Mohamed, 2007

CHARACTERISTICS OF A GOOD COURSE OUTCOME

- should be mapped to the learning domain in Blooms or other Taxonomy .
- Must state the **major** skills, knowledge, attitude or ability that students will acquire.
- expressed in terms of measurable and/or observable behaviors (*hint*: ask yourself how you would *test* the outcome).
- more general than behavioural objectives.

CHARACTERISTICS OF A GOOD COURSE OUTCOME (CONT.)

- Each course is suggested to have between 3 to 5 CLOs. (Garispanduan Penulisan Akademik , JPT, KPM)
- Each course will address between 3 to 4 PLOs. (Garispanduan Penulisan Akademik , JPT, KPM)

1.4.3 Hasil Pembelajaran Kursus

Setelah PLO disediakan, hasil pembelajaran kursus (*Course Learning Outcomes*, CLO) bagi setiap kursus perlu sejajar dengan PLO. Pernyataan CLO perlu jelas dari aspek kognitif, psikomotor dan afektif yang perlu dicapai oleh para pelajar di akhir kursus. Secara umumnya, setiap kursus dalam mana-mana program akademik dicadangkan mempunyai tiga hingga lima pernyataan CLO yang menyumbang tiga hingga empat PLO sahaja.

(Garispanduan Penulisan Program Akademik, KPM)

CHARACTERISTICS OF A GOOD COURSE OUTCOME (CONT.)

- Each CLO is mapped to one learning domain only

At the end of the course the students will be able to:

CLO1 – explain the basic principles of immunisation (C2,A3,P4, PLO1,PLO

At the end of the course the students will be able to:

CLO1 – explain the basic principles of immunisation (C2,PLO1)

Characteristics of a Good Course Outcome (Cont.)

- Should be written in clear language and in the future tense

At the end of the course the students **WILL** be able to:

CLO1 – explain the basic .....

At the end of the course the students **SHOULD** be able to:

CLO1 – explain the basic .....

CHARACTERISTICS OF A GOOD COURSE OUTCOME (CONT.)

- Begin with an action verb (e.g., write, install, solve, and apply).

At the end of the course the students **WILL** be able to:

CLO1 – explain the basic .....

(Asas Pembelajaran dan Pengajaran Pensyarah Institusi Pengajian Tinggi, KPM)

Pembinaan pernyataan CLO bagi setiap kursus boleh dimantapkan lagi dengan mengambil kira perkara-perkara berikut:

i). CLO mempunyai unsur Kata kerja (*Verb*), Syarat (*Condition*) dan Piawai (*Standard*);

ii). CLO mestilah dapat diukur dan dicapai serta bersesuaian dengan topik-topik yang terkandung dalam kursus yang diajar. CLO ini juga perlu berpandukan kepada domain Kognitif iaitu merujuk kepada tahap pemikiran tertinggi yang bakal dicapai. Domain Afektif & Psikomotor pula berpandukan kepada kaedah penyampaian (*delivery method*) yang digunakan.

(Garispanduan Penulisan Program Akademik, KPM)

3 components of a course outcome

1) **VERB** (describes what the learner will be doing, or the behaviour)

By the end of this course/semester, students should be able to:

- describe the principles used in designing X.
- evaluate the strengths and weakness of …

Well-written verbs must be (SMART)
- Specific
- Measurable
- Achievable
- Realistic
- Time frame
- Observable

Avoid these words
- understand
- appreciate
- know
- learn
- aware
- familiar

3 components of a course outcome

2) **CONDITION** (context under which the behaviour is to occur)

- describe the principles used in designing X.(V)
- describe orally the principles used in designing X. (V&C)
- design a beam. (V)
- design a beam using Microsoft Excel design template . (V&C)

3 components of a course outcome

3) **STANDARD** (criteria of acceptable level of performance)

- describe the principles used in designing X.(V)
- describe orally the principles used in designing X. (V&C)
- describe orally the five principles used in designing X. (V&C&S)

- design a concrete beam. (V)
- design a concrete beam using Microsoft Excel worksheet. (V&C)
- design a concrete beam using Microsoft Excel worksheet based on **MS EN 1992-1-1: 2010 (NATIONAL ANNEX)** (V&C&S)

Course Outcomes: An example

Identify the a) verb b) condition c) standard.

- Calculate, from the first principles, the beam deflection at the centre to within one decimal point.

Identify the a) verb b) condition c) standard.

- write an effective course outcomes that include lower and higher order cognitive skills for a one-semester course.

Common weaknesses in writing CO

- Non-observable/Non-measurable CO

At the end of the course, the students should be able to:

1. understand the theory of X.
2. know how to write an effective learning outcomes
3. appreciate the importance of keeping the environment clean.

- Vague CO or CO that are too broad or general

By the end of the course, students should be able to:

1. use the computer.
2. make presentations.
3. comment on designs.
4. design research

Poor CLOs

Poor:

- Students will demonstrate knowledge of the history, literature and function of the theatre, including works from various periods and cultures.

Better:

- Students will be able to explain the theoretical bases of various dramatic genres and illustrate them with examples from plays of different eras.

Outcome example	Action verb	Condition	Standard	Level
By the end of the BIS course , students will be able to apply basic Web development skills to an actual Web page on the internet	Apply	basic Web development skills	actual Web page on the internet	C3 Application

Hand's ON: Mapping CLO to PLO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