

KURSUS KAEDAH PENTAKSIRAN ALTERNATIF INOVATIF

BERSEMPENA BULAN AKADEMIA TAHUN 2022



31 Oktober 2022 (Isnin)

9.00 pg - 5.00 ptg

Live on webex



PENCERAMAH

PROF. MADYA IR. DR. CHE MAZNAH MAT ISA
Pengarah Bersekutu, Jabatan Akreditasi Kejuruteraan,
Lembaga Jurutera Malaysia

Prof. Madya,
Pusat Pengajian Kejuruteraan Awam, UTM



MODERATOR

TS. DR. SANI IRWAN SALIM
Timb. Pengarah (Kecemerlangan Akademik)
CAES UTeM

KOMPONEN

Pengajaran dan Pembelajaran

KOMPETENSI

Penyampaian

TAHAP

Pertengahan

Sinopsis

Kursus ini akan mededahkan kepada peserta tentang kaedah pentaksiran alternatif yang direkabentuk untuk menilai pencapaian pelajar dalam menyelesaikan permasalahan komuniti yang berkaitan dengan amalan kejuruteraan. Kaedah ini dapat membantu pelajar dalam penyelesaian masalah kompleks dan pembangunan skill komunikasi bersama masyarakat. Kaedah pentaksiran alternatif ini juga menumpukan aspek kreativiti, rekapipta, rekabentuk prototype, pengujian dan analisis dalam penyelesaian masalah komuniti.

Di akhir sesi kursus ini, peserta dapat:

- Mengenalpasti kaedah pentaksiran alternatif yang bersesuaian dengan kursus.
- Memahami komponen pentaksiran alternatif yang diperlukan untuk proses penilaian prestasi pelajar
- Merancang kaedah terbaik untuk pelaksanaan kaedah alternatif

Pendaftaran

<https://bit.ly/pentaksiranCAES> atau

Scan QR Kod



Anjuran :

Pusat Kecemerlangan dan Kesarjanaan Akademik

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CAES.UTeM



Background



UNIVERSITI
TEKNOLOGI
MARA

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Pengajian Kejuruteraan



B. ACADEMIC QUALIFICATION

- 2011 – 2016: **PhD in Civil Engineering**, Universiti Teknologi MARA, Shah Alam, Selangor.
- 1998 – 2000: **MSc. in Integrated Construction Project Management**, Universiti Teknologi MARA, Shah Alam, Selangor, Malaysia
- 1982 – 1987: **BSc. In Civil Engineering**, University of North Carolina, Charlotte, North Carolina, United States of America
- 1981 – 1982: **Pre-Engineering**, Columbia Greene-Community College, Hudson, New York, United States of America

C. PROFESSIONAL QUALIFICATION & CERTIFICATION

No.	Qualification/ Certification	Body/Authority/Organization	Year Awarded
1.	Registered Graduate Engineer	Board of Engineers Malaysia	1998- current
2.	Registered Professional Engineer with Practicing Certificate (PEPC)	Board of Engineers Malaysia Registration No: C112530 Branch of Engineering: Civil	2005- current
3.	Registered Member (MIEM)	Institute of Engineers Malaysia M19405	2005 - current
4.	Certified Head of Panel Evaluator	Engineering Accreditation Council (EAC),	2010 - current
5.	Certified Head of Panel Evaluator	Engineering Technology Accreditation Council (ETAC),	2017 - current
6.	CDIO Certified Master Trainer	Teaching & Learning Engineering Framework	2012 - current
7.	MQA APEL A & C: Panel Evaluator	Institute of Continuing Education and Professional Services (ICEPs), UiTM	2020 - current
8.	Registered IEEE Member	IEEE	since 2021
9.	Internal Auditor/Accreditation Panel Evaluator	Diploma Programme (ETAC) & Degree Programme (EAC) since 2017 and Post-Graduate Programmes (Master & PhD) (MQA) College of Engineering	2017 & 2020 - current
10.	External Examiner	Civil Engineering Programmes in Various Public and Private Universities and Polytechnics in Malaysia	2018- current
11.	Liaison Officer	Memorandum of Agreement (MOA) between Universiti Teknologi MARA and Veltech University, Chennai India	2018 - 2022
12.	International Accreditation Review Trainee	International Engineering Alliances for Washington, Sydney, and Dublin Accords	
13.	International Accreditation: Observer	Canadian Engineering Accreditation Board	
14.	International	IABEE (Indonesia Accreditation	

D. WORK EXPERIENCES

No	Nama Jawatan (Position)	Tahun (Year)	Organisasi/Majikan
1.	Lecturer	Apr. 1991 – Feb. 1994	Faculty of Civil Engineering, Federal Institute of Technology, Kuala Lumpur
2.	Lecturer	Feb.1994 – Nov. 2002	Faculty of Civil Engineering, Universiti Teknologi MARA, Shah Alam, Selangor
3.	Development Officer	Dec.2002 – Apr. 2006	Development Office, Universiti Teknologi MARA Shah Alam, Selangor
4.	Senior Lecturer	1 Jul. 2005 – present	Faculty of Civil Engineering Universiti Teknologi MARA Shah Alam, Selangor
5.	Head of Quality Unit	1 Dec. 2017 – 30 Nov. 2019	Faculty of Civil Engineering, Universiti Teknologi MARA Shah Alam, Selangor.
6.	Associate Director (Technician): Engineering Technology Accreditation Council (ETAC)	1 July 2018 – 30 June 2020	Engineering Technology Accreditation Department, Board of Engineers Malaysia
7.	Associate Director (Civil): Engineering Accreditation Council (EAC)	1 June 2020 – 31 May 2022 Re-appointment 1 June 2022 – 31	Engineering Accreditation Department, Board of Engineers Malaysia

15.	Expert Outcome-Based Education for ASEAN	European Union Support to Higher Education in the ASEAN Region (SHARE).	22 March 2022
16.	Editorial Board Member	Journal of Management Scholarship	2022
17.	Working Group Committee for EAC & ETAC Standard 2022	Engineering Accreditation Department, Board of Engineers Malaysia.	2020 - present

Short Bio



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- An Associate Professor at the School of Civil Engineering, College of Engineering, UiTM (1994), and a Professional Engineer with Practicing Certificate (PEPC) under the Board of Engineers Malaysia (BEM) since 2005.
- Given a responsibility as the Head Quality Unit for Civil Engineering Faculty, UiTM from 2017 – 2019.
- Appointed as the Associate Director (ETAC-Technician) (2018-2020) and is currently the Associate Director (EAC-Civil) at the Engineering Accreditation Department, BEM (2020-2024).
- Certified Head of Panel Evaluator for both EAC and ETAC, the MQA APEL A & C panel evaluator and internal auditor for iQMS, UiTM.
- Master trainer in OBE, a certified Master Trainer on the CDIO Framework for Engineering Education (2012)
- External Examiner (Accreditation) for Civil Engineering programmes at various private and public universities in Malaysia.
- Trainee for the International Accreditation Review, International Engineering Alliances for Washington, Sydney, and Dublin Accords, and was an observer for the International Accreditation for IABEE (Indonesia Accreditation Board for Engineering Education) Review Team, and for the Canadian Engineering Accreditation Board, under the International Engineering Alliances for Washington Accord
- Appointed as the Expert Outcome-Based Education for ASEAN European Union Support to Higher Education in the ASEAN Region (SHARE) (2022).
- Involved in the development of new curriculum and review of curriculum for the diploma, degree and master programmes and appointed in various committees within and outside the University.
- Delivered hundreds of workshops, training, and conference papers on engineering education, accreditation, and outcome-based education to universities locally and internationally.
- Actively involved in research and consultancy projects related to civil engineering, engineering education and accreditation and has published in various journals and conferences.
- Won various research and academic awards and recently has won the AKRI2022 under Alternative Assessment category.



Outline of Presentation

- ❖ Learning Outcomes
- ❖ Part A: Introduction to Alternative Assessment
- ❖ Part B: Knowledge/Experience Sharing on AKRI2022
- ❖ Part C: Design of Alternative Assessment
- ❖ Part D: Design of Rubrics
- ❖ Part E: Continual Quality Improvement
- ❖ Conclusions



Learning Outcomes I

At the end of this 1-day course, the participants should be able to :

1. Understand the purpose of assessment
2. Understand the concept of alternative assessment
3. Describe different types of alternative assessment
4. Identify suitable alternative assessment to be used in the teaching, learning and assessment (TLA) activities
5. Design an authentic alternative assessment in the TLA activities

Learning Outcomes II

At the end of this 1-day course, based on the EiS-Dt Innovative Alternative Assessment, the participants should be able to :

1. Understand the design process of the EiS-Dt Innovative Alternative Assessment
2. Carry out constructive alignment used in the teaching, learning and assessment (TLA) activities
3. Design an authentic alternative assessment in the TLA activities with performance criteria matrix (rubrics)
4. Continually improve the TLA activities

Introduction

- The **future generation of engineers** must possess a diverse range of skills to fulfil the society's demands.
- These skills are normally **acquired over time**, particularly when going through an engineering degree.
- According to Dieck-Assad *et.al* (2021) **sustainable development competences** in engineering education include **critical thinking, systemic thinking, inter-trans-discipline and values and ethics**.
- Some of the essential skills that would impress the industry are **problem-solving, teamwork, creativity, communication, attention to details, leadership, and pressure management** (Precision People, 2022).

TOP 10 Skills of 2025

	Type of skill
● Analytical thinking and innovation	● Problem-solving
● Active learning and learning strategies	● Self-management
● Complex problem-solving	● Working with people
● Critical thinking and analysis	● Technology use and development
● Creativity, originality and initiative	
● Leadership and social influence	
● Technology use, monitoring and control	
● Technology design and programming	
● Resilience, stress tolerance and flexibility	
● Reasoning, problem-solving and ideation	



Introduction



- It is a known fact that engineering education stands firm on **mathematical knowledge** and **the sciences**.
- The assessment concept was altered in the 90s, to suit the call for accreditation. Capstone projects were introduced so that it can encompass the **authenticity of real life** in most engineering schools (Masten & Fleisig, 2008).
- Assaf & Abdelmajid (2022) claim that there are a variety of methods to assess authentically, and **alternative assessment** has taken the limelight.
- This paradigm shift in engineering education has also caused the alternative assessment to bulldoze its way to **ensure sustainable development**.

Purpose of Assessment



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Assessment – process that determines the level of attainment of the outcomes

PURPOSE OF ASESSMENT

WHY

IMPROVEMENT –
curriculum,
instructional
practice, student
services

ACCOUNTABILITY
– institution, public,
resource provider

ACCREDITATION
– quality
assurance,
accrediting bodies

Conventional vs Alternative Assessments

38

ALTERNATIVE ASSESSMENT IN HIGHER EDUCATION

CONVENTIONAL ASSESSMENT VERSUS ALTERNATIVE ASSESSMENT

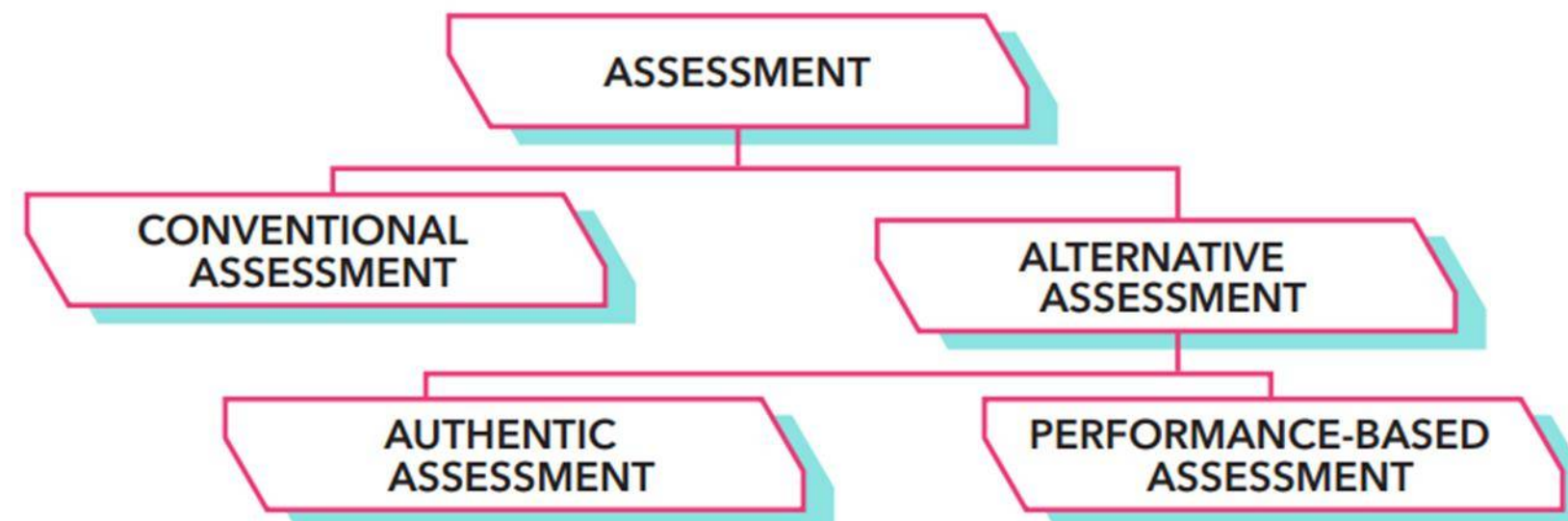
CONVENTIONAL ASSESSMENT

- ▶ Depends on learner learning proxy measures to represent target skills
- ▶ Encourages memorisation of correct answers
- ▶ Aims to measure acquisition of knowledge
- ▶ Non-interactive performance
- ▶ Foster extrinsic motivation
- ▶ Usually depends on forced-choice and written measures

ALTERNATIVE ASSESSMENT

- ▶ Depends on direct measures of the target skill
- ▶ Encourage divergent thinking in generating possible answers
- ▶ Aims to enhance the development of meaningful skills
- ▶ Interactive performance
- ▶ Foster intrinsic motivation
- ▶ Promotes integration of various written and performance measures

TYPE OF ASSESSMENT



- Alternative assessment is used to examine **students' performance in authentic situation** to improve students' **higher order thinking skills** specifically in higher education institutions (HEIs) (Yusop, 2022).
- Ghaffar and Yusop (2018) in their earlier work divided the alternative assessments into five (5) categories:
 - (i) **peer and self-assessment,**
 - (ii) **group-based assessment,**
 - (iii) **performance-based assessment,**
 - (iv) **portfolio-based assessment,** and
 - (v) **technology-based assessment**

Project-based Alternative Assessment Technique

ALTERNATIVE ASSESSMENT TECHNIQUE



Alternative Assessment

- Project-based assessments measures students' ability to **synthesize** what they have learnt in their classes with the in-depth exploration of the topic, together with the ethical, entrepreneurial, environmental and safety considerations (Miligan, 2017).
- Assessments must **align the learning outcomes of a course** with **higher order thinking skills** to meet the needs of sustainable development (Rompasso et.al, 2020 & Ruiz-Primo, M., Solano-Flores, G., Li.. 2014).
- Alternative assessment is **part of the learning process (for learning)**. It offers opportunities for students to develop their own skills.
- Race et al. (2005) mentioned that assessments are as a way **intensifying students' metacognition** and has a positive washback.

Alternative Assessment

- There are also concerns of the **assessor** in the process of alternative assessment.
- **Clear rubrics** must be in place for objectivity of assessment.
- All areas to be measured must be identified with **clear and concrete descriptors**, which will be translated to **scores** (Goodrich, 1996; Dodge, 2001; Judith A. Arter, 2001).
- In alternative assessment, feedback is often given either at **regular intervals** or whenever seen necessary. Students have the **chance to improve themselves** in the process of the assessment (Hattie, 1999; Stevens & Levi, 2005; Nicol, 2010; Hunter et.al., 2022).
- On the other hand, **traditional assessments** normally will have to come to **an end before feedback is given**. Sometimes, students do not have the opportunity to improve.

Alternative Assessment

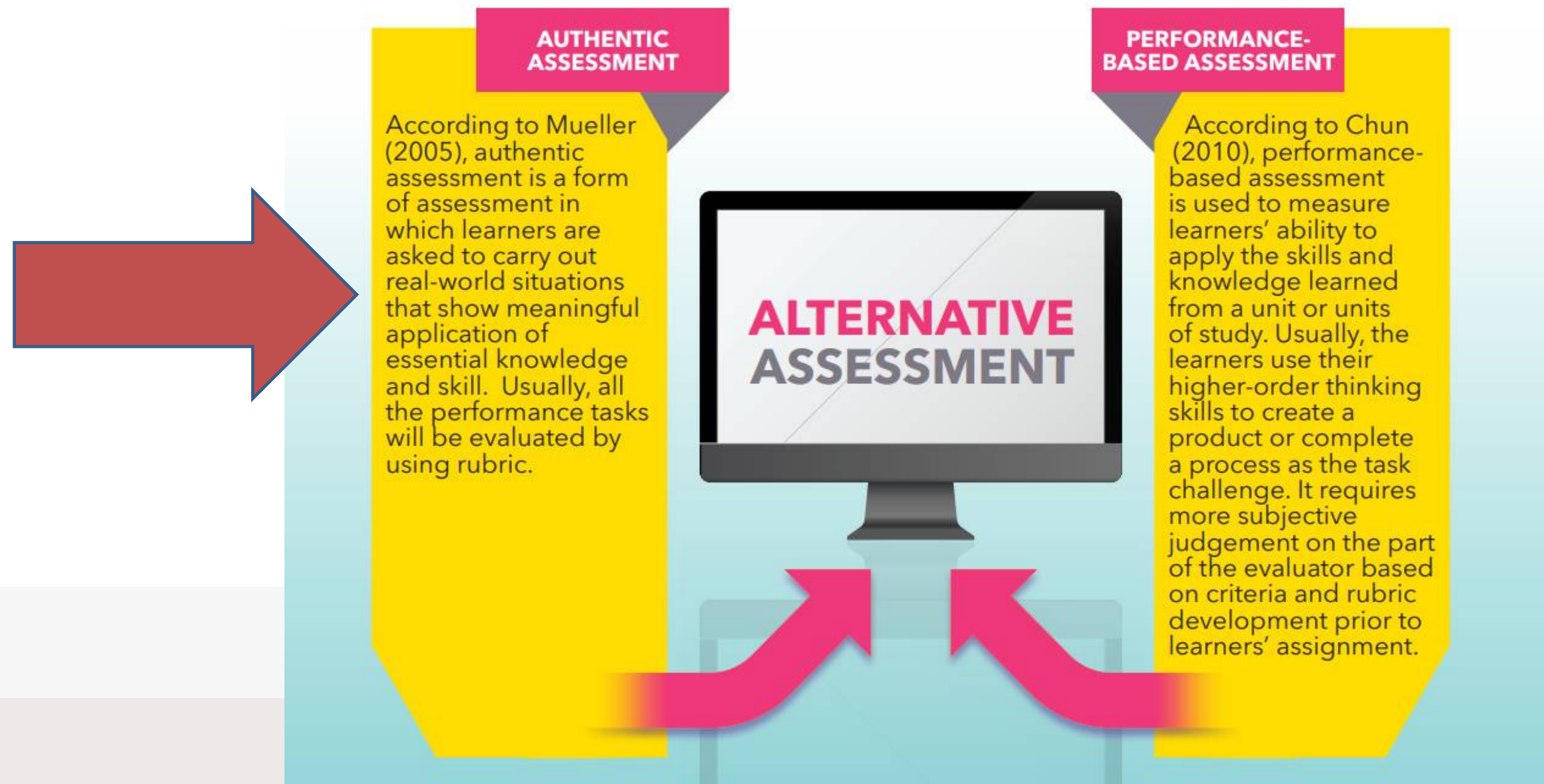


- Today, after two decades of the introduction of design projects as alternative assessments, young engineers are still having difficulties to adapt to the industry.
- The reason being there is a need to fulfil the demands of not only the **21st century skills** but also the **Industrial Revolution 4.0, Sustainable Development Goals (SDGs), etc.**
- Thus, the design project at tertiary level has surged to meet higher expectations.
- The various **capabilities of alternative assessment** and its benefits are also supported by researchers such as DeFabio, (1993); Jamentz (1994); and Tillema (2009) who agreed that the proponent of **alternative assessment is the best predictors to examine learners' performance in authentic situation** and that they can also improve learners' **higher order thinking skills** specifically in higher educational institutions (Davis 2011; Lin et al. 2013).
- These researchers agree that by fulfilling **assessment for learning**, the instructors or facilitators can **adjust their teaching strategies** just as the **learners can adjust their learning strategies**.



What is an authentic alternative assessment?

ALTERNATIVE ASSESSMENT



Alternative Assessment

- The **traditional model of passively learning facts and reciting them out of context** is **no longer sufficient** to prepare students to survive in current situation.
- Solving **highly complex problems** requires students to have both fundamental skills and Digital Age skills.
- Hence, **assessing authentic performances** should become an integral part of the **instructional cycle**, and the **feedback provided by the facilitator and peers** should be **formative** to help learners diagnose their strengths and weaknesses.
- Not only does it enable **learners to develop and shape their own learning**, but it can also foster greater **levels of self-concept and motivation**.
- Therefore, it is believed that **formative assessment practices** can help create options for learners of various learning levels and provide opportunities for **applying practical, critical, original**, and even encourage the usage of **higher order thinking skills**.

Examples of Courses Implementing Alternative Assessment

➤ Industry-based Integrated Design Project

- Employed Problem-Based Learning teaching method
- Provides students opportunity to apply their skills and knowledge toward developing a robust understanding of what it means to be an engineer
- Supports students to make **transition from classroom-based activities to professional communities of practices**
- Working with a supervisor from the industry in a type of collaboration, students are challenged with a real-world problem.

➤ Final Year Project

- Commonly known as **research project**
- Best means of introducing an **investigative research-oriented approach** to engineering studies and sourcing of knowledge externally from the real-world
- Involves **review of open research literature** which challenges students to interpret new information, perform critical analysis, form personal opinions and judgements, and learn independently
- Open research literature is one of the assessments that **employs constructivist technique.**

Constructivist learning theory underpins a variety of student-centered teaching methods and techniques which contrast with traditional education, whereby knowledge is simply passively transmitted by teachers to students

Examples of Courses Implementing Alternative Assessment

► Industry Training or Work-based Learning

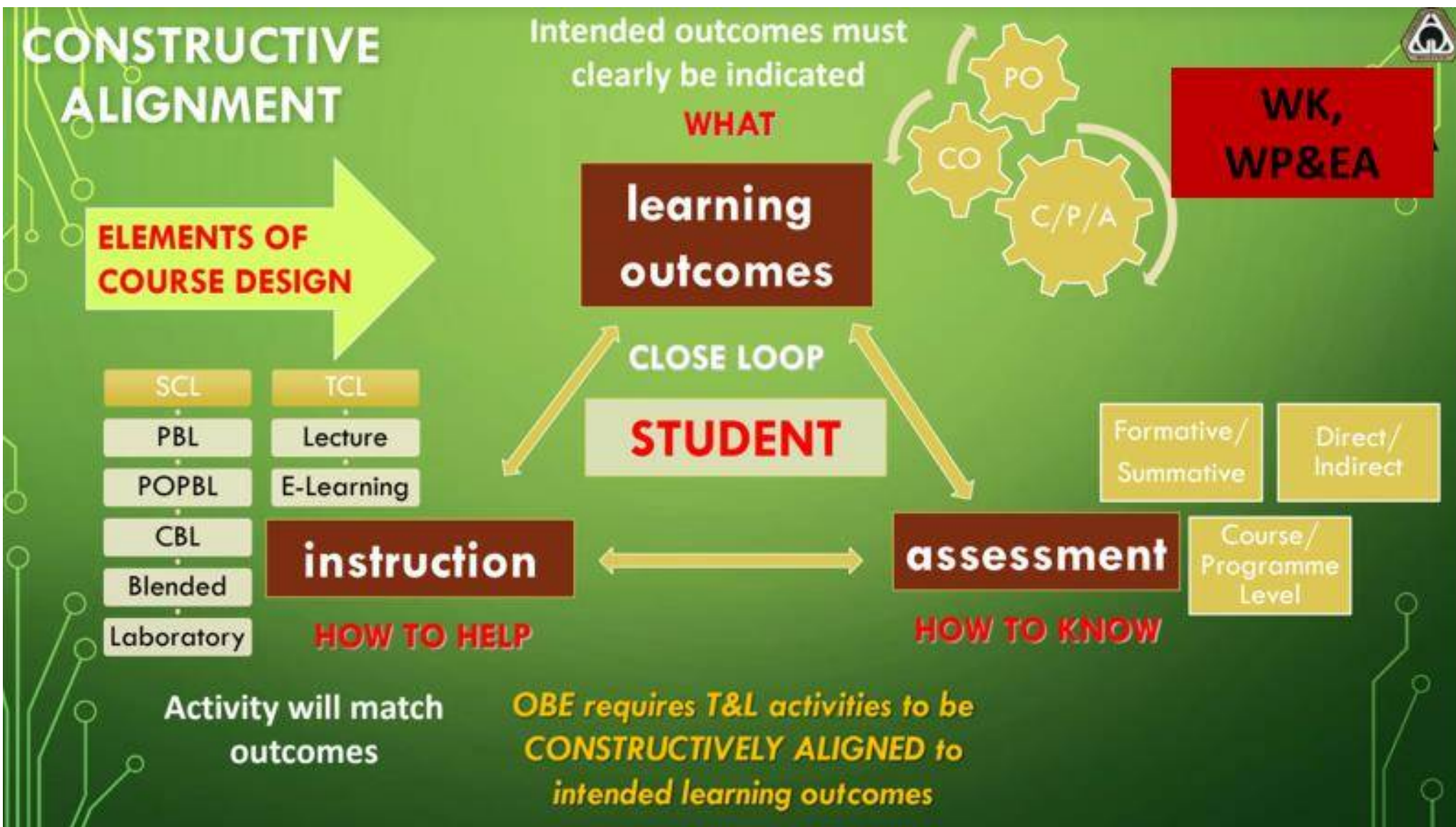
- Provides opportunities for students to engage in **experiential education, integrating theory with work experience**
- Provides students with knowledge base and skills to help them **translate isolated and abstract concepts into practical applications** of that knowledge.

► Laboratory experiences

- Important elements in engineering education, **bridging the gaps between engineering theories and real practices through cultivation of hands-on skills**
- **Open-ended approach** - the problem may have multiple solutions and there is no obvious solution. Being a subset of problem-based learning, open-ended laboratory focuses on student's ability to design experiments, identify the variables or results or information to be collected and identify the appropriate instruments for the assigned problem. This approach suits the need to produce engineering graduates that are self-directed, reflective, demonstrate ability to integrate knowledge, think critically, practice life-long learning and work collaborative with others.

Constructive Alignment

- Alternative assessments are used to measure applied proficiency more than it measures knowledge.
- The educators can apply any alternative assessment strategies and techniques that are suitable for their courses.
- Thus, the alternative assessment techniques need to be evaluated based on criteria or marking standards usually designed in the form of a rubric as a measuring tool in order to decide learners' performance or a study programme.
- **Underpinning alternative assessment is constructive alignment.**



Example of Constructive Alignment for Engineering Curriculum

Concluding Remarks on Alternative Assessment Model

- Alternative assessments provide options for educators to explore and obtain evidence of their learners' learning provided it is constructively aligned to the learning outcomes.
- Some various strategies and techniques can be used for conducting alternative assessments.
- However, when using alternative assessments, measuring tools like rubrics are commonly used.
- Regardless of whether having test questions in high stake exams or authentic performance-based tasks, which require the use of rubrics, these instruments, or tools for measuring learning, need to be valid and reliable. Only then educators, without a doubt, will be able to confidently ensure that learning has evidently occurred in achieving the learning outcomes regardless of contexts (face-to-face or virtual/ online).
- Using digital tools in 21st century education as an alternative assessment is crucial.

Sesi Perkongsian Anugerah Khas YB Menteri Pengajian Tinggi - Rekabentuk Kurikulum dan Penyampaian Inovatif (AKRI): Johan Kategori: Pentaksiran Alternatif



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An Innovative Alternative Assessment for Engineers in Society Course Integrating SULAM & Design Thinking (EiS-Dt)



Leader: AP Dr. Ir. Che Maznah Mat Isa

Team members: Dr. Ir. Mohd Khairul Kamaruddin,

Dr. Siti Hamidah Abdull Rahman & Dr. Nur Izzati Ab Rani

An Innovative Alternative Assessment for the Engineers in Society Course Integrating SULAM and Design Thinking Approaches (*EiS-Dt*)



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CHE MAZNAH BINTI
MAT ISA

Leader
Resource Person
Lecturer



DR. IR. MOHD KHAIRUL
KAMARUDIN

Content Developer
SULAM Coordinator
Lecturer



DR. SITI HAMIDAH BINTI
ABDULL RAHMAN

Content Expert
Course Coordinator
Lecturer



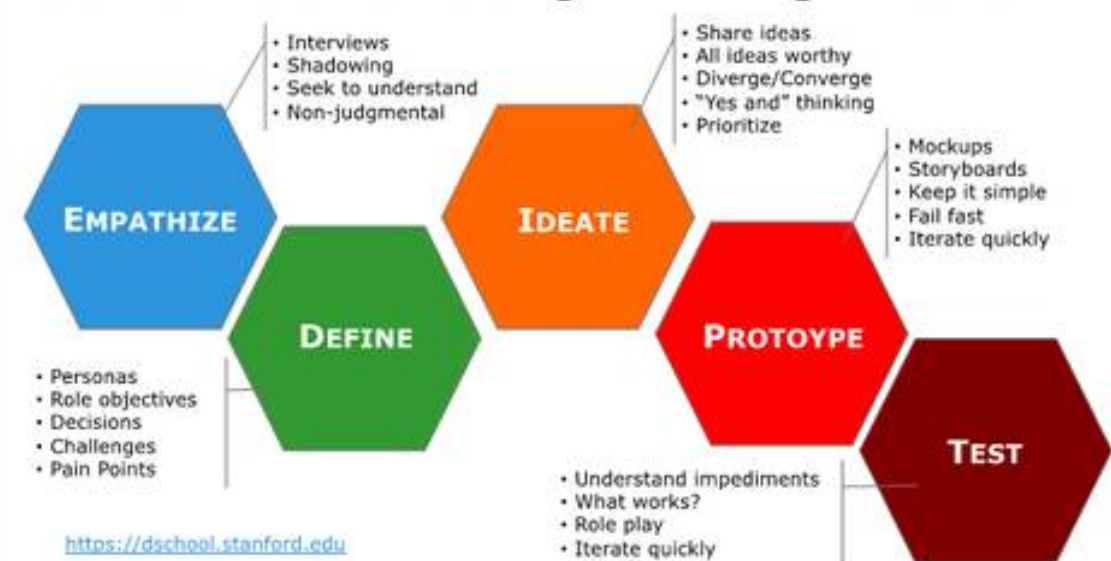
DR. NUR IZZATI AB
RANI

Content Expert
Lecturer

**SYNERGISTIC
TEAM**



Stanford d.school Design Thinking Process



School of Civil Engineering, College of
Engineering, Universiti Teknologi MARA,
Shah Alam, Selangor Darul Ehsan

UITM SHAH ALAM

Contact Person: chema982@uitm.edu.my

HP No: 019-6204707

Item	Tarikh
Pembukaan Permohonan AKRI 2022	15 Jul – 14 Aug 2022
Penubuhan ahli kumpulan	
Penyediaan borang dan bahan bukti	27 July 2022
Penghantaran borang melalui Pejabat TNCAA	04 Aug 2022
Terima borang dari Pejabat TNCAA	11 Aug 2022
Penghantaran borang ke KPT	12 Aug 2022
Jemputan sebagai finalis	20 Aug 2022
Pitching Session	27 Aug 2022
Pengumuman Johan AKRI2022 – Kategori Pentaksiran Alternatif	02 Sept 2022



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KEMENTERIAN PENGAJIAN TINGGI JPT
JABATAN PENDIDIKAN TINGGI



ANUGERAH KHAS YB MENTERI PENGAJIAN TINGGI
REKABENTUK KURIKULUM & PENYAMPAIAN INOVATIF

15-14
JULAI OGOS 2022



Kurikulum
Program Pengajian Inovatif



Pengajaran
Transformatif



Pengalaman
Pembelajaran Imersif



Pentaksiran
Alternatif

Daftar Sekarang!

<https://bit.ly/borangmaklumatAKRI2022>

<https://jpt.mohe.gov.my/akri>




Pengumuman Permohonan AKRI2022: 15 Julai 2022 – 14 Ogos 2022

Dari Pejabat TNC (Akademik & Antarabangsa)

PERMOHONAN ANUGERAH KHAS YB MENTERI PENGAJIAN TINGGI (AKRI 2022) Inbox x

PEJABAT TIMBALAN NAIB CANSOLOR (AKADEMIK & ANTARABANGSA) to STAF

Malay > English [Translate message](#)

Assalamualaikum wbt dan Salam Sejahtera

YBhg. Tan Sri/Puan Sri/Dato' Sri/Datin Sri/Dato'/Datuk/Datin/P

PERMOHONAN AKRI 2022 KINI DIBUKA!

Permohonan Anugerah Khas YB Menteri Pengajian Tinggi: R

Semua permohonan staf UiTM perlu melalui Timbalan Naib Canselor (Akademik & Antarabangsa) melalui [1amqcYioQqs8cxZv0bLm4QHJL_EkQMVI/view?usp=sharing](https://bit.ly/1amqcYioQqs8cxZv0bLm4QHJL_EkQMVI/view?usp=sharing)

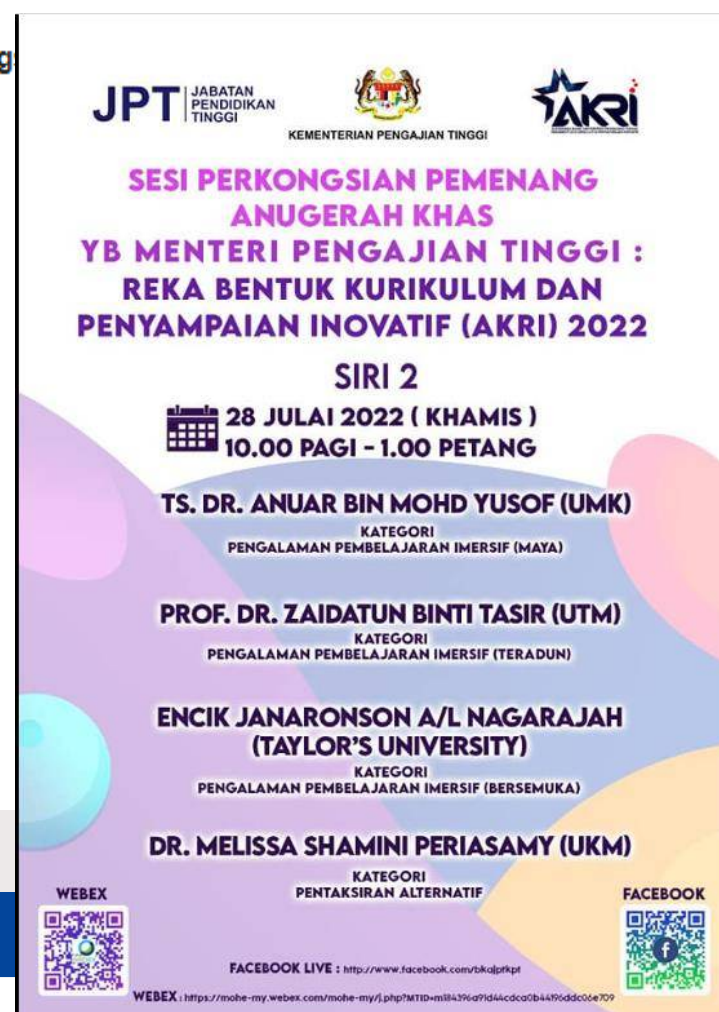
Maklumat AKRI : <https://jpt.mohe.gov.my/akri/>

Borang permohonan : <https://bit.ly/borangmaklumatAKRI2022>

Sebarang pertanyaan berkenaan AKRI 2022 boleh disalurkan kepada:

Urusetia Anugerah Khas YB Menteri Pengajian Tinggi
Rekabentuk Kurikulum Dan Penyampaian Inovatif (AKRI)
Bahagian Kecemerlangan Akademik
Jabatan Pendidikan Tinggi
Kementerian Pengajian Tinggi
Aras 4, No. 2, Menara 2
Jalan P5/6, Presint 5
Pusat Pentadbiran Kerajaan Persekutuan
62200 Putrajaya

No Telefon - 03-8870 6558 / 6555
eMel - akri@mohe.gov.my



TATACARA PERMOHONAN ANUGERAH KHAS YB MENTERI PENGAJIAN TINGGI:
REKA BENTUK KURIKULUM DAN PENYAMPAIAN INOVATIF (AKRI) 2022
(BAGI STAF UNIVERSITI TEKNOLOGI MARA)

BIL.	PERKARA	TARIKH	TINDAKAN
1.	Semakan syarat umum penyertaan melalui https://jpt.mohe.gov.my/akri/	Mulai 15 Julai 2022	Pemohon
2.	Permohonan hendaklah menggunakan borang rasmi yang terkini yang boleh dimuat turun dari laman sesawang. Kategori Kurikulum Program Pengajian Inovatif https://jpt.mohe.gov.my/akri/index.php/kategori/kurikulum-pengajian-inovatif Kategori Pengajaran Transformatif https://jpt.mohe.gov.my/akri/index.php/kategori/pengajaran-transformatif Kategori Pengalaman Pembelajaran Imersif https://jpt.mohe.gov.my/akri/index.php/kategori/pengalaman-pembelajaran-imersif Kategori Pentaksiran Alternatif https://jpt.mohe.gov.my/akri/index.php/kategori/pentaksiran-alternatif	Mulai 15 Julai 2022	Pemohon
3.	Penghantaran borang dan dokumen penyertaan ke Pejabat Timbalan Naib Canselor (Akademik & Antarabangsa) melalui emel ke: p.tncaa@uitm.edu.my	15 Julai – 4 Ogos 2022	Pemohon
4.	Semakan dokumen penyertaan oleh Pejabat Timbalan Naib Canselor (Akademik & Antarabangsa)	5 – 8 Ogos 2022	Pejabat TNCAA
5.	Perakuan penyertaan oleh Timbalan Naib Canselor Akademik dan Antarabangsa (TNCAA)	9 Ogos 2022	TNCAA
6.	Pemulangan semula borang dan dokumen yang telah diperakui oleh TNCAA kepada pemohon	10 Ogos 2022	Pejabat TNCAA
7.	Pengisian borang permohonan dan muat naik dokumen yang telah diperakui https://bit.ly/borangmaklumatAKRI2022	10 – 14 Ogos 2022	Pemohon

Penubuhan Ahli Kumpulan



**PROF. MADYA. DR. IR.
CHE MAZNAH BINTI
MAT ISA**

Leader
Resource Person
Lecturer



**DR. IR. MOHD KHAIRUL
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ABDULL RAHMAN**

Content Expert
Course Coordinator
Lecturer



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RANI**

Content Expert
Lecturer

**SYNERGISTIC
TEAM**

Penulisan Borang dan Penyediaan Bahan Bukti

Borang Permohonan

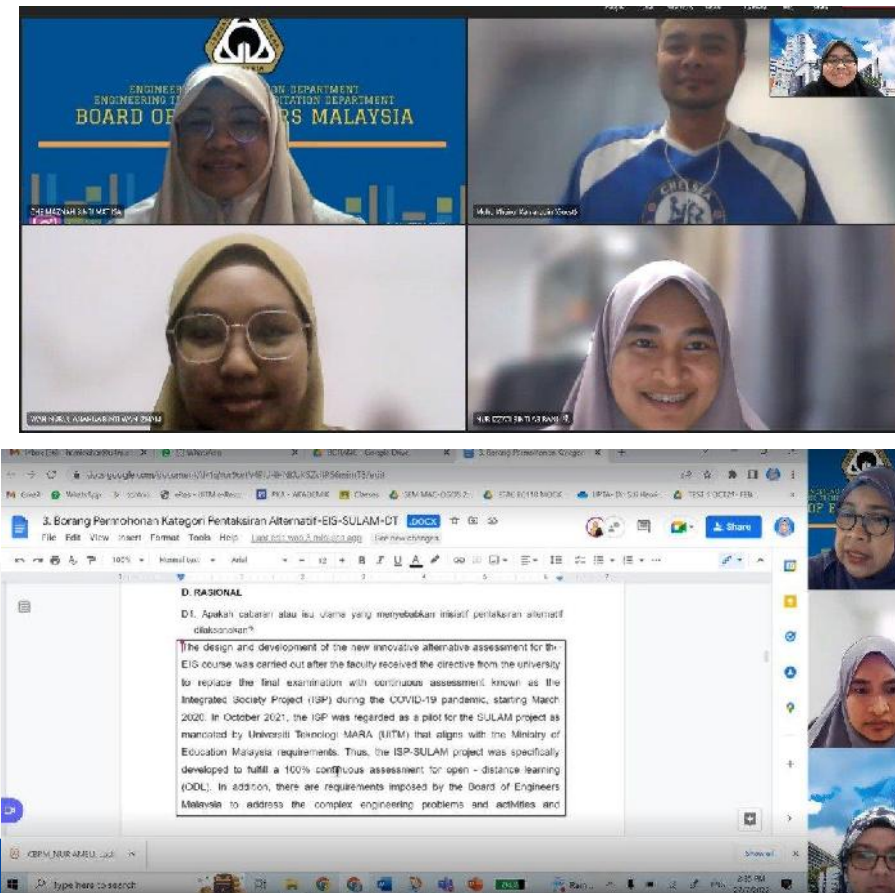
Penyediaan Bahan Bukti – Appendix dalam bentuk e-book

3-minutes video <https://youtu.be/XZ9qCqdYrmU>

Penghantaran borang kepada KPT melalui google drive



28 July 2022 (Thursday)
f2f meeting



25 Aug 2022
Preparation
for pitching
& video

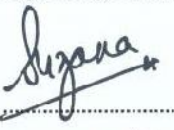
**27 July 2022
(Wednesday)**
online
meeting

PENGAKUAN PEMOHON DAN PENGESAHAN NAIB CANSOLOR/SETARAF* ATAU TIMBALAN NAIB CANSOLOR/SETARAF :

Saya mengaku bahawa semua maklumat yang diberikan adalah benar.

 05 Ogos 2022
(Tandatangan Pemohon) (Tarikh)

Saya mengesahkan bahawa semua maklumat yang diberikan oleh pemohon adalah benar.

 PROF. DATIN DR. SUZANA SULAIMAN
Timbalan Naib Canselor (Akademik & Antarabangsa)
Universiti Teknologi MARA
40450 Shah Alam, Selangor Darul Ehsan
(Naib Canselor atau yang setaraf*) (Tarikh) 12/8/2022

* Rektor/Presiden/Ketua Eksekutif
** Sertakan surat penurunan kuasa kepada wakil (sekiranya berkaitan).
Tandatangan digital tidak diterima.

Nota: Tarikh tutup permohonan/pencalonan ialah pada jam 11.59 malam, 14 Ogos 2022.

© Hak Cipta Terpelihara Kementerian Pergajian Tinggi (Versi 4) Tahun 2022 13/5

12 August 2022: Submission to AKRI2022 after approval from the TNCAA of UiTM.

BORANG PERMOHONAN ANUGERAH KHAS YB MENTERI PENGAJIAN TINGGI: REKABENTUK KURIKULUM DAN PENYAMPAIAN INOVATIF (AKRI) 2022 {AKRI 2022 APPLICATION FORM}

The form BORANG PERMOHONAN ANUGERAH KHAS YB MENTERI PENGAJIAN TINGGI: REKABENTUK KURIKULUM DAN PENYAMPAIAN INOVATIF (AKRI) 2022 {AKRI 2022 APPLICATION FORM} is no longer accepting responses. Try contacting the owner of the form if you think this is a mistake.

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Google Forms

Jemputan sebagai finalis (email bertarikh 20 Ogos 2022)

JEMPUTAN KE **FINALIST PITCHING** SESSION BAGI ANUGERAH KHAS YB MENTERI PENGAJIAN TINGGI: REKA BENTUK KURIKULUM DAN PENYAMPAIAN INOVATIF TAHUN 2022 (AKRI 2022)



AGALITA ANAK JOSEPH (MOHE) <agalita.joseph@mohe.gov.my>
to me, MADYA, ENCIK, CYNTHIA, ROZHAFILA, NUR ▾

Sat, Aug 20, 5:11 PM

Malay > English [Translate message](#)

Turn off for:

Salam Sejahtera,

Puan,

JEMPUTAN KE *FINALIST PITCHING* SESSION BAGI ANUGERAH KHAS YB MENTERI PENGAJIAN TINGGI: REKA BENTUK KURIKULUM DAN PENYAMPAIAN INOVATIF TAHUN 2022 (AKRI 2022)

Dengan hormatnya perkara di atas adalah dirujuk.

2. Jawatankuasa Pemilih Anugerah Khas YB Menteri Pengajian Tinggi: Reka Bentuk Kurikulum dan Penyampaian Inovatif Tahun 2022 (AKRI 2022) telah menjalankan sesi penilaian pencalonan dan bersetuju bahawa projek/inisiatif yang dikemukakan oleh telah disenarai pendek sebagai **FINALIS** bagi **Kategori Pentaksiran Alternatif - *An Innovative Alternative Assessment For The Engineers In Society Course Integrating SULAM And Design Thinking Approaches (EIS-Dt)***. Syabas dan : tinggi tahniah diucapkan kepada Puan di atas pencapaian tersebut.

3. Sehubungan itu, Puan dikehendaki membentangkan projek/inisiatif tersebut di *Finalist Pitching Session* AKRI 2022 yang akan diadakan pada ketetapan berikut:

Tarikh : 27 Ogos 2022 (Sabtu)
Masa : 8.00 pagi hingga 4.30 petang
Tempat : Irama Meeting Room
The Everly Putrajaya

4. Agenda untuk Sesi **Pitching** Finalis AKRI 2022 adalah seperti di **Lampiran 1**. Semua penyertaan individu perlu dibentangkan oleh pemohon sendiri manakala bagi penyertaan berkumpulan, pembentangan boleh dibuat oleh ketua kumpulan atau ahli kumpulan sebagai wakil. Di samping itu, semua finalis diwajibkan menyediakan bahan seperti yang dimaklumkan di **Lampiran 2**. Pengesahan kehadiran ke sesi **pitching** dan penghantaran bahan perlu dikemukakan kepada pihak urus setia **selewat-lewatnya pada 2022 (Khamis)** melalui pautan <https://bit.ly/3QDjBU1>

5. Sebarang pertanyaan lanjut berhubung perkara ini boleh dirujuk dengan pegawai berikut:

- i) Encik Chandra Mohgan a/l Lechman
(03-88706558 / chandra.mohgan@mohe.gov.my)
- ii) Puan Agalita Anak Joseph
(03-88706532 / agalita.joseph@mohe.gov.my)

LAMPIRAN 1

ATUR CARA SESI *PITCHING* FINALIS
ANUGERAH KHAS YB MENTERI PENGAJIAN TINGGI: REKABENTUK
KURIKULUM DAN PENYAMPAIAN INOVATIF TAHUN 2022 (AKRI 2022)
THE EVERLY PUTRAJAYA
27 OGOS 2022 (SABTU)

Pakaian majlis: Pakaian Pejabat

8.00 pagi	Pendaftaran Juri dan Peserta
8.30 pagi	Bacaan Doa
8.35pagi	Kata aluan dan taklimat Sesi <i>Pitching</i> <u>YBrs</u> Profesor Madya Dr. Wan Zuhainis Saad Pengarah, Bahagian Kecemerlangan Akademik Jabatan Pendidikan Tinggi
9.00 pagi	Sesi <i>Pitching</i> Finalis - Kategori Kurikulum Program Pengajian Inovatif Tempat : Irama 8 - Kategori PengajaranTransformatif Tempat :Irama 6 - Kategori Pengalaman Pembelajaran Imersif Tempat : Irama 5 - Kategori Pentaksiran Alternatif Tempat : Irama 7
1.00 petang	Rehat/Makan Tengahari
2.00 petang	Sambungan Sesi <i>Pitching</i>

Penyediaan “Pitching Session” pada 27 Ogos 2022

LAMPIRAN 2

MAKLUMAT FORMAT ANUGERAH KHAS YB MENTERI PENGAJIAN TINGGI: REKABENTUK KURIKULUM DAN PENYAMPAIAN INOVATIF TAHUN 2022 (AKRI 2022)

1) Maklumat Umum

- Sesi **pendaftaran** finalis akan bermula pada jam **8.00 hingga 8.30 pagi**.
- Sesi **taklimat** akan diadakan pada jam **8.30 pagi**.
- Selepas taklimat, finalis akan bergerak ke bilik / dewan *pitching* mengikut **kategori** masing-masing kerana sesi pembentangan akan dijalankan **serentak di empat lokasi** berbeza.
- Finalis yang **lewat** hadir untuk sesi masing-masing akan **hilang kelayakan** bagi sesi pembentangan.

2) Persiapan dan Tempoh Pembentangan

- Persiapan persembahan seperti pemasangan komputer riba, paparan slaid dan bahan pembentangan perlu **tersedia** di ruang pembentangan **5 minit sebelum** sesi pembentangan masing-masing bermula.
- Masa yang diperuntukkan bagi **pembentangan** ialah maksima **10 minit** sahaja.
- Tempoh bagi sesi **soal jawab** ialah maksima **10 minit** sahaja.

3) Bahan Pembentangan

PPT Presentation

- Kandungan pembentangan perlu berfokus kepada aspek berikut:
 - Rasional projek
 - Pendekatan Projek
 - Keterlibatan Pelajar
 - Impak Projek

- Sebaik-baiknya **slaid** pembentangan disediakan dalam format **MS Powerpoint (.pptx)**.
- Bahan-bahan **video** yang akan dimainkan mestilah dalam format **MP4 sahaja**.
- Tiada had ditetapkan bagi penyediaan slaid atau video asalkan pembentangan tidak melebihi 10 minit.
- Peserta mesti membawa komputer riba masing-masing serta peralatan lain yang diperlukan semasa sesi pembentangan.
- Pihak urusetia hanya menyediakan peralatan di bawah untuk sesi pembentangan:
 - LCD projektor
 - Peralatan audio visual

4) Pembantu Sesi Pembentangan

- Finalis **mestilah membawa pembantu** masing-masing untuk mengendalikan komputer riba atau bahan tayangan semasa sesi perkongsian berlangsung.
- Urus setia **tidak** menyediakan kakitangan bagi tujuan tersebut.

5) Penyediaan Pameran Finalis

Poster

- Setiap finalis hendaklah menyediakan poster bersaiz A1 (841mm x 594 mm / 33.1 inci x 23.4 inci) dalam bentuk salinan lembut.
- Jenis kertas poster tidak ditetapkan.
- Poster boleh disediakan mengikut kreativiti masing-masing serta mengandungi semua maklumat seperti yang dinyatakan di bawah sama ada di dalam Bahasa Melayu atau Bahasa Inggeris.
 - Kategori anugerah;
 - Tajuk projek/ inisiatif;
 - Institusi;
 - Sinopsis; dan
 - Gambar finalis (sama individu / berkumpulan).

6) Penjurian

- Sesi pembentangan setiap finalis akan **dinilai** oleh beberapa orang juri yang dilantik bagi setiap kategori.
- Penjurian akan dinilai berdasarkan aspek **pembuktian, persembahan, perancangan akan datang serta kebolehan menjawab soalan**.

7) Penyediaan Video Projek/Inisiatif

2-min Video Montage <https://youtu.be/6kSejmeViTw>

- Kandungan video perlu berfokus kepada aspek berikut:
 - Rasional Projek
 - Pendekatan Projek
 - Keterlibatan Pelajar
 - Impak Projek
- Semua finalis dikehendaki menyediakan video berdurasi **1 minit hingga maksima 2 minit** mengenai projek/ inisiatif yang dihantar bagi pencalonan AKRI. Contoh video projek/inisiatif boleh dilihat melalui pautan ini :<http://bit.ly/2sEFM1V>
- Bahan-bahan video yang akan disediakan mestilah beresolusi tinggi dalam format **MP4 sahaja**.
- Video yang disediakan akan dimuat naik di laman sesawang anugerah.

8) Penyediaan Profil Projek/Inisiatif Penyediaan Profil Projek

- Peserta menyediakan ringkasan (*write-up*) penulisan projek/inisiatif yang mengandungi maklumat berikut:
 - Butiran Peserta / ahli kumpulan
 - Nombor telefon untuk dihubungi
 - Emel
 - Institusi yang diwakili
 - Sinopsis projek/inisiatif

AN INNOVATIVE ALTERNATIVE ASSESSMENT FOR THE ENGINEERS IN SOCIETY COURSE INTEGRATING SULAM AND DESIGN THINKING APPROACHES (*EiS-Dt*)

Che Maznah Mat Isa, Mohd Khairul Kamarudin, Siti Hamidah Abdull Rahman & Nur Izzati Ab Rani
School of Civil Engineering, College of Engineering, Universiti Teknologi MARA, Shah Alam, Selangor,

SYNOPSIS for *EiS-Dt*

An alternative assessment is designed to evaluate students' work in solving real-world community complex problems related to professional civil engineering practices. It was created as an authentic and innovative instrument for the Engineers in Society (ECC589) course integrated with Service-Learning Malaysia University for Society (SULAM) and Design Thinking (DT) approaches, or in short, *EiS-Dt*, to assess the intended learning outcomes. It helps students develop higher order thinking skills (HOTS) and achieve the essential skill sets for societal well-being particularly at institutional level of higher learning (IHL). The narrative of this alternative assessment emphasizes creativity, invention, prototype design, testing, and analysis to solve community problems. The *EiS-Dt* project prioritizes human needs. Thus, Design Thinking (DT) method can motivate students to solve real-world community challenges. There are four (4) components of the assessment tools for the *EiS-Dt* namely, case study (10%), final report (60%), presentation (20%), and video montage (10%). Each tool has a performance criteria matrix or rubrics matched to learning outcomes, knowledge profiles, engineering problems, and learning domains. The complex engineering problems and activities with Sustainable Development Goals (SDGs) are expected in the programme learning outcomes as prescribed by the EAC Standard 2020, Board of Engineers Malaysia (BEM) and the Graduate Attributes and Professional Competencies (GAPC, 2021), International Engineering Alliance. The *EiS-Dt* Instructional Guidance is provided to the students and lecturers which includes the introduction, mapping of the course and programme outcomes, knowledge profiles, complex engineering problems and activities, specific learning outcomes and tasks, DT process, Sustainable Development Goals (SDG3: Good Health and Well-being; SDG4: Quality Education; and SDG 11: Sustainable Cities and Communities), course assessment table, report format, and performance criteria matrix. There are strategic cooperation between government, community, IHL, and industry that support SULAM's experiential education model. This alternative assessment aligns with Chapter 6: Implementation Unit and Education Performance of the Malaysia Educational Development Plan (2013-2025) and the Experiential Learning and Competency-Based Education Landscape (EXCEL) framework specifically for Community Resilience Experiential Learning (CARE).



RATIONALE OF PROJECT

- The future generation of engineers must possess a diverse range of skills to solve for societies' problems and fulfil their demands. However, the conventional and passive learning model is insufficient to prepare for students' survival in the real-world scenario. Within the last decade, the Service-Learning Malaysia University for Society (SULAM) has served as a learning experience by integrating theory and practice to expose students to the society real-world problems.
- In March 2020, due to the COVID-19 pandemic, an alternative assessment was developed for the ECC589 course, directive from the university to replace the final examination with a continuous assessment known as the integrated society project (ISP).
- Subsequently, in October 2020, to align with the MoHE's requirements, the SULAM approach was integrated into the course syllabus. The *EiS-Dt* project fulfils a 100% continuous assessment applicable for open-distance learning (ODL) during and post-MCO. There are requirements imposed by the EAC Standard 2020 to develop students' critical and creative thinking to solve complex engineering problems and SDGs in engineering programs

NOVELTY AND INVENTIVENESS

- The product consists of the following elements as detailed in the Instructional Guidance:
- Mapping of Course Outcomes (COs), Programme Outcomes (POs), Knowledge Profiles (WKS), Complex Engineering Problem Characteristics (WPs) & Learning Domain;
 - Project Brief – Tasks to be Completed
 - Course Assessment Table
 - Performance Criteria Matrix for four (4) assessment tool to ensure direct measurement towards true outcome attainment.

COMPLETENESS OF PRODUCT

- The *EiS* course is chosen to integrate the SULAM approach is an initiative that provides experiential learning by integrating theory and practice to expose students to real-world problem solving in the community;
- An innovative and authentic assessment known as *EiS-Dt* is developed to address the SULAM requirements, complex engineering problem requirements by the Board of Engineers Malaysia and SDGs in the *EiS* course.
- This assessment is unique as it adopts Design Thinking approach to address the learning domains required to enhance the students' soft skills together with creative and critical skills throughout this SULAM activities
- It contributes to an innovative curriculum designed for the Civil Engineering programme to cultivate holistic and balanced graduates to be globally competitive and meet the needs of Higher Education 5.0 to address the Top 10 Skills of 2025 (The World Economic Forum).
- This assessment instrument has been piloted in Sem October 2020, improved and being used in the current semester (March 2022).

- A pilot study was carried out on 1 batch of students (Sem. October 2020)
- Main study is being carried out on 340 students (Sem. March 2021) to look at the effectiveness of the improved alternative assessment instrument based on qualitative (document review & interview) and quantitative approach (students' perceptions) and validated by the education experts
- To share best practices with other engineering schools and other universities in Malaysia and around the world

DESIGN & DEVELOPMENT

Learning Outcomes	Knowledge	Skills	Attitudes
LO1: Apply engineering knowledge to solve complex engineering problems	Engineering knowledge	Problem-solving skills	Professionalism
LO2: Apply engineering knowledge to solve complex engineering problems	Engineering knowledge	Problem-solving skills	Professionalism
LO3: Apply engineering knowledge to solve complex engineering problems	Engineering knowledge	Problem-solving skills	Professionalism
LO4: Apply engineering knowledge to solve complex engineering problems	Engineering knowledge	Problem-solving skills	Professionalism
LO5: Apply engineering knowledge to solve complex engineering problems	Engineering knowledge	Problem-solving skills	Professionalism
LO6: Apply engineering knowledge to solve complex engineering problems	Engineering knowledge	Problem-solving skills	Professionalism
LO7: Apply engineering knowledge to solve complex engineering problems	Engineering knowledge	Problem-solving skills	Professionalism
LO8: Apply engineering knowledge to solve complex engineering problems	Engineering knowledge	Problem-solving skills	Professionalism
LO9: Apply engineering knowledge to solve complex engineering problems	Engineering knowledge	Problem-solving skills	Professionalism
LO10: Apply engineering knowledge to solve complex engineering problems	Engineering knowledge	Problem-solving skills	Professionalism

STUDENTS' INVOLVEMENT



INTERNATION

IMPACTS

- Society:** Elevate the societal well-being in conjunction with enhancement of infrastructure related to civil engineering practices (SDG3)
- Academia:** Knowledge transfer to relevant stakeholders based on continuous research activities (SDG4)
- Government:** input for the Shared Prosperity Vision 2030 and way forward
- Industry:** Expansion of CSR for the benefits of community
- Environment:** Expansion of green economy and facilitate the attainment of low-carbon future (SDG11)

SYNERGISTIC TEAM



Contact Person: Asst. Prof. Dr. Ir. Che Maznah Mat Isa
Email: chema82@uitm.edu.my
HP No: 019-6204707

SELECTED PUBLICATIONS AND AWARDS

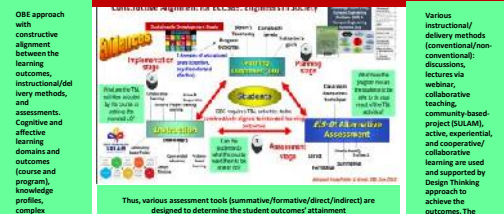
- Che Maznah Mat Isa, Oh Chai Lian & Liew Chia Pao. Design of an Innovative Assessment Instrument Integrating Service-Learning Malaysia University for Society Approach for Engineers in Society Course during Covid19 Pandemic. *ASEAN Journal of Engineering Education*, 6 (1), pp 58-68, 2022
- Nur Azzahra Mohd Nur, Oh Chai Lian, Wardah Tahir, Mohd Azwan Tahir & Che Maznah Mat Isa. Alternative Assessment to Measure Psychomotor Domain in Civil Engineering Curriculum during Online Distance Learning (ODL). *Asian Journal of University Education (AJUE)*, In press
- ICOLE2022: Effectiveness of Teaching, Learning, and Assessment (TLA) in Addressing the Psychomotor Domain of Engineering Students During Open and Distance Learning (ODL): A Pilot Study. Presented at the 2nd International Conference on Language and Education 2022, 7-8 July 2022.
- ICCE2022: Understanding of Design Thinking as An Innovative Approach in Engineers in Society Course from Civil Engineering Students' Perceptions. Presented at the 3rd International Conference on Civil Engineering (ICCE 2022), 9-10 August 2022.
- Che Maznah Mat Isa, Nk Yiter Almar Muhammad, Nur Hayati Saad & Christopher Nigel Presee. Programme Outcome Attributes related to Complex Engineering Problem Capability: Perceptions of Engineering Students in Malaysia. *Asian Journal of University Education (AJUE)* Volume 17, Number 4, October 2021, pp 95-105.
- Che Maznah Mat Isa, Oh Chai Lian, Liew Chia Pao, Hamidah Mohd Saman, Che Khairul team Che Ibrahim & Zulhith Yusoff. Effective Implementation of Complex Engineering Problems and Complex Engineering Activities in Malaysian Engineering Curriculum. *Asian Journal of University Education (AJUE)* Volume 17, Number 4, October 2021, pp 170-178.

OBJECTIVES OF *EiS-Dt*

- This alternative assessment was designed through constructive alignment and aimed at assessing the specific learning outcomes which are PO6: Engineers and Society/PLO4-LO11 (Interpersonal Skills) and PO8: Ethics/PLO11-LO17 (Ethics and Professionalism) to address the following objectives:
- To fulfill the requirements of the EAC Standard 2020 (Complex Engineering Problems & Activities), MQF2.0, and MoHE (SULAM);
 - To develop interpersonal skills based on empathy and understanding community problems by considering social, cultural, health, safety, law, regulation, environment, and sustainability elements;
 - To develop and enhance creative and critical thinking for engineers-to-be using the design thinking process through community-based projects by applying theories to real-world situations; and
 - To effectively assess the learning outcomes.



CONSTRUCTIVE ALIGNMENT



ABORATION WITH INDU



FACULTY EXPERTS AS ADVISORS

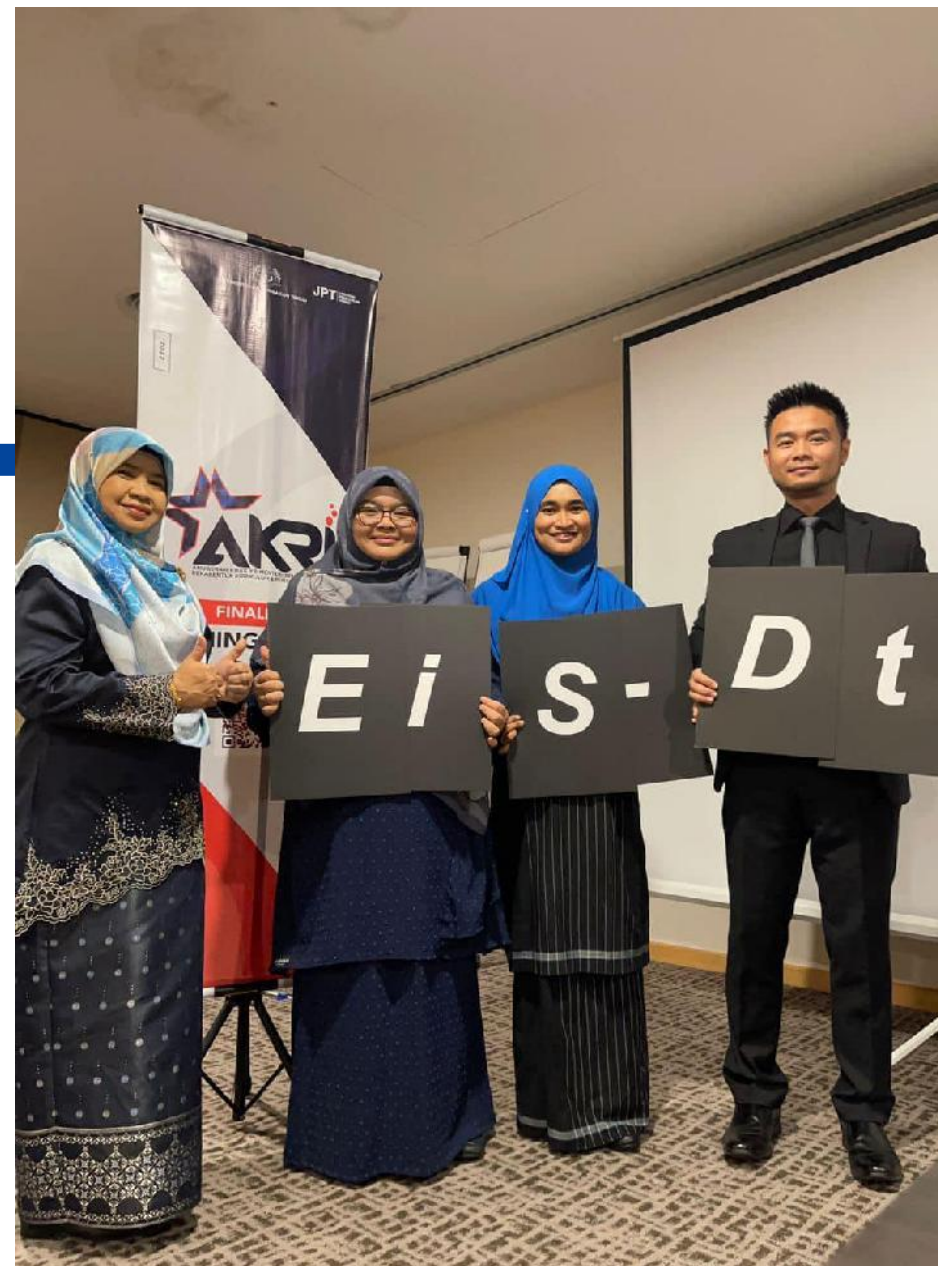


Pitching Session – “The Day”

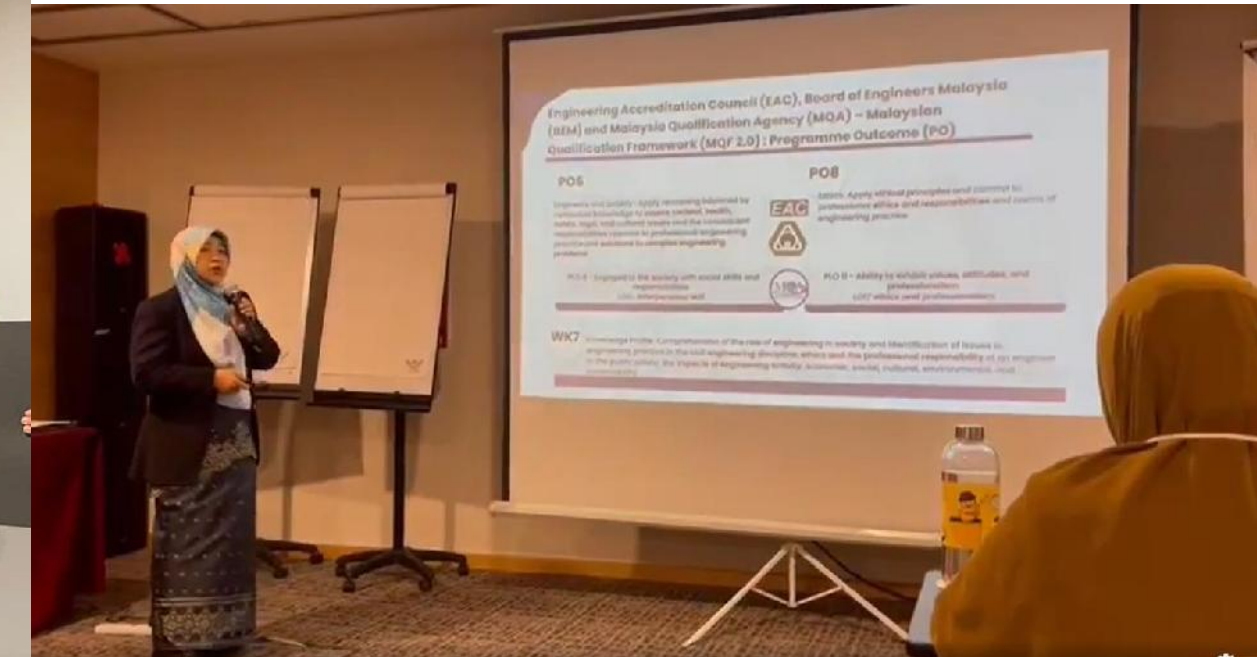
Check-in to Everly Hotel on the 26 August 2022



Rehearsal



Pitching time



The Announcement Day – 2 September 2022 (Jumaatul Mubarakah)



My backbone and Strongest Supporter



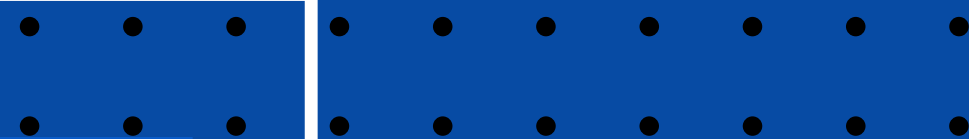
Before pitching session (27 September 2022)



Announcement Day (02 September 2022)



- ❖ Introduction to EiS-Dt Alternative Assessment
 - ✓ Video Montage <https://youtu.be/6kSejmeViTw>
 - ✓ Curriculum/Course – Engineers in Society Course
 - ✓ <https://bit.ly/3QigqRS>
- ❖ EiS-Dt Alternative Assessment
 - ✓ Objectives of EiS-Dt
 - ✓ Constructive Alignment
- ❖ Instructional Methods & Delivery
 - ✓ Innovative Teaching and Learning
 - ✓ Students' Involvement with Stakeholders
- ❖ Alternative Assessment Method
 - ✓ Students' Performance
 - ✓ Continual Quality Improvement
- ❖ Q&A session



Engineering Accreditation Council (EAC), Board of Engineers Malaysia (BEM) and Malaysia Qualification Agency (MQA) – Malaysian Qualification Framework (MQF 2.0) : Programme Outcome (PO)

PO6

Engineers and Society : Apply reasoning informed by contextual knowledge to **assess societal, health, safety, legal, and cultural issues** and the consequent responsibilities relevant to professional engineering practice and **solutions to complex engineering problems**

PLO 4 – Engaged to **the society** with social skills and responsibilities
LO11– **interpersonal skill**



PO8

Ethics: Apply **ethical principles** and commit to professional **ethics and responsibilities** and norms of engineering practice

PLO 11 – Ability to exhibit **values, attitudes, and professionalism**
LO17 **ethics and professionalism**



WK7

Knowledge Profile: Comprehension of the **role of engineering in society** and identification of issues in engineering practice in the **civil engineering discipline: ethics and the professional responsibility** of an engineer to the public safety; the **impacts of engineering activity**: economic, social, cultural, environmental, and sustainability.

Course Assessment Plan

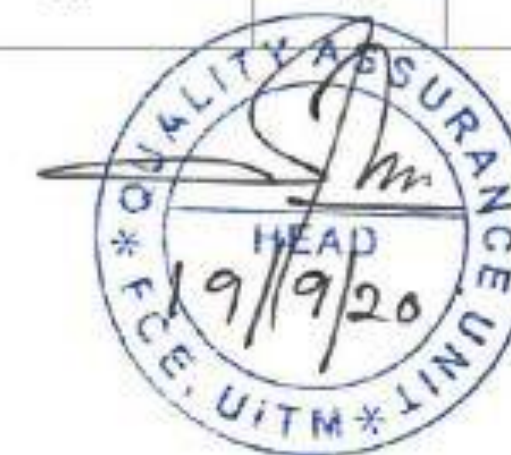
COURSE ASSESSMENT PLAN

COURSE CODE	ECC 589	FACULTY / ACADEMY	FACULTY OF CIVIL ENGINEERING
COURSE NAME (IN ENGLISH)	ENGINEERS IN SOCIETY	CREDIT UNIT	2.0
COURSE NAME (IN MALAY)	JURUTERA DALAM MASYARAKAT	RESOURCE PERSON	PROF MADYA IR DR CHE MAZNAH MAT ISA

COURSE OUTCOME (CO)	OUTCOME STATEMENT	PO	PLO MQF 2.0 - LO (AIMS)	TAXO-NOMY	WP/EA	TEACHING METHODOLOGY	ASSESSMENT COMPONENT		
							PRESENTATION	CASE STUDY	PROJECT
CO1	Engage with the community as a prospective civil engineer in solving problems involving the civil engineering profession	PO6	PLO4 – LO11	C6	WP1 & at least two of WP1, WP2, WP3, WP4, WP5, WP6 & WP7	Lectures, Project based learning			70
CO2	Comprehend the ethical and professional conduct that guide a civil engineer's professional practice and service to the community	PO8	PLO11-LO17	A4		Lectures, Case Study, Presentation	20	10	
			TOTAL				20	10	70

Nama Fakulti: Kejuruteraan Awam
 Nama Program: Ijazah Sarjana Muda Kejuruteraan (Kepujian) Awam
 © Hak Cipta Universiti Teknologi Mara

Tahun Mula: 2012
 Tahun Semakan: 2017



Lesson Plan: March 2020 – July 2022

<https://bit.ly/3bDBDqF>

Lecturer	DR. SITI HAMIDAH ABDULL RAHMAN			
Programme	EC220 : BACHELOR OF ENGINEERING (HONS.) (CIVIL)			
Course	ECC589	:	ENGINEERS IN SOCIETY	Credit Hours 2.0
Contact Hour	Lecture : 2.0 hrs F2F Online Distant Learning/week			
Room	T1-A19-12C	Phone	012-9697315	E-mail hamidahar@uitm.edu.my
Evaluation	Continuous Assessment : 1. Case Study (Interim Report) 10% 2. Presentation 20% 3. Integrated Society Project 60% 4. Montage 10% 100%			

RESOURCE EPRSON

ASSOC. PROF. IR. DR. CHE MAZNAH MAT ISA

LECTURERS SEMESTER MAR 2021 – AUG 2021 (20212)

1. DR. SITI HAMIDAH ABDULL RAHMAN (Course Coordinator)
2. ASSOC. PROF. IR. DR. CHE MAZNAH MAT ISA
3. IR MUHAMMAD FUAD SHUKOR (UITM P.G)
4. DR NORIZZATI IBRAHIM (UITM P.G)

SYNOPSIS

This course is an embedded *Service Learning Malaysia-University for Society* (SULAM). It is a course-based, credit-bearing educational experience in which the student participates in a structured service activity that meets identified community needs, reflect on the service activity and experiences to achieve desired learning outcomes, in such a way as to gain deeper understanding of course content, a broader appreciation of the discipline, enhanced sense of personal values and civic responsibility.

COURSE OUTCOMES (CO)

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

- CO1 - Engage with the community as a prospective civil engineer in solving problems involving the civil engineering profession. (PO6).
- CO2 - Comprehend the ethical and professional conduct that guide a civil engineer's professional practice and service to the community. (PO8).

PROGRAM OUTCOMES (PO)

- PO6 *Engineers in Society* - Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solutions to complex engineering problems (WK7).
- PO8 *Ethics* - Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice (WK7)

OBJECTIVES

1. Identify specific communities that need help related to civil engineering.
2. Solve problems that have been identified as prospective civil engineers.
3. Adopt ethical and professional behavior that guides the professional practice and services of civil engineers to the community.

LECT	TOPICS / CONTENTS	HRS	WEEK	REMARKS / READING ASSIGN
1.0	Introduction to ECC589 Syllabus: Content, assessment & evaluation; Lesson Plan. Elaboration of Programme Outcomes for EC220 and how ECC589 contributes to achievement of the course and programme outcomes.	[2]	1	Entrance Survey (28 March-8 April 2022)
2.0	Webinar 1: Occupational Safety and Health Act (OSHA) 1994 and Factory & Machinery Act (FMA) 1967 on construction in relation to the construction industry - OSHA 1994, FMA 1967 & Occupational Safety and Health in Construction Industry Management (OSHCI(M) Guidelines - Roles and functions of DOSH, NIOSH & CIDB - Route to Safety & Health Officer (SHO)	[2]	2	Progress Meeting
3.0	Webinar 2: Local and Federal Authority regulation - UBBL	[2]	3	Progress Meeting
		[2]	4	Submission Borang C and proposal to HEP (21 April 2022, Thursday)
4.0	Webinar 3: Roles and Responsibility of Professional Engineer - Route to P.Eng & P.Eng with Practicing Certificate - Role and Responsibility of Engineer - Code of Ethics and Professional Conduct for engineers	[2]	5	Progress Meeting
		[2]	6	Interim Report Submission (10%) due 5pm on Thursday (12 May 2022, Thursday)
	Webinar 4: Building Information Modelling (BIM): How Can You Benefit from BIM	[2]	7	Progress Meeting
		[2]	8	Student Feedback Online: SuFO (13 June – 24 July 2022)
		[2]	9	Mid-semester Break
		[2]	10	Presentation (20%)
		[2]	11	NF2F
	Webinar 5: Online Career Talk: Corporate Insolvency Practitioner	[2]	12	Progress Meeting
		[2]	13	NF2F
		[2]	14	Integrated Society Project and Montage Submission (70%) due 5pm on Thursday (14 July 2022)

E-LEARNING (i-learn)

- > All course information & hands on can be downloaded from i-learn.
- > Students are encouraged to collaborate, discuss any problems, seek opinions/ideas through i-learn forum to further enhance their understanding of the subject matter and facilitate them in their exercises/assignments.

RECOMMENDED TEXT

- 1) Radford, J.D. (1999), The Engineer and Society, Palgrave Macmillan

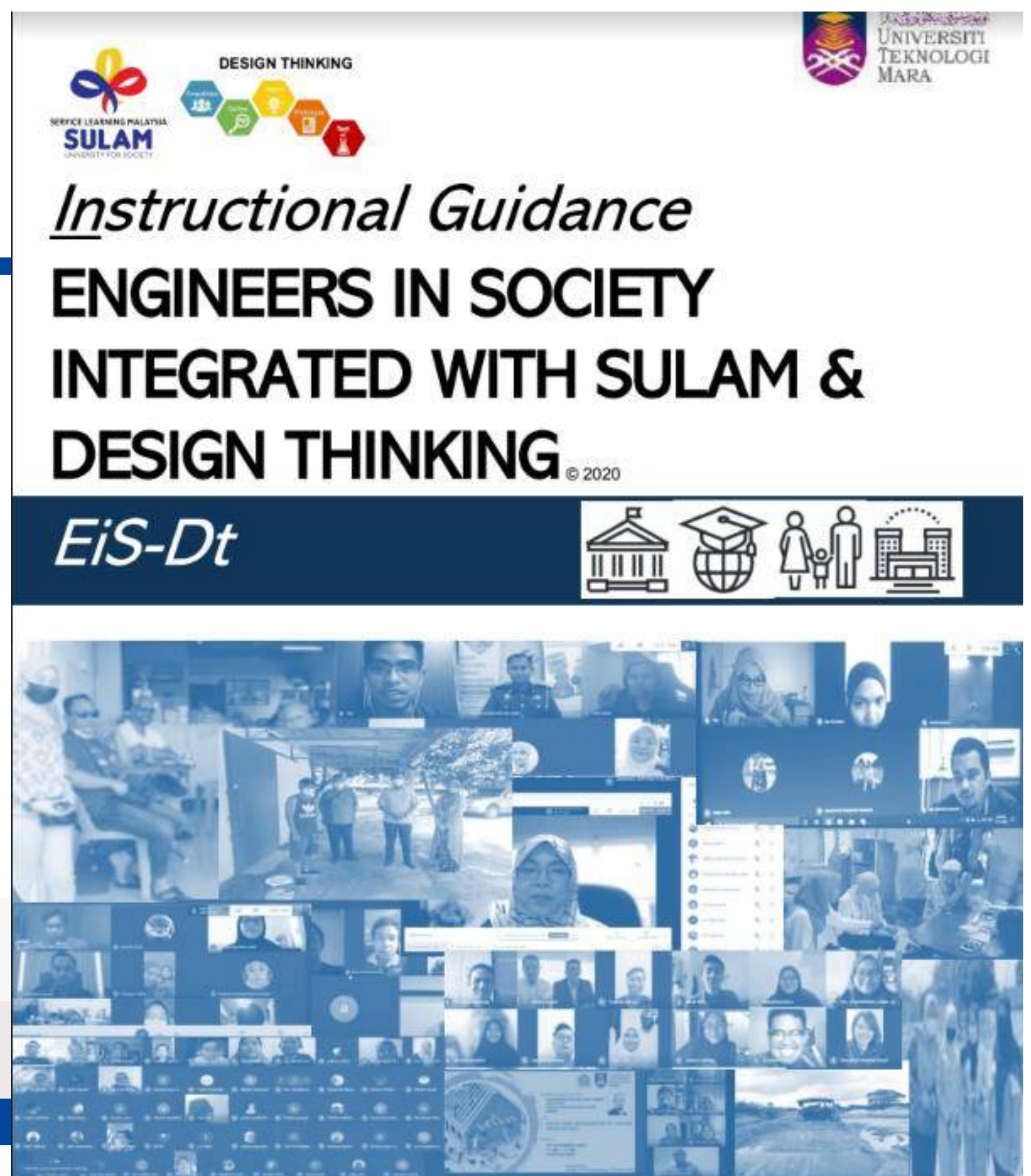
REFERENCES

- 1) Street, Drainage and Building Act, 1967
- 2) Occupational Safety and Health Act, 1994
- 3) Uniform Building by Law 1984
- 4) Industrial Relations Act 1967
- 5) Environment Act 1974
- 6) Employment Act 1955
- 7) Factories and Machinery Act 1967
- 8) Contract and Legal Environment for Engineer and Architect
- 9) Law and Practice of Construction Contract Claims
- 10) IEM & BEM Bulletins
- 11) Updated related engineering publications.

Note: Students attendance shall >= 80% (Pre-requirement to sit for the final exam). FCE stipulate 100% attendance.

Instructional Guidance for EiS-Dt

<https://bit.ly/3QigqRS>

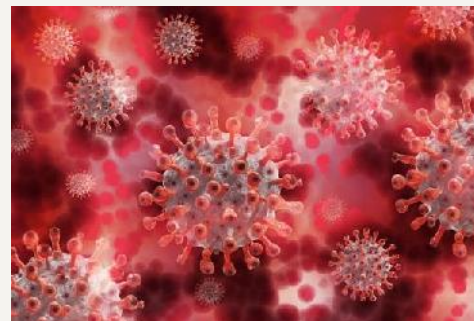
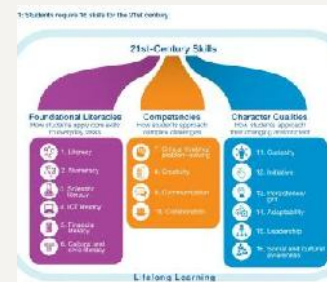


Introduction to Engineers in Society Course: Integrated with SULAM & Design Thinking Approach using Alternative Assessment

- ✓ Rationale: Current Issues & Regulatory Bodies' Requirements
- ✓ Objectives of the Alternative Assessment
- ✓ Approach: Constructive Alignment (CIA)
- ✓ Alignment with
 - Malaysian Educational Development Plan, page 6-8
 - SULAM Key Components,
 - EXCEL – CARE
 - EAC Standard 2020, Board of Engineers Malaysia & Graduate Attributes & Professional Competencies (GAP2021), International Engineering Alliances (IEA)

RATIONALE: CURRENT ISSUES

- **Future generation of engineers** must possess a diverse range of skills to solve **society's problems** and fulfil the **industry demands**.
- However, the **conventional and passive learning model** is insufficient to prepare for students' survival (Top 10 skills for 2025 – World Economic Forum & 21st Century Skills)
- In **March 2020**, due to the COVID-19 pandemic, an alternative assessment method was developed for the Engineers in Society course (ECC589), directive from the university to replace the final examination with a continuous assessment.



TOP 10 Skills of 2025

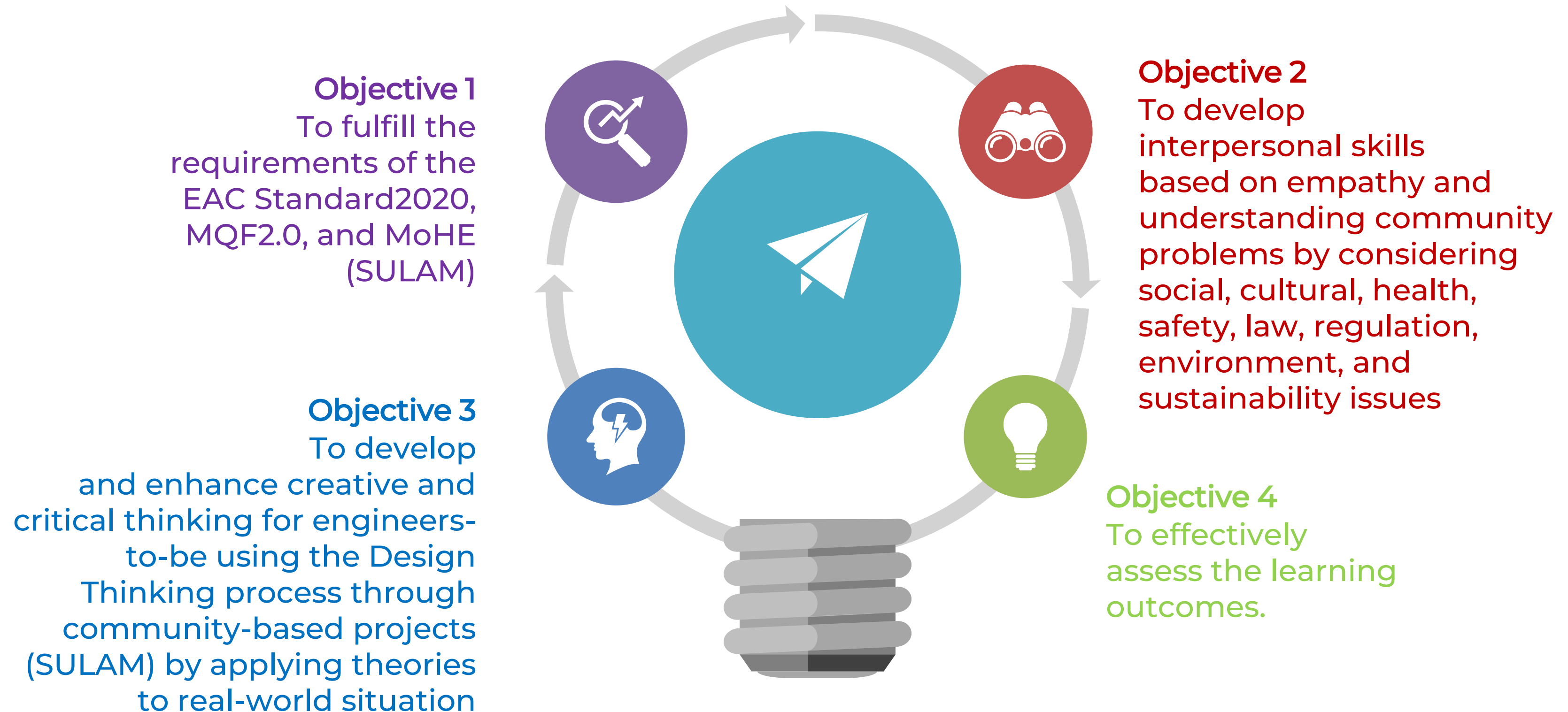
- | | |
|--|---|
| <ul style="list-style-type: none">● Analytical thinking and innovation● Active learning and learning strategies● Complex problem-solving● Critical thinking and analysis● Creativity, originality and initiative● Leadership and social influence● Technology use, monitoring and control● Technology design and programming● Resilience, stress tolerance and flexibility● Reasoning, problem-solving and ideation | <p>Type of skill</p> <ul style="list-style-type: none">● Problem-solving● Self-management● Working with people● Technology use and development |
|--|---|



- Subsequently, in **October 2020**, to align with the **MoHE's** requirements, the **SULAM** approach was integrated into the course syllabus.
- The **EiS-Dt** project fulfils a 100% continuous assessment applicable for **open-distance learning (ODL)** and during **post-MCO face-to-face learning**.
- In addition, there are requirements imposed by the **EAC Standard 2020** to develop students' **critical and creative thinking** to solve **complex engineering problems** and sustainable development goals (**SDGs**) in engineering programmes (GAPC2021).

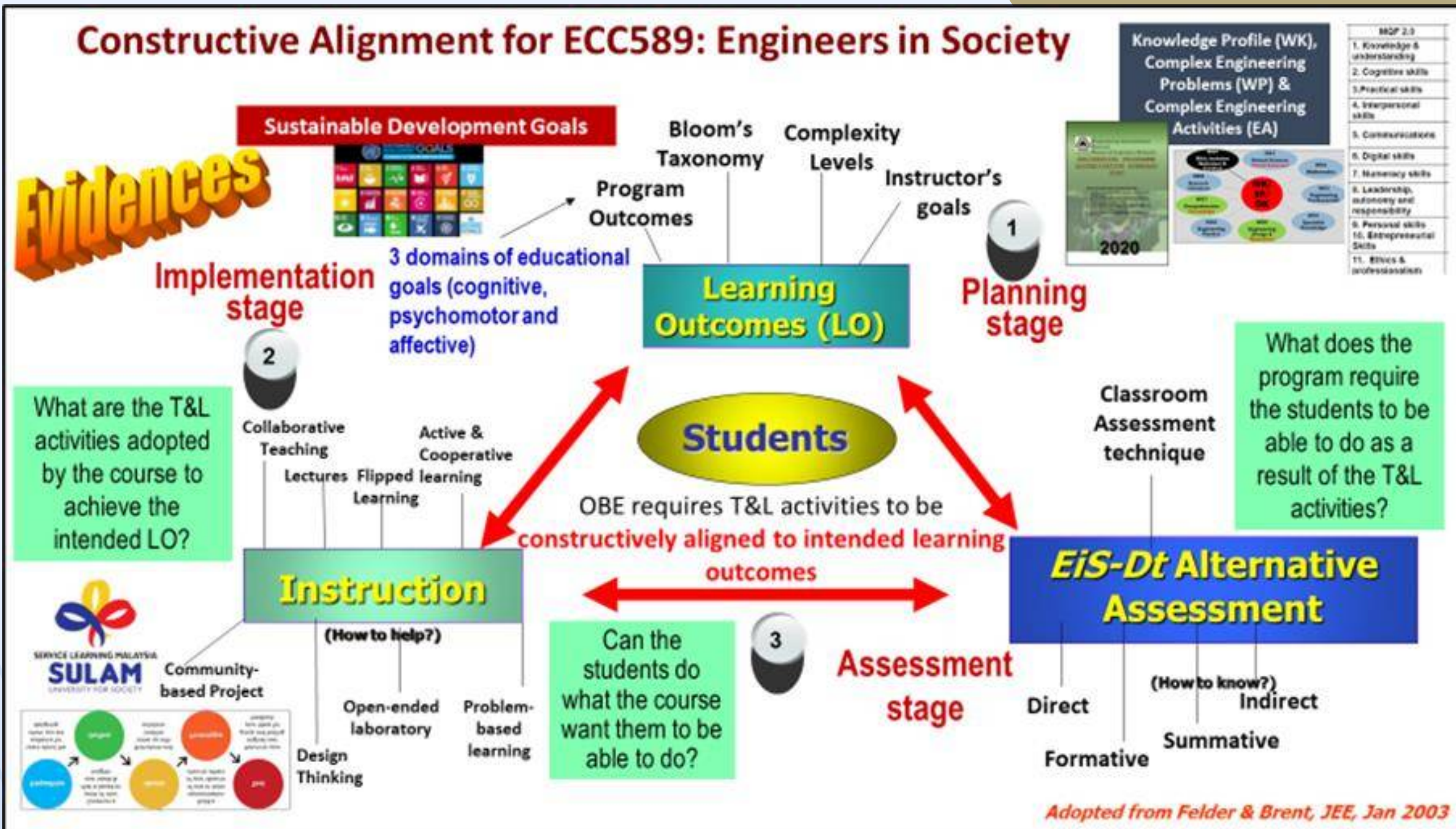
OBJECTIVES OF THE ALTERNATIVE ASSESSMENT METHOD

This *EiS-Dt* alternative assessment was designed through **constructive alignment** and aimed at assessing the **two (2) specific learning outcomes** (PO6: Engineers and Society)/PLO4-LO11(Interpersonal Skills) and PO8: Ethics/PLO11-LO17(Ethics and Professionalism)) to address the following objectives:



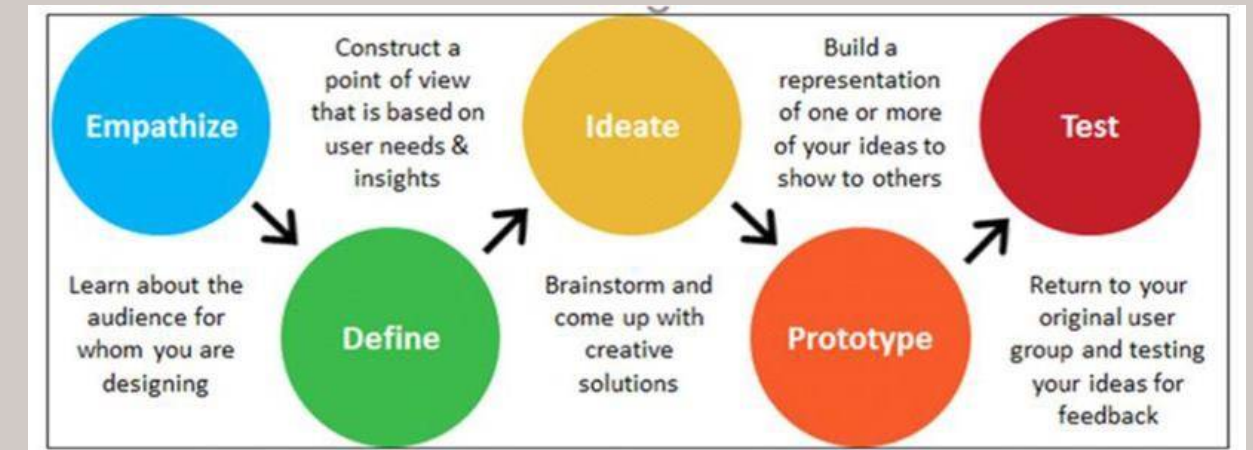
APPROACH

- **OBE approach with constructive alignment** - learning outcomes, instructional/delivery methods, and assessments.
- **Cognitive and affective** learning domains and outcomes (course and programme), knowledge profiles, complex engineering problems/activities, and SDG elements are incorporated in the **EiS-Dt** alternative assessment.
- Various instructional/delivery methods (conventional/non-conventional): discussions, lectures through webinar, collaborative teaching, **community-based-project (SULAM)**, active, experiential, and cooperative/collaborative learning are used and supported by **Design Thinking approach** to achieve the outcomes.
- Students need to demonstrate **results/outcomes** from the teaching and learning activities.
- Thus, various assessment tools (**summative/formative/direct/indirect**) are designed to determine the student outcomes' attainment.

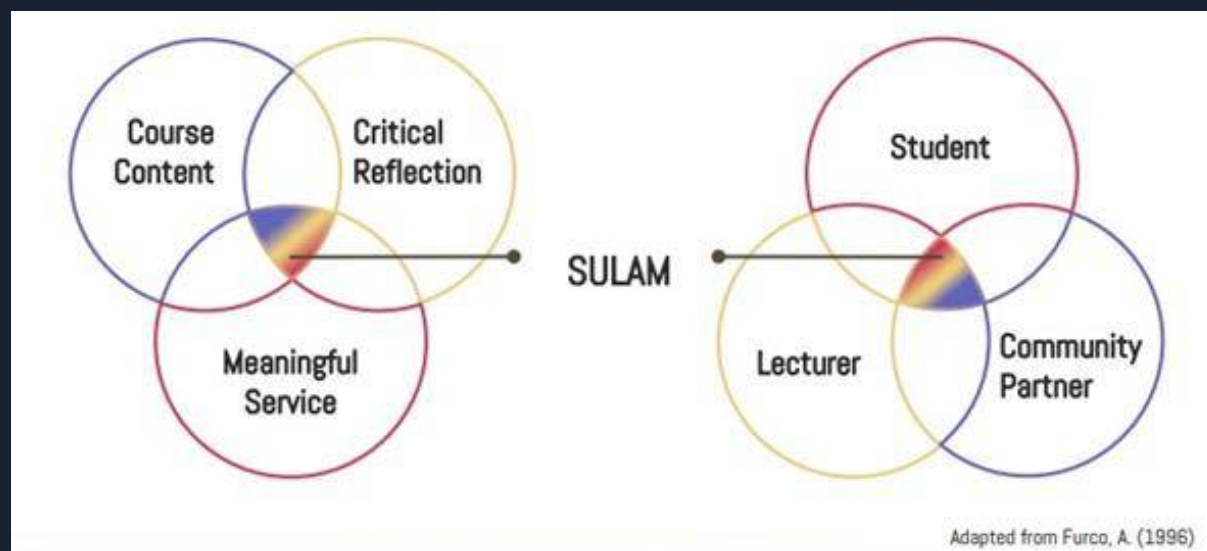


EiS-Dt Alternative Assessment

- This *EiS-Dt* alternative assessment framework adopts the **Design Thinking (DT)** and the **Service-Learning Malaysia University for Society (SULAM)** pedagogical approaches. The five-step DT approach established by the Hasso-Plattner Institute of Design, University of Stanford.
- The **ECC589 course** was chosen by the programme to incorporate the SULAM approach into its teaching and learning activities. SULAM is one of the Ministry of Higher Education's (MOHE's) initiatives that is required to be translated at the university level.
- The *EiS-Dt* adopts the **Quadruple Helix**, consisting of government, community, IHL, and industry stakeholders and is aligned to the **SULAM key components** (SULAM Playbook).



- *EiS-Dt* is in-line with the MOHE's current **Experiential Learning & Competency-based Education Landscape (EXCEL)** framework specifically to the **Community Resilience Experiential Learning (CARE)** components.



EiS-Dt Implementation

- ✓ Planning, Development and Continual Quality Improvement
- ✓ Instructional Methods and Delivery
- ✓ Community-based Project
- ✓ Collaborative Teaching
- ✓ Industry Collaborators
- ✓ Faculty Experts as Advisors
- ✓ Students' Involvement
- ✓ Impacts to Society

Planning, development, implementation, and improvement of the EIS-Dt

Sem, Year, students, lecturers	Course and Programme Outcomes	Teaching & Learning Activities	Assessment tools and Weightage	Planning, Development, Implementation, and Improvement
October 2019	5 CO & 2 PO for ECC586	Conventional Lectures Role Play Assignments	Final Exam – 60% Assignment 1 – 10% Assignment 2 – 10% Mid-term Test – 20%	- ECC586: Engineers in Society - Revision of curriculum – change in code - ECC589 - to be implemented in March 2020
March 2020 415 students 3 lecturers	5CO & 2 PO for ECC586 2CO & 2PO for ECC589	Lectures Community project-based learning	Test 1 – 20% Test 2 – 20% Integrated Society Project – 60% Syndicated Marking for ISP	- Due to Covid19 Pandemic, the ECC586 & ECC589 course assessment has been revised. - ISP related to community problems but limited to proposed conceptual innovative solutions. - There was a lack of stakeholders' engagement due to MCO. - Developed rubrics for ISP
October 2020 52 students 1 lecturer	2CO & 2PO	Webinars Community project-based learning Project Advisor	100% continuous ISP Progress report – 10% Final report – 60% Presentation – 20% Video Montage – 10% Syndicated Marking for ISP	- ECC589 – Non-examinable (100% continuous) - Lectures were replaced with webinars - SULAM is introduced as a pilot run but not including Design Thinking approach. - Students started to engage virtually with the stakeholders.
March 2021 340 students 3 lecturers	2CO & 2PO	Webinars Community project-based learning Project Advisor	100% continuous ISP Progress report – 10% Final report – 60% Presentation – 20% Video Montage – 10% Syndicated Marking for ISP	- Improvement in instructional guidance with rubrics - All groups engaged physically with various stakeholders
October 2021 122 students 1 lecturer	2CO & 2PO	Webinars Community project-based learning Project Advisor	100% continuous ISP Progress report – 10% Final report – 60% Presentation – 20% Video Montage – 10% Syndicated Marking for ISP	- Improvement in instructional guidance – include explicitly the Design Thinking process and SDGs consideration. - Won Gold Award for "Innovation in Alternative Assessment Instrument Incorporating Design Thinking for Service-Learning Malaysia University for Society (SULAM) Course in Engineering Programme" in KILIX2021.
March 2022 434 students 4 lecturers	2CO & 2PO	Webinars Community project-based learning Project Advisor	100% continuous ISP Progress report – 10% Final report – 60% Presentation – 20% Video Montage – 10% Syndicated Marking for ISP	Published: Journal paper entitled "Design of an Innovative Assessment Instrument Integrating Service-Learning Malaysia University for Society Approach for Engineers in Society Course during Covid19 Pandemic" in ASEAN Journal of Engineering Education, 6(1) (2022)

- **Before Covid19 (Oct 2019)**, weekly lectures and exams/tests/assignments were used to assess five course outcomes, which translated to two programme outcomes.
- **During the pandemic (March 2020)**, the final exam was replaced with community project-based learning (60%) and two tests (40%).
- Due to the MCO, 415 students (90 projects) were compelled to submit just conceptual, innovative solutions **without engaging** with community or industry stakeholders.
- **In October 2020**, 50 students (9 projects) hosted various webinars for stakeholders. Lectures were replaced by webinars, and students had more time to discuss their community project with the support of project advisors
- **Since March 2021**, majority of students have **physically engaged** with stakeholders. Design thinking and SDGs were formally incorporated into the instructional guidance with the assessment instrument in October 2021
- **The current March 2022 semester** – A journal related to the implementation of Alternative Assessment has been published

March 2020 – No Engagement with Stakeholders

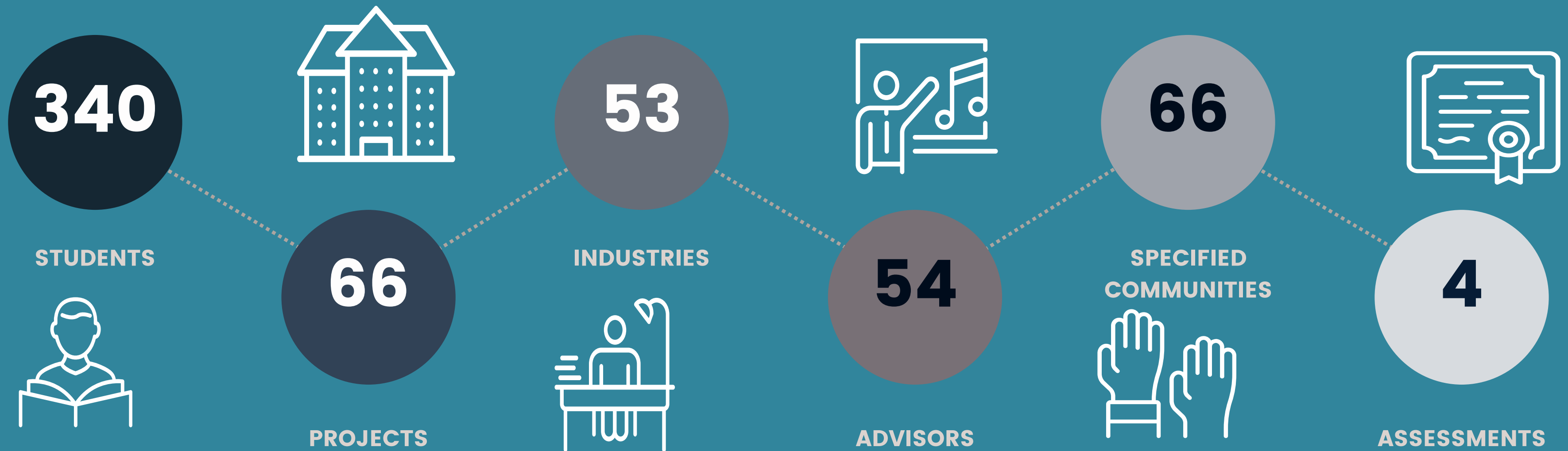
October 2020 – Starting of Virtual Engagement

Pilot EiS-Dt

In October 2020, 50 students (9 projects) hosted various webinars with various stakeholders. Lectures were replaced by webinars, and students had more time to discuss their community project with the support of project advisors.



March 2021- Transition towards 100% Physical Engagement



- Students received Instructional Guidance based on the four assessment instruments utilized from the beginning to the end of the semester based on the scaffolding learning approach.



Instructional Methods – Lectures via Webinars and Collaborative Teaching with Industry



AGENDA

This talk will mainly focus on Corporate Insolvency Practitioner as a career opportunity and Corporate Insolvency Practitioner Course offered by Insolvency Practitioners Association of Malaysia (iPAM).

DATO' RAVEENDRA KUMAR NATHAN
VICE PRESIDENT OF IPAM & APPROVED LIQUIDATOR
MANAGING PRINCIPAL OF RIMBUN GROUP OF COMPANIES
SPEAKER

JOIN US:



20 MAY 2022
FRIDAY
9.00 AM – 10.30 AM

STUDENTS ENT600 & ECC589
UITM STAFF
<https://ultm.webex.com/ultm/j.php?MTID=m7baf11aeaf1821682915cac6686e8dd9>
FOR MORE INFORMATION:
013-2006290 (DR. NUR IZZATI)

Course Webinar : ECC589 Engineers in Society
: Occupational Safety and Health in Construction Industry (Management) (OSHCI(M))
Date : 8th April 2022
Day : Friday
Time : 11.00 am - 12.30 pm
Platform : Webex Cisco Link

Content of Webinar:

- OSHA 1994, FMA 1967 & Occupational Safety and Health in Construction Industry Management) (OSHCI(M)) Guidelines
- Roles and functions of DOSH, NIOSH & CIDB
- Route to Safety & Health Officer (SHO)

Speaker
Dr. Mazlina Zaira Mohamad
Senior Lecturer
School of Civil Engineering
College of Engineering, UiTM
Safety Officer

Course Webinar : ECC589 Engineers in Society
: Building Information Modelling (BIM): How Can You Benefit From BIM
Date : 1st July 2022
Day : Friday
Time : 9.30 am - 11.30 am
Platform : Microsoft Team Link

COLLABORATIVE TEACHING TEAM:

PM. Ir. Dr. Che Maznah Binti Mat Isa
Dr. Siti Hamidah Binti Abdull Rahman
Puan Norizzati Binti Ibrahim
Ir. Muhamad Fuad Bin Shukor

Speaker
Ir. Mohd Rashid Bin Ya'ar
Director
MTC Engineering Consultancy

Course Webinar : ECC589 Engineers in Society
: Roles and Responsibilities of Professional Engineer
Date : 22th April 2022
Day : Friday
Time : 11.00 am - 12.30 pm
Platform : Webex Cisco Link

Content of Webinar:

- Biodata
- Route to Professional Engineer & P.Eng with Practicing Certificate
- Role and Responsibility of Engineer
- Code of Ethics and Professional conduct for engineers
- Concluding Remarks

Speaker
Ts. Ir. Noorfaizah Hamzah
Chairman of Women Engineers Section IEM & Council member of IEM
Senior Lecturer
School of Civil Engineering, College of Engineering
UiTM Shah Alam

Course Webinar : ECC589 Engineers in Society
: Uniform Building By Law (UBBL) & Local and Federal Authorities Regulation
Date : 15th April 2022
Day : Friday
Time : 10.00 am - 11.30 am
Platform : Webex Cisco Link

Content of Webinar:

- Introduction to Uniform Building By Law (UBBL) & Local and Federal Authorities Regulation.
- The importance of both standard/regulation relate to the Civil Engineering and construction activities.

Speaker
Ir. Muhd Salmizi Ja'afar
Senior Lecturer
School of Civil Engineering
College of Engineering, UiTM
25 years of experience

INDUSTRY COLLABORATORS



FACULTY EXPERTS AS ADVISORS



Appointment of Advisors



Universiti Teknologi MARA
40450 Shah Alam Selangor, MALAYSIA
Tel: (603) 5544 3311 (Pejabat Ketua Pengajian)



UNIVERSITI TEKNOLOGI MARA

Kolej
Pengajian Kejuruteraan

Surat kami : 600-FKA (PTA 5/2) SULAM
Tarikh : 4 Mei 2021

SEPERTI SENARAI DI LAMPIRAN

Pengajian Kejuruteraan Awam,
Universiti Teknologi MARA
40450 Shah Alam, Selangor

Y.Bhg. Prof/Tuan/Puan

PERLANTIKAN SEBAGAI PENASIHAT PROGRAM SULAM BAGI KUMPULAN PELAJAR ECC589 ENGINEERS IN SOCIETY SEMESTER MAC – OGOS 2021

Dengan segala hormatnya perkara di atas adalah dirujuk.

2. Sukacita dimaklumkan bahawa pihak Pusat Pengajian Kejuruteraan Awam telah melantik YBhg. Prof/tuan/puan sebagai penasihat kepada kumpulan pelajar ECC589 *Engineers in Society* bagi program SULAM seperti di dalam jadual lampiran. Tempoh perlantikan ini adalah mulai **1 APRIL 2021 sehingga 30 JULAI 2021**.

3. Untuk makluman, tugas utama YBhg. Prof/tuan/puan adalah menyelia dan menasihati pelajar kumpulan masing-masing yang mengambil bahagian dalam projek SULAM mengikut kepada perancangan sepertimana yang terkandung di dalam subjek ECC589 *Engineers in Society*. Pihak Pusat Pengajian Kejuruteraan Awam berharap agar tiada halangan bagi pihak YBhg Prof/tuan/puan untuk menerima perlantikan ini dan melaksanakan tanggungjawab dengan penuh dedikasi.

4. Segala sumbangan dan kerjasama daripada pihak Ybh Prof/tuan/puan adalah amat dihargai dan didahului dengan ucapan terima kasih.

Sekian, والسلام

"PRIHATIN RAKYAT : DARURAT MEMERANGI COVID-19"

"BERKHIDMAT UNTUK NEGARA"

Yang benar,



PROF. DR. HAMIDAH MOHD SAMAN
Ketua Pengajian Kejuruteraan Awam
Kolej Pengajian Kejuruteraan

Universiti Teknologi MARA
40450 Shah Alam Selangor, MALAYSIA
Tel: (603) 5544 3311 (Pejabat Ketua Pengajian)



Kolej
Pengajian Kejuruteraan

LAMPIRAN

No.	Nama	No.	Nama
1	Prof. Ir. Dr. Ahmad Kamil Arshad	31	Ir. Ts Noorfaizah Hamzah
2	Prof. Ts. Dr. Wardah Tahir	32	Ir. Ts Zaizatul Zafflina binti Mohd Zaki
3	Prof. Madya Ir. Dr. Lee Wei Koon	33	Ir. Ts. Dr. Siti Nurbaya Ab. Karim
4	Prof. Madya Ts. Dr. Mohd Fadzil Bin Arshad	34	Ir.Ts. Dr. Oh Chai Lian
5	Prof. Madya Dr. Jezan Md. Diah	35	Ir. Ts. Jalina Kassim
6	Prof. Madya Dr. Norashikin Ahmad Kamal	36	Ir. Ts. Sulaiman Hasim
7	Dr. Azianabiha A. Halip @ Khalid	37	Ts. Dr. Azlinda Saadon
8	Dr. Dzulaikha Khairuddin	38	Ts. Dr. Ekarizan Shaffie
9	Dr. Ismacahyadi Bagus Mohamed Jais	39	Ts. Dr. Musmuliadi Kamaruding
10	Dr. Jurina Jaafar	40	Ts. Dr. Nor Azmi Bakhary
11	Dr. Marfiah Ab Wahid	41	Ts. Dr. Norhafezah Kasmuri
12	Dr. Mazlina Zaira Mohammad	42	Ts. Dr. Norbaya Hj Sidek
13	Dr. Muhd Norhasri Muhd Sidek	43	Ts. Dr. Nuryazmeen Farhan Haron
14	Dr. Noor Azreena Kamaluddin	44	Ts. Dr. Janmaizatulriah binti Jani
15	Dr. Norfarah Nadia Ismail	45	Ts. Dr. Siti Zaharah Ishak
16	Dr. Norliana Sulaiman	46	Ts. Fatin Najwa Mohd Nusa
17	Dr. Nur Izzati Ab Rani	47	Ts. Irma Noorazurah Binti Mohamad
18	Dr. Nur Kamaliah Mustaffa	48	Ts. Nurhidayah Hamzah
19	Dr. Nurul Ainain Mohd Salim	49	Ts. Siti Nurulhuda Mohd. Imran
20	Dr. Nuryantizpura Mohamad Rais	50	Fauzi Baharudin
21	Dr. Rabitah Daud	51	Mazlina Mohamad
22	Dr. Rusdi Rusli	52	Noraida Mohd Saim
23	Dr. Sharifah Abdullah	53	Shafienaz Ismail
24	Dr. Syahrin Neizam bin Mohd Dzulkifli		
25	Dr. Siti Hamidah Abdull Rahman		
26	Ir. Assrul Reedza Zulkifli		
27	Ir. Dr. Amnorzahira Amir		
28	Ir. Dr. Suzana Ramli		
29	Ir. Muhd Salmizi Ja'afar		
30	Ir. Muhamad Fuad Shukor		

List of Advisors with respective SULAM Projects, Groups & Industry

Group	Advisor	Title	Team Member	Student ID	Industry
1	Dr. Ismahyadi Bagus Mohamed Jais	Recycle Waste Management Awareness in Collaboration with Alam Flora	Muhammad Ariff bin Zamri (L)	2017800358	Alam Flora
			Ainin Sofea binti Zaidi	2017800452	
			Dona Elissa Binti Heinko Dona	2017800454	
			Muhammad Aiman bin Selamat	2017800432	
			Nurul Farahin binti Badarudin	2017428312	
2	Ir. Muhd Salmizi Ja'afar Ir. Dr. Amnorzahira Amir	Awareness on Utilization of Food Waste Composting as Organic Fertilizer for Planting along Anak Sungai Gajah, Precint 9, Putrajaya	Nurasyikin Binti Azman	2017800412	JPS
			Nor Asyikin Binti Mohd Rosdee	2017800406	
			Nik Sahira Sorfina Binti Azizi	2017800436	
			Nur Azura Binti Che Mat Salwi	2017800354	
			Nur Fazlin Binti Kamaruzaman	2017800322	
3	Ir. Dr. Oh Chai Lian	EXPLORING CIVIL ENGINEER'S ROLES AND CONTRIBUTIONS IN THE BUILDING CONSTRUCTIONS AT SMK LEMBAH KERAMAT	Nor Erma Binti Abit	2017800326	Rumah Tumpangan Ah Seng
			Nur Sabrina Binti Sadun	2017800346	
			Nur Zulaiha Binti Ariffin	2017800466	
			Nurul Athirah Binti Parman	2017800402	
			Siti Madihah Binti Zullani	2017800388	
4	Ts. Nurhidayah Hamzah	Awareness of Food Waste Composting Among Community Bandar Tasik Puteri, Rawang	Nur Munirah Binti Borhan	2017800338	MBSA
			Nik Nur Hazwani Binti Nik Amiruddin	2017800456	
			Nur Yasmin Binti Zaid	2017800374	
			Raja Nathira Binti Raja Kamaruzzaman	2017800368	
5	Ts. Dr. Nuryazmeen Farhan Haron	SAFETY AND MANAGEMENT OF GOVERNMENT FACILITY BY LOCAL COMMUNITY IN GEMAS, NEGERI SEMBILAN	Intan Zaharah binti Khairudin	2017800372	Pejabat Daerah Kecil & Tanah Gemas
			Fakhirah Mazlan	2018224648	
			Asfarieza binti Muhamad Zazid	2017800342	
			Faiqah binti Faisal	2017800462	
			Alifah binti Hussain	2017800444	
6	Ts. Irma Noorazurah Binti Mohamad Prof. Madya Ir. Dr. Lee Wei Koon	AWARENESS OF RIVER POLUTION DUE TO COVID-19 PANDEMIC	Nurul Nazifa Hishamudin	2017800408	GEC
			Siti Syaqirah Azmi	2017800392	
			Nurshah Erra Mohamed Shokri	2017800446	
			Nurul Aisyah Nabila Zaini	2017800472	
			Nur Syahirah Roslan	2017800366	
7	Prof. Ir. Dr. Ahmad Kamil Arshad Dr Nuryantizpura Mohamad Rais	ROAD SAFETY AWARENESS: SCHOOL AREA WEBINAR AT SMK SERI TEBRAU, JOHOR BAHRU, JOHOR	Nurhanis Elisa Hamidon	2017800376	MIROS
			Nurul Hafizah Saiman	2017800386	
			Siti Aisyah Azman	2017800378	
			Serina Mohd Aseri	2017800348	
			Ahmad Kamil Hakim bin Ghazali	2017800438	
8	Ts. Dr. Azlinda Saadon	River (Conservative, Protection & Rehabilitation) CPR through Public and Stakeholder Engagement and Participation Towards Sustainable River	Muhammad Adham Bin Mohd Alias	2017819566	LUAS, GEC, FOR
			Amira Amani Binti Alsetdek	2017800394	
			Fariya Aliya Binti Hilmi	2017800428	
			Aida Natasha binti Akmar Jalil	2017800318	
			MUHAMAD HARITH HAIQAL BIN YU	2017800448	
9	Ts. Dr. Nor Azmi Bakhary Dr. Ekarizan Shaffie	ROAD REROUTING AT PUSAT KOMERSIAL SEKSYEN 7, SHAH ALAM DUE TO ROAD CONGESTION	MOHAMAD AFFNAN BIN TARSEH	2017800364	MBSA
			IYANG NURATHILAH BINTI ABDUL	2017800356	
			AYZA NAZIRA BINTI ZULFAZLI	2017800464	
			AUNI QISTINA BINTI ZAID	2017800336	
			Arief Izzuddin bin Abdul Jamil	2017800324	
10	Dr. Rusdi Rusli	National Cycling Road Safety Webinar in Conjunction with MIROS & PDRM	Muhammad Nazreen Bin Mohd Nasir	2017871414	MIROS, PDRM
			Muhammad Afif Hafiz bin Ismail	2017800458	
			Muhammad Akmal bin Mohd Noor	2017800312	
			Ammar Wafiq Bin Mohamad Zayadi	2017800416	
			AMIR RASYDAN BIN NOR ROSLAN	2017800398	
11	Ts. Dr. Musmuliadi Kamaruding	ROAD DEFECTS AT PPR COCHRANE PERKASA, CHERAS, KUALA LUMPUR	MOHAMMAD KHAIRI BIN YUSOF	2017800396	DBKL
			AINAA HAZIQAH BINTI MOHD JAMA	2017800474	
			MUHAMMAD IZZAT BIN MOHAMAD	2017800418	
			Muhamad Nazmi Shahr Bin Mohd N	2017800308	
12	Dr. Jurina Jaafar	Awareness on proper waste management at Padang Jawa residential area.	Muhammad Irfan Bin Ismail	2017800344	Alam Flora
			Wan Nik Muhammad Ilham Bin Wan	2017800422	
			Muhammad Mahfuz bin Ayman	2017106513	

Approval to Organize SULAM Project by HEP

 UNIVERSITI
TEKNOLOGI
MARA

Kolej
Pengkajian Kejuruteraan

Surat Kami : 100-KPK (HEP 36/5)
Tarikh : 27 Mei 2022

Ir. Ts. Dr. Mohd Khairul Kamarudin
Penasihat Program
Pengkajian Kejuruteraan Awam
Kolej Pengajian Kejuruteraan
Universiti Teknologi MARA
40450 SHAH ALAM

Tuan,

KELULUSAN PERMOHONAN PENGANJURAN PROGRAM KESELAMATAN JALANRAYA 'VISION ZERO' KOMUNITI DI SEKOLAH KEBANGSAAN TANJONG KARANG, KUALA SELANGOR

Dengan segala hormatnya perkara di atas adalah dirujuk.

2. Permohonan penganjuran program Keselamatan Jalanraya 'Vision Zero' Komuniti Di Sekolah Kebangsaan Tanjong Karang, Kuala Selangor telah diluluskan secara terus oleh Penolong Naib Canselor Kolej Pengajian Kejuruteraan berdasarkan perbincangan yang telah dibuat pada 19 Mei 2022 seperti ditetapkan berikut:-

Bil	Perkara	Jumlah
	Tarikh : 25 April – 24 Jun 2022 Tempat : Sekolah Kebangsaan Tanjong Karang, Kuala Selangor Kod Akaun: 29413	
1)	Percetakan	RM 150.00
2)	Honorarium Ceramah (Kump Pengurusan & Profesional) RM105 x 1 orang	RM 105.00
	Jumlah	RM 255.00

3. Tuan juga tertakluk dengan syarat-syarat berikut:-

1.	Tidak dibenarkan menganjur/menyertai sebarang aktiviti yang bertentangan dengan syariat Islam.	✓
2.	Laporan lengkap aktiviti hendaklah dikemukakan kepada pihak ICAN Kolej Pengajian Kejuruteraan melalui Penasihat /Ketua Program selewat-lewatnya 14 hari selepas aktiviti dijalankan. Laporan projek ini perlu mempunyai elemen pemindahan ilmu (pelajar/pensyarah yang mengajar) kepada komuniti sebagaimana garis panduan SULAM yang dikeluarkan oleh KPT. Tuntutan kewangan (sekiranya ada) boleh dimajukan di link seperti di bawah: Pelaporan Aktiviti KPK 1. Fill in form: https://forms.gle/FGREJUdtGkP2jv6v8	✓

Kolej Pengajian Kejuruteraan

KELULUSAN PERMOHONAN PENGANJURAN PROGRAM KESELAMATAN JALANRAYA 'VISION ZERO' KOMUNITI DI SEKOLAH KEBANGSAAN TANJONG KARANG, KUALA SELANGOR

Surat Kami : 100-KPK (HEP 36/5)
Tarikh : 27 Mei 2022

3.	Segala resit perbelanjaan hendaklah disahkan oleh Pensyarah / Pegawai Pengiring (kumpulan A) terlebih dahulu.	✓
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4. Dimaklumkan bahawa minit mesyuarat berdasarkan keputusan di atas akan disahkan dalam Mesyuarat Jawatankuasa Keraian dan Pengurusan Aktiviti Pelajar Kolej Pengajian Kejuruteraan yang akan datang.

5. Jika sekiranya tuan memerlukan peruntukan kewangan terlebih dahulu, sila kemukakan permohonan pendahuluan melalui Penasihat/Ketua Program/Pegawai Pengiring sekurang-kurangnya 10 hari sebelum aktiviti dijalankan kepada HEP Kolej Pengajian Kejuruteraan.

6. Dingatkan, sebarang perubahan aktiviti peruntukan penceramah/fasilitator mestilah mendapat kebenaran HEP Kolej Pengajian Kejuruteraan.

Sekian, terima kasih.

"WAWASAN KEMAKMURAN BERSAMA 2030"

"BERKHIDMAT UNTUK NEGARA"

Yang benar,


PROFESOR Sr. Ir. Dr. Hj. SUHAIMI ABDUL TALIB
Penolong Naib Canselor

s.k : 1. Fail Am

P2
01/06/2022



UP 5 C3-4 CLEAN WATER FOR ALL E



CLEAN WATER FOR ALL

SCHOOL COMMUNITY

community
16 June 2022



ar Water

with Majlis
Klang and
y residents.



LOCAL AUTHORITY & VENDOR



At the day of event
GATHERED COLLECTED ITEMS AT DEPOH
JABATAN PERKHIDMATAN & PERSEKITARAN



INTERVIEWED MPK'S OFFICER AND VENDOR



STUDENTS' INVOLVEMENT



Love Planting At Tanjung Karang Forest Reserve For Conservation Of Ecosystem And Sustainable Development

NGO & FISHERMEN
COMMUNITY

11 May 2022

Engagement with Jaring(NGO), Jabatan Perhutanan and Fishermen Community



BEFORE



AFTER



WISDOM WEEKEND



Engagement with

ORPHANAGE COMMUNITY

28 May 2022



Maintenance Project At Sekolah Kebangsaan Raja Muda

by Majlis Perbandaran Shah Alam,
school community

LOCAL AUTHORITY

June 2022



SCHOOL COMMUNITY



Survey the locations of
targeted community



Furniture Safety and Usage

Engagement with JKR, Dishub, Sekolah Tinggi Pekan
community and school community

2022

INTERNATIONAL COLLABORATION



Let's Green Garden

Engagement with residents

RELIGIOUS COMMUNITY

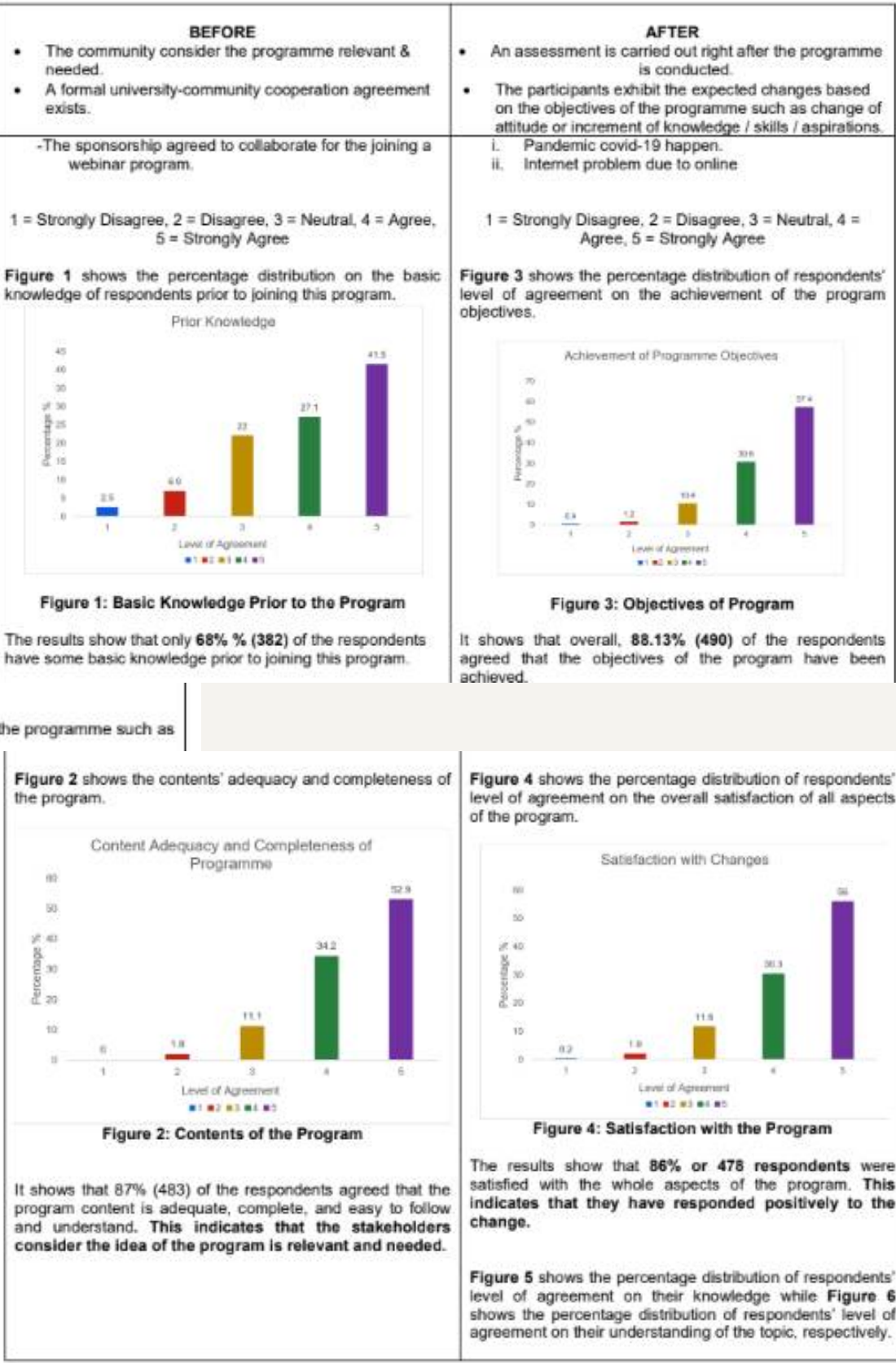


Sample of Community Engagement Impact (Star Rating Report)



LAPORAN IMPAK JALINAN KOMUNITI (PENARAFAN BINTANG)
COMMUNITY ENGAGEMENT IMPACT (STAR RATING) REPORT

Notes:	
No.	Explanation
1.	At the end of a project, successful applicant must deliver: i. A final report in two formats: a. Adobe Reader (.pdf) b. Microsoft Word (.doc) ii. a. Pictures or b. Short videos of activities (2 minutes) copied in CD (if any).
2.	A project has to achieve a minimum of three (3) Star CE Impact Rating in order performance. Thus, it needs to meet 3 minimum requirements: i. The community should have a positive orientation towards the program exceeds or equal to 80% from the targeted number of participants. ii. A minimum of one (1) stakeholders' involvement Government Agencies, NGOs, Learning Institutions, etc.). a. Provide evidence that the community consider the programme b. Provide a formal university-community cooperation agreement. iii. The participants exhibit the expected changes based on the objectives of the programme such as change of attitude or increment of knowledge / skills or aspirations.
3.	Additional requirements to achieve four (4) or five (5) Star CE Impact Rating: i. The programme results in change of practice where the participants are introduced (4 star). ii. The community is empowered and independently able to sustain 1 introduced through the programme without UTM's assistance (5 star).
4.	Please note that all information will be kept confidential and will ONLY be used for



IMPACTS ON A WIDER PERSPECTIVES

1. Society: Elevate the societal well-being in conjunction with enhancement of infrastructure related to civil engineering practices **(SDG3: Good Health and Well-being)** and encourage upskilling and reskilling between the host and the beneficiaries (community) to remain competitive. Eventually, the community can independently sustain the practice that was introduced through the projects.



Ensure healthy lives and promote well-being for all at all ages



Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

2. Academia: Knowledge transfer to relevant stakeholders based on continuous research activities **(SDG4: Quality Education)**

3. Government: input for the Shared Prosperity Vision 2030 and way forward



4. Industry: Expansion of CSR for the benefits of community

5. Environment: Expansion of green economy and facilitate the attainment of low-carbon future **(SDG11: Sustainable Cities and Communities)**.



Make cities and human settlements inclusive, safe, resilient and sustainable



DESIGN THINKING



UNIVERSITI
TEKNOLOGI
MARA

Instructional Guidance

ENGINEERS IN SOCIETY

INTEGRATED WITH SULAM & DESIGN THINKING

© 2020

EiS-Dt





October 2021

Design thinking
and SDGs were
formally

incorporated into
the Instructional
Guidance with the
assessment
instrument.

A T H Y S T A G E		consequent responsibilities relevant to professional civil engineering practices.	WK4, WK6 & WK7) WP4: Unfamiliarity Issues];
	2	Observe what the community do and how they interact with their environment that contributes to the problems and perform a detail assessment of the problem supported by relevant and validated sources and highlighting conflicting requirements by various stakeholders. Note: You need to do as much as possible the observations in relevant contexts, engage, watch, listen and read/refer from many sources such as media, you-tube, interview, books, research paper, reports, press statement, online news etc.	CO1-PO8 WK7 WP2: conflicting requirements).
	3	Engage with specified industrial linkages to conduct the assessment on the community problems and describe the industrial linkage and community engagement	WK8: Research Literature) CO1-PO8 WP6: Extent of stakeholder involvement.
D E F I N E S T A G E	4	Define the purpose of the ISP, the challenges you are taking on and making sense of the widespread issues and information that have been gathered including the justification of standards and codes of practice. Note: Based on what you have gained learned from the empathy stage create a meaningful and actionable problem statement as a guiding statement that focuses on insights and needs of a specific problem. This stage is critical to the design process because it based on their new understanding of problem.	CO1-PO8 WP1: Depth of Knowledge WP4: Unfamiliarity Issues) WP5: Extent of Applicable Codes.
	5	Generate Ideas to come out with many (multiple) suggestions to solve the problems. Carry out many brainstorming sessions and propose possible solutions that may help to solve the community's problems. Note: Ideation is an early stage in a design project in pushing for a widest possible range of ideas from which you can select, and NOT SIMPLY findings a single best solution The determination of the best solution will be discovered later, through user testing and feedback (prototype stage).]	WP3: Depth of analysis – non-obvious solutions
I D E A T I O N S T A G E	6	Discuss in detail, potential ethical issues, and professional misconduct (based on the code of conduct by professional engineers) in implementing your project to overcome the ide	CO1-PO8

P R O T O T Y P E S T A G E	8	Discuss the multiple ideas forwarded into prototyping to maintain your innovation potentials. At this stage, all possible solutions are presented for comments by each member of the groups and by the stakeholders to obtain their feedback to refine the proposed solution.	CO1-PO6 WP3: Depth of Analysis
	9	- Design an innovative Civil Engineering solution to the problem and produce the proposed innovative solutions (are also known as "quick and dirty prototypes") in form of a model, drawing, simulation, a video, a skit, a comic strip or simply a good sketch or any other suitable means. - Identify with justification the challenges from the relevant authorities' regulations to the professional engineering practices and propose solutions to overcome them.	WP6: Extent of stakeholder involvement
	10	Build a functional prototype	
T E S T I N G S T A G E	11	- Engage and obtain the user/community or user's feedback to refine/improve the proposed solution - Engage the user/community to test-drive/operate/use the final product or service	WP6: Extent of stakeholder involvement
	12	Present your comprehensive assessment of the ISP through group presentation. (Week 12)	CO2-PO8 A4
Submission of Final Report (Week 14)			
F I N A L	13	- Extend the Interim Report indicating all Tasks 1 - 9 in the Case Study into Final Report (adding Tasks 10 – 13) - Report on the activities conducted displaying the industrial linkages and community engagement - Conduct the survey questionnaire of the activity's feedback before and after program - Fill up the <i>Borang Pelaporan Impak</i> (Lampiran 2 in the Course Content) - Submit the final report that follows the existing format as per interim report.	CO1-PO6
	14	Create a video montage projecting all the activities conducted during interim until the final report which should be made with maximum duration of 3 minutes and in a form of .mp4 saved file.	CO2-PO8 A4

ASSESSMENT TOOLS

Assessment Tool	Percentage
Final Report	60%
Presentation	20%
Video Montage	10%
Case Study	10%

- The **four (4) components** of the assessment tool are **case study (10%), final report (60%), presentation (20%), and video montage (10%)**.
- Case study and the final report are suitable to measure **high cognitive levels (C5-C6) to solve complex problems**, while presentation and video montage are used to assess the **affective domain based on ethics and behaviors (A4)**.
- Each tool is accompanied by a **specific performance criteria matrix (rubrics)** mapped to the learning outcomes, knowledge profile, complex engineering problems, and learning domains.
- The **Instructional Guidance** encapsulates the EiS-Dt components which constitute the course introduction, mapping (course outcomes, programme outcomes, knowledge profiles, and complex problems), specific learning outcomes and tasks, DT process, Sustainable Development Goals (SDG 3: Good Health and Well-being; SDG 4: Quality Education; and SDG 11: Sustainable Cities and Communities), course assessment table, report format, and rubrics for each assessment tool. <https://bit.ly/3QigqRS>

Appendix B: Performance Criteria Matrix for Final Report (60%) (CO1-PO6)						
Performance Criteria	Complex Engineering Problem Characteristics/ Taxonomy Level	Description of Performance Criteria				
Task 1: Introduction/ Background of Study a. Identification of key problems using relevant Knowledge Profiles	WP1: Depth of Knowledge Required = in-depth engineering knowledge at the level of one or more of WK3, WK4, WK5, WK6 or WK8 (WK's) fundamental, first principles analytical approach	Ability to identify the specific or key problems of the situation faced by the chosen community/society within economic, social, cultural, environmental and sustainability contexts and the consequent responsibilities based on specified knowledge profiles namely: WK3: Engineering Fundamental; WK4: Specialist Knowledge, WK6 -Engineering Practices; WK7- comprehension and WK8 – literature research)				
	WP4: Familiarity of issues: Infrequently encountered issues	1 Very Poor	2 Poor	3 Satisfactory	4 Good	5 Very Good
		Demonstrate only two (2) or less specified of WKs	Demonstrates only three (3) specified WKs	Acceptable demonstration of all four (4) specified WKs	Good demonstration of all four (4) specified WKs	Excellent demonstration of all four (4) specified WKs
Task 1b: Problem Statement Evaluation of the identified problems	WP2: Conflicting requirement: Wide-ranging or conflicting technical, engineering, and other issues WP6: Extent of stakeholder involvement and conflicting requirements = diverse groups of stakeholders with widely varying needs	Ability to evaluate the infrequently encountered issue/problem under various circumstances related to economic, social, cultural, health, safety, legal, environmental and sustainability relevant to professional civil engineering practices towards providing effective solutions.				
Task 2a: Observation and Assessment of Problem		1	2	3	4	5
		No evaluation of any circumstance	Evaluate 1 circumstances with acceptable justification	Evaluate 2 circumstances with acceptable justification	Evaluate 3 circumstances with acceptable justification	Evaluate more than 3 circumstances with acceptable justification
		Ability to carry out the observation what the community do and how they interact with their environment that contributes to the problems and perform a detail assessment of the problems supported by relevant and validated sources, data and information (pictures, interviews, primary/secondary data, reports, press statement, online news etc.) and highlighting conflicting requirements by various stakeholders.				
Task 2b: Highlighting and explaining the nature of		1	2	3	4	5
		Lack of supporting sources (not valid and not relevant)	Supported by 2 sources literature search but not relevant and validated	Supported by 2 sources of literature search	Supported by 3 sources of literature search	Supported by more than 3 sources of literature search
		Ability to highlight the contradicting requirement by different stakeholders and explain the nature of conflicts between the technical, engineering and other issues (due to the rules and regulations of authorities, code of professional practices, health and safety regulations, stakeholders' varying needs, etc.) relevant to the problems.				

Programme Outcome (PO) Attainment using conventional assessment (Oct 2019)

OCTOBER 2019

SUMMARY OF CONTINUOUS QUALITY IMPROVEMENT (CQI) AT COURSE LEVEL

COURSE NAME : ENGINEERS IN SOCIETY
COURSE COORDINATOR : MOHD KHAIRUL KAMARUDIN (MKK)
LECTURER : CHE KHARIL IZAM CHE IBRAHIM (CK) (TEAM TEACHING)

COURSE CODE : ECC 586
SEMESTER : SEPT 2019 - JAN 2020

Assessment Tools		
TYPE OF ASSESSMENT	QUANTITY	TOTAL MARK (%)
TEST	1	20%
ASSIGNMENTS	3	20%
FINAL EXAM	1	60%
TOTAL		100%



Course Outcomes attainment (%)

Program Outcomes attainment (%)

SEMESTER		GROUP	LECTURER	PERCENTAGE										No. of sdnts.	SEMESTER	GROUP	PERCENTAGE						
				CO1		CO2		CO3		CO4		CO5					PO2		PO6		PO8		
				% passes	% average	% passes	% average	% passes	% average	% passes	% average	% passes	% average				% passes	% average	% passes	% average	% passes	% average	
PREVIOUS	Mar. - July 2019	EC2208A1	MKK	88.6	75.9	93.2	68.5	100.0	70.7	NA	NA	NA	NA	44	PREVIOUS	Mar. - July 2019	EC2208A1	95.5	70.1	97.7	72.3	NA	NA
		EC2208A2	MKK	75.7	66.8	78.4	61.7	89.2	63.8	NA	NA	NA	NA	37			EC2208A2	69.2	62.7	86.5	63.3	NA	NA
		OVERALL AVERAGE	82.2	71.4	85.8	65.1	94.6	67.2	NA	NA	NA	NA	81	OVERALL AVERAGE			92.3	66.4	92.1	67.8	NA	NA	
CURRENT	Sept 2019 - Jan 2020	EC2208C1	MKK/CK	3.7	22.8	77.8	58.9	96.3	70.7	25.9	45.4	70.4	52.9	27	CURRENT	Sept 2019 - Jan 2020	EC2208C1	NA	NA	48.1	50.3	88.9	58.9
		EC2208C2	MKK	6.9	22.8	75.9	60.6	100.0	72.3	55.2	50.1	82.8	67.5	29			EC2208C2	NA	NA	69.0	54.3	100.0	67.5
		OVERALL AVERAGE	5.3	22.8	76.8	59.8	98.1	71.5	40.5	47.8	76.6	60.2	56	OVERALL AVERAGE			NA	NA	58.6	52.3	94.4	63.2	

Programme Outcome (PO) Attainment using *EiS-Dt* Alternative Assessment (March 2021)

MARCH 2021

SUMMARY OF CONTINUOUS QUALITY IMPROVEMENT (CQI) AT COURSE LEVEL

COURSE NAME : ENGINEERS IN SOCIETY
COURSE COORDINATOR : MOHD KHAIRUL KAMARUDIN (MKK)
LECTURER : SITI HAMIDAH ABDULL RAHMAN (SHAR)
: CHE MAZNAH MAT ISA (CMMI)
: ELMI ALIF AZMI (EAA)

COURSE CODE : ECC589
SEMESTER : MAR 2021 - AUG 2021

Assessment Tools		
TYPE OF ASSESSMENT	QUANTITY	TOTAL MARK (%)
INTERIM REPORT	1	10%
PRESENTATION	1	20%
VIDEO MONTAGE	1	10%
FINAL REPORT	1	60%
TOTAL		100%



Course Outcomes attainment (%)

Program Outcomes attainment (%)

SEMESTER		GROUP	LECTURER	PERCENTAGE				No. of sdnts.	SEMESTER	GROUP	PERCENTAGE				
				CO1		CO2					PO6		PO8		
				% passes	% average	% passes	% average				% passes	% average	% passes	% average	
PREVIOUS	Oct 2020 - Feb 2021	ECC586-8C2B	MKK	100.0	79.3	100.0	68.8	8	PREVIOUS	Oct 2020 - Feb 2021	ECC586-8C2B	100.0	79.3	100.0	68.8
		ECC589-8C2B	MKK	100.0	72.6	100.0	75.3	18			ECC589-8C2B	100.0	72.6	100.0	75.3
		ECC589-8C1A	MKK	100.0	71.4	57.7	62.9	26			ECC589-8C1A	100.0	71.4	57.7	62.9
		OVERALL AVERAGE	100.0	74.4	85.9	69.0	52	OVERALL AVERAGE			100.0	74.4	85.9	69.0	
CURRENT	Mar 2021 - Aug 2021	8A1	MKK	100.0	74.7	100.0	78.9	28	CURRENT	Mar 2021 - Aug 2021	8A1	100.0	74.7	100.0	78.9
		8A2	MKK	100.0	79.3	100.0	81.4	29			8A2	100.0	79.3	100.0	81.4
		8B1	MKK	100.0	75.8	100.0	81.0	25			8B1	100.0	75.8	100.0	81.0
		8B2	MKK	100.0	76.9	100.0	82.0	24			8B2	100.0	76.9	100.0	82.0
		8C1	MKK/EAA	100.0	82.7	96.0	83.5	25			8C1	100.0	82.7	96.0	83.5
		8C2	MKK/EAA	100.0	81.0	100.0	82.9	26			8C2	100.0	81.0	100.0	82.9
		8C3	SHAR	100.0	80.0	100.0	80.0	25			8C3	100.0	80.0	100.0	80.0
		8C4	SHAR	100.0	73.9	100.0	79.0	26			8C4	100.0	73.9	100.0	79.0
		8C5	SHAR	100.0	77.9	100.0	77.4	29			8C5	100.0	77.9	100.0	77.4
		8C6	SHAR	100.0	80.7	100.0	78.0	28			8C6	100.0	80.7	100.0	78.0
		8C7	SHAR	100.0	78.1	100.0	80.9	25			8C7	100.0	78.1	100.0	80.9
		8C8	SHAR	100.0	78.4	100.0	79.5	25			8C8	100.0	78.4	100.0	79.5
		8C9	CMMI	100.0	78.2	100.0	79.3	25			8C9	100.0	78.2	100.0	79.3
		OVERALL AVERAGE	100.0	78.3	99.7	80.3	340	OVERALL AVERAGE			100.0	78.3	99.7	80.3	

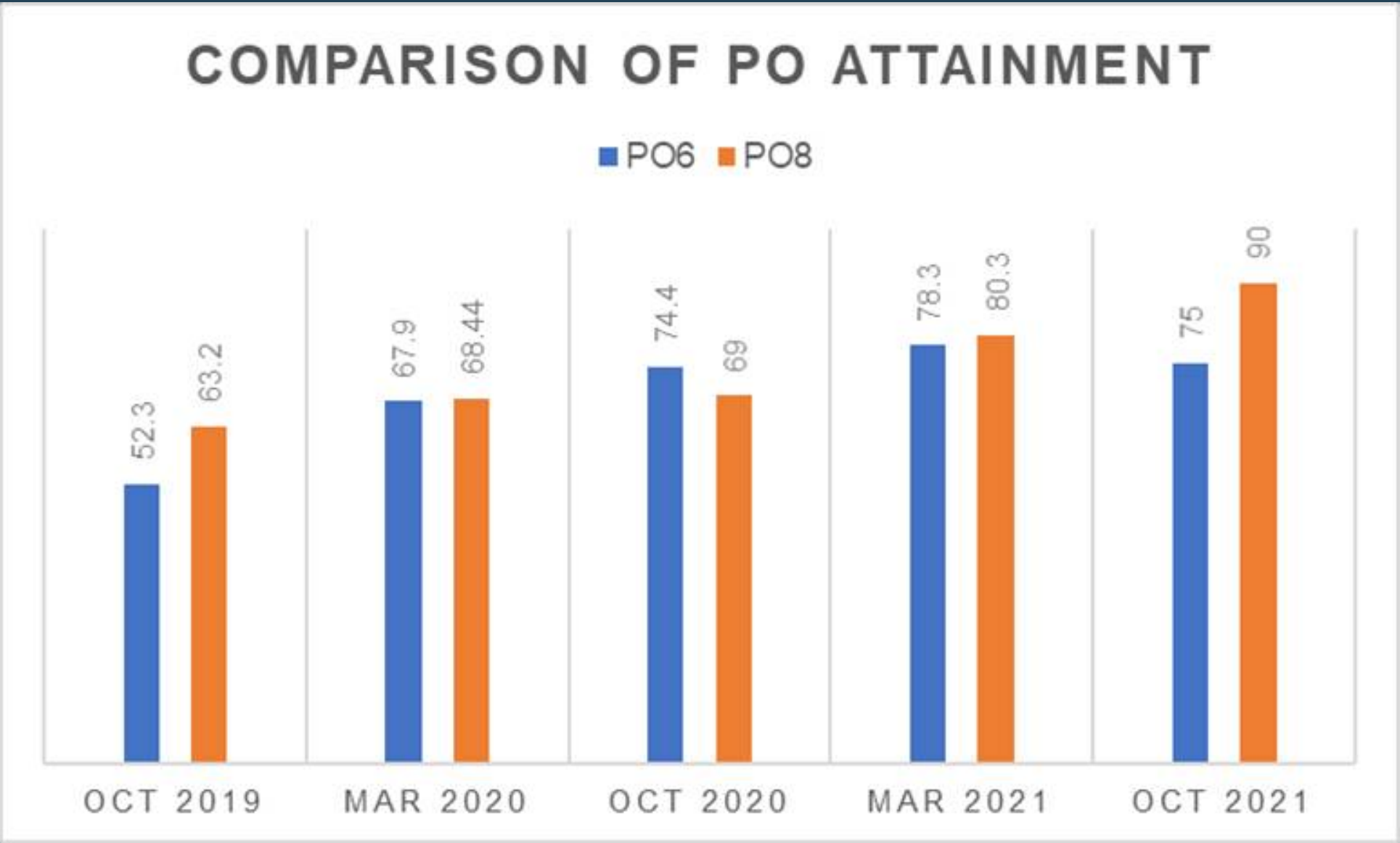
IMPACTS ON STUDENTS' LEARNING

Direct Attainment

This *EiS-Dt* is a **non-examinable approach** in contrast to the prior examinable assessment.

Compared to the previous assessment (October 2019), the usage of the alternative assessment has shown **improvements for both PO6 and PO8 attainment**.

PO6 and PO8 attainment from the **OBE *myCOPO*** system
(Mac 2021 – July 2021)



The screenshot displays the OBE myCOPO system interface. It shows the course details for EC220805, ENGINEERS IN SOCIETY, and the lecturer SITI HAMEDAH BINTI ABDULL RAHMAN. The interface includes a bar chart showing attainment for various program outcomes (PO1 to PO12). Below the chart, there is a table showing the alignment of course outcomes (CO1 to CO12) with program outcomes (PO1 to PO12). The table also includes a search bar and a list of students with their attainment scores for each program outcome.

STUDENT ID	STUDENT NAME	PART	01	02	03	04	05	06	07	08	09	10	11	12	GRADE
2018207192	MERLYN LACUS	B	-	-	-	-	-	75.0	-	79.0	-	-	-	-	A-
2018224454	MURFARHANAH ADILAH BIN	B	-	-	-	-	-	85.0	-	76.0	-	-	-	-	A
2018224608	MURINTAN NALJAH BINTI A	B	-	-	-	-	-	80.0	-	76.0	-	-	-	-	A-
2018224692	MUR NASHI AH BINTI DAUD	B	-	-	-	-	-	87.0	-	75.0	-	-	-	-	A
2018225022	MUR SYAZA HANANI BINTI M	B	-	-	-	-	-	87.0	-	81.0	-	-	-	-	A
2018225642	MUR SYAZAH BINTI MOHD ASRI	B	-	-	-	-	-	87.0	-	81.0	-	-	-	-	A
2018227038	SITI MURHASUNA FITRIYAH B	T	-	-	-	-	-	85.0	-	82.0	-	-	-	-	A
2018227494	MOHAMAD FITRI BIN MOHD	B	-	-	-	-	-	76.0	-	79.0	-	-	-	-	A-
2018249502	MOOR WAHIDA BINTI MOHD S	B	-	-	-	-	-	87.0	-	81.0	-	-	-	-	A
2018262278	ARMAD RAZUL BIN IZUDIN	B	-	-	-	-	-	76.0	-	79.0	-	-	-	-	A-
2018287476	MUR ELIANA BINTI MOOR AZMI	B	-	-	-	-	-	80.0	-	76.0	-	-	-	-	A-
2018287676	SHARIFAH AINUL UYANA BIN	B	-	-	-	-	-	77.0	-	75.0	-	-	-	-	A-
2018287996	ALIFF NAIM BIN ZULKIFLI	B	-	-	-	-	-	77.0	-	75.0	-	-	-	-	A-
2018298892	MURUL EZZATI BINTI KUSLI	B	-	-	-	-	-	80.0	-	76.0	-	-	-	-	A
2018400306	MOR ARSISA HANIS BINTI AN	T	-	-	-	-	-	85.0	-	79.0	-	-	-	-	A
2018402416	MUR GHUADA BINTI SUKINI	B	-	-	-	-	-	80.0	-	76.0	-	-	-	-	A-
2018425606	MUR MAZADTUL ANNIS BINTI	B	-	-	-	-	-	77.0	-	72.0	-	-	-	-	A-
2018425652	MUR HUSNAYAN SAJIDAH B	B	-	-	-	-	-	85.0	-	79.0	-	-	-	-	A
2018440966	MUR MAZHAH BINTI ISMAIL	B	-	-	-	-	-	77.0	-	75.0	-	-	-	-	A-
2018441312	MUR ATIKAH BINTI MOHAMA	B	-	-	-	-	-	87.0	-	78.0	-	-	-	-	A
2018441596	MURUL SYAFIRAH BINTI MOH	B	-	-	-	-	-	76.0	-	82.0	-	-	-	-	A-
2018441626	MURUL ATIKAH BINTI SUHUT	B	-	-	-	-	-	85.0	-	79.0	-	-	-	-	A
2018639256	MUR FARHANA BINTI MUHAM	T	-	-	-	-	-	81.0	-	81.0	-	-	-	-	A
2018645438	ADITHYAN SREEL AYYZ	B	-	-	-	-	-	77.0	-	77.0	-	-	-	-	A

Course outcomes are aligned with program outcomes.

Indirect Attainment

1

Samples of
Entrance-Exit
Survey

2

Samples of
SUFO report

3

Research on the
effectiveness of alternative
assessment based on 340
students

<https://bit.ly/3vG1gOA>



Kumpulan Kursus / Course Group : EC2208C6 (ECC589)

Bil. Responden / Respondents : 28

Sesi / Semester : Mar 2021 - Aug 2021 (DEGREE AND MASTER) (20212I)

No.	Soalan Question	Sangat Tidak Setuju (1)	Tidak Setuju (2)	Setuju (3)	Sangat Setuju (4)	Purata (%)	Purata Mata
Bahagian A : Persepsi Keseluruhan tentang kursus ini Section A : Overall Impression about the course							
1	Kursus ini memberi lebih pengetahuan kepada saya. <i>I have increased my knowledge from taking the course.</i>	0	0	10	18	91.07	3.64
2	Kandungan kursus ini berkaitan dengan bidang pengajian saya. <i>The course content is related to my field of study.</i>	0	1	9	18	90.18	3.61
3	Kaedah penilaian kursus ini telah meningkatkan keupayaan pembelajaran saya. <i>The method of assessments in this course has enhanced my learning ability.</i>	0	1	9	18	90.18	3.61
4	Tahap keyakinan saya dalam kursus ini telah meningkat. <i>My confidence level in this course has increased.</i>	0	0	13	15	88.39	3.54
JUMLAH PURATA:		0	2	41	69	89.95	3.60
Bahagian B : Profesionalisme Pensyarah Section B : Lecturer Professionalism							
5	Pensyarah menyempurnakan jam pengajaran yang dijadualkan. <i>The lecturer completes the scheduled hours of instruction.</i>	0	0	11	17	90.18	3.61
6	Pensyarah bersedia memberi bimbingan akademik kepada pelajar. <i>The lecturer is ever ready to provide academic guidance to students.</i>	0	1	10	17	89.29	3.57
7	Pensyarah menggunakan Bahasa Inggeris sebagai bahasa pengantar semasa kuliah (kecuali kursus CTU dan Bahasa Ketiga). <i>The lecturer uses English as a medium of instruction during the lectures except for CITU and Third Language courses.</i>	0	0	12	16	89.29	3.57
8	Pensyarah mudah didekat. <i>The lecturer is approachable.</i>	0	2	9	17	88.39	3.54
9	Pensyarah mudah dihubungi untuk pertincangan. <i>The lecturer is accessible for discussion.</i>	0	2	9	17	88.39	3.54
10	Pensyarah memantau kehadiran pelajar. <i>The lecturer monitors student attendance.</i>	0	1	10	17	89.29	3.57
11	Secara keseluruhannya pensyarah mempamerkan profesionalisme yang sangat tinggi. <i>Overall, the lecturer exhibits high professionalism.</i>	0	2	9	17	88.39	3.54
JUMLAH PURATA:		0	8	70	118	89.03	3.56
Bahagian C : Aktiviti Pengajaran dan Pembelajaran Section C : Teaching and Learning Activities							
12	Pensyarah menerangkan kandungan kursus. <i>The lecturer explains the course content.</i>	0	1	11	16	88.39	3.54
13	Pensyarah menerangkan tentang hasil kursus. <i>The lecturer explains the outcomes of the course.</i>	0	1	9	18	90.18	3.61
14	Pensyarah menerangkan cara penilaian kursus. <i>The lecturer explains the methods of assessment for the course.</i>	0	0	12	16	89.29	3.57
15	Pensyarah mengajar mengikut perancangan. <i>The lecturer teaches according to plan.</i>	0	0	11	17	90.18	3.61
16	Pensyarah melibatkan pelajar secara aktif dalam proses pembelajaran. <i>The lecturer actively involves students in the learning process.</i>	0	0	13	15	88.39	3.54
17	Pensyarah mewujudkan suasana untuk pelajar bertanya soalan dan mengemukakan pendapat. <i>The lecturer creates an environment for students to</i>	0	0	11	17	90.18	3.61

Course :

ECC589 - ENGINEERS IN SOCIETY

RP :

PROFESOR MADYA IR DR CHE MAZNAH BINTI MAT ISA

Semester :

20204I : Oct 2020 - Feb 2021 (DEGREE AND MASTER)

Campus :

UITM Shah Alam

Group :

ALL GROUPS

Program :

Back

Filter

Entrance Surveys

EXPORT EXCEL

No	Student ID	Campus	t-1-1	t-1-2	t-1-3	t-1-4	t-2-1	t-2-2	t-2-3
1	2017106513	B	3	3	3	3	3	3	3
2	2017187319	B	4	4	4	4	4	4	4
3	2017428312	B	1	1	1	1	1	1	1
4	2017447414	B	5	5	5	5	5	5	5
5	2017528245	B	5	5	5	5	5	5	5
6	2017582337	B	3	3	3	3	3	3	3
7	2017586787	B	4	4	4	4	4	4	4
8	2017592931	B	3	3	3	3	3	3	3

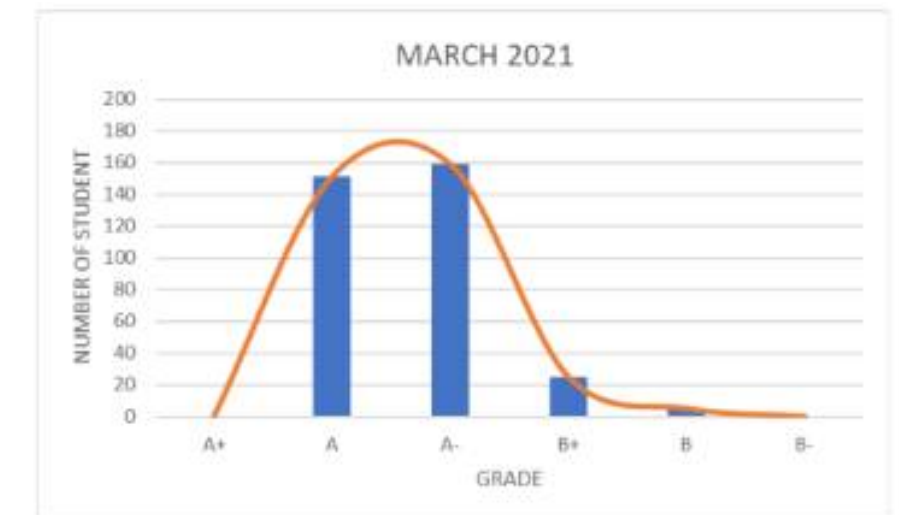
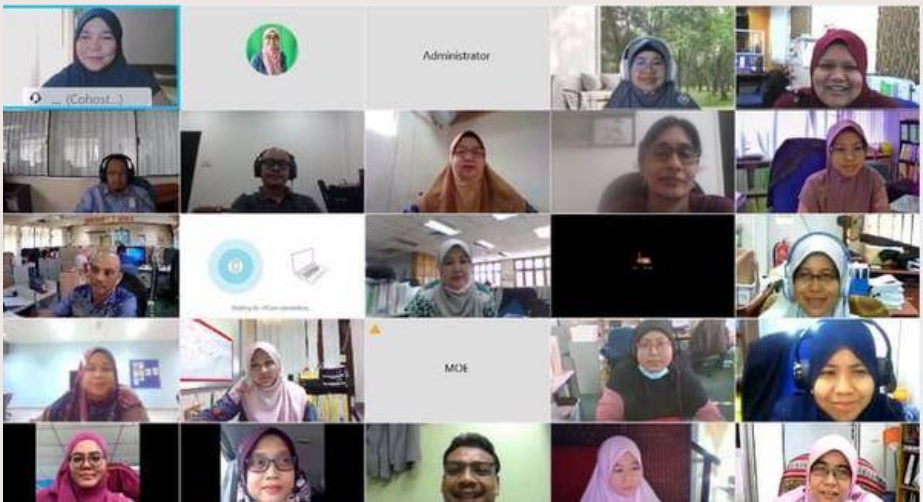


Figure 5.3 The Histogram Graph (Bell Curve) March 2021

Table 5.6 Average POs in March 2021

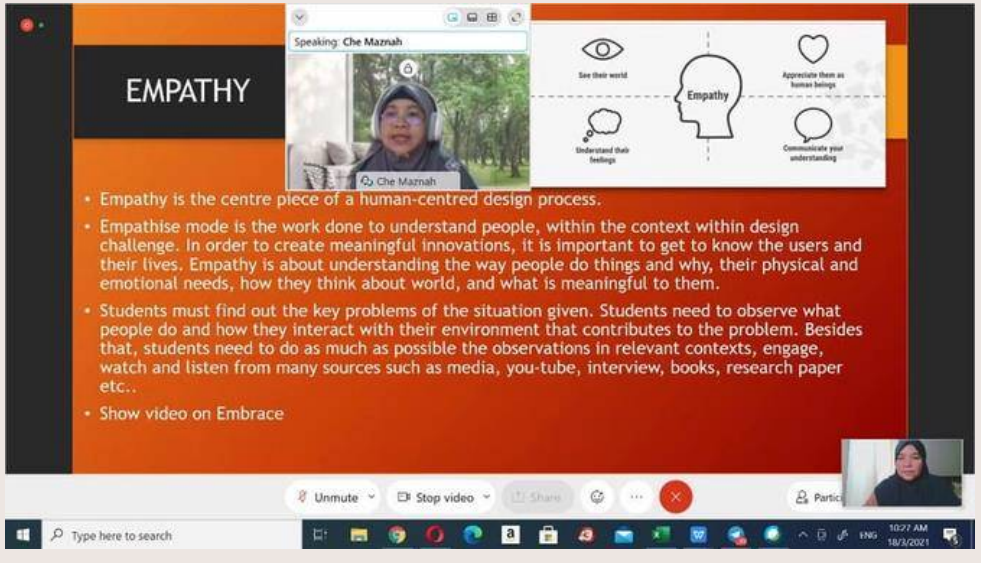
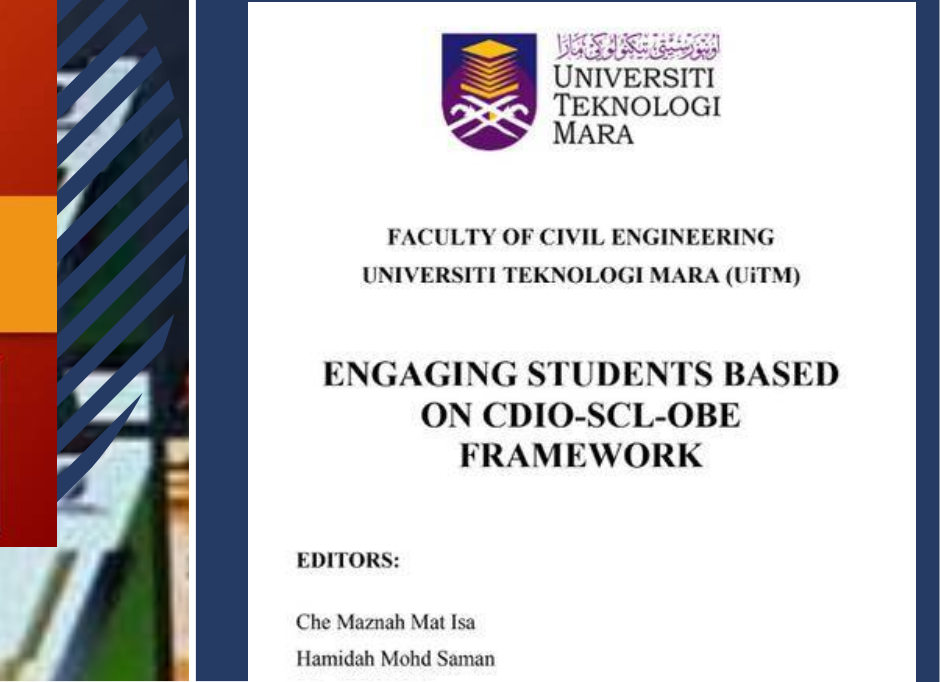
Class	PO 6 (%)	PO 8 (%)
8A1	74.7	78.9
8A2	79.3	81.4
8B1	75.8	81
8B2	76.9	82
8C1	82.7	83.5
8C2	81	82.9
8C3	80.3	80.3
8C4	79.3	79
8C5	77.9	77.4
8C6	80.7	78
8C7	78.1	80.9
8C8	78.4	79.5
8C9	78.2	79.3
Total (%)	1023.3	1044.1

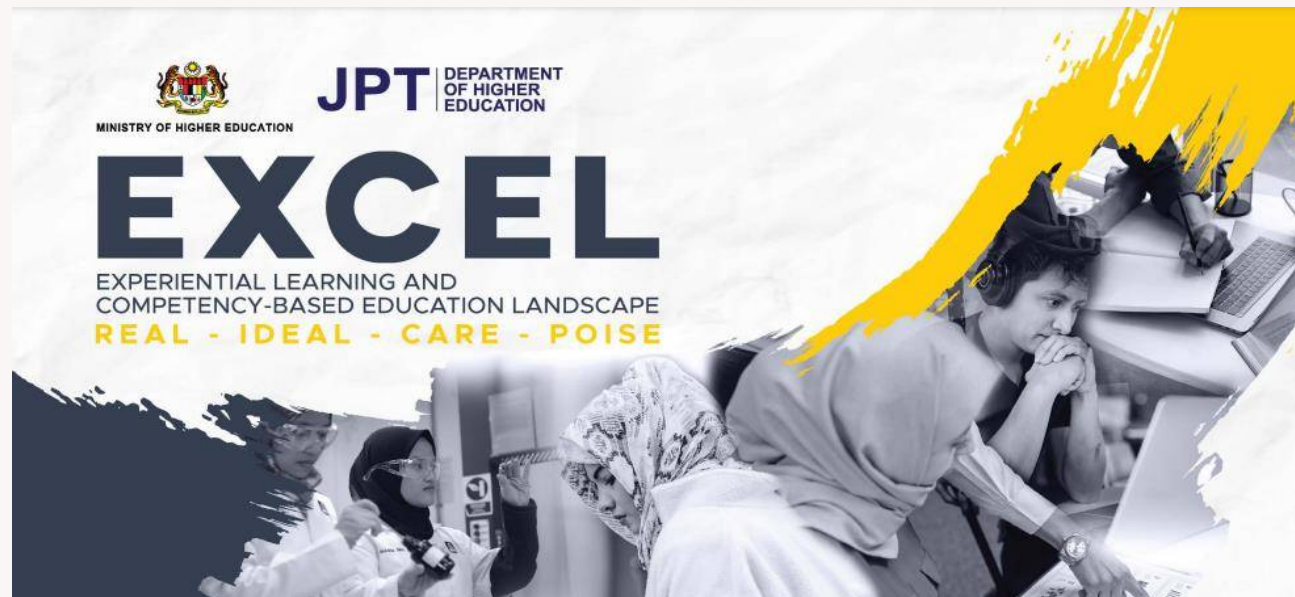
Adaptability



The *EiS-Dt* alternative assessment method has spread adaptively as follows:

- i) After merging in March 2021, the course facilitators of Engineers in Society course across the engineering schools under the College of Engineering, UiTM can implement similar continuous assessment.
- ii) The facilitator trained and shared experience with local IHLs (Malaysian universities and polytechnics) and international institutions.
- iii) Conference, competition and publications
- iv. Guidelines





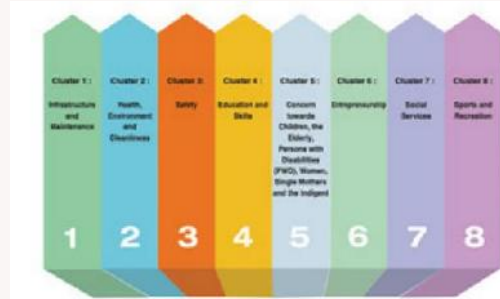
HIEPs – Service Learning
Malaysian Education Blueprint
(HE) 2015-2025 (MoHE, 2015)

THE WAY

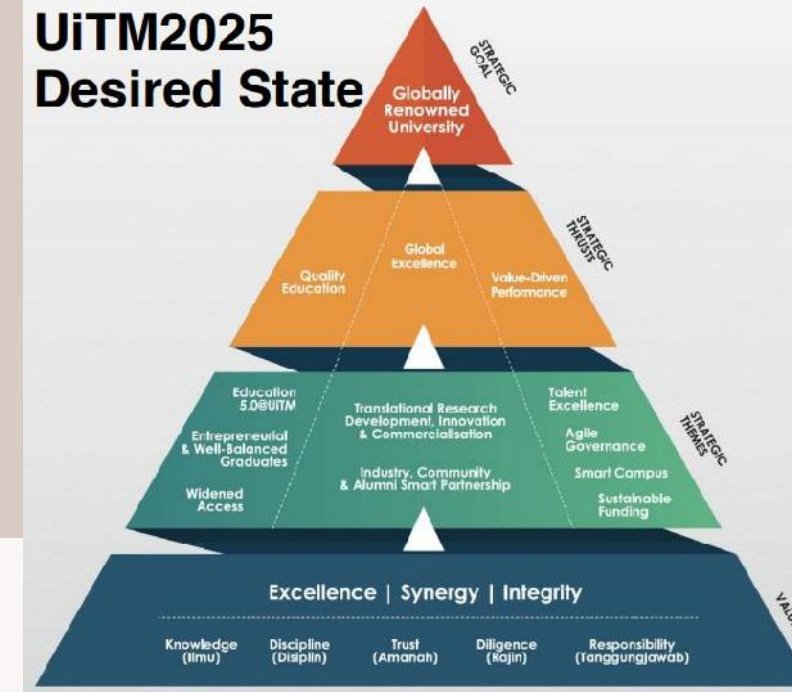


WHY CARE?

CARE is in line with several national policies and initiatives related to community engagement. These include the National Community Policy and the Rural Development Policy. The Ministry of Higher Education has also identified Service Learning as the High Impact Educational Practices (HIEPs) strategy, and introduced the University for Society (U4S) initiative to enhance student learning experience through community engagement.



National Community Policy (MHLG, 2019)



UiTM aims at becoming a **Globally Renowned University** by 2025.

UiTM2025 anchors on **Three (3) Strategic Thrusts**.

- **Quality Education**
- **Global Excellence**
- **Value-Driven Performance**

Each strategic thrust is associated with identified **Strategic Themes (ST)** as shown in the figure.



EAC STANDARD 2023

- **PO6: Engineers & The World**
- **Sustainable Development Goals**

INTERNATIONAL ENGINEERING ALLIANCE

GRADUATE ATTRIBUTES & PROFESSIONAL COMPETENCIES

PROUDLY SUPPORTED BY:



Shared Prosperity Vision
2030

TOP 10 Skills of 2025

- Analytical thinking and innovation
- Active learning and learning strategies
- Complex problem-solving
- Critical thinking and analysis
- Creativity, originality and initiative
- Leadership and social influence
- Technology use, monitoring and control
- Technology design and programming
- Resilience, stress tolerance and flexibility
- Reasoning, problem-solving and ideation

Type of skill

- **Problem-solving**
- **Self-management**
- **Working with people**
- **Technology use and development**



- **Silver Award 2020:** International Virtual Educational Invention, Innovation & Design Competition (iVEDICC2020) Innovative Assessment Tool for Integrated Society Project (ISP) For Engineers in Society Course During Covid19 Pandemic.
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Design of Alternative Assessment

- How do we go about doing it?

1. **Design and implement learning experiences** to prepare students for solving workplace problems (complex engineering problems).

- Problem Based Learning, Project Based Learning, Collaborative Learning, Enquiry-based learning, open-ended problems etc.
- Capstone Projects (IDP and FYP)
- Real work experience (WBL)/ exposure (LI)
- Design problems

To be carried out consistently throughout the educational program.

2. **Evaluate student's achievement** in solving complex engineering problems in order to assess the effectiveness of the learning experiences that we have put in place

- Projects or Assignments: Through Performance Assessment Rubrics measuring achievement of Project/Assignment objectives.
- Open-ended Examination

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The background features a central white rectangular area. Above and below this area are decorative wavy bands in two shades of blue: a medium blue and a darker navy blue. The waves flow horizontally across the frame.

Thank You