

# RESOURCES

OFFICIAL NEWSLETTER OF THE FACULTY OF  
CHEMICAL AND PROCESS ENGINEERING  
TECHNOLOGY (FTKKP)  
UNIVERSITI MALAYSIA PAHANG



VOL. 8 ISSUE 1 YEAR 2023

## "LEGACY OF DEDICATION: YOUR SERVICE WILL FOREVER ECHO"

**23 February 2023** - A total of 68 staff of Universiti Malaysia Pahang (UMP) who have faithfully served and contributed for over two decades at this university were honoured at **Majlis Sanjungan Budi** in conjunction with the UMP Annual Mandate by the Vice-Chancellor today. The ceremony witnessed Professor Dato' Ts. Dr. Yuserrie Zainuddin, accompanied by the Registrar of UMP, Saiful Bahri Ahmad Bakarim, presented certificates of appreciation to the recipients during the programme held at the UMP Multipurpose Hall in Pekan today. Each honoured staff member received a cash reward of RM 1000 and a certificate of appreciation. This year marks the second year, UMP has celebrated the staff members who have served for 20 years at UMP. Congratulations to Associate Professor Ts. Dr. Chua @ Yeo Gek Kee, Professor Datin Ts. Dr. Mimi Sakinah Abdul Munaim, Dr. Mazni Ismail, Ts. Dr. Noorlisa Harun, Associate Professor Dr. Fatmawati Adam, Professor Ts. Dr. Kamal Yusoh, Associate Professor Ir. Dr. Syed Mohd Saufi Tuan Chik, Associate Professor Ts. Dr. Sunarti Abd Rahman, and Professor Ts. Dr. Che Ku Mohammad Faizal Che Ku Yahya from the Faculty of Chemical and Process Engineering Technology (FTKKP) who have faithfully served and contributed for over 20 years at UMP! Thank you for your dedicated service and contributions throughout your tenure at UMP!



### FORWARD FROM DEAN



In the name of Allah, the Most Gracious, the Most Merciful, may blessings and peace be upon our Prophet Muhammad (SAW). At the halfway mark of the academic year, it is an honour to witness the faculty members' outstanding accomplishments and contributions. Continuing the tradition of excellence, FTKKP has made significant strides over the past six months. These achievements include those of our researchers and students who have won awards at various levels, established new international and industrial collaborations as well as our members assuming strategic positions within the university. The combined efforts and successes of our members have elevated the university's standing and positively impacted the lives of our students and the communities we serve. Success is not the end; it is merely a stepping stone to greater heights. Let us leverage our current achievements as a solid foundation to reach even greater accomplishments.

Prof. Ts. Dr. Che Ku Mohammad Faizal Che Ku Yahya

Dean of FTKKP

### EDITORIAL BOARD

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Norfarahani A Bakar

## "INNOVATING FOR TOMORROW: FTKKP RESEARCH PRODUCTS TAKE THE STAGE AT CITREX 2023"



The 13th Creation, Innovation, Technology, and Research Exposition (CITREX 2023) was an annual event held on 12-14 March this year at UMP Kampus Paya Besar. Researchers from FTKKP achieved remarkable success, securing 2 Special Awards, 3 Gold, 10 Silver, and 1 Bronze medals in the staff category. Congratulations to Prof. Dr. Abdulrahman Hamid Nour for winning the ***Hadiah Khas Industri*** (Special Industry Award) for the project "Low-Priced and Eco-Friendly Natural Surfactant for Stabilizing and Transporting Crude Oil Emulsions." We are also proud to announce the achievements of Ts. Mohd Najib Razali, who received the **Best Innovation in Chemical Technology Award** for the project "Biodegradable Grease for Food and Pharmaceutical Industry." Ts. Mohd Najib Razali also secured 3rd place in the Innovative Idea Pitching Competition, which provided a platform to promote discovery, innovation, and research results to potential investors and industries. Congratulations to all our exceptional researchers for their triumphant performance at CITREX 2023!



# FTKKP WON SPECIAL AWARD AND GOLD MEDALS IN MTE 2023 AND ITEX 2023



## MTE 2023

Nine researchers from Universiti Malaysia Pahang (UMP) made a remarkable impact at the Malaysia Technology Expo (MTE) 2023, which was held on 16-18 March 2023 at the World Trade Centre (WTC), by presenting exceptional research products. Our heartiest congratulations to Prof. Dr. Abdulrahman Hamid Nour from FTKKP for winning the Japan Intellectual Property Association (JIPA) - **Best Environment Innovation** and **Gold medal** at the Malaysia Technology Expo (MTE) 2023.

## ITEX 2023

Universiti Malaysia Pahang (UMP) once again demonstrated its excellence in research and innovation by securing 11 Gold and 9 Silver medals at the highly prestigious International Invention, Innovation and Technology Exhibition 2023 (ITEX'23), which was held on 11-12 May 2023 at Kuala Lumpur Convention Centre, Kuala Lumpur. A total of 20 inventors represented UMP in the exposition. Ts. Mohd Najib Razali from FTKKP stood out with his outstanding innovation titled "Biodegradable Grease for Food and Pharmaceutical Industry", which earned him a well-deserved **Gold Medal**.





"HIGHLIGHTING OUR ESTEEMED RESEARCHERS:  
MAKING REMARKABLE CONTRIBUTIONS IN  
ACADEMIC RESEARCH"

We take great pride in introducing our distinguished researchers, whose exceptional work has made significant contributions to the field of academic study. Their accomplishments are evident through the multitude of publications they have produced across various platforms. By sharing their valuable insights, we aim to introduce our researchers to the local and global community, fostering meaningful connections and collaborations in the pursuit of knowledge and innovation.





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SCOPUS



Scopus ID 18426613500

28

h-index

98

Total Publications in Scopus

WEB OF SCIENCE



Researcher ID AAA-7905-2019

24

h-index

58

Total Publications WOS

ORCID ID 0000-0003-4981-9802



Google Scholar



LENS.org

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SCOPUS



Scopus ID 26536916600

13

h-index

51

Total Publications in Scopus

WEB OF SCIENCE



Researcher ID L-8761-2018

10

h-index

18

Total Publications WOS

ORCID ID 0000-0003-2663-344X



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SCOPUS



Scopus ID 14719696000

11

h-index

37

Total Publications in Scopus

WEB OF SCIENCE



Researcher ID DKJ-9830-2022

5

h-index

20

Total Publications WOS

ORCID ID 0000-0002-7269-3761



Google Scholar



LENS.org

Retrieved on April 2023

"OUTSTANDING APPOINTMENTS AND ACHIEVEMENTS WITHIN THE FTKKP COMMUNITY"



Congratulations to YBhg. Prof. Ir. Ts. Dr. Ahmad Ziad Sulaiman on the appointment as the **Deputy Vice-Chancellor (Academic Affairs and International)**, effective 15 May 2023. Wishing you success in carrying out your duties. Sincere congratulations from all members of FTKKP.

Congratulations to Professor Ts. Dr. Kamal Yusoh, on the appointment as the **Deputy Vice-Chancellor of the Centre for Corporate and Quality Affairs, UMP**. May you continue to make contributions and have a smooth journey ahead!



Congratulations to YBhg. Prof. Ir. Ts. Dr. Ahmad Ziad Sulaiman on the appointment as a **Fellow of the Malaysia Professor Academy**.

Congratulations to Associate Professor Ts. Dr. Raihana Zahirah Edros on the appointment as the **Deputy Dean of the Institute of Postgraduate Studies, UMP**. Sincere congratulations from all members of FTKKP.



Congratulations to Associate Professor Ts. Dr. Herma Dina Setiabudi on the appointment as the **Director (Ranking Division) of the Centre for Corporate and Quality Affairs, UMP**, starting from 1 March 2023 until 28 February 2025. Best wishes and success from the FTKKP community.

Congratulations to Associate Professor Ir. Dr. Norazwina Zainol on the appointment as the **Director (Strategic and Quality Management Division) of the Centre for Corporate and Quality Affairs, UMP**, starting from 1 March 2023, until 28 February 2025. Best wishes and success from the entire FTKKP community. May you continue to make contributions and have a smooth journey.





**"INDUSTRY EXPERTS EMPOWER FTKKP  
STUDENTS AND STAFF THROUGH KNOWLEDGE  
SHARING"**

The collage consists of 15 individual posters arranged in a grid-like fashion. Each poster is for a different event, mostly sponsored by UTeM and various industry partners like PETRONAS, BASF, and Novugen. The events include:

- Oil and Gas Industry:** A seminar on OBE curriculum overview by Assoc. Prof. Dr. Syamsul Rizal Abd Shukur.
- Industrial Talk:** A series of talks including "Digitalization in the Oil and Gas Industry" by Dr. Ts. M. Khairuddin Samsuddin and "Sustainable Lubrication Solutions for Industry" by Mr. Ahmad Zubair.
- Global Classroom:** Sessions on "Sustainable Lubrication Solutions for Industry" and "Solid Waste Management in Malaysia".
- Pharmaceutical Development:** A talk on "Unravelling Pharmaceutical Development: A Journey Through the Process" by CNA, HANZI, HAKIM, BIN HUSSAIN & DN.
- Algae Fuel:** A talk on "Prospect of Algae Fuel: Opportunities & Challenges" by Dr. Noor Muhammad Afiq Zaidi.
- Process Engineering:** A talk on "Mass and Energy Balance for Distillation Column" by Mr. Yogeeswaran Rajendran.
- SCADA, PLC and DCS:** A talk on "Digitalization in Process Industries: Role of SCADA, PLC and DCS" by Ir. Ts. M. Khairuddin Samsuddin.
- Prevention Fire & Explosion:** A talk on "Prevention Fire & Explosion in Chemical Industry" by Dr. Noor Muhammad Afiq Zaidi.
- Plant Supervision:** A talk on "Plant Supervision (DRK2352) Industrial Talk: Controlling Skills (Improving Productivity and Providing a Safe & Healthy Work Environment)" by Mr. Muhammad Samad Bin Hazizan.

Each poster typically includes a title, a brief description, a speaker's name and title, a date and time, a location, and a QR code for registration. Some posters also mention a fee or a complimentary attendance for students.

The Faculty of Chemical and Process Engineering Technology (FTKKP) is dedicated to equipping students with knowledge of fundamental engineering principles and real-world industry practices. To achieve this goal, the faculty organised sessions and talks with experts from various industries. These initiatives were implemented across several courses in diploma and bachelor degree programmes, with expert speakers from companies such as PETRONAS Sdn. Bhd., PTTEP Sarawak Oil Ltd. Co., EXS Synergy Sdn. Bhd., Proksi Wawasan Automation Sdn. Bhd., TNB Research Sdn. Bhd., Rocye Pharma Berhad, KLM Technology Group, Baker Hughes (M) Sdn. Bhd., BASF Petronas Chemical Sdn. Bhd., and CJ Bio Malaysia Sdn Bhd. Bachelor degree courses involved in these sessions include Welding & Inspection, Chemical Process Principles, Bioprocess Technology, HSE in Oil & Gas Industry, Plant Trouble Shooting & Maintenance, Environmental & Sustainable Technology, Optimal LNG Operation, and Process Management & Economics. Meanwhile, for the diploma level, the Plant Supervision course also organised a session to give exposure to the students.

### COLLABORATION WITH AGRICO AGRICULTURE DEVELOPMENT

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20 June 2023 - Universiti Malaysia Pahang (UMP) received a visit from Agrico Agriculture Development, led by Nasser Ahmed Al-Khalaf, Director of Operations. UMP was represented by Associate Professor Dr. Ahmad Tarmizi Haron, Senior Director of Innovation and Commercial Management Centre, Dr. Noormazlinah Ahmad, Lecturer from the Faculty of Chemical and Process Engineering (FTKKP), and officers from UMP's Innovation and Commercial Management Centre. It is expected that this visit will strengthen the collaboration between UMP and Agrico and explore new opportunities in the fields of research and commercialisation.



### COLLABORATION BETWEEN UMP, MNR AND UMW IN THE FOOD-GRADE GREASE OIL RESEARCH

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Universiti Malaysia Pahang (UMP) collaborated with Multitech Sdn. Bhd. (MNR) and UMW Innovation and R&D Center Sdn. Bhd. to conduct a research project on food-grade grease oil. Ts. Mohd Najib Razali, a lecturer in the Faculty of Chemical Engineering and Process Technology (FTKKP) and also the director of MNR, leads the research. The product is a food-grade grease oil formulation that uses halal ingredients and UMW-produced oil, which is safe to use in various industries, including food processing, pharmaceuticals, and medicine.



## CHESS SYMPOSIUM 2023

3 June 2023 - Prof. Ts. Dr. Che Ku Mohammad Faizal Che Ku Yahya, Dean of FTKKP, together with Ts. Dr. Norida Ridzuan and Ts. Dr. Mohd Zulkifli Mohamad Noor, two distinguished UMP's CHESS University Leaders represented the university at the CHESS Symposium 2023, held at the Kuala Lumpur Convention Centre. CHESS, stands for the Collaboration with Higher Education Strategic Initiatives, is a programme to catalyse industry-academia knowledge sharing in technical areas, aligned with PETRONAS' Education Agenda and Sustainability Development Goals (SDGs) under Quality Education.

The highlight of the event was the MoU exchange between UMP and PETRONAS. Representing UMP at the MOU exchange ceremony was the Vice-Chancellor, Prof. Dato Ts. Dr. Yuserrie Zainuddin, while PETRONAS was represented by Datuk Bacho Pilog, Senior Vice President of Project Delivery & Technology. The event was also attended by Prof. Ir. Ts. Dr. Ahmad Ziad Sulaiman, UMP's Deputy Vice-Chancellor (Academic and International Affairs).

Thirty-two FTKKP students who attended the event had the opportunity to experience a fantastic line-up of activities including innovation exhibitions, innovation pitching competition, technical talk show, and career clinic.





**Provision of Iftar  
Meal on 1st  
Ramadan,  
Sponsored by UMP  
Holdings and the  
Centre for  
Strategic  
Academic  
Cooperation  
(PKSA) UMP**

**On 1st Ramadan, the staff of  
FTKKP actively volunteered  
and came together to  
contribute towards the  
provision of free iftar meals at  
UMP Gambang. Their selfless  
efforts aimed to foster a sense  
of togetherness and solidarity  
within the UMP community  
during this holy month.**



**A total contribution of RM240,000 has been allocated to  
provide free Iftar meals throughout this Ramadan for  
approximately 2,000 students across both campuses.**



### SINGGAH SAHUR FTKKP 2023



In conjunction with the month of Ramadan, the Faculty of Chemical and Process Engineering (FTKKP) once again organised the **"Singgah Sahur"** programme, which took place on 15 April around Kuantan.

The programme brought together volunteers from FTKKP to provide sahur meals to front-line security personnel in the vicinity of Kuantan. Through the FTKKP Infaq Programme, a total of RM1,425.00 was collected, aligning with the programme's objective of sharing blessings by distributing sahur meals.

Starting at 12:30 a.m., all volunteers gathered at UMP before conveying to selected destinations to distribute 220 packages of sahur meals. Present at the program was the Dean of FTKKP, Professor Ts. Dr. Che Ku Mohammad Faizal Che Ku Yahya, along with over 10 FTKKP volunteers, who assisted in implementing the **Singgah Sahur** FTKKP 2023 initiative.

Millions of thanks are expressed to all the contributors who helped make this year's programme a success. May Allah reward everyone's kindness during this noble month.





## FTKKP MOBILITY PROGRAMME



The recently concluded webinar titled "FTKKP Outbound Mobility Programme" hosted by Dr. Hatijah as the moderator and Dr. Khairool as the speaker, provided an opportunity to learn about the exciting prospect of studying overseas. The webinar was held online using Microsoft Teams and saw around 20 participants who were keen to hear from the experts about the many opportunities available to them. This exchange programme is an excellent chance for aspiring students to broaden their horizons and gain new experiences while enhancing their education.

## RESEARCH AND EDUCATION FORUM

The UMP and Tianjin University (TJU) Research & Education Forum was successfully held on 8 February 2023. The forum provided a platform for academia, researchers, and industry professionals to exchange knowledge, ideas, and insights on sustainable chemical engineering research and education.



## UMP-ASPENTECH COLLABORATION

The AspenTech Undergraduate Enhancement Curriculum Programme was successfully organised at UMP, providing training in the use of Aspen Plus software to empower students and enhance their engineering proficiency. The programme aligned with UMP's Strategic Plan and focused on selected courses from the Bachelor of Chemical Engineering Technology (BTK). Over three days, 120 undergraduate students participated in the training, conducted by AspenTech's Instructor-Led, Mr. Kent Ooi. At the end of the programme, participants received a Certificate of Completion, offering them a competitive edge in their careers. The programme also garnered industrial recognition for BTK. This achievement was made possible by the efforts of lecturers, industry partners, and dedicated students, and UMP looks forward to the future success of these talented individuals.



# FTKKP Welcomes Delegation from MARA Vocational College, Lenggong



9 March 2023 - Faculty of Chemical and Process Engineering Technology (FTKKP), UMP had the privilege of hosting an official visit from a delegation of nine lecturers and vocational training officers from MARA Vocational College (KKTm) Lenggong, Perak.

The delegation from KKTm Lenggong comprised lecturers and vocational training officers from the Diploma in Biochemical Engineering Technology (Food) programme. They were warmly received by representatives from FTKKP, including the Deputy Dean (Academic & Student Affairs), Deputy Dean (Research & Graduate Studies), Head of the Bachelor of Engineering Technology in Chemical Engineering programme, and Heads of the Research Clusters in FTKKP.

During the visit, productive discussions were held on the comparison of curriculum structure and course contents between the Diploma in Biochemical Engineering Technology (Food) program at KKTm and the Bachelor of Engineering Technology in Chemical Engineering program at FTKKP. Furthermore, potential research collaboration opportunities between the two institutions were explored, including joint supervision of research grants and guidance for KKTm staff interested in pursuing postgraduate studies at the master's or doctoral level.

We hope that FTKKP UMP and KKTm Lenggong will continue to foster collaboration in the development and enhancement of the nation's TVET education agenda.



# FTKKP Receives An Official Visit from UniMAP



15 May 2023 - Faculty of Chemical and Process Engineering (FTKKP) received an official visit from a delegation from the Department of Chemical Engineering, Faculty of Engineering and Chemical Technology, Universiti Malaysia Perlis (UniMAP).

The UniMAP delegation consisted of the Department Head, Chairman of the Chemical Engineering Programme, Chairman of the Chemical Engineering Technology Programme, and members of the Programme Benchmarking Committee. They were welcomed by representatives from FTKKP, including the Deputy Dean (Academic & Student Affairs), Head of the Bachelor of Chemical Engineering Programme, Head of the Bachelor of Chemical Engineering Technology Programme, and Academic Coordinators at FTKKP.

During the visit, discussions were held regarding programme backgrounds, curriculum structures, laboratory management, staff career development, and student activities in their respective programmes. This programme benchmarking exercise aimed to ensure consistency and collaboration between FTKKP UMP and UniMAP in various aspects of academic and educational development.

It is hoped that FTKKP UMP and UniMAP can continue to collaborate in the development and enhancement of the nation's educational agenda.





# UMP and Mannheim University of Applied Sciences Launch Exchange-based Dual Degree Programme in Chemical Engineering



We are thrilled to announce a new partnership with Mannheim University of Applied Sciences, Germany. With the signing of a Cooperation Agreement between UMP and Mannheim University of Applied Sciences, both Universities agreed to offer an exchange based dual degree study programme in the field of Chemical Engineering beginning with fall term (September) 2024. This cooperation agreement is based on the curricula of the two Bachelor programmes namely Bachelor of Chemical Engineering with Honours at FTKKP, UMP and BSc Process Engineering at Faculty of Process and Chemical Engineering, Hochschule Mannheim (HMA).



## FTKKP STAFF AND STUDENTS VOLUNTEER AT BASF PETRONAS CHEMICALS MANGROVE PLANTING PROJECT 2023

24 June 2023 - The staff and students of FTKKP joined hands with BASF Petronas Chemicals in a mangrove planting project at the Rimbun Dahan Turtle Hatchery Premises in Mukim Chendor, Pahang,

The dedicated FTKKP team rolled up their sleeves and immersed themselves in various tasks. They were involved in planting mangrove saplings, ensuring the growth of these vital ecosystems.

They also participated in a heartwarming turtle hatchling release, giving these adorable creatures a fighting chance in their journey to the sea.

In addition, the team embarked on a cleanup drive, diligently picking up neglected litter scattered along the coastline. Their efforts aimed to raise awareness about the importance of keeping our beaches pristine and free from pollution.







### CHEMICAL DESIGN AND EQUIPMENT

MSc students in Process Plant Operations (FTKKP) attended their compulsory Chemical Design and Equipment modules on 14-15 January 2023. The modules were held in a face-to-face learning session at the Petronas Petroleum Institute (INSTEP) in Kuala Terengganu. The students were able to enhance their knowledge and skills through the practical sessions conducted by industry experts at INSTEP. The compulsory modules aim to equip the students with the necessary knowledge and skills to design chemical equipment safely and efficiently. The face-to-face learning session provided the students with an opportunity to interact and network with their peers and industry experts, which will benefit them in their future careers in the process plant operations industry.

### SHOWCASING STUDENT RESEARCH BRILLIANCE

We were thrilled to witness the exceptional research conducted by our students at the FTKKP's Final Year Project and Undergraduate Research Project Poster Presentation, which was held on 20 January 2023. This event served as a platform to highlight the groundbreaking work of over 80 students from various programmes within FTKKP. Congratulations to all the students for their outstanding posters and presentations. We were particularly proud to see their ability to effectively communicate their research findings in a concise manner, showcasing the knowledge and skills they have acquired during their undergraduate studies at UMP. We extend our heartfelt gratitude to the dedicated lecturers of the FYP/URP team whose unwavering efforts contributed to the success of this event. Bringing together this significant gathering in one place after the challenges posed by COVID-19 was truly remarkable. Well done to all participants for their remarkable achievements and contributions!







## EMPOWERING FUTURE PROFESSIONALS

9 February 2023 - Thirty-six diligent students successfully completed their Oil and Gas Safety Passport training, conducted by NIOSH Malaysia at UMP Kampus Paya Besar. Through this comprehensive training programme, these students acquired the essential knowledge and skills necessary to prioritise safety in their future workplaces. They gained a deep understanding of industry hazards and were equipped with best practices to effectively mitigate these risks. This training empowered them to make a positive impact and contribute to safe and responsible operations within the oil and gas industry.

## OUTSTANDING ACHIEVEMENT AT KARATE CHAMPIONSHIP

Congratulation to Reyon Handeri @ Hamzah for his remarkable achievement of winning the bronze medal at the prestigious 12th Silent Knight Karate Cup 2023. The championship took place at Titiwangsa Stadium, Kuala Lumpur from 3 to 5 March 2023. Reyon, a diligent third-year student of the Bachelor of Mechanical Engineering Technology (Petroleum) programme in FTKKP, exhibited exceptional skill and dedication throughout the competition. This commendable accomplishment is a testament to Reyon's unwavering commitment and relentless pursuit of excellence. The FTTKP community takes immense pride in his success and wishes he continued to triumph in his future endeavours.



## SOCIETY OF PETROLEUM ENGINEERS UNIVERSITI MALAYSIA PAHANG STUDENT CHAPTER

It is with pleasure to announce that the Society of Petroleum Engineers Universiti Malaysia Pahang Student Chapter has officially been established on 15 February 2023. The abbreviation for the chapter is SPE-UMP SC and it is under the umbrella of SPE International and the SPE Terengganu Section (Local). UMP is currently the only university on the east coast that has successfully established a chapter!





### ENGINEERING WINNER

NAME: AHMAD TARMIZI BIN ABD WAHAB  
FACULTY: FTKKP  
TITLE: SYNTHESIS AND CHARACTERISATION OF  
MAGNESIUM HYDRIDE NANOCONFINED POROUS  
HOLLOW CARBON FOR HYDROGEN STORAGE  
SYSTEM



### ENGINEERING 3<sup>RD</sup> RUNNER-UP

NAME: YASHINI A/P K. SELVANATHAN  
FACULTY: FTKKP  
TITLE: ACETIC ACID PRODUCTION USING  
INDIGENOUS MICROORGANISM FROM PINEAPPLE  
PEEL WASTE



## 3-MINUTE THESIS COMPETITION 2023

We are thrilled to announce another excellent achievement from our students at the 3-Minute Thesis Competition 2023, organised by the Institute of Postgraduate Studies, UMP. This competition challenged students to present their thesis research in just three minutes. We could not be more proud of their hard work, dedication, and impressive communication skills. Congratulations to our winners in the Engineering category, Ahmad Tarmizi Abd Wahab and Yashini d/o K. Selvanathan, and to all of our students who participated in this exciting competition. Keep up the great work!

## FTKKP STUDENTS EXCEL AT PETRONAS CHESS SYMPOSIUM 2023 INNOVATION PITCH COMPETITION

3 June 2023 - Two projects by the FTKKP students were selected to compete at the finals of the Innovation Pitch Competition, where they joined another 17 groups to pitch their innovation in front of a panel of judges from the industry. These groups were shortlisted from more than 90 entries received at the initial stage. Congratulations to Khadijah Husna Abd Hamid, PhD student of FTKKP and Tarchiani d/o Jayakumar, Bachelor of Chemical Engineering with Honours student, for winning fourth place in the New Energy and Sustainability Category with their project '**EcoTitan Packaging: Ecofriendly Food Packaging Utilizing Titanium Oxide as An Active Ingredient**'. The student duo was supervised by Dr. Nurul Aini Mohd Azman for their innovative project. Winning fifth place in the New Energy and Sustainability Category was Nur Najwa Syuhada Suhaidin, Bachelor of Mechanical Engineering Technology (Petroleum) with Honours student. Her winning project titled '**Study of Saponin Potential as a Green Surfactant for Surfactant Flooding**' was guided by her supervisor Ts. Dr. Norasyikin Ismail. Muhammad Adam Ahmad Ariff and Aimielya Farisha Nasuha Ahmad Pirdaus also participated in the Innovation Pitch Competition with their project titled '**Novel Mud Formulation: New Approach to Improve the Mud Characteristics**'. The Bachelor of Mechanical Engineering Technology (Petroleum) with Honours students, was supervised by Ts. Dr. Norida Ridzuan.





### INTECH-21: UMP STUDENTS SHOWCASE CREATIVITY AND INNOVATION



Two groups of participants from UMP successfully became the Top 20 finalists at InTech-21 on 27 February 2023, held at Dewan Tunku Chancellor, University of Malaya. Both groups received consolation prizes of RM500.00, hampers, and participation certificates.

The first group introduced the **"Pasar Pagi"** application for customers who wish to obtain fresh produce from the market through fresh produce delivery. The group consisted of students Nur Aqilah Kamaludin, Nur Najwa Syuhada Suhaidi, Nurul Farhah Nadhirah Mohd Ruslan, and Maryam Jameelah Hussin from the Faculty of Chemical and Process Engineering (FTKKP). The mentor for the group was Dr. Norasyikin Ismail from the same faculty.

The second group introduced the **"PickMeMaid"** application that assists families with various needs such as house cleaning, mother and baby care, as well as maintenance and services. This group consisted of Mentor Assoc. Prof. Dr. Rahimah Embong, students Muhammad Luqman Al-Hakim Mohd Suhaimi, Wan Faziana Wan Anoha, Murniyatul Aisyah Abdullah, and Izza Wajihah Ismail from the Faculty of Civil Engineering Technology.

The Innovation & Technology Challenge 2021 (InTech-21) is a national-level entrepreneurial challenge programme organised by the Ministry of Higher Education in collaboration with Universiti Malaya. InTech-21 provides an opportunity for participants to offer e-commerce solutions to human life problems while achieving the Sustainable Development Goals (SDGs). Furthermore, InTech-21 aims to enhance knowledge-based e-commerce entrepreneurship in line with post-Covid-19 digitalisation and mobile application usage.





### PROCESS AND PLANT DESIGN 2 FINAL PRESENTATION

The final presentation for Process and Plant Design 2 (PD2) was held on 14 June 2023, which involved 145 final year students from the Bachelor of Chemical Engineering programme (BKC), FTKKP.

A total of 38 academic panels and 12 industrial panels from **BASF PETRONAS Chemicals Sdn. Bhd.**, **Kaneka (Malaysia) Sdn. Bhd.**, **Lynas Malaysia Sdn. Bhd.**, and **Petro Sep Engineering Sdn. Bhd.** diligently assessed the final presentations.

After a year-long process and plant design project, all groups were evaluated based on their technical, engineering, and product knowledge in areas such as process flow, equipment design, process control, PID, HAZOP, waste management, and economic feasibility. The presentation skills, personality, and communication abilities demonstrated by the students were also recognised.



### FINAL YEAR PROJECT 2 AND UNDERGRADUATE RESEARCH PROJECT 2 POSTER PRESENTATION



16 June 2023 - A total of 96 final year students from the Bachelor of Chemical Engineering (BKC), Bachelor of Chemical Engineering Technology (BTK), and Bachelor of Mechanical Engineering Technology (Petroleum) (BTO) programmes took the spotlight, presenting their groundbreaking projects to an esteemed audience.

The poster presentation marks the culmination of two semesters' worth of research. The research focuses on either experimental studies or simulation. Regardless of their chosen research approach, they were required to present their findings and discuss the contributions of their work towards society.

The evaluation process involved 52 academic panels and 9 esteemed industrial panels from prominent organisations such as **BASF Petronas Chemicals Sdn. Bhd.**, **Malaysia Nuclear Agency**, **Petronas Research Sdn. Bhd.**, and **MARDI**. Their presence and expertise elevated the event to new heights, ensuring rigorous assessments and invaluable industry insights.

# INDUSTRIAL VISITS



Industrial visit to **Duopharma Biotech Berhad**, Klang on 19 January 2023 with students from Bachelor of Manufacturing Engineering Technology (Pharmaceutical).



22 June 2023 - A group of Bioprocess Technology (BTK3823) and Food Engineering Technology (BTK3843) students from FTKKP had the opportunity to visit **Yakult Factory** in Oakland Industrial Park, Seremban, Negeri Sembilan.



On 18 June 2023, a group of 24 students and two lecturers from Bachelor of Technology Oil and Gas Facilities Maintenance (BVF) visited **Ambok Engineering's Sdn. Bhd.** located in Pasir Gudang, Johor.

## INDUSTRIAL VISIT TO ROYCE PHARMA BERHAD, NILAI



The industrial visit on 13 June 2023 involved 20 students and 3 lecturers from the Bachelor of Manufacturing Engineering Technology (Pharmaceutical) program, FTKKP.

18 June 2023 - A group of 32 students embarked on an educational visit to **Baker Hughes**, CWI KSB Kemaman. Led by Ts. Dr. Norida Ridzuan, the visit aimed to provide students with first hand exposure to the operations and technologies employed by one of the leading companies in the oil and gas industry.



In an effort to bridge the gap between classroom learning and real-world applications, 20 students from Bachelor of Mechanical Engineering Technology (Petroleum), FTKKP embarked on an educational visit to the **Velesto Energy Berhad Warehouse** located in KSB Kemaman on 11 June 2023.



23 June 2023 - A group of students and lecturers from FTKKP visited **FYS Marketing Sdn. Bhd.** located at Bukit Mertajam, Berapit, Penang as part of Master of Science in Mining with Mineral Technology programme, specifically for the course MMT1262 (Rehabilitation and Reclamation).





# CHEST UMP - CHEM WEEK

## LAB SAFETY PROTOCOLS (INFOGRAPHIC POSTER) COMPETITION



Congratulations to the winners of Lab Safety Protocols (Infographic Poster) competition, Nur Irdina Izzati, Siti Nur Aisyah and Emylia Ismah Rosli held from 10 until 17 June 2023!

## THE EMERGENCY AID COURSE PROGRAMME

The Emergency Aid Course Programme, held on 11 June 2023 at WDK O2, Block W. The programme included various beneficial activities, including CPR simulation and bandaging demos conducted by Mr. Hazwan, a staff member from the University Health Centre.



## BRIDGE BUILDING COMPETITION

Programme Bridge Competition held on 18 June 2023 involved students making a bridge made of marshmallows and spaghetti. Congratulation to the three winners!



# BACHELOR OF CHEMICAL ENGINEERING WITH HONOURS

## PROGRAMME SYNOPSIS

The Bachelor of Chemical Engineering (BKC) programme aims to educate potential engineers to design, develop, and operate chemical processes by which chemicals, petroleum products, food, polymers, pharmaceuticals and consumer goods can be produced in a safe and sustainable way. At the same time, the programme also emphasize fundamentals and methods to treat and manage waste in an efficient and sustainable manner.

### WHO CAN APPLY?

Diploma  
STPM  
Matriculation  
IPTS foundation



### ENTRY REQUIREMENTS

SCAN ME



<https://admission.ump.edu.my/>

## PRESTIGIOUS CAREER OPPORTUNITIES

Chemical engineering graduates from BKC programme have the skills required to work effectively in many industries and sectors.

- Chemical Engineer
- Process Control Engineer
- Plant Engineer
- Production/ Process/ Operation Engineer
- Safety Engineer
- Environmental Engineer
- Quality Assurance Engineer
- Consultant
- Researcher
- Academician
- Entrepreneur

## ACCREDITATION

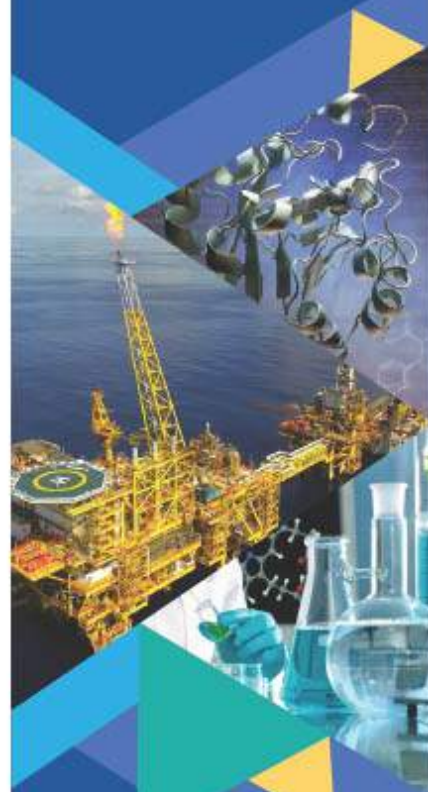
The four-year Bachelor of Chemical Engineering (BKC) programme was offered by Universiti Malaysia Pahang since year 2002 is an accredited programme by Engineering Accreditation Council (EAC), Board of Engineers Malaysia under the Washington Accord.

## CURRICULUM AT A GLANCE

- ❑ Mathematics, Physics, Chemistry, Thermodynamics, Transport Phenomena, Process Design and Control, Process Safety, Environmental Engineering, Unit operations, Process Simulation, Materials Science, and many other courses are addressed in the BKC curriculum.
- ❑ The BKC programme also provides exposure to aspects of humanities and social sciences through subjects such as English language and foreign languages, entrepreneurship, economics, management and other non-engineering subjects.



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UMPMalaysia  
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UNTUK  
MASYARAKAT







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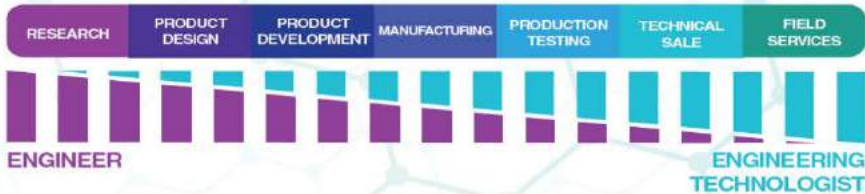
# BACHELOR OF MANUFACTURING ENGINEERING TECHNOLOGY (PHARMACEUTICAL)

## PROGRAMME SYNOPSIS

Bachelor of Manufacturing Engineering Technology (Pharmaceutical) with Honours is a 4-year degree program that prepares students to become an engineering technologist or an applied engineer in the pharmaceutical industry. This program is unique because it combines both disciplines of engineering technology and pharmaceutical science in a carefully designed curriculum with a strong industrial focus. B. Eng. Tech. Manufacturing (Pharmaceutical) (Hons.) will provide students with the understanding of the technical elements in drug product development; from the dosage formulation to the manufacturing operations, validation, and regulation process. Since the nature of engineering technology program is the practice of applying hands-on knowledge to engineering activities, this program will enable students the ability to operate and maintain highly specialized technology in the pharmaceutical manufacturing process. At the end of this program, students are required to complete a 24-week industrial training to gain new skills and experiences and importantly to expose students to the practices in the industry.

### WHAT IS ENGINEERING TECHNOLOGY?

"Engineering technology education focuses primarily on the applied aspects of science and engineering aimed at preparing graduates for practice in that portion of the technological spectrum closest to product improvement, manufacturing, construction, and engineering operational functions" - The Accreditation Board for Engineering and Technology (ABET).



### WHO CAN APPLY?

Diploma  
STPM  
Matriculation  
IPTS foundation

### ENTRY REQUIREMENTS



SCAN ME



<https://admission.ump.edu.my/>

### CAREER OPPORTUNITIES

- Pharmaceutical manufacturing / production
- Food & beverages
- Validation & quality control
- Regulatory affairs
- Research & development
- Health industry
- Government services



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MQA Number: MQA/FA1255



# IJAZAH SARJANA MUDA TEKNOLOGI PENYELENGGARAAN FASILITI MINYAK DAN GAS DENGAN KEPUJIAN

## SINOPSIS PROGRAM

Program ini direka bentuk untuk menghasilkan graduan berkemahiran tinggi dan berdaya saing dalam bidang Penyelenggaraan Fasiliti Minyak dan Gas.

## KELEBIHAN PROGRAM

- Kursus ini dirancang bagi memberi pendedahan teknikal dan teori kepada pelajar mengenai operasi serta penyelenggaraan peralatan dalam bidang minyak dan gas.
- Mod 2u2i (2.5 tahun pembelajaran di Universiti dan 1 tahun latihan/ kajian kes di industri).
- Program TVET berdasarkan *profession based* di mana pembangunan kurikulum berdasarkan input dari pihak industri minyak dan gas.
- Penekanan kepada kaedah pembelajaran *work-based learning* & kombinasi pendekatan *theory embedded lab*.
- Menerapkan elemen keusahawanan, profesionalisme & etika dan elemen IR 4.0 dalam penyampaian struktur kurikulum.

## SYARAT KEMASUKAN

### Diploma

Mempunyai kelulusan Diploma Kemahiran Malaysia (DKM), Diploma Lanjutan Kemahiran Malaysia (DLKM), atau Diploma Vokasional Malaysia (DVM) dengan **minimum CGPA 2.0** yang diiktiraf setaraf dengannya oleh Kerajaan Malaysia dan diluluskan oleh Senat Universiti

### MUET

Mendapat sekurang-kurangnya **Tahap 1 (Band 1)** dalam Malaysian University English Test (MUET) mengikut tempoh sah laku pada tarikh permohonan

### Syarat Tambahan

Calon tidak mempunyai ketidakupayaan fizikal/ anggota dan tidak buta warna sehingga menyukarkan kerja-kerja amali

### Peluang pekerjaan dalam bidang minyak dan gas:

- |                                        |                                                |
|----------------------------------------|------------------------------------------------|
| ➤ Penolong Jurutera Penyelenggara      | ➤ Penolong Jurutera Rotating                   |
| ➤ Penolong Jurutera Penyelenggara Loji | ➤ Penolong Jurutera Lapangan                   |
| ➤ Penolong Jurutera Perancang          | ➤ Eksekutif Penyelenggara & Operasi dan Servis |
| ➤ Penolong Jurutera Statik             | ➤ Perancang Projek / Eksekutif Projek          |



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**MOHON  
SEKARANG**

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MQA Number: MQA/PA12911



# BACHELOR OF MECHANICAL ENGINEERING TECHNOLOGY (PETROLEUM)



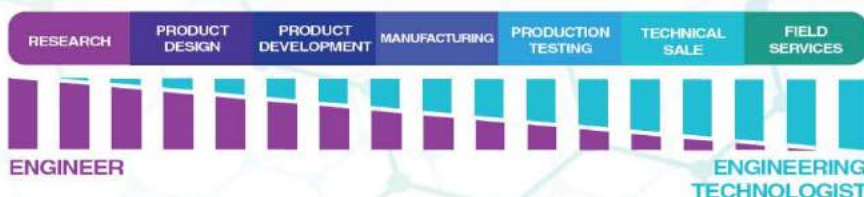
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UNIVERSITI MALAYSIA PAHANG

## PROGRAMME SYNOPSIS

Bachelor of Mechanical Engineering Technology (Petroleum) will enable students to acquire substantial knowledge and comprehensive understanding in a combination of chemical and petroleum disciplines to equip graduates with broad expertise that can be applied in industry, as well as equip students with professional skills to enhance employability. This course contains chemical and petroleum engineering technology contents with the main emphasis on fluid mechanic and thermodynamic, engineering economy and management, geosciences, reservoir, well drilling and completion, production and petroleum process technology.

### WHAT IS ENGINEERING TECHNOLOGY?

"Engineering technology education focuses primarily on the applied aspects of science and engineering aimed at preparing graduates for practice in that portion of the technological spectrum closest to product improvement, manufacturing, construction, and engineering operational functions" - The Accreditation Board for Engineering and Technology (ABET).



### WHO CAN APPLY?

Diploma  
STPM  
Matriculation  
IPTS foundation



### ENTRY REQUIREMENTS

SCAN ME



<https://admission.ump.edu.my/>

### CAREER OPPORTUNITIES

- Pipeline Integrity Technologist
- Operation Technologist
- Reservoir Technologist
- Petroleum Process Technologist
- Drilling Technologist
- Production Technologists
- Process Technologist
- Research & development
- Government services



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MQA Number: MQA/PA8584



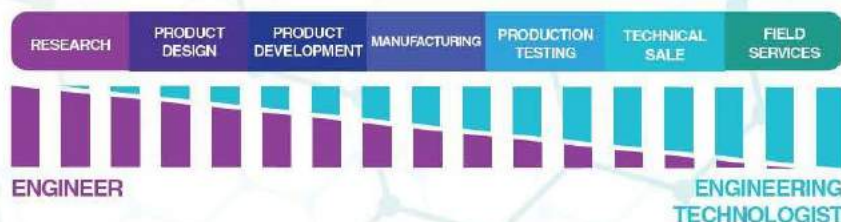
# BACHELOR OF CHEMICAL ENGINEERING TECHNOLOGY WITH HONOURS

## PROGRAMME SYNOPSIS

The Bachelor of Chemical Engineering Technology with Honours degree program aims to produce graduates who are resourceful, knowledgeable, and exposed with technical skills that meet the demand of the current industrial market. This degree programme is for students who are interested in the application of chemical engineering technology especially in the area of chemical process plant. The learning system of this programme emphasized on the practical and hands-on component through embedded labs, to ensure graduates are balanced in both theoretical and practical aspects of chemical engineering technology applications. At the end of their studies, students are required to complete a 24-week industrial training to gain new skills and experiences and importantly to expose students to the practices in the chemical process industry.

### WHAT IS ENGINEERING TECHNOLOGY?

"Engineering technology education focuses primarily on the applied aspects of science and engineering aimed at preparing graduates for practice in that portion of the technological spectrum closest to product improvement, manufacturing, construction, and engineering operational functions" - The Accreditation Board for Engineering and Technology (ABET).



### WHO CAN APPLY?

Diploma  
STPM  
Matriculation  
IPTS foundation



### ENTRY REQUIREMENTS

SCAN ME



<https://admission.ump.edu.my/>

### CAREER OPPORTUNITIES

- Chemical Process Engineering Technologist
- Operation & Maintenance Technologist
- Product Development Technologist
- Project Engineering Technologist
- Consultant
- Researcher
- Academician
- Entrepreneur



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MQA Number: MQA/PA13932



# MASTER BY COURSEWORK IN FTKKKP

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IN MINING WITH MINERAL  
TECHNOLOGY  
(MQA/PA 9579)

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5 STARS

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MASTER IN  
CHEMICAL ENGINEERING  
WITH ENTREPRENEURSHIP  
(BY COURSEWORK)

MASTER IN MINING AND MINERAL  
TECHNOLOGY  
(BY COURSEWORK)

PROGRAM EDUCATIONAL OBJECTIVES (PEO)

PEO 1

To produce graduates with advanced knowledge of relevant skills and tools for modern technologies in mining and mineral field.

PEO 2

To produce graduates with the capability of solving industrial problems toward growth and competitiveness of their respective companies.

PEO 3

To prepare the graduates to apply the technical, social and economical aspects of the job requirements in working field with their subordinates, peers and superiors effectively with high communication and management skills.

PEO 4

To prepare graduates to have professionalism and responsibility towards society and the environment, and maintain the life-long learning spirit.

PROGRAM LEARNING OUTCOMES (PLO)

PLO1 (Knowledge of Discipline Areas): Demonstrate mastery of technical knowledge in the mining and mineral technology field and have the capabilities to further develop or use these in new situations or multi-disciplinary contexts.

PLO2 (Practical Skills) (Problem Solving and Scientific Skills): Analyse and evaluate problems in the mining and mineral field critically and provide solutions through the application of appropriate tools and techniques.

PLO3 (Social Skills & Responsibility) (Entrepreneurship and Management Skills): Identify issues and research evidence to societal issues in the mining and mineral field.

PLO4 (Values, Attitudes and Professionalism) (Communication, Leadership and Team Skills): Demonstrate leadership qualities through contributing and working effectively with peers and stakeholders, adhere to legal, ethical and professional codes of practice.

PLO5 (Communication, Leadership and Team Skills): Report technical findings related to mining and mineral field in both written and oral forms.

PLO6 (Information Management and Lifelong Learning Skills): Manage knowledge for lifelong learning and continuing professional development.

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MASTER IN PROCESS PLANT  
OPERATION  
(BY COURSEWORK)

PROGRAM EDUCATIONAL OBJECTIVES (PEO)

PEO 1

To produce graduates who can apply their knowledge and experience to process plant operations, management and supporting roles.

PEO 2

To prepare the graduates to apply the latest technology in the workplace through learning and research.

PEO 3

To prepare graduates with strong organisational leadership.

PEO 4

To prepare graduates who show professionalism and responsibility towards society and the environment.

PROGRAM LEARNING OUTCOMES (PLO)

PLO1 (Knowledge of Discipline Areas) (Practical Skills): Graduates will be able to show continuity and knowledge in-depth process plant and has the ability to build or use knowledge in new situations or in the context of multi-discipline.

PLO2 (Problem Solving and Scientific Skills): Graduates will be able to analyse and assess problems in the critical plant processes with limited information and provide solutions through the application of appropriate tools and techniques.

PLO3 (Practical Skills) (Social Skills and Responsibility): Graduates will be able to evaluate existing information in line with social issues and prove through research and apply in the context of engineering.

PLO4 (Communication, Leadership and Team Skills) (Values, Attitudes and Professionalism): Graduates will be able to drive leadership values through communication and collaboration with members of the organisation in a professional, ethical and responsible manner.

PLO5 (Information Management and Lifelong Learning): Graduates will be able to manage sustainability science careers and professional development (self development).

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MASTER IN CHEMICAL ENGINEERING  
WITH ENTREPRENEURSHIP  
(BY COURSEWORK)

PROGRAM EDUCATIONAL OBJECTIVES (PEO)

PEO 1

Theory-practice application: Graduates are able to transfer their knowledge and experience from classroom to workplace and vice versa.

PEO 2

Managerial competencies: Graduates achieve the managerial competencies as targeted by employer.

PEO 3

Career development: Graduates achieve their career aspirations.

PROGRAM LEARNING OUTCOMES (PLO)

PLO1 (Knowledge of Discipline Areas): Apply the knowledge of chemical engineering, economics, business management and entrepreneurship.

PLO2 (Practical Skills): Evaluate business plan comprehensively based on the specified requirements and objectives.

PLO3 (Problem Solving and Scientific Skills): Develop creative and innovative solution for the problems related to business and chemical engineering.

PLO4 (Communication Skills): Demonstrate good communication skills by verbal, written and visual means with a variety of audiences.

PLO5 (Social Skills and Responsibility): Operate as an effective member of an interdisciplinary team, assuming leadership and other specialist roles as required.

PLO6 (Values, Attitudes, and Professionalism): Research, explore, learn and use new technology in chemical engineering for continuing study and lifelong learning.

PLO7 (Information Management and Lifelong Learning Skills): Apply managerial and professional skills.

PLO8 (Managerial and Entrepreneurial Skills): Demonstrate the understanding on the effect of entrepreneurship solution and the concept of sustainability in global, environmental and social perspectives.

PLO9 (Leadership Skills): Function effectively as an individual and in a group with the capability to lead, advise or manage.

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Come and join us!