UTeM

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UNIVERSITI TEKNIKAL MALAYSIA MELAKA

INSTITUT TEKNOLOGI KELESTARIAN

ACADEMIC HANDBOOK

2026 / 2027

For Master by Taught Course

INSTITUT TEKNOLOGI KELESTARIAN

INSTITUTE OF SUSTAINABLE TECHNOLOGY (ITK)

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ABOUT UTeM

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

Established on 1st December 2000 as the 1st Technical Public University in Malaysia. Located in the UNESCO world heritage city of Melaka, set within 766 acres of lush verdant landscape boasting state-of-the art facilities in all its seven faculties.

As a Focus University, UTeM boasts strengths in technical fields – namely Engineering, IT, and Management Technology. UTeM has cemented a reputation of being a source of high-quality engineering graduates with the capability of meeting the requirements of high-tech industries. UTeM also has research competencies in areas that it has identified as being key to enhancing the University's unique proposition and also contributes to the nation such as Green Technology, Systems Engineering, Human-Technology Interaction, and Emerging Technology.

UTeM admits not only local but also international students and this includes students from Indonesia, Saudi Arabia, Chad, Syria, Pakistan, Cameroon, Bangladesh, Tanzania, India, Somalia, Singapore, Qatar, Palestine, Libya, Iraq, Iran, Ghana, France, Yemen, Nigeria and Jordan.

UTeM ORGANIZATION CHART

TOP MANAGEMENT



PROFFESOR DATUK TS. DR. MASSILA BINTI KAMARUDIN
Vice Cansellor



PROF. DR. MOHD RIZAL BIN SALLEH
Deputy Vice Cansellor
Academic and International



PROF. DR. ZAHTILADHA BIN ZAKARIA
Deputy Vice Cansellor
Research and Innovation



ASSOC. PROF. DATUK DR. MOHD SABRI BIN MOHAMAD SHARIF
Deputy Vice Cansellor
Student Affairs and Alumni



ASSOC. PROF. DR. MUSTHAFAH BIN MOHD TAHIR
Assistance Vice Cansellor
Strategic Global and Sustanability



ASSOC. PROF IR. DR. MOHD RAYME BIN ANANG MASURI
Assistance Vice Chancellor
Infrastructure & Digital



MR. MASDHARIF BIN MAHAT
Chief Operating Officer



MRS. SABARINA BINTI ABDULLAH
Bursar



MRS. SITI SALUWA BINTI JAMAL
Chief Labrarian



MR. A. FAIZAL BIN MOHAMED
Legal Advisor

UTeM's VISSION, MISSION AND EDUCATIONAL GOALS

📌 VISION

To Be One of the World's Leading Innovative and Creative Technical Universities.

📌 MISSION

UTeM is determined to lead and contribute to the wellbeing of the country and the world by:

1. Promoting knowledge through innovative teaching & learning, research and technical scholarship;
2. Developing professional leaders with impeccable moral values;
3. Generating sustainable development through smart partnerships with the community and industry.

📌 MOTTO

Excellence Through Competency

📌 GENERAL EDUCATIONAL GOALS

1. To conduct academic and professional programmes based on relevant needs of the industries.
2. To produce graduates with relevant knowledge, technical competency, soft skills, social responsibility and accountability.
3. To cultivate scientific methods, critical thinking, creative and innovative problem solving and autonomy in decision making amongst graduates.
4. To foster development and innovation activities in collaboration with industries for the prosperity of the Nation.
5. To equip graduates with leadership and teamwork skills as well as develop communication and life-long learning skills.
6. To develop technopreneurship and managerial skills amongst graduates.
7. To instill an appreciation of the arts and cultural values and awareness of healthy lifestyles amongst graduates.

ABOUT INSTITUTE OF SUSTAINABLE TECHNOLOGY

DEANS FOREWORD



Welcome to the Institute of Sustainable Technology (ITK) at Universiti Teknikal Malaysia Melaka (UTeM).

Sustainability calls for us to rethink how we develop technology and apply knowledge. At ITK, we bring together expertise across disciplines to address sustainability challenges and connect academic knowledge with the needs of industry, agencies and society.

ITK reflects the university's commitment to advancing sustainability technology. Our direction aligns with the UTeM Strategic Plan 2026–2030 and supports the Sustainable Development Goals (SDGs) and environmental, social and governance (ESG) priorities. On behalf of ITK, I wish you success in your journey with us. May this handbook be a useful companion and inspire you to learn, innovate, and contribute positively to the nation and beyond.

Our work centres on four strategic pillars: postgraduate academic programmes, professional training and competency development, sustainability research and innovation, and consultancy and collaboration with industry and agencies. Through these pillars, we aim to develop capable graduates and professionals, support meaningful research, and help our partners put knowledge into practice.

Collaboration is central to this mission. We welcome opportunities to work with researchers, industry practitioners, government agencies and communities to develop solutions that respond to real needs and deliver lasting benefits.

I invite you to explore our programmes, discover our expertise and connect with our team. We look forward to working with you to advance technology that supports a more sustainable future.

Thank you.

ASSOCIATE PROFESSOR TS. DR. AHMAD NAIM BIN CHE PEE
Dean
Institute of Sustainable Technology (ITK)
Universiti Teknikal Malaysia Melaka (UTeM)

ITK'S VISION, MISSION

The Institute of Sustainable Technology (ITK) is a cross-disciplinary regional centre of excellence (RCoE) established in 2004 by UTeM with the approval from the Ministry of Education to conduct postgraduate research, innovation, consultancy, commercialisation and entrepreneurship for professional development, business, management and technical services.

Situated at the Postgraduate Studies Building in UTeM main campus at Durian Tunggal, Melaka, ITK offers master of science by research programmes, master of business by taught course programmes, and Doctor of Philosophy (PhD) degree by research programmes, as well as many professional development programmes.

📌 VISION

To be the cross-disciplinary regional center of excellence.

📌 MISSION

ITK determines to lead and contribute to the society wellbeing through postgraduate studies, research, innovation, consultation, commercialization, and entrepreneurship by offering professional development, business and technical services.

📌 OBJECTIVES

- To offer quality and relevent mutlidisciplinary and transdisciplinary postgraduate programmes according to the needs of industry.
- To provide a flexible learning environment as well as up-to-date learning faclities and support programmes conducive to the development of scholarly and competent graduates who are capable of adapting to the changing global demands.
- To foster active participation in research, development, commercialization and consultancy.

- To disseminate new knowledge and solutions to societal and industrial issues through publications and participation in scholarly activities locally and internationally.
- To establish linkages and partnerships for collaborative activities with industry, government bodies and community locally and internationally.

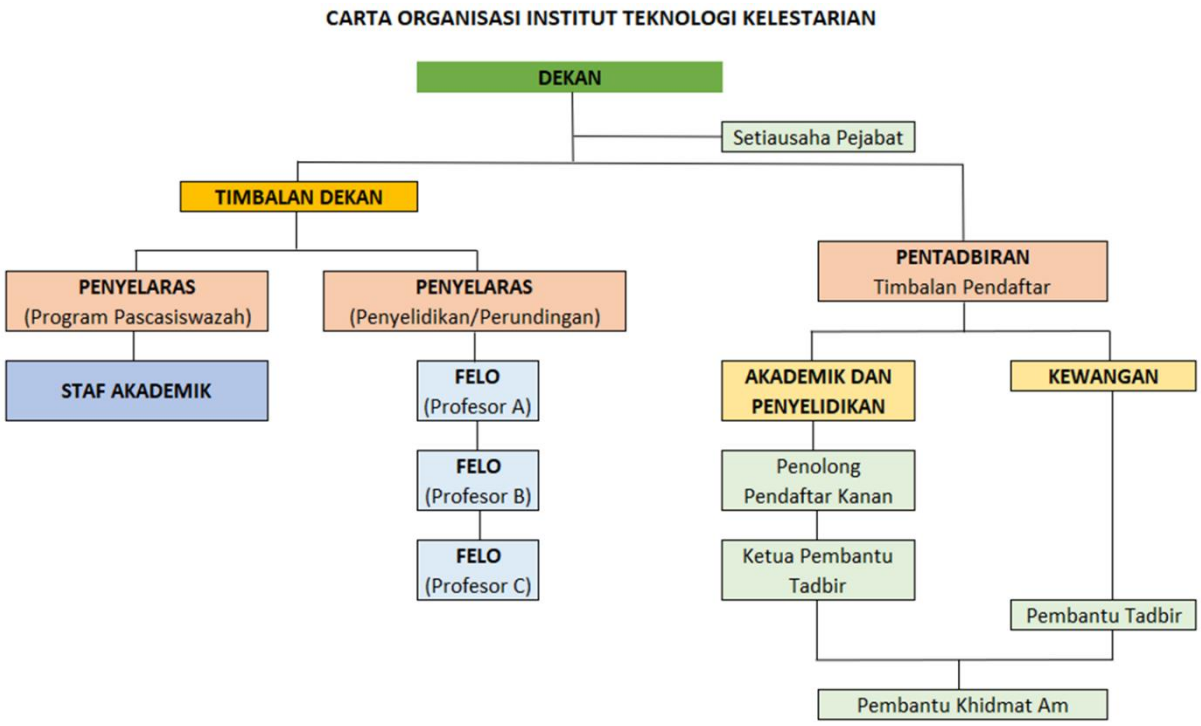
📌 ITK'S POST GRADUATE PROGRAMMES

Master of Business Information Management (MIIM)

Master of Engineering Business Management (MIEM)

ITK'S MANAGEMENT TEAM

📌 ITK ORGANIZATIONAL CHART



ITK MASTER'S DEGREE ACADEMIC PROGRAMME

	Program	Code and Study Mode	MQA	NEC Code	Mode of Registration and Study Duration
1	Master of Business Information Management	MIIM / Taught Course	MQA/PA 12943	0414	Full Time: (1-2) y Part Time: (2-4) y
2	Master of Engineering Business Management	MIEM / Taught Course	MQA/PA 12944	0414	Full Time: (1-2) y Part Time: (2-4) y

Compulsory Subject owned by ITK for Academic Programme in the university

Masters (Taught Course)

	Course	Code	Method	Credit
1	Research Methodology*	MPSW 5013	Modular	3
2	Research Methodology (MTV)**	MPSW5014	Conventional	3
3	Research Methodology (MBA)***	MPSW5023	Conventional	3
and	**Elective - Choose One (1)**			
1	Project Management	MPSW5033	Modular	3
2	Quality System Management	MPSW5053	Modular	3
3	Entrepreneurship	MPSW5063	Modular	3
4	Engineering Technology Management	MPSW5073	Modular	3

[1]	MASTER OF BUSINESS INFORMATION MANAGEMENT-MIIM

MIIM Overview

In this programme, students will focus on the management of information as a strategic source of improving overall business performance, and become a professional who can combine analytical know-how with business knowledge. The MIIM programme is implemented in modular mode, whereby modules are taken sequentially. A total of 40 credits is required for graduation, comprising 10 taught modules of 3 credits each and 2 master projects worth 10 credits.

PEO and PLO

Program Educational Objectives (PEO)

PEO1	Demonstrate mastery of theoretical knowledge, critical thinking, and practical skills in Business Information Management.
PEO2	Demonstrate comprehensive managerial and entrepreneurial skills to lead effectively and responsibly in different organisations.
PEO3	Adopt and apply a broad range of digital applications and analytical techniques competently to support business functions**.**
PEO4	Demonstrate teamwork, interpersonal communication skills, creativity and innovation**.**
PEO5	Commit and seek learning for continuous development.

Program Learning Outcome (PLO)

PLO1	Evaluate theories and concepts in the field of Business Information Management.
PLO2	Resolve complex problems by providing recommendations in the field of Business Information Management.
PLO3	Organize complex tasks flexibly within the field of Business Information Management.
PLO4	Display interpersonal skills and the ability to work effectively in teams with various stakeholders.
PLO5	Demonstrate effective, coherent written and oral communication, as well as collaborative skills, with diverse stakeholders.
PLO6	Exhibit independence, leadership, and responsibility in professional roles within the field of Business Information Management.

PLO7	Demonstrate relevant digital skills in the field of Business Information Management.
PLO8	Adopt and apply numerical, qualitative, and graphical data to support decision-making and problem-solving in the field of Business Information Management.
PLO9	Demonstrate continuous self-improvement for academic and professional growth in Business Information Management.
PLO10	Exhibit entrepreneurial skills in addressing and resolving complex business challenges within the field of Business Information Management.
PLO11	Uphold professional ethics, values, and attitudes in all aspects of Business Information Management.

Mapping between PEO and PLO for MIIM

	PEO1	PEO2	PEO3	PEO4	PEO5
PLO1	√				
PLO2	√				
PLO3	√				
PLO4				√	
PLO5				√	
PLO6			√		
PLO7			√		
PLO8		√			
PLO9					√
PLO10		√			
PLO11					√

Entry Requirements

i. A Bachelor's degree (Level 6, MQF) in related fields with a minimum CGPA of 2.50 as accepted by UTeM Senate; OR

ii. A Bachelor's degree (Level 6, MQF) in related fields with a minimum CGPA of 2.00 and not meeting CGPA of 2.50 can be accepted, subject to a rigorous internal assessment****; OR

iii. A Bachelor's degree (Level 6, MQF) in non-related fields with a minimum CGPA of 2.00 as accepted by the HEP Senate and with relevant working experience*****, subject to a rigorous internal assessment****; OR

iv. A Bachelor's degree (Level 6, MQF) in non-related fields with a minimum CGPA of 2.00 as accepted by the HEP Senate and without relevant working experience, subject to passing pre-requisite courses******; OR

v. Other equivalent/related qualifications to a Bachelor's degree (Level 6, MQF) recognized by the Malaysian Government.

English Requirements

For international students, they are required to achieve a minimum score of any of these tests as listed:

TOEFL	TOEFL iBT	IELTS	MUET
550	**60**	**6.0**	**4**

Fee Structure – MIIM

Detail		Local (MYR)	International (MYR)
A.	**Registration Fee**		
	Orientation	110.00	110.00
	Registration	20.00	20.00
	Alumni	100.00	100.00
	Student Smart Card	50.00	50.00
	Admission Fee	1,500.00	3,000.00
	Total (A)	**1,780.00**	**3,280.00**
B.	**Service Fee**		
	Students Activities	30.00	30.00
	Administration	545.00	945.00
	Total	575.00	975.00
	Total (B) for 3 Semesters*	**1,725.00**	**2925.00**
C.	**Tuition Fee (40 credits)**	16,000.00	22,000.00
	Total (C)	16,000.00	22,000.00
	Total (A+B+C)	**19,505.00**	**28,205.00**

Payment Schedule

Detail		Local (MYR)	International (MYR)
A.	**Semester 1**		
	Registration	280.00	280.00
	Admission fees	1500.00	3,000.00
	Service fees	575.00	975.00
	Tuition fees	7200.00	9,900.00
	Total (Sem1)	**9,555.00**	**3,280.00**
B.	**Semester 2**		
	Service fees	575.00	975.00
	Tuition fees	7,200.00	9,900.00
	Total (Semester 2)	**7,775.00**	**10,875.00**
C.	**Semester 3**		
	Service fees	575.00	975.00
	Tuition fees	1600.00	2,200.00
	Total (Semester 3)	**2,175.00**	**3,175.00**
	Subsequent semester (extension)	575.00	975.00

MIIM Curriculum Structure FULL TIME

Enrolment: Semester 1

Components	Year 1			Year 1			Year 1			Total Credit Hour
	Semester 1			Semester 2			Semester Khas			
	Code	Name	Cr	Code	Name	Cr	Code	Name	Cr	Cr
Common Core (P)	MIEM 5173	Human Resource Management	3	MIIM 5543	Digital Marketing	3	MIIM 5294	Master Project 2	4	
	MIIM 5123	Business Data Analytics	3	MIEM 5103	Financial Analysis	3				
	MIIM 5143	Business Economics	3	MIEM 5163	Strategic and Organization Management	3				
	MIIM 5133	Business Process Modeling and Analysis	3	MIIM 5153	Business Application Development	3				
	MIIM 5163	e-Business	3	MPSW 5063	Entrepreneurship	3				
				MIIM 5293	Master Project 1	3				
Total Credit Hour / Semester (P)			**15**			**18**			**4**	**37**
University Courses (W)	MPSW5023	Research Methodology for Business	3							
Total Credit Hour / Semester (W)			**3**			**0**			**0**	**3**
Total Credit Hour Per Semester (P+W)			**18**			**18**			**4**	**40**

Enrolment: Semester 2

Components	Year 1			Year 1			Year 1			Total Credit Hour
	Semester 2			Semester Khas			Semester 1			
	Code	Name	Cr	Code	Name	Cr	Code	Name	Cr	Cr
Common Core (P)	MIIM 5543	Digital Marketing	3	MIIM 5293	Master Project 1	3	MIEM 5173	Human Resource Management	3	
	MIEM 5103	Financial Analysis	3				MIIM 5123	Business Data Analytics	3	
	MIEM 5163	Strategic and Organization Management	3				MIIM 5143	Business Economics	3	
	MIIM 5153	Business Application Development	3				MIIM 5133	Business Process Modeling & Analysis	3	
	MPSW 5063	Entrepreneurship	3				MIIM 5163	e-Business	3	
							MIIM 5294	Project 2	4	
Total Credit Hour / Semester (P)			**15**			**3**			**19**	**37**
University Courses (W)	MPSW5023	Research Methodology for Business	3							
Total Credit Hour / Semester (W)			**3**			**0**			**0**	**3**
Total Credit Hour Per Semester (P+W)			**18**			**3**			**19**	**40**

MIIM Curriculum Structure PART TIME

Enrolment: Semester 1

Components	Year 1			Year 1			Year 1			Year 2			Year 2			Total Credit Hour
	Semester 1			Semester 2			Semester Khas			Semester 1			Semester 2			
	Code	Name	Cr	Code	Name	Cr	Code	Name	Cr	Code	Name	Cr	Code	Name	Cr	Cr
Common Core (P)	MIEM 5173	HRM	3	MIEM 5103	FA	3	MIIM 5293	MP1	3	MIIM 5143	BPM A	3	MIIM 5153	BDA	3	
	MIIM 5123	BDA	3	MIEM 5163	SOM	3				MIIM 5163	e-B	3	MIIM 5543	DM	3	
	MIIM 5143	BE	3	MPSW 5063	E	3				MIIM 5294	MP2	4				
Total Credit Hour / Semester (P)			**9**			**9**			**3**			**10**			**6**	**37**
University Courses (W)	MPSW 5023	RM	3													
Total Credit Hour / Semester (W)			**3**													**3**
Total Credit Hour Per Semester (P+W)			**12**			**9**			**3**			**10**			**6**	**40**

HRM=Human Resource Management; BDA=Business Data Analytics; BE=Business Economics; BPMA=Business Process Modeling & Analysis; e-B=e-Business; DM=Digital Marketing; FA=Financial Analysis; SOM=Strategic and Organization Management; BDA=Business Application Development; E=Entrepreneurship; RM=Research Methodology; MP=Master Project

Enrolment: Semester 2

Components	Year 1			Year 1			Year 2			Year 2			Year 3			Total Credit Hour
	Semester 2			Semester Khas			Semester 1			Semester 2			Semester 1			
	Code	Name	Cr	Code	Name	Cr	Code	Name	Cr	Code	Name	Cr	Code	Name	Cr	Cr
Common Core (P)	MIEM 5103	FA	3	MIIM 5293	MP 1	3	MIIM 5133	BPMA	3	MIIM 5153	BDA	3	MIEM 5173	HRM	3	
	MIEM 5163	SOM	3				MIIM 5163	e-B	3	MIIM 5543	DM	3	MIIM 5123	BDA	3	
	MPSW 5063	E	3				MIIM 5294	MP2	4				MIIM 5143	BE	3	
Total Credit Hour / Semester (P)			**9**			**3**			**10**			**6**			**9**	**37**
University Courses (W)	MPSW 5023	RM	3													
Total Credit Hour / Semester (W)			**3**			**0**			**0**			**0**			**0**	**3**
Total Credit Hour Per Semester (P+W)			**12**			**3**			**10**			**6**			**9**	**40**

HRM=Human Resource Management; BDA=Business Data Analytics; BE=Business Economics; BPMA=Business Process Modeling & Analysis; e-B=e-Business; DM=Digital Marketing; FA=Financial Analysis; SOM=Strategic and Organization Management; BDA=Business Application Development; E=Entrepreneurship; RM=Research Methodology; MP=Master Project

Course / Subject Synopsis

RESEARCH METHODOLOGY (MPSW5023)

Course Learning Outcome (CLO)

1. Integrate ethical research skills in constructing research questions, objectives and hypothesis (if any) relevant to research problem in business and management
2. Synthesize relevant literature using various digital tools to address the research gaps
3. Formulate research proposal in improving existing knowledge

Course Mapping & Synopsis

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11
CLO 1		X									
CLO 2						X					
CLO 3									X		

The primary goal of this course is to provide students with the necessary knowledge and skills in preparing for their Master's project. This course prepares learners for academic, professional, and evidence-based research across disciplines. In this course, students will be exposed to the important concepts of conducting scientific research and managing ethical research. Students will learn to conduct literature reviews using digital tools to identify knowledge gaps and support their research design. Activities at each step of the research process will be elaborated to develop the skills and competencies required to facilitate a successful research project at postgraduate level. At the end of the course, students are expected to submit a research proposal relevant to their field of study.

References

1. Saunders, M. S., Lewis, P and Thornhill, A. 2023. Research Methods for Business Students (9th Edition). New York. Pearson Prentices Hall.
2. Uma Sekaran And Roger Bougie (2009) Research Methods for Business A Skill Building Approach (5th Edition) New York, John Wiley and Sons.
3. Cooper D.R., and Schindler, P. S., 2000, Business Research Methods (7th Ed.) New York: McGraw Hill International Edition.
4. Zikmund, W.G., 2000, Business Research Methods (6th Ed.) New York: Dryden Pres.s
5. Neuman, W.L., 2009, Social Research Methods: Qualitative and Quantitative Approaches. New York. Pearson Prentices Hall.
6. Access to Online Journals: UTeM Online Database (ScienceDirect) Http://Library.Utem.Edu.My/En/Online-Databases.Html

ENTREPRENEURSHIP (MPSW5063)

Course Learning Outcome (CLO)

1. Demonstrate entrepreneurial skills in identifying and exploiting entrepreneurial opportunities
2. Practice commercially viable ideas, projects, products prototypes for commercialisation within the context of societal framework and to deliver business model canvassing and business value proposition
3. Synthesise creative and viable tech business plan and strategies

Course Mapping & Synopsis

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO11
CLO 1				X							
CLO 2										X	
CLO 3											X

This course is designed for postgraduate students who are interested in starting up new technology ventures, acquiring existing technopreneurial businesses or working in the business ventures of Industry 4.0. The key elements of this syllabus are the development of technology business model and defining the business value proposition that aims to startup lean technology ventures in the Fourth Industrial Revolution. This course addresses the challenging issues of technology ventures, intellectual property development, creative and innovative business and the management of the supply chain in Industry 4.0. Topics include development of viable techno-business idea, develop profitable techno-business models, market opportunities for high-tech products, intellectual property rights and inventions ownership, strategic control for new technology ventures and its legal aspects.

References

1. Katz (2018), Entrepreneurship Small Business, McGraw Hill.
2. Silvio Manuel Brito (2018), Entrepreneurship- Trends and Challenges.
3. Ladislav Mura (2018), Entrepreneurship- Development Tendencies and Empirical Approach, InTech.

FINANCIAL ANALYSIS (MIEM 5103)

Course Learning Outcome (CLO)

1. Apply accounting concepts, principles and conventions to support informed business decisions
2. Organize financial data to assess business performance and decision-making
3. Recommend effective financial strategies to optimize business growth and sustainability

Course Mapping and Synopsis

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO11
CLO 1	X										
CLO 2			X								
CLO 3							X				

This course provides a comprehensive foundation in accounting and finance, focusing on financial reporting, performance evaluation, managerial accounting, and financial decision-making. Students will learn to analyze, interpret, and apply financial data for planning, controlling, and strategic decision-making. It covers financial statements, cost analysis, budgeting, risk and return, investment evaluation, and financing decisions, progressing from fundamental concepts to advanced applications. Topics such as capital budgeting, cost of capital, and mergers and acquisitions equip students with tools for effective financial management. By the end of this course, students will develop practical skills in managing financial resources and making ethical financial decisions that contribute to organizational success.

References

1. Matt, B. and Simon, P., 2024. Accounting and Finance for Managers: A Decision-Making Approach, 2ND Edition, Kogan Page.
2. Gitman, L. J. and Zutter, J. C., 2021. Principles of Managerial Finance. 16th Edition, Pearson.
3. Weygandt, J. J., Kimmel, P. D. and Kieso, D. E., 2022. Accounting Principles 12th Edition, International Student Version. John Wiley.

DIGITAL MARKETING (MIIM 5543)

Course Learning Outcome (CLO)

1. Explain marketing concepts, strategies, and digital tools to real-world scenarios.
2. Discuss market opportunities, consumer behavior, competitive dynamics, and digital trends to make informed marketing decisions.
3. Prepare innovative marketing strategies and integrated plans by leveraging digitalization for long-term brand success.

Course Mapping and Synopsis

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO11
CLO 1					X						
CLO 2						X					
CLO 3										X	

This course will introduce students to the principal software and techniques used in digital marketing, help prepare students for roles in this area, and enable them to plan and manage digital marketing campaigns.

References

1. Diamond, A., 2019. Digital Marketing All in One. John Wiley and Sons, Inc., Hoboken, New Jerse, Edition 6,
2. Kingsnorth, S., 2022. Digital Marketing Strategy An integrated approach to online marketing. Kogan Page

BUSINESS DATA ANALYTICS (MIIM 5123)

Course Learning Outcome (CLO)

1. Evaluate the principles and techniques used by managers to formulate solutions to business problems and support strategic decision making through business analytics.
2. Apply appropriate tools and techniques to solve business problem.
3. Value the importance of analytics models and results in supporting informed business decision-making.

Course Mapping and Synopsis

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO11
CLO 1	X										
CLO 2							X				
CLO 3										X	

This course provides students with the concepts and methods needed to understand the emerging role of business analytics in organizations. It covers managerial statistical methods in descriptive analytics, predictive analytics and prescriptive analytics. Other topics covered include forecasting, data mining, risk analysis, simulation, and decision analysis. Emphasis is placed on applications, concepts and interpretation of results, rather than theory and calculations. Students will learn on how to apply business analytics tools in a spreadsheet environment, and how to communicate with analytics professionals to effectively use and interpret analytic models and results for making better business decision.

References

1. Evans, J. R., 2021. Business analytics (3rd ed.). Pearson.
2. Albright, S. C., and Winston, W. L., 2024. Business analytics: Data analysis and decision making (8th ed.). Cengage Learning.
3. Camm, J. D., Cochran, J. J., Fry, M. J., Ohlmann, J. W., and Anderson, D. R., 2016. Essentials of business analytics (2nd ed.). Cengage Learning.
4. Powell, S. G., and Baker, K. R., 2019. Business analytics: The art of modeling with spreadsheets (5th ed.). Wiley.
5. Bartlett, R., 2023. A practitioner's guide to business analytics: Using data analysis tools to improve your organization's decision making and strategy (2nd ed.). McGraw-Hill Education.

BUSINESS ECONOMICS (MIIM 5143)

Course Learning Outcome (CLO)

1. Interprete the relevance theory of managerial economics in its application to the current situation.
2. Analyse the issues related to economics.
3. Integrate the relevance theory into the economic situation to enhance the decision-making process.

Course Mapping & Synopsis

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO11
CLO 1		X									
CLO 2							X				
CLO 3										X	

This course equips managers with a deep understanding of economic theories, enabling them to analyses and apply these principles strategically in real-world contexts. Through the exploration of key economic frameworks, managers will enhance their ability to assess complex economic environments, anticipate market trends, and make data-driven decisions. Additionally, the course fosters advanced problem-solving and decision-making skills, empowering managers to integrate economic insights effectively, optimise business strategies, and drive sustainable growth.

References

1. Baye R. Michael, and Jeffrey, P. T., 2022. Managerial Economics and Business Strategy Tenth Edition (10th Ed.).
2. McGraw Hill. Mcguigan, Moyer, Harris, (2021). Economics for Managers, 12th Edition, Cengage Learning.
3. Keat, P.G., And Young, P.K.Y., 2020, Managerial Economics, 7th Edition, Pearson Education, New Jersey.

STRATEGIC AND ORGANIZATION MANAGEMENT (MIEM 5163)

Course Learning Outcome (CLO)

1. Discuss business environments and organizational behavior to make informed strategic decisions.
2. Integrate strategic management concepts to formulate, implement, and assess business strategies in various industries.
3. Demonstrate leadership, teamwork, and communication skills to enhance organizational effectiveness and decision-making.

Course Mapping and Synopsis

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO11
CLO 1				X							
CLO 2								X			
CLO 3									X		

This course explores strategic management principles and organizational dynamics in engineering, IT, and business contexts. Students will analyze business environments, apply strategic tools, and develop competitive strategies. Key topics include corporate governance, leadership, organizational power, culture, conflict, team dynamics, and value creation. Emphasis is placed on strategy formulation, implementation, and evaluation, alongside enhancing decision-making, teamwork, and communication skills. By the end of the course, students will be equipped to drive organizational success through strategic thinking and leadership.

References

1. Hill, C. W. L., Jones, G. R., and Schilling, M. A., 2022. Strategic management: Theory: An integrated approach (14th ed.). Cengage Learning.
2. Robbins, S. P., Coulter, M., and DeCenzo, D. A., 2023. Fundamentals of management: Essential concepts and applications (12th ed.). Pearson.
3. Northouse, P. G., 2021. Leadership: Theory and practice (9th ed.). SAGE Publications.

HUMAN RESOURCE MANAGEMENT (MIEM 5173)

Course Learning Outcome (CLO)

1. Analyze the evolution of HRM and its impact on job design, industrial relations, and employee relations in modern organizations.
2. Prepare HRM strategies for talent acquisition, compensation, performance management, and employee development to enhance organizational outcomes
3. Demonstrate professional ethics, teamwork, and leadership in managing HR functions, fostering positive industrial relations, and handling workplace challenges.

Course Mapping and Synopsis

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO11
CLO 1	X										
CLO 2				X							
CLO 3								X			

Human Resource Management (HRM) is a strategic function that shapes organizational success by managing talent, designing effective work systems, and fostering positive employee relations. This course provides a comprehensive understanding of HRM principles and practices, integrating both traditional HR functions and modern digital advancements. The course begins with the evolution of HRM, exploring key concepts such as job and organizational design, industrial relations, and employee relations. It then delves into the core HRM functions of recruitment, selection, compensation, performance management, and human resource development, highlighting best practices and data-driven decision-making. By the end of the course, students will be equipped with the strategic, analytical, and digital skills necessary to implement effective HRM strategies, enhance workforce productivity, and drive organizational performance in an increasingly digital world. The course employs a mix of case studies, hands-on software training, interactive discussions, and practical applications to ensure a dynamic and experiential learning process.

References

1. David, J. G., Gowan, M., DeMarr, B. J., David, J., 2022. Human Resource Management. United States: Sage Publications US.
2. Talya Bauer, Berrin Erdogan, David Caughlin (2023). Human Resource Management: People, Data, and Analytics, RAIPA
3. Harvard Business Review articles on strategy and leadership
4. Case studies from MIT Sloan, McKinsey Insights, and IEEE
5. Kasem, A., 2023. Microsoft Power BI data analysis and visualization: Transform data into interactive dashboards and reports. Packt Publishing

e-Business (MIIM 5163)

Course Learning Outcome (CLO)

1. Analyze the concepts, models, and strategies used in e-commerce and digital business environments.
2. Design practical e-commerce solutions by applying appropriate digital tools and business approaches.
3. Propose innovative e-commerce solutions to address complex business challenges using business application development tools.

Course Mapping and Synopsis

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO11
CLO 1		X									
CLO 2			X								
CLO 3										X	

This course introduces students to the strategic, operational, and technological dimensions of E-Commerce within the context of modern digital business. It explores key concepts including online consumer behavior, digital marketing, online payment systems, and B2B/B2C models. Emphasis is given to designing practical e-commerce solutions using user-friendly digital tools, and addressing the ethical, legal, and social implications of conducting business online. The course is designed for students from both IT and non-IT backgrounds and includes hands-on activities and case-based discussions.

References

1. Laudon, K. C., and Traver, C. G., 2023. E-Commerce: Business, Technology, Society (17th Edition). Pearson. ISBN: 978-1292409851. eBook URL: https://www.pearson.com/en-us/subject-catalog/p/e-commerce-business-technology-society/P200000003723
2. Chaffey, D., 2022. Digital Business and E-Commerce Management (7th Edition). Pearson. ISBN: 978-1292341557. eBook URL: https://www.pearson.com/en-gb/subject-catalog/p/digital-business-and-e-commerce-management/P200000005446
3. Schneider, G., 2020. Electronic Commerce (13th Edition). Cengage Learning. ISBN: 978-0357442123. eBook URL: https://www.cengage.com/c/electronic-commerce-13e-schneider

BUSINESS APPLICATION DEVELOPMENT (MIIM5153)

Course Learning Outcome (CLO)

1. Analyze business requirements and apply systems analysis techniques to develop business application
2. Develop a functional business application incorporating database connectivity and automation.
3. Demonstrate leadership and teamwork by collaboratively designing, implementing, and presenting a business application project.

Course Mapping and Synopsis

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11
CLO 1		X									
CLO 2			X								
CLO 3								X			

The Business Application Development course provides a comprehensive understanding of the principles, methodologies, and tools used in designing and developing business applications. It equips students with the knowledge to analyze business requirements, model system solutions, and implement data-driven applications. Throughout the course, students will explore systems analysis, data modeling, feasibility analysis, database design, and application development while emphasizing real-world business scenarios. Hands-on lab sessions will focus on low-code/no-code development, workflow automation, data integration, security, and deployment strategies, enabling students to build scalable and efficient business applications.

References

1. Mehta, A., 2023. Building Solutions with Microsoft Power Platform. O'Reilly Media. ISBN-13: 978-1098117542. Google Book: https://books.google.com/books/about/Building_Solutions_with_the_Microsoft_Po.html?id=SgqmEAAAQBAJ
2. Satzinger, J. W., Jackson, R. B., and Burd, S. D., 2015. Systems Analysis and Design in a Changing World (7th Edition). Cengage Learning. ISBN-13: 978-1305117204. Google Book: https://books.google.com/books/about/Systems_Analysis_and_Design_in_a_Changin.html?id=d7G63N-FjwMC
3. Craig, A., and Finn, A., 2021. Microsoft Power Platform Enterprise Architecture: Designing Solutions for Enterprise-Scale Business Applications. Packt Publishing. ISBN-13: 978-1800201965. Google Book: https://www.packtpub.com/product/microsoft-power-platform-enterprise-architecture/9781800201965
4. Elmasri, R., and Navathe, S. B., 2015. Fundamentals of Database Systems (7th Edition). Pearson. ISBN-13: 978-0133970777 Pearson eText: https://www.pearson.com/us/higher-

education/program/Elmasri-Fundamentals-of-Database-Systems-7th-Edition/PGM332539.html.
5. McDonald, J., 2021. Mastering Microsoft Power BI: Expert Techniques for Effective Data Analytics and Business Intelligence. Packt Publishing. ISBN-13: 978-1800207769 Packt Publishing: https://www.packtpub.com/product/mastering-microsoft-power-bi/9781800207769.

BUSINESS PROCESS MODELLING AND ANALYSIS (MIIM5133)

Course Learning Outcome (CLO)

1) Analyze the process, strategies, and issues related to new technology research innovation, commercialization, and entrepreneurship by applying relevant industry standards, notations, and best practices
2) Investigate and analyze pain points, inefficiencies, and opportunities in the current technology landscape to create innovative, commercially viable digital products and services for a potential startup venture
3) Design a business plan using appropriate business models, digital tools, and commercialization strategies while addressing legal, market access, and management issues to support startup development and funding.
4) Communicate and interact effectively with relevant stakeholders to present a new technology commercialization business proposal and venture.

Course Mapping and Synopsis

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11
CLO 1	X										
CLO 2			X								
CLO 3						X					
CLO 4					X						

This course provides a comprehensive understanding of Business Process Modelling and Analysis (BPMA) body of knowledge, focusing on the use of industry-standard notations to design, evaluate, and optimize business processes. Students will learn how to apply Business Process Model and Notation (BPMN), Decision Model and Notation (DMN), and Event-driven Process Chains (EPC) to improve operational efficiency, enhance decision-making, and support digital transformation initiatives.

References

1. Ahmed Hussein (2023). Business Analysis and Process Modelling Guidebook: Business. Analysis Techniques and Business Process Improvement. RKA Press Paperback, ISBN: 979-8985743401.
2. John Owes and Pam Walton (2023). Business Process Modelling: The Foundation for all Business Process Management, Improvement, Re-engineering, Tuning and Change I(MM The Integrated Modelling Method) Independently published. Paperback. ISBN: 979-8864714324.

3. Tony Benedict, Mathias Kirchmer, Marc Scarsig, Pater Frantz, Raju Saxena, Dan Morris, Jack Hilty (2019). BPM CBOK Version 4.0: Guide to the Business Process Management Common Body of Knowledge, independently published. ISBN: 978-1704809342.
4. Ahmed Fawzy (2018). Business Analysis and Process Modeling: A Beginner's Guide to Business Strategy and Process Improvement, Quiz. ISBN: 978-1949814002.
5. John Jeston (2018). Business Process Management: Practical Guidelines to Successful Implementations. Routledge; 4th edition. ISBN: 978-1138738409.

MASTER PROJECT 1 (MIEM 5293)

Course Learning Outcome (CLO)

1. Demonstrate effective communication skills to present ideas and research procedures.
2. Synthesize relevant literature using various digital tools to address the research gaps.
3. Justify the suitable key answers to clarify the contribution of engineering in business application domain.

Course Mapping and Synopsis

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11
CLO 1				X							
CLO 2					X						
CLO 3						X					

This course is the first part of project that contains the results based on the theories and techniques learnt previously. Besides writing the proposal, student is required to write three chapters of dissertation i.e. Chapter 1: Introduction, Chapter 2: Literature Review and Chapter 3: Research Methodology. In addition, student must present and justify the findings during presentation.

References

1. Rose, S., Spinks, N., and Canhoto, A. I., 2023. Management Research: Applying the Principles of Business Research Methods. Routledge.
2. Bell, E., Harley, B., Bryman. A., 2022. Business Research Methods. Oxford University Press.
3. Walliman, N., 2021. Research Methods: The Basics. Routledge.
4. Bougie, R. and Sekaran, U., 2019. Research Methods for Business: A Skill Building Approach. John Wiley and Sons.

MASTER PROJECT 2 (MIEM 5294)

Course Learning Outcome (CLO)

1. Evaluate data comprehensively using appropriate analytical methods and frameworks.
2. Demonstrate effective interpersonal and collaborative strategies in collecting relevant data from various stakeholders.
3. Prepare a report of the project to demonstrate the contribution of engineering in business application domain.

Course Mapping and Synopsis

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11
CLO 1							X				
CLO 2								X			
CLO 3											X

This course is the second part of project that show the ability of students in applying the theories and techniques of technologies learnt previously. Students must write the second fold of dissertation. These chapters must align with the proposed solution developed as the end product of this project. Students are required to justify the contribution of the proposed solution throughout the presentation sessions.

References

1. Rose, S., Spinks, N., and Canhoto, A. I., 2023. Management Research: Applying the Principles of Business Research Methods. Routledge.
2. Bell, E., Harley, B., Bryman. A., 2022. Business Research Methods. Oxford University Press.
3. Walliman, N., 2021. Research Methods: The Basics. Routledge.
4. Bougie, R. and Sekaran, U., 2019. Research Methods for Business: A Skill Building Approach. John Wiley and Sons.

Program Coordinator - MIIM

Name	Associate Professor Ts. Dr. Mohd Fazli bin Mohd. Sam	
Academic Qualification	• Diploma Electrical Electronic Institute Technology MARA, 1998. • Malaysia Skill Certificate Electronic Industry Malaysia Human Resource, 2002 • Diploma in Technical Education Electrical, 2007, Institut Pendidikan Guru, KampusPendidikan Teknik. • Bachelor of Engineering with Honors (B.Eng. (Hons.), 2000, Electrical Engineering University Technology Malaysia • Masters of Business Administration (MBA), Business Administration, 2005, Universiti Technology MARA • Doctor of Philosophy, Financial Management Aichi University, Nagoya, Japan, 2015	
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[2]	MASTER OF ENGINEERING BUSINESS MANAGEMENT - MIEM

MIEM Overview

The Master of Engineering Business Management is a transformative postgraduate program tailored for professionals seeking to lead at the nexus of technology, innovation, and industries. This multidisciplinary course empowers engineers and technical specialists to master strategic business acumen, financial intelligence, and organizational leadership, equipping them to drive impactful decisions in complex, fast-paced environments. Through a robust curriculum spanning digital marketing, business analytics, sustainable management, and the commercialization of emerging technologies, students gain the tools to navigate global markets and optimize operational systems. The program also cultivates entrepreneurial agility, interpersonal excellence, and creative problem-solving which are essential traits for visionary leadership in today's interconnected world.

PEO and PLO

Program Educational Objectives (PEO)

PEO1	Demonstrate mastery of theoretical and practical knowledge in Engineering Business Management that are pertinent to innovative business solution.
PEO2	Demonstrate comprehensive managerial and entrepreneurial skills to lead effectively and responsibly in different organisations
PEO3	Adopt and apply a broad range of digital applications and analytical techniques competently to support business functions
PEO4	Demonstrate teamwork, interpersonal communication skills, creativity and innovation.
PEO5	Commit and seek learning for continuous development

Program Learning Outcome (PLO)

PLO1	Evaluate theories and concepts in the field of Engineering Business Management.
PLO2	Resolve complex problems by providing recommendations in the field of Engineering Business Management.
PLO3	Organize complex tasks flexibly within the field of Engineering Business Management.
PLO4	Display interpersonal skills and the ability to work effectively in teams with various stakeholders.
PLO5	Demonstrate effective, coherent written and oral communication, as well as collaborative skills, with diverse stakeholders.

PLO6	Exhibit independence, leadership, and responsibility in professional roles within the field of Engineering Business Management.
PLO7	Demonstrate relevant digital skills in the field of Engineering Business Management.
PLO8	Adopt and apply numerical, qualitative, and graphical data to support decision-making and problem-solving in the field of Engineering Business Management.
PLO9	Demonstrate continuous self-improvement for academic and professional growth in Engineering Business Management.
PLO10	Exhibit entrepreneurial skills in addressing and resolving complex business challenges within the field of Engineering Business Management.
PLO11	Uphold professional ethics, values, and attitudes in all aspects of Engineering Business Management.

Mapping between PEO and PLO for MIEM

	PEO1	PEO2	PEO3	PEO4	PEO5
PLO1	√				
PLO2	√				
PLO3	√				
PLO4				√	
PLO5				√	
PLO6			√		
PLO7			√		
PLO8		√			
PLO9					√
PLO10		√			
PLO11					√

Entry Requirements

i. A Bachelor's degree (Level 6, MQF) in related fields with a minimum CGPA of 2.50 as accepted by UTeM Senate; OR

ii. A Bachelor's degree (Level 6, MQF) in related fields with a minimum CGPA of 2.00 and not meeting CGPA of 2.50 can be accepted, subject to a rigorous internal assessment****; OR

iii. A Bachelor's degree (Level 6, MQF) in non-related fields with a minimum CGPA of 2.00 as accepted by the HEP Senate and with relevant working experience*****, subject to a rigorous internal assessment****; OR

iv. A Bachelor's degree (Level 6, MQF) in non-related fields with a minimum CGPA of 2.00 as accepted by the HEP Senate and without relevant working experience, subject to passing pre-requisite courses******; OR

v. Other equivalent/related qualifications to a Bachelor's degree (Level 6, MQF) recognized by the Malaysian Government.

English Requirements

For international students, they are required to achieve a minimum score of any of these tests as listed below:

TOEFL	TOEFL iBT	IELTS	MUET
550	**60**	**6.0**	**4**

Fee Structure – MIEM

Detail		Local (MYR)	International (MYR)
A.	**Registration Fee**		
	Orientation	110.00	110.00
	Registration	20.00	20.00
	Alumni	100.00	100.00
	Student Smart Card	50.00	50.00
	Admission Fee	1,500.00	3,000.00
	Total (A)	**1,780.00**	**3,280.00**
B.	**Service Fee**		
	Students Activities	30.00	30.00
	Administration	545.00	945.00
	Total	575.00	975.00
	Total (B) for 3 Semesters*	**1,725.00**	**2925.00**
C.	**Tuition Fee (40 credits)**	16,000.00	22,000.00
	Total (C)	16,000.00	22,000.00
	Total (A+B+C)	**19,505.00**	**28,205.00**

Payment Schedule

Detail		Local (MYR)	International (MYR)
A.	**Semester 1**		
	Registration	280.00	280.00
	Admission fees	1500.00	3,000.00
	Service fees	575.00	975.00
	Tuition fees	7200.00	9,900.00
	Total (Sem1)	**9,555.00**	**3,280.00**
B.	**Semester 2**		
	Service fees	575.00	975.00
	Tuition fees	6400.00	8800.00
	Total (Semester 2)	**6,975.00**	**9,775.00**
C.	**Semester 3**		
	Service fees	575.00	975.00
	Tuition fees	2400.00	3,300.00
	Total (Semester 3)	**2,975.00**	**4,275.00**
	Subsequent semester (extension)	575.00	975.00

MIEM Curriculum Structure FULL TIME

Enrollment: Semester 1

Components	Year 1			Year 1			Year 1			Total Credit Hour
	Semester 1			Semester 2			Semester Khas			
	Code	Name	Cr	Code	Name	Cr	Code	Name	Cr	Cr
Common Core (P)	MIEM 5173	Human Resource Management	3	MIIM 5543	Digital Marketing	3	MIEM 5294	Master Project 2	4	
	MIIM 5123	Business Data Analytics	3	MIEM 5103	Financial Analysis	3				
	MIIM 5143	Business Economics	3	MIEM 5163	Strategic and Organization Management	3				
	MIEM 5143	Sustainable Management	3	MIEM 5133	Commercialization of New Technology	3				
	MIEM 5183	Supply Chain System Optimization	3	MPSW 5063	Entrepreneurship	3				
				MIEM 5293	Master Project 1	3				
Total Credit Hour / Semester (P)			**15**			**18**			**4**	**37**
University Courses (W)	MPSW5023	Research Methodology for Business	3							
Total Credit Hour / Semester (W)			**3**			**0**			**0**	**3**
Total Credit Hour Per Semester (P+W)			**18**			**18**			**4**	**40**

Enrollment: Semester 2

Components	Year 1			Year 1			Year 1			Total Credit Hour
	Semester 2			Semester Khas			Semester 1			
	Code	Name	Cr	Code	Name	Cr	Code	Name	Cr	Cr
Common Core (P)	MIIM 5543	Digital Marketing	3	MIIM 5293	Master Project 1	3	MIEM 5173	Human Resource Management	3	
	MIEM 5103	Financial Analysis	3				MIIM 5123	Business Data Analytics	3	
	MIEM 5163	Strategic and Organization Management	3				MIIM 5143	Business Economics	3	
	MIEM 5133	Commercialization of New Technology	3				MIEM 5143	Sustainable Management	3	
	MPSW 5063	Entrepreneurship	3				MIEM 5183	Supply Chain System Optimization	3	
							MIIM 5294	Project 2	4	
Total Credit Hour / Semester (P)			**15**			**3**			**19**	**37**
University Courses (W)	MPSW5023	Research Methodology for Business	3							
Total Credit Hour / Semester (W)			**3**			**0**			**0**	**3**
Total Credit Hour Per Semester (P+W)			**18**			**3**			**19**	**40**

MIEM Curriculum Structure PART TIME

Enrollment: Semester 1

Components	Year 1			Year 1			Year 1			Year 2			Year 2			Total Credit Hour
	Semester 1			Semester 2			Semester Khas			Semester 1			Semester 2			
	Code	Name	Cr	Code	Name	Cr	Code	Name	Cr	Code	Name	Cr	Code	Name	Cr	Cr
Common Core (P)	MIEM 5173	HRM	3	MIEM 5103	FA	3	MIEM 5293	MP1	3	MIEM 5143	SM	3	MIEM 5133	CNT	3	
	MIIM 5123	BDA	3	MIEM 5163	SOM	3				MIEM 5183	SCSO	3	MIIM 5543	DM	3	
	MIIM 5143	BE	3	MPSW 5063	E	3				MIEM 5294	MP2	4				
Total Credit Hour / Semester (P)			**9**			**9**			**3**			**10**			**6**	**37**
University Courses (W)	MPSW 5023	RM	3													
Total Credit Hour / Semester (W)			**3**													**3**
Total Credit Hour Per Semester (P+W)			**12**			**9**			**3**			**10**			**6**	**40**

HRM=Human Resource Management; BDA=Business Data Analytics; BE=Business Economics; SM=Sustainability Management; e-B=e-Business; DM=Digital Marketing; FA=Financial Analysis; SOM=Strategic and Organization Management; SCSO=Supply Chain System Optimization; E=Entrepreneurship; RM=Research Methodology; MP=Master Project

Enrolment: Semester 2

Components	Year 1			Year 1			Year 2			Year 2			Year 3			Total Credit Hour
	Semester 2			Semester Khas			Semester 1			Semester 2			Semester 1			
	Code	Name	Cr	Code	Name	Cr	Code	Name	Cr	Code	Name	Cr	Code	Name	Cr	Cr
Common Core (P)	MIEM 5103	FA	3	MIIM 5293	MP 1	3	MIEM 5143	SM	3	MIEM 5133	CNT	3	MIEM 5173	HRM	3	
	MIEM 5163	SOM	3				MIEM 5183	SCSO	3	MIIM 5543	DM	3	MIIM 5123	BDA	3	
	MPSW 5063	E	3				MIEM 5294	MP2	4				MIIM 5143	BE	3	
Total Credit Hour / Semester (P)			**9**			**3**			**10**			**6**			**9**	**37**
University Courses (W)	MPSW 5023	RM	3													
Total Credit Hour / Semester (W)			**3**			**0**			**0**			**0**			**0**	**3**
Total Credit Hour Per Semester (P+W)			**12**			**3**			**10**			**6**			**9**	**40**

HRM=Human Resource Management; BDA=Business Data Analytics; BE=Business Economics; BPMA=Business Process Modelling & Analysis; e-B=e-Business; DM=Digital Marketing; FA=Financial Analysis; SOM=Strategic and Organization Management; BDA=Business Application Development; E=Entrepreneurship; RM=Research Methodology; MP=Master Project

Course / Subject Synopsis

Research Methodology (MPSW5023)

Course Learning Outcome (CLO)

1. Integrate ethical research skills in constructing research questions, objectives and hypothesis (if any) relevant to research problem in business and management
2. Synthesize relevant literature using various digital tools to address the research gaps
3. Formulate research proposal in improving existing knowledge

Course Mapping and Synopsis

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11
CLO1		X									
CLO2						X					
CLO3									X		

The primary goal of this course is to provide students with the necessary knowledge and skills in preparing for their Master's project. This course prepares learners for academic, professional, and evidence-based research across disciplines. In this course, students will be exposed to the important concepts of conducting scientific research and managing ethical research. Students will learn to conduct literature reviews using digital tools to identify knowledge gaps and support their research design. Activities at each step of the research process will be elaborated to develop the skills and competencies required to facilitate a successful research project at postgraduate level. At the end of the course, students are expected to submit a research proposal relevant to their field of study.

References

1. Saunders, M. S., Lewis, P and Thornhill, A., 2023. Research Methods for Business Students (9th Edition). New York. Pearson Prentices Hall
2. Uma Sekaran And Roger Bougie (2009) Research Methods for Business A Skill Building Approach (5th Ed.) New York, John Wiley and Sons.
3. Cooper D.R., and Schindler, P. S., 2000, Business Research Methods (7th Ed.) New York: Mcgraw Hill International Edition
4. Zikmund, W.G., 2000, Business Research Methods (6th Ed.) New York: Dryden Press
5. Neuman, W.L., 2009, Social Research Methods: Qualitative and Quantitative Approaches. New York. Pearson Prentices Hall.
6. Access to Online Journals: UTeM Online Database (Sciencedirect) Http://Library.Utem.Edu.My/En/Online-Databases.

Entrepreneurship (MPSW5063)

Course Learning Outcome (CLO)

1. Demonstrate entrepreneurial skills in identifying and exploiting entrepreneurial opportunities
2. Practice commercially viable ideas, projects, products prototypes for commercialisation within the context of societal framework and to deliver business model canvassing and business value proposition
3. Synthesise creative and viable tech business plan and strategies

Course Mapping and & Synopsis

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO 10	PLO11
CLO1				**X**							
CLO2										**X**	
CLO3											**X**

This course is designed for postgraduate students who are interested in starting up new technology ventures, acquiring existing technopreneurial businesses or working in the business ventures of Industry 4.0. The key elements of this syllabus are the development of technology business model and defining the business value proposition that aims to startup lean technology ventures in the Fourth Industrial Revolution. This course addresses the challenging issues of technology ventures, intellectual property development, creative and innovative business and the management of the supply chain in Industry 4.0. Topics include development of viable techno-business idea, develop profitable techno-business models, market opportunities for high-tech products, intellectual property rights and inventions ownership, strategic control for new technology ventures and its legal aspects.

References

1. Katz (2018), Entrepreneurship Small Business, McGraw Hill
2. Silvio Manuel Brito (2018), Entrepreneurship- Trends and Challenges
3. Ladislav Mura (2018), Entrepreneurship- Development Tendencies and Empirical Approach, Intech.

FINANCIAL ANALYSIS (MIEM 5103)

Course Learning Outcome (CLO)

1. Apply accounting concepts, principles and conventions to support informed business decisions
2. Organize financial data to assess business performance and decision-making
3. Recommend effective financial strategies to optimize business growth and sustainability

Course Mapping and Synopsis

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11
CLO1	X										
CLO2			X								
CLO3							X				

This course provides a comprehensive foundation in accounting and finance, focusing on financial reporting, performance evaluation, managerial accounting, and financial decision-making. Students will learn to analyze, interpret, and apply financial data for planning, controlling, and strategic decision-making. It covers financial statements, cost analysis, budgeting, risk and return, investment evaluation, and financing decisions, progressing from fundamental concepts to advanced applications. Topics such as capital budgeting, cost of capital, and mergers and & acquisitions equip students with tools for effective financial management. By the end of this course, students will develop practical skills in managing financial resources and making ethical financial decisions that contribute to organizational success.

References

1. Matt, B. and Simon, P., 2024. Accounting and Finance for Managers: A Decision-Making Approach, 2ND Edition, Kogan Page.
2. Gitman, L. J. and Zutter, J. C., 2021. Principles of Managerial Finance. 16th Edition, Pearson.
3. Weygandt, J. J., Kimmel, P. D. and Kieso, D. E., 2022. Accounting Principles 12th Edition, International Student Version. John Wiley.

DIGITAL MARKETING (MIIM 5543)

Course Learning Outcome (CLO)

1. Explain marketing concepts, strategies, and digital tools to real-world scenarios.
2. Discuss market opportunities, consumer behavior, competitive dynamics, and digital trends to make informed marketing decisions.
3. Prepare innovative marketing strategies and integrated plans by leveraging digitalization for long-term brand success.

Course Mapping and Synopsis

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11
CLO1					X						
CLO2						X					
CLO3										X	

This course will introduce students to the principal software and techniques used in digital marketing, help prepare students for roles in this area, and enable them to plan and manage digital marketing campaigns.

References

1. Diamond, A., 2019. Digital Marketing All in One. John Wiley and Sons, Inc., Hoboken, New Jerse, Edition 6.
2. Kingsnorth, S., 2022. Digital Marketing Strategy An integrated approach to online marketing. Kogan Page

BUSINESS DATA ANALYTICS (MIIM 5123)

Course Learning Outcome (CLO)

1. Evaluate the principles and techniques used by managers to formulate solutions to business problems and support strategic decision making through business analytics.
2. Apply appropriate tools and techniques to solve business problem.
3. Value the importance of analytics models and results in supporting informed business decision-making.

Course Mapping and Synopsis

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11
CLO 1	X										
CLO 2							X				
CLO 3										X	

This course provides students with the concepts and methods needed to understand the emerging role of business analytics in organizations. It covers managerial statistical methods in descriptive analytics, predictive analytics and prescriptive analytics. Other topics covered include forecasting, data mining, risk analysis, simulation, and decision analysis. Emphasis is placed on applications, concepts and interpretation of results, rather than theory and calculations. Students will learn on how to apply business analytics tools in a spreadsheet environment, and how to communicate with analytics professionals to effectively use and interpret analytic models and results for making better business decision.

References

1. Evans, J. R., 2021. Business analytics (3rd ed.). Pearson.
2. Albright, S. C., and Winston, W. L., 2024. Business analytics: Data analysis and decision making (8th ed.). Cengage Learning.
3. Camm, J. D., Cochran, J. J., Fry, M. J., Ohlmann, J. W., and Anderson, D. R., 2016. Essentials of business analytics (2nd ed.). Cengage Learning.
4. Powell, S. G., and Baker, K. R., 2019. Business analytics: The art of modeling with spreadsheets (5th ed.). Wiley.
5. Bartlett, R., 2023. A practitioner's guide to business analytics: Using data analysis tools to improve your organization's decision making and strategy (2nd ed.). McGraw-Hill Education.

BUSINESS ECONOMICS (MIIM 5143)

Course Learning Outcome (CLO)

4. Interprete the relevance theory of managerial economics in its application to the current situation.
5. Analyse the issues related to economics.
6. Integrate the relevance theory into the economic situation to enhance the decision-making process.

Course Mapping and Synopsis

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11
CLO 1		X									
CLO 2							X				
CLO 3										X	

This course equips managers with a deep understanding of economic theories, enabling them to analyse and apply these principles strategically in real-world contexts. Through the exploration of key economic frameworks, managers will enhance their ability to assess complex economic environments, anticipate market trends, and make data-driven decisions. Additionally, the course fosters advanced problem-solving and decision-making skills, empowering managers to integrate economic insights effectively, optimise business strategies, and drive sustainable growth.

References

1. Baye R. Michael, and Jeffrey, P. T., 2022. Managerial Economics and Business Strategy Tenth Edition (10th Ed.).
2. Mcgraw Hill. Mcguigan, Moyer, Harris, (2021). Economics for Managers, 12th Edition, Cengage Learning.
3. Keat, P.G., And Young, P.K.Y., 2020, Managerial Economics, 7th Edition, Pearson Education, New Jersey.

STRATEGIC AND ORGANIZATION MANAGEMENT (MIEM 5163)

Course Learning Outcome (CLO)

1. Discuss business environments and organizational behavior to make informed strategic decisions.
2. Integrate strategic management concepts to formulate, implement, and assess business strategies in various industries.
3. Demonstrate leadership, teamwork, and communication skills to enhance organizational effectiveness and decision-making.

Course Mapping and Synopsis

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11
CLO 1				X							
CLO 2								X			
CLO 3									X		

This course explores strategic management principles and organizational dynamics in engineering, IT, and business contexts. Students will analyze business environments, apply strategic tools, and develop competitive strategies. Key topics include corporate governance, leadership, organizational power, culture, conflict, team dynamics, and value creation. Emphasis is placed on strategy formulation, implementation, and evaluation, alongside enhancing decision-making, teamwork, and communication skills. By the end of the course, students will be equipped to drive organizational success through strategic thinking and leadership.

References

1. Hill, C. W. L., Jones, G. R., and Schilling, M. A., 2022. Strategic management: Theory: An integrated approach (14th ed.). Cengage Learning.
2. Robbins, S. P., Coulter, M., and DeCenzo, D. A., 2023. Fundamentals of management: Essential concepts and applications (12th ed.). Pearson.
3. Northouse, P. G., 2021. Leadership: Theory and practice (9th ed.). SAGE Publications.

HUMAN RESOURCE MANAGEMENT (MIEM 5173)

Course Learning Outcome (CLO)

1. Analyze the evolution of HRM and its impact on job design, industrial relations, and employee relations in modern organizations.
2. Prepare HRM strategies for talent acquisition, compensation, performance management, and employee development to enhance organizational outcomes
3. Demonstrate professional ethics, teamwork, and leadership in managing HR functions, fostering positive industrial relations, and handling workplace challenges.

Course Mapping and Synopsis

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11
CLO 1	X										
CLO 2				X							
CLO 3								X			

Human Resource Management (HRM) is a strategic function that shapes organizational success by managing talent, designing effective work systems, and fostering positive employee relations. This course provides a comprehensive understanding of HRM principles and practices, integrating both traditional HR functions and modern digital advancements. The course begins with the evolution of HRM, exploring key concepts such as job and organizational design, industrial relations, and employee relations. It then delves into the core HRM functions of recruitment, selection, compensation, performance management, and human resource development, highlighting best practices and data-driven decision-making. By the end of the course, students will be equipped with the strategic, analytical, and digital skills necessary to implement effective HRM strategies, enhance workforce productivity, and drive organizational performance in an increasingly digital world. The course employs a mix of case studies, hands-on software training, interactive discussions, and practical applications to ensure a dynamic and experiential learning process.

References

1. Harvard Business Review articles on strategy and leadership.
2. Case studies from MIT Sloan, McKinsey Insights, and IEEE.
3. Kasem, A., 2023. Microsoft Power BI data analysis and visualization: Transform data into interactive dashboards and reports. Packt Publishing.

COMMERCIALIZATION OF NEW TECHNOLOGY (MIEM 5133)

Course Learning Outcome (CLO)

1. Demonstrate in-depth knowledge and understanding of the body of knowledge and use of industry-standards, notations, best practices in analysing and modelling business processes
2. Perform credible problem solving or investigation to analyse and Identify inefficiencies, bottlenecks, and areas for improvement within business workflows to create digitally, innovative business process models that align with industry standards, notations and best practices.
3. Use suitable business process analysis techniques and digital tools on the process models to prepare a business process plan that enhance operational efficiency and improve decision-making of the business.
4. Propose effectively with relevant stakeholders to present business process improvements, insights and recommendations for organizational business effective performance.

Course Mapping and Synopsis

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11
CLO 1	X										
CLO 2			X								
CLO 3					X						
CLO 4										X	

Commercialising new technology holds immense potential for economic growth, societal benefit, and innovation, by transforming ideas into marketable products and services, ultimately leading to increased business-to-business transactions and expanded opportunities for entrepreneurs venturing into technology and technical businesses. This course provides an in-depth understanding of the process, challenges, and strategies involved in commercialising new technologies, particularly in engineering and high-tech industries. It covers aspects such as intellectual property (IP), market analysis, management requirements, funding strategies, business models, and scaling innovations from concept to market and creation of a startup company. By the end of this course, students will be equipped with the knowledge and practical skills in commercialisation of new technology to prepare for leading roles in technology commercialisation, startups, or corporate innovation teams.

References

1. Kongolo, T., 2023. Intellectual Property and Emerging Technologies: Generated Global IP Issues and Challenges. Routledge. ISBN: 9781032313016

2. Smil, V., 2023. Invention and Innovation: A Brief History of Hype and Failure. MIT Press. ISBN: 9780262374262.
3. Phillips, R. G., and Walmsley, A. (Eds.)., 2022. New Perspectives in Technology Transfer: Theories, Concepts, and Practices in an Age of Complexity. Springer. ISBN: 9783030614799.
4. Probert, J., and Probert, R., 2022. Building an Innovation Powerhouse: Maximising People Potential to Grow. TTiP Global. ISBN: 9781916876412.
5. Duening, T. N., Hisrich, R. A., and Lechter, M. A., 2020. Technology Entrepreneurship: Taking Innovation to the Marketplace (3rd ed.). Academic Press. ISBN: 9780128222034.

SUSTAINABILITY MANAGEMENT (MIEM 5143)

Course Learning Outcome (CLO)

1. Apply the concept sustainable development
2. Display environmentally sustainable, societal and industrial systems based on the concepts of product life cycle.
3. Prepare strategies to support and implement sustainable solutions in managing business.

Course Mapping and Synopsis

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11
CLO1		X									
CLO2			X								
CLO3								X			

This course introduces the academic approach of sustainability and explores how today's human societies can endure in the face of global change, ecosystem degradation and resource limitations. The course focuses on key knowledge areas of sustainability theory and practice, including population, ecosystems, global change, energy, environmental economics and policy, ethics, and cultural history.

References

1. Hahn, R., 2022. Sustainability management: Global perspectives on concepts, instruments, and stakeholders. Scientific Research Publishing.
2. Polman, P., and Winston, A., 2021. Net positive: How courageous companies thrive by giving more than they take. Harvard Business Review Press.
3. Robertson, M., 2021. Sustainability principles and practice (3rd ed.). Routledge.
4. Pagitsas, C., 2022. Chief sustainability officers at work: How CSOs build successful sustainability and ESG strategies. Apress.

SUPPLY CHAIN SYSTEM OPTIMIZATION (MIEM 5183)

Course Learning Outcome (CLO)

1. Interpret advanced of optimizing supply chain design management operations.
2. Display the appropriate optimization tools and techniques in supply chain management to improve the business performance measures.
3. Recommend the physical and technological infrastructure to support supply chain activities using optimization technique.

Course Mapping and Synopsis

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11
CLO 1		X									
CLO 2			X								
CLO 3						X					

This course explores advanced methodologies for modeling, analyzing, and optimizing complex supply chain systems. It emphasizes mathematical modeling, data-driven decision-making, and the application of optimization algorithms to address real-world supply chain challenges. Bridging theory and practice, the course integrates case studies and industry-standard tools to equip students with the skills necessary for strategic and operational optimization in global supply chains.

References

1. Supply Chain Strategy and Optimization Framework, Chopra, S., and Meindl, P., 2019. Supply chain management: Strategy, planning, and operation (7th ed.). Pearson.
2. Decision making with the analytic hierarchy process, Saaty, T. L., 2008. International Journal of Services Sciences, 1(1), pp.83–98.
3. Clemen, R. T., and Reilly, T., 2013. Making hard decisions with DecisionTools (3rd ed.). Cengage Learning.
4. Future Trends in Supply Chain, Ivanov, D., Tsipoulanidis, A., and Schönberger, J., 2019. Global supply chain and operations management (2nd ed.). Springer.

MASTER PROJECT 1 (MIEM 5293)

Course Learning Outcome (CLO)

1. Demonstrate effective communication skills to present ideas and research procedures.
2. Synthesize relevant literature using various digital tools to address the research gaps.
3. Justify the suitable key answers to clarify the contribution of engineering in business application domain.

Course Mapping and Synopsis

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11
CLO 1				X							
CLO 2					X						
CLO 3						X					

This course is the first part of project that contains the results based on the theories and techniques learnt previously. Besides writing the proposal, student is required to write three chapters of dissertation i.e. Chapter 1: Introduction, Chapter 2: Literature Review and Chapter 3: Research Methodology. In addition, student must present and justify the findings during presentation.

References

1. Rose, S., Spinks, N., and Canhoto, A. I., 2023. Management Research: Applying the Principles of Business Research Methods. Routledge.
2. Bell, E., Harley, B., Bryman. A., 2022. Business Research Methods. Oxford University Press.
3. Walliman, N., 2021. Research Methods: The Basics. Routledge.
4. Bougie, R. and Sekaran, U., 2019. Research Methods for Business: A Skill Building Approach. John Wiley and Sons.

MASTER PROJECT 2 (MIEM 5294)

Course Learning Outcome (CLO)

1. Evaluate data comprehensively using appropriate analytical methods and frameworks.
2. Demonstrate effective interpersonal and collaborative strategies in collecting relevant data from various stakeholders.
3. Prepare a report of the project to demonstrate the contribution of engineering in business application domain.

Course Mapping and Synopsis

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11
CLO 1							X				
CLO 2								X			
CLO 3											X

This course is the second part of project that show the ability of students in applying the theories and techniques of technologies learnt previously. Students must write the second fold of dissertation. These chapters must align with the proposed solution developed as the end product of this project. Students are required to justify the contribution of the proposed solution throughout the presentation sessions.

References

1. Rose, S., Spinks, N., and Canhoto, A. I., 2023. Management Research: Applying the Principles of Business Research Methods. Routledge.
2. Bell, E., Harley, B., Bryman. A., 2022. Business Research Methods. Oxford University Press.
3. Walliman, N., 2021. Research Methods: The Basics. Routledge.
4. Bougie, R. and Sekaran, U., 2019. Research Methods for Business: A Skill Building Approach. John Wiley and Sons.

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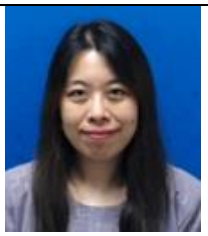
Name	Dr. Wendy Teoh Ming Yen	
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