DOCTOR OF TECHNOLOGY MANAGEMENT

HANDBOOK

2025 - 2026

FACULTY OF TECHNOLOGY MANAGEMENT AND TECHNOPRENEURSHIP

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1.0 PROGRAM OVERVIEW

A Doctor of Technology Management (DTM) is a 3-year programme that involves 1 ½ years of coursework and the remaining 1 ½ years of research study. Whereby candidates are required to complete 51 credits of coursework and 32 credits for research. This program is designed to emphasize contemporary management thinking involving real-world, business oriented critical thinking and problem-solving skills embedded in the coursework and research activities.

A DTM degree focuses on theoretical understanding that is applicable to manage high-tech organisation subsequently equipping candidates with the relevant knowledge and skills to advance their career. This program employs academic discourse through blended learning, case study analysis, problem-based assignment, industrial talk and presentation to name a few. The experience gathered from the coursework will enrich the candidates with knowledge and skills needed to embark on their research journey. During the research programme, candidate will be supervised by the faculty academic staff and undergo Viva-voce session in final semester of their study. The degree will be awarded once the candidates completed the coursework and oral examination (Viva-voce) of the thesis submitted on completion of the study.

Candidates that interested to join this programme may submit their application for admission throughout the year. Successful candidates should begin their studies in common semester according to the university academic calendar. Candidates will be awarded Doctor of Technology Management (DTM) once they completed the coursework, pass the viva-voce session and submit the research thesis.

2.0 Entry Requirements

(i) A Master's degree (Level 7, MQF) in related fields as accepted by the HEP Senate; OR

(ii) A Master's degree (Level 7, MQF) in nonrelated fields as accepted by the HEP Senate, subject to having relevant working experience and rigorous internal assessment; OR

(iii) A Master's degree (Level 7, MQF) in nonrelated fields as accepted by the HEP Senate and without relevant working experience, subject to passing prerequisite courses; OR

(iv) Other qualifications equivalent to a Master's degree (Level 7, MQF) recognized by the Malaysian Government.

3.0 English Requirements

English competency requirements (international applicants):

i. A minimum of Band 4 in MUET or equivalent to CEFR (Mid B2).

ii. If a student does not meet this requirement, the HEP must offer English proficiency courses to ensure that the student's proficiency is sufficient to meet the needs of the programme.

4.0 Duration of Study

Table 1: Duration of Study

Mode of Registration	**Full Time**	**Part Time**
Duration (years)	3-6	4-6

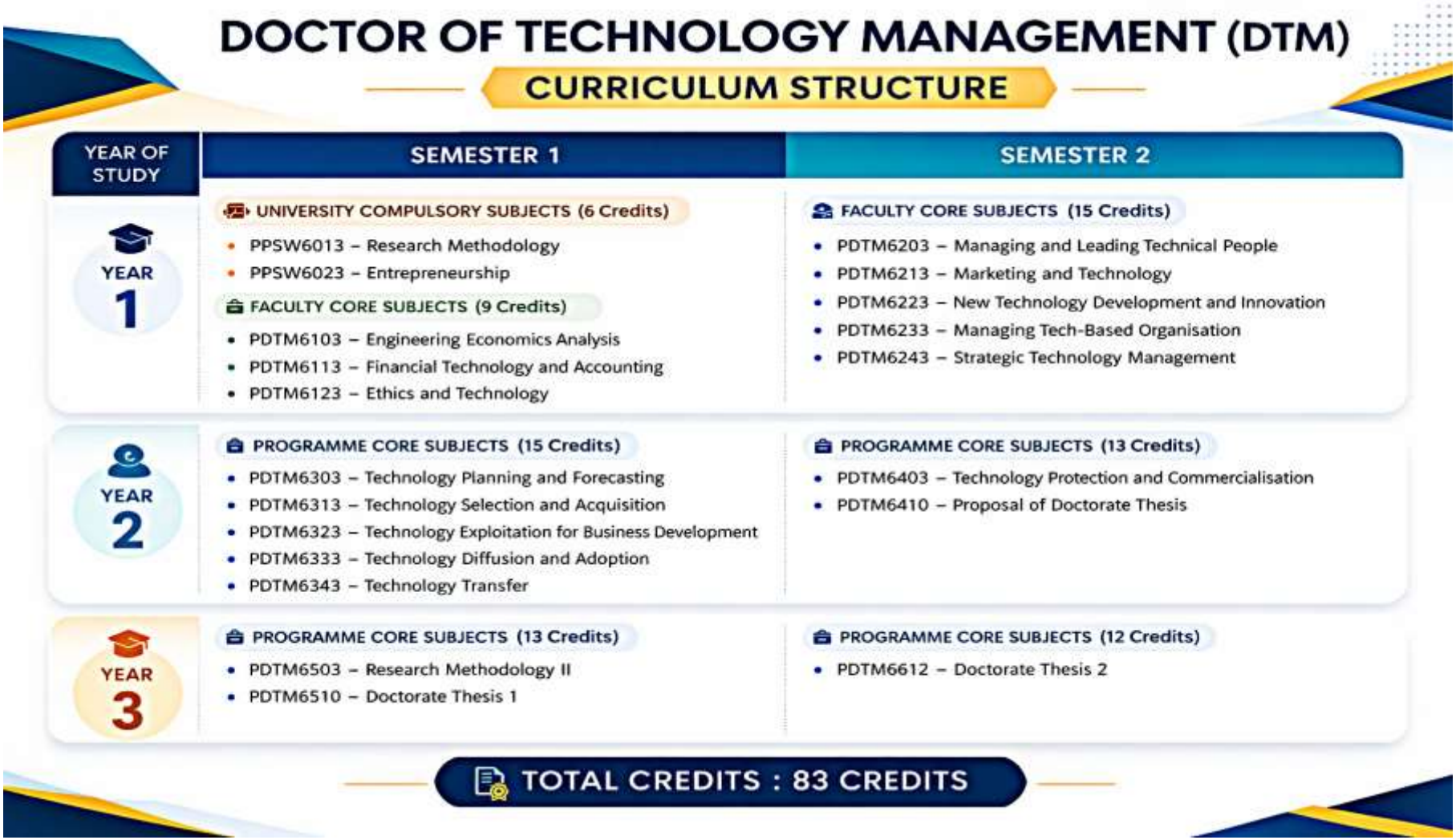
5.0 Assessment of Taught Course

1. A minimum grade of **B-** is required to pass a subject, and it can be **redeemed** if needed.
2. If a student does not achieve at least a **B- grade** in any required subject, he/she must **repeat that subject**.
3. A student may **redeem the grade** for the same subject **only once** throughout the study period.
4. Students who repeat a subject must **pay the fees** based on the **number of credits repeated**.
5. **Grade redemption is not allowed** for **Master Project or Project Paper**.
6. To **graduate**, a student must have a **minimum CGPA of 3.00**.
7. To **remain in the programme**, a student must maintain a **minimum CGPA of 2.70**.
8. Students with a **CGPA below 2.70** will be **dismissed from the programme**.
9. If a student receives **Conditional Pass (KS)** status for **two consecutive semesters**, he/she will also be **dismissed from the programme**.

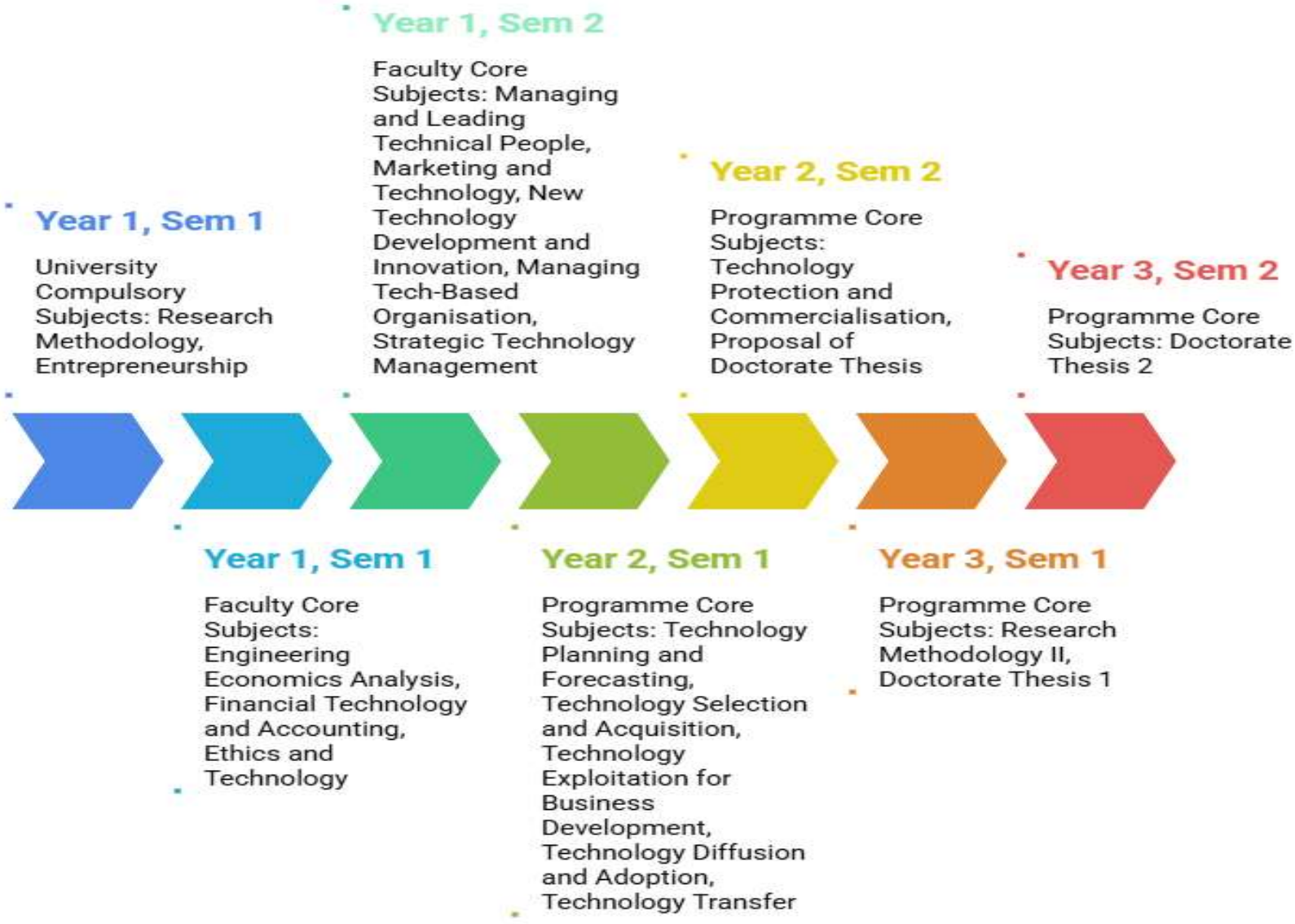
Table 2: Grade and Grade Points

Marks	Letter Grades	Grades Points	Remarks	Credit Hours Earned
80 – 100	A	4.0	Excellent	Yes
75 – 79	A-	3.7	Very Good	Yes
70 – 74	B+	3.3	Good	Yes
65 – 69	B	3.0	Pass	Yes
60 – 64	B-	2.7	Conditional Pass	Yes
55 – 59	C+	2.3	Fail	No
50 – 54	C	2.0	Fail	No
47 – 49	C-	1.7	Fail	No
44 – 46	D+	1.3	Fail	No
40 – 43	D	1.0	Fail	No
00 – 39	E	0.0	Fail	No

6.0 DTM Curriculum Structure



Academic Journey in Technology Management



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7.0 PEO and PLO

7.1 Program Educational Objectives (PEO)

Program Educational Objectives (PEO) are specific goals describing graduates' expected achievements in their careers and professional life after graduation. The following are the PEOs for the Doctor of Technology Management (DTM)

PEO1	Demonstrate advanced theoretical and practical knowledge in technology management.
PEO2	Demonstrate advanced managerial, entrepreneurial and professional skills through sound theory and rigorous research to solve complex issues and lead effectively and responsibly in different organisations.
PEO3	Adopt and apply a broad range of digital applications and analytical techniques competently to support technology management functions.
PEO4	Demonstrate effective collaborative and interpersonal communication skills.
PEO5	Commit and seek learning for continuous development.

7.2 Program Learning Outcome (PLO)

Programmed Learning Outcomes (PLO) are statements describing what students are expected to know and be able to perform or attain by the time of graduation. These relate to the skills, knowledge, and behaviors that students acquire through their program of studies.

PLO1	Integrate theories and concepts in technology management to advance the frontiers of knowledge and/or professional practice.
PLO2	Resolve complex problems and contemporary issues faced by business organisations.
PLO3	Adapt advanced technical skills to practical situations creatively and flexibly.
PLO4	Display interpersonal skills and the ability to work in a team with various stakeholders.
PLO5	Demonstrate effective and coherent written, oral, and collaborative communication skills with diverse stakeholders.
PLO6	Adapt a broader range of suitable digital applications and analytical techniques in the field of technology management.

PLO7	Evaluate numerical, qualitative and graphical data to resolve complex problems and contemporary issues in the field of technology management.
PLO8	Display professionalism and responsibility in assigned research, projects and tasks.
PLO9	Demonstrate continuous self-improvement for academic and professional development.
PLO10	Display entrepreneurship skills in resolving complex technology management problems.
PLO11	Uphold professional ethics, values, and attitudes in all aspects of technology management.

7.3 PEO-PLO Mapping

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

8.0 Course/Subject Synopsis

RESEARCH METHODOLOGY (PPSW 6013)
Course Learning Outcome (CLO) CLO1 Demonstrate ethical research skills in constructing research questions, objectives and hypothesis (if any) relevant to the research problem (P5, PLO3) CLO2 Synthesize relevant literature to address the knowledge gaps (C4, PLO2) CLO3 Propose research proposal with an improvement of existing knowledge. (A5, PLO5)
Course Mapping & Synopsis The course is designed to introduce students to the principles and good practices of conducting research. Activities at each step of the research process will be elaborated in order 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 on the topic of their interest.

References

1. Johd W. Creswell , Research Design Qualitative, Quantitative & Mixed Method Approach , 2022
2. Sidek, S. Kamalrudin, M. Mat Deris, M. Research Survival Toolkit: Writing a wining fundamental research proposal, Melaka: University Publisher (UTeM), 2017.
3. Sekaran, U, Research Method for Business: A Skill-Building Approach, 7th Ed. John Wiley & Son, New York, 2016
4. Boris Kriheli (2018), Operations Research,Brig.
5. Les Mayhew (2018), Brigs Handbook of Methods and Research in Risk Management and Insurance (V1), Brig

ENTREPRENEURSHIP (PPSW 6023)

Course Learning Outcome (CLO)

CLO1 Integrate entrepreneurial theories and competencies within legal and ethical frameworks (A4, PLO10)
CLO2 Explain the impact of global market dynamics, cultural differences, and sustainability challenges on entrepreneurial decision-making (A4, PLO5)
CLO3 Display ethical leadership strategies and governance models to foster responsible and sustainable entrepreneurial ventures. (A5, PLO8)

Course Mapping & Synopsis

This course explores the multifaceted world of entrepreneurship, blending theory with practical application to equip students with the skills to launch and manage innovative ventures. Beginning with foundational concepts (entrepreneurial theories, competencies, and opportunity identification), it examines the role of networking, legal frameworks, and ethical governance in startup success. The curriculum then delves into global challenges, analyzing cultural dynamics, international markets, and sustainability in entrepreneurial practice. Finally, it emphasizes ethical leadership, corporate responsibility, and governance models to foster resilient, socially conscious businesses. Through case studies and critical analysis, students will develop the strategic mindset needed to thrive in today's complex, rapidly evolving entrepreneurial landscape.

References

1. Paul Jones, Syahira Hamidon, Louisa Huxtable-Thomas, Paul Hannon, Norgainy Mohd Tawil (2021) Entrepreneurial Activity in Malaysia, A Country Level Perspective
2. Katz(2018),Entrepreneurship Small Business, McGraw Hill
3. Silvio Manuel Brito(2018), Entrepreneurship- Trends and Challenges
4. Ladislav Mura (2018), Entreprenuership- Development Tendencies and Empirical Approach,InTech.

ENGINEERING ECONOMICS ANALYSIS (PDTM 6103)

Course Learning Outcome (CLO)

CLO1 Explain the Engineering Economic analysis, philosophies and frameworks (C1, PLO1)
CLO2 Propose relevant economic tools and techniques through Engineering Economic Analysis (C6, PLO2)
CLO3 Demonstrate analytical skills for economic issues in the industry and suggest implementable solutions (C4, PLO7)

Course Mapping & Synopsis

Engineering management relies on the knowledge of engineering economics to be able to evaluate projects from a financial perspective. Optimizing financial performance of a project is a key responsibility of the engineer in the decision-making process. Examples of engineering projects would include but not limited to equipment replacement analysis, planning a new product line, and waste management. This course is designed to present engineering students the major concepts and techniques of engineering economic analysis that are needed in the decision-making process. The emphasis of this course is on the analytical analysis of money and its impact on decision making.

References

1. Blank, L. and Tarquin A., 2021, Basic Engineering Economy, McGraw Hill.
2. Chan S. Park (2018). F u n d a m e n t a l s o f Engineering Economics 3rd Edition. New York. Pearson Education Hall
3. Don Newman and Jerome Lavelle (2015) Engineering Economic Analysis, Oxford University pres.
4. Bilal M. Ayyub (2014) Risks analysis in Engineering and Economics. Taylor and Francis Group.

FINANCIAL TECHNOLOGY AND ACCOUNTING (PDTM6113)

Course Learning Outcome (CLO)

CLO1 Explain the accounting and finance philosophies and frameworks (C6, PLO1)
CLO2 Analyze various tools and techniques that can be applied in technology accounting and finance (C4, PLO7)
CLO3 Initiate the use of accounting tools and analytical techniques to investigate industry issues (P7, PLO3)

Course Mapping & Synopsis

The course aims to introduce Financial Technology and Accounting as a description of the culture, attitude and organization of a company that strives to provide customers with products and services that satisfy their needs. The culture requires financial and accounting technique in all aspects of the company's operations, with processes being done right the first time and defects and waste eradicated from operations. Subsequently students will discover that financial technology and accounting as a method by which management and employees can become involved in the continuous improvement of the financial of goods and services. It is a combination of financial technology and accounting tools aimed at increasing business and reducing losses due to wasteful practices.

References

1. Weygandt, J.J. Kimmel, P.D and Kieso, D.E. (2024). Accounting Principles 15th Edition International Student Version. John Wiley.
2. Frank,W. (2021). Business Accounting 2. 15th Edition, Pearson.
3. Eddie, M.L & Peter, A. (2024). Accounting and Finance: An Introduction. 11th Edition, Pearson.

ETHICS AND TECHNOLOGY (PDTM 6123)

Course Learning Outcome (CLO)

CLO1 Demonstrate the ethical specific issues related to the technology (C3, PLO1)
CLO2 Evaluate how ethics and technology can be integrated strategically (C4, PLO2)

CLO3 Practice knowledge and skills into work-based leaning ethically and professionally (A5, PLO11)

Course Mapping & Synopsis

In a world economy that is becoming increasingly integrated and interdependent, the relationship between technology and ethics is becoming ever more complex. The globalization of business, the emergence of civil society organizations in many nations, and new government regulations and international agreements have significantly altered the function of technologist and the nature of strategic decision making within the firm. This subject helps students to experience the real-life ethical issues that arise in the technology. This subject also assists students to develop the critical thinking and analytical skills needed to navigate the unique set of problems that emerge when confront with ethical issues and technology.

References

1. Gregory J. Robson and Jonathan Y. Tsou (2023) Technology Ethics: A philosophical Introduction and Readings, Routledge.
2. Svenb Nyholm and Steven D Hales (2023). This is Technology Ethics: An Introduction (Thus is Philosophy), Wiley-Blackwell

MANAGING AND LEADING TECHNICAL PEOPLE (PDTM 6203)

Course Learning Outcome (CLO)

CLO1 Examine principles and concepts of management to the technology organizations (C4, PLO1)
CLO2 Apply the conceptual theories, strategies and leadership elements in organizations (P6, PLO3)
CLO3 Identify types of behaviors needed to successfully lead technical individuals to complete tasks in organizations (A5, PLO8)

Course Mapping & Synopsis

This course introduces students to the essential principles of managing and leading technical teams within the dynamic landscape of today's global business environment. Covering major theories in leadership, communication, group dynamics, individual behavior, motivation, decision-making, power, politics, ethics, and social responsibility, the course emphasizes the practical application

of these concepts to real-world challenges. Special attention is given to navigating dilemmas that managers may encounter currently and in the future. The focus extends to fostering an understanding of conceptual theories, strategies, and leadership elements crucial for effective organizational management. Overall, the course aims to equip students with the knowledge and skills necessary to navigate the complexities of contemporary business and leadership scenarios.

References

1. Warren R. Plunkett and Gemmy S.Allen (2020) Management Eleventh Edition, Wessex Press, Inc., New York, USA.
2. Ricky W. Griffin, Gregory Moorhead (2013) Organizational Behavior: Managing People and Organizations 11th Edition. South-Western College Pub.
3. Thomas Hempel, Marilson Campos, Leo Dagum ,Sam Hahn, Ed Komo, Byron S. Lee, Mike Moody, Jacob. A. Taylor (2009) Leading and Managing in Silicon Valley : Successful Engineering Entrepreneurs' Best Practices and Career Guidance for Tomorrow's Technical Leaders on Leadership, Management, Development, and Business. 1st Edition. ExcellentLeader
4. Rosemary Thomson, Eileen Arney, Andrew Thomson (2015) Managing People: A Practical Guide for Front-line Managers . 4th Edition. Routledge

MARKETING AND TECHNOLOGY (PDTM 6213)

Course Learning Outcome (CLO)

CLO1 Explain the Marketing and Technology philosophies and frameworks (C5, PLO1).
CLO2 Practice marketing tools and techniques in both B2B and service people (A5, PLO6).
CLO3 Perform analytical skills for investigating and analyzing marketing issues in the industry and suggest implementable solutions. (A5, PLO10).

Course Mapping & Synopsis

Marketing and Technology embrace the modern concept of marketing. It seeks to embark on marketing service and Technology marketers' important tasks and responsibilities. The focus shifts away from basic marketing technology of product sales to evaluating all marketing needs. The concept behind Marketing Technology is to ensure the use of Technology in the marketing B2B and the

essential tasks and responsibilities of a technology marketer. In today's business organization, marketing and Technology represent a fundamental approach to satisfying clients and justifying market presence. The principle of global efficiency is getting things right the first time, and to do this, marketing technology has to be at the forefront of the management system.

References

1. Kotler, P., Kartajaya, H., & Setiawan, I. (2021). Marketing 5.0: Technology for humanity. John Wiley & Sons.Belch. and Belch (2018) Advertising and Promotion, McGraw Hill Education.
2. Russell, Charles Bamforth, and Graham Stewart (2014), Whisky: Technology, Production and Marketing 2nd Edition, Academic Press.
3. Hugh Taylor (2013), B2B Technology Marketing, Taylor Market Intelligence, Inc.
4. Young, L & Burges, b (2010) Marketing Technology as a Service, First edition, John Wiley & Sons.
5. Cristopher H Lovelock (2010) Service Marketing: People, Technology, Strategy, Pearson Education.

NEW TECHNOLOGY DEVELOPMENT AND INNOVATION (PDTM 6223)

Course Learning Outcome (CLO)

CLO1 Explain the importance of new technological development and innovation and how they affect towards industry, economy and society (C5, PLO1)
CLO2 Apply tools for improving and measuring new technology development and innovation
(C6, PLO2)
CLO3 Display knowledge and skills into work-based leaning ethically and professionally (A5, PLO11)

Course Mapping & Synopsis

These subject targets to provide students with an understanding of the key issues in the new technological development and innovation and introduce the relevant skills needed to foster innovation and new technological development at both strategic and operational levels. It equips students with evidence of different approaches based on real-world examples and experiences of leading firms.

References

1. Olson, P. (2024). Supremacy: AI, ChatGPT, and the Race that Will Change the World. St. Martin's Press.
2. Schilling, M. (2016) Strategic Management of Technological Innovation, Fifth Edition, Mc Graw Hill Education, New York.
3. Paul Trot (2008), Innovation Management and New Product Development, 4th Edition, Prentice Hall, England

MANAGING TECH-BASED ORGANISATION (PDTM 6233)

Course Learning Outcome (CLO)

CLO1 Adapt the concept of managing technology-based organization to increase market profitability (P6, PLO3).
CLO2 Identify the techniques for forecasting financials, raising funds, and establishing venture valuation (C4, PLO7).
CLO3 Integrate the most suitable strategy of managing different type of tech-based organization (A4, PLO6).

Course Mapping & Synopsis

The subject is designed to encourage students to: Evaluate the key skills and competences that Managers need to complete tasks effectively through others. Develop and apply those skills identified as essential to effectively manage situations associated with Management activities. Develop the ability to learn from own experiences and improve one's effectiveness and efficiency within a role. Review and consider the influences associated with international and multinational management skills and aspirations including digitalisation and industrial 4.0.

References

1. Sacolick, I. (2022). Digital Trailblazer: Essential Lessons to Jumpstart Transformation and Accelerate Your Technology Leadership. John Wiley & Sons.
2. Thomas N. Duening, Robert A. Hisrich, Michael A. Lechter (2014) Technology Entreprenuership, Second edition: Taking Innovation to the Market.

3. Anthony P. Graffeo (2018). Leading Science and Technology-Based Organizations: Mastering the Fundamentals of Personal, Managerial, and Executive Leadership.
4. Hans J. Thamhain (2014). Managing Technology-Based Projects: Tools, Techniques, People and Business Processes.
5. Bertrand Wong (2013) The Principles and Practice of Administrative Management and Information Technology for Organizations with Important Tips on Managing People

STRATEGIC TECHNOLOGY MANAGEMENT (PDTM 6243)

Course Learning Outcome (CLO)

CLO1 Identify the specific strategic planning of technology management for innovation and value creation activities (A4, PLO4).
CLO2 Synthesize strategic technology management concepts across different types of organizations to enhance market profitability (A4, PLO5).
CLO3 Valuing the insights of strategic technology management at the product line, business unit, and corporate levels (A3, PLO6).

Course Mapping & Synopsis

This subject will provide students with strategy of technology management-based organization conceptual and theories. Students will be able to identify the strategy of technology management – This subject will discuss on important strategies in successfully implementing research, technology and innovation management. Topics that will discuss are developing research and innovation processes, technology and innovation strategic management and innovation management. Students are able to acquire knowledge about technology processes and management and also related to several important strategies regarding innovation, R&D as well as new product development. Several case studies will be introduced to describes the strategic technology management in certain industry and nations.

References

1. Smart Manufacturing Technologies for Industry 4.0: Integration (2022). S.l.: ROUTLEDGE.
2. Trot, (2017) Innovation management and new product development 7th edition. Pearson

3. White and Bruton (2010) The management of technology and innovation: A strategic approach Amazon
4. Robert A. Burgelman, (2012). Strategic Management of Technology and Innovation, Tokyo, Amazon.

TECHNOLOGY PLANNING AND FORECASTING (PDTM 6303)

Course Learning Outcome (CLO)

CLO1 Determine strategic frameworks and forecasting methodologies to assess emerging technologies and support informed decision-making in technology planning (C5, PLO2).
CLO2 Analyse the impact of technological change on organizational strategy, market dynamics, and innovation readiness across various industries (C4, PLO7).
CLO3 Synthesize a technology roadmap integrating risk assessment, economic analysis, and implementation strategies aligned with Industry 4.0 initiatives (A4, PLO5)

Course Mapping & Synopsis

The course aims to introduce Technology Planning and Forecasting as a strategic discipline that guides organizations in anticipating technological change and aligning innovations with future needs. It emphasizes the development of frameworks, tools, and methodologies that enable effective decision-making in uncertain technological environments. Students will explore concepts such as technology assessment, forecasting methods, roadmapping, and risk analysis, along with economic and market analysis for technology implementation. The course also highlights the critical role of strategic planning in navigating technological transitions, managing innovation cycles, and enhancing readiness for Industry 4.0. Ultimately, students will acquire the analytical and planning skills required to evaluate, plan, and forecast emerging technologies to ensure organizational competitiveness, adaptability, and long-term growth.

References

1. Dynkin, A. A., & Milovidov, V. D. (2023). The science of foresight: how to succeed in strategic forecasting and planning. Studies on Russian economic development, 34(3), 285-296.

2. De Weck, O. L. (2022). Technology roadmapping and development: A quantitative approach to the management of technology. Springer Nature.
3. Huang, Y., Porter, A. L., Cunningham, S. W., Robinson, D. K., Liu, J., & Zhu, D. (2018). A technology delivery system for characterizing the supply side of technology emergence: Illustrated for Big Data & Analytics. Technological Forecasting and Social Change, 130, 165-176.

TECHNOLOGY SELECTION AND ACQUISITION (PDTM 6313)

Course Learning Outcome (CLO)

CLO1 Integrate the process of technology selection and acquisition into the business operations and practices (C6, PLO2).
CLO2 Adopt the most suitable technologies using the most effective methods of technology acquisition (P6, PLO3).
CLO3 Display the ability to evaluate technology selection and acquisition decisions to improve business and operational performance (A3, PLO9).

Course Mapping & Synopsis

This subject will provide students with ways of technology selection and acquisition bringing in new technologies from external sources, apart from using the development activities. Bringing in new technologies can provide the company with the opportunity both to develop new products and to enter new markets. the various options available and deciding in selecting and acquiring the best-fit technology to adopt in firm. This is further complicated by the number of pos acquisitions can take, with these possibilities including mergers and acquisitions of entire companies, licensing, subcontracting, alliances, joint R&D and industry methods of technology selection and acquisitions.

References

1. 1) Hampshire, A. (2020). Creating Value Through Technology: Discover The Tech That Can Transform Your Business. Bloomsbury Publishing.
2. 2) Letizia Mortara (2012) A Guided Approach To Technology Selection And Acquisition Decisions. University Of Cambridge, Institute For Manufacturing
3. 3) Allen Eskelin (2008) Technology Acquisition: Buying The Future Of Your Business, Pearson Technology Group; 1 Edition.

TECHNOLOGY EXPLOITATION FOR BUSINESS DEVELOPMENT (PDTM 6323)

Course Learning Outcome (CLO)

CLO1 Demonstrate comprehensive understanding of technology exploitation concepts and their implications for business development and innovation (C3, PLO1).
CLO2 Evaluate various methods of technology exploitation to formulate effective strategic decisions (C5, PLO2).
CLO3 Synthesize digital and analytical tools to exploit technology effectively for improved business intelligence and performance (A4, PLO6).

Course Mapping & Synopsis

This subject will provide students with practical guides on how to exploit technology for sustaining business development. In general, technology need to be exploited as rapidly an as fully as possible for a company to have a chance at getting market acceptance of its processes, products and services technology and defining the industry standard. Besides, the products/services technology needs to be marketed widely to get good market penetration that increases the company's market share. Therefore, this technology exploitation strategy prevents competitors from developing a different version of the technology that can change or capture the market. After this subject, students will be able to understand methods for technology exploitation and the intellectual properties of technology exploitation.

References

1. Bart de langhe, stefano puntoni (2024) decision-driven analytics: leveraging human intelligence to unlock the power of data paperback. Wharton school press.
2. Marcie j. Tyre. St. Al (2018). Exploiting opportunities for technological improvement in organizations (paperback). Creative media partners, llc

TECHNOLOGY DIFFUSION AND ADOPTION (PDTM 6333)

Course Learning Outcome (CLO)

CLO1 Demonstrate understanding of factors influencing technology adoption or rejection and their impact on individuals, organizations, and society through teamwork (A3, PLO4).

CLO2 Identify and communicate the most effective strategies for disseminating new ideas and technologies across different social groups, using clear and collaborative approaches suitable for diverse stakeholders (A4, PLO5)
CLO3 Synthesize the adoption-diffusion model from a change agent's perspective through the use of relevant digital tools and analytical techniques in technology management (A4, PLO6)

Course Mapping & Synopsis

This course will focus on the processes by which professional change agents (for example, extension agents) influence the introduction, adoption, and diffusion of technological change. The interlocking relationships of technology, culture, and society and the role of the change agent in affecting those relationships will be covered.

References

1. Celaya, C., Downing, P. J., Shiflett, J., Gdula, D., Barr, T., & Ramlatchan, M. (2024). Instructional systems design: The diffusion and adoption of technology (Vol. 2). Old Dominion University Digital Commons.
2. Sharma, S. K., Dwivedi, Y. K., Metri, B., Lal, B., & Elbanna, A. (Eds.). (2024). Transfer, diffusion and adoption of next-generation digital technologies: IFIP WG 8.6 International Working Conference on Transfer and Diffusion of IT, TDIT 2023, Nagpur, India, December 15–16, 2023, Proceedings, Part III. Springer.
3. Zolait, A. H. S. (2013). Technology diffusion and adoption: Global complexity, global innovation. IGI Global.

TECHNOLOGY TRANSFER (PDTM 6343)

Course Learning Outcome (CLO)

CLO1 Analyze the most appropriate methods of technology transfer to be adopted in the business organization or industry (C4, PLO1).
CLO2 Integrate technology transfer into the business operations and practices (C6, PLO2).
CLO3 Evaluate the implications of technology transfer on organizational business and operations (A3, PLO8).

Course Mapping & Synopsis

The course aims to introduce technology acquisition and transfer as a description of ways of technology acquisition and technology transfer involve bringing in new technologies from external sources rather than using the firm's own internal research and development activities. Bringing in new technologies can provide the company with the opportunity both to develop new products and to enter new markets. Students will be able to understand the various options available and deciding in acquiring the best-fit technology to adopt in firm.

References

1. Vekinis, G. (2023). Mastering Technology Transfer: From Invention to Innovation: A Step-by-Step Guide for Researchers and Inventors. Springer.
2. Audretsch, D. E., Lehmann, E. B., and Link, A. N. (2022). Handbook of Technology Transfer. Edward Elgar Publishing Ltd.

TECHNOLOGY PROTECTION AND COMMERCIALISATION (PDTM 6403)

Course Learning Outcome (CLO)

CLO1 Describe the various laws governing technology protection and commercialization (C5, PLO2).
CLO2 Discuss innovative creation for potential protection under intellectual property rights (A3, PLO4).
CLO3 Evaluate various mechanisms for the successful commercialisation of intellectual property rights (A4, PLO5).

Course Mapping & Synopsis

This subject provides students with knowledge of various laws governing technology protection in Malaysia. Intellectual properties are critical, especially for discusses the various types of technology protection and commercialization and how it manages to secure the new product and innovation for a firm. Furthermore, protection such as patents, copyrights, trade secrets, trademark, industrial design etc. indeed, intellectual property has always been about creating incentives an exclusive right. protection of intellectual assets should be followed by commercialization activities to provide a competitive advantage for a firm to sustain.

References

1. Bougie, R. (2025) Research Methods for Business, A Skill Building Approach
2. Cooper, D and Schindler, P. (2013) . Business Research Methods. 12thEdition. New York. McGraw-Hill Irwin.
3. Saunders, M. S. and Lewis, P. (2016). Research Methods for Business Students. 8thEdition. New York. Pearson Prentices Hall.
4. Sekaran, U. and Bougie, R. (2016). Research Method for Business: A Skill Building Approach. United Kingdom. John Wiley & Son.
5. Jackson, K and Bazeley, P. (2019). Qualitative Data Analysis with NViVO. 3rd Edition. Sage Publications Ltd.
6. George, D. an Mallery, P. (2018). IBM SPSS Statistics 25 Step by Step: A Simple Guide and Reference. 15th Edition. Routledge.

RESEARCH METHODOLOGY II (PDTM 6503)

Course Learning Outcome (CLO)

CLO1 Evaluate complex business datasets using advanced quantitative and qualitative analytical techniques to derive strategic insights and inform executive decision-making (C5, PLO2).
CLO2 Synthesize interdisciplinary research methodologies, including mixed-methods approaches, to develop innovative business analytics frameworks that address contemporary industry challenges (A4, PLO7).
CLO3 Integrate statistical modeling, qualitative insights, and decision-support systems to ethically design a data-driven business intelligence strategy that enhances organizational performance (A4, PLO9).

Course Mapping & Synopsis

The Business Data Analysis course for PDTM candidates provides advanced training in analyzing both quantitative and qualitative data, tailored to business research needs. Building on foundational research methodology, this course emphasizes practical skills for gathering, managing, and interpreting diverse data types. Students will engage with quantitative techniques, such as statistical analysis, alongside qualitative methods like content analysis and thematic coding, enabling comprehensive exploration of complex business questions. Case studies play a central role, allowing students to apply analytical skills in real-world contexts and understand the practical implications of their findings. Through hands-on projects and discussions,

students will work with authentic business datasets, translating data into actionable insights and maintaining ethical standards throughout. By the course's conclusion, students will be adept at conducting robust, data-driven research that bridges academic knowledge and real-world business applications, contributing valuable insights to both fields.

References

1. Jaggia, S., Kelly, A., Lertwachara, K., & Chen, L. (2023). Business analytics: Communicating with numbers. McGraw-Hill Education.
2. Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). A primer on partial least squares structural equation modeling (PLS-SEM) (3rd ed.). SAGE Publications.
3. Davenport, T. H., & Harris, J. G. (2017). Competing on analytics: The new science of winning (Updated ed.). Harvard Business Review Press.
4. Braun, V., & Clarke, V. (2021). Thematic analysis: A practical guide. SAGE Publications.
5. Denzin, N. K., & Lincoln, Y. S. (Eds.). (2017). The SAGE handbook of qualitative research (5th ed.). SAGE Publications.

PROPOSAL OF DOCTORATE THESIS (PDTM 6410)

Course Learning Outcome (CLO)

CLO1 Identify the issues and problems which relevant with the organisation in the field of technology management and can be further as potential research ideas (C4, PLO1).
CLO2 Develop a well justified research context for the issues or problem undertaken (C6, PLO2).
CLO3 Construct a plan/method in a research proposal to resolve or look for solution through academic research for the empirical contribution and theoretical contribution (P6, PLO3).
CLO4 Demonstrate effective communication skills in presenting and defending research ideas, findings, and proposals using appropriate academic and digital platforms (A3, PLO5).

Course Mapping & Synopsis

This subject provides research ideas for the students to look into various aspects within the field of technology management, which can be further as the topic of research interest and also the potential research problems which

can be developed by the students. Through the research proposal, the students able to convey his/her research ideas into executable research process that ultimately aim for empirical contribution (practical solutions) to the organization/industry; and also the theoretical contribution (body of the knowledge) for the field of study.

References

1. Kingsley O. Omeihe, Christian Harrison (2024). Qualitative Research Methods for Business Students.
2. Cooper, D and Schindler, P. (2013) . Business Research Methods. 12thEdition. New York. McGraw-Hill Irwin.
3. Saunders, M. S. and Lewis, P. (2016). Research Methods for Business Students. 8thEdition. New York. Pearson Prentices Hall.
4. Sekaran, U. and Bougie, R. (2016). Research Method for Business: A Skill Building Approach. United Kingdom. John Wiley & Son.
5. Jackson, K and Bazeley, P. (2019). Qualitative Data Analysis with NViVO. 3rd Edition. Sage Publications Ltd.
6. George, D. an Mallery, P. (2018). IBM SPSS Statistics 25 Step by Step: A Simple Guide and Reference. 15th Edition. Routledge.

DOCTORATE THESIS 1 (PDTM 6510)

Course Learning Outcome (CLO)

CLO1 Justify research problems, questions, and objectives aligned with organizational issues in technology management (C6, PLO2)
CLO2 Propose conceptual framework and identify the research gaps (A5, PLO4)
CLO3 Demonstrate professionalism and effective communication in conducting ethical data collection and engagement with research participants (A3, PLO5)
CLO4 Exhibit professional and ethical responsibility in conducting and presenting research proposals aligned with institutional and academic integrity standards (A4, PLO11)

Course Mapping & Synopsis

This subject requires the student to complete the first three chapters of a Doctorate Thesis Part 1 (Introduction Chapter, Literature Review Chapter and Research Methods Chapter). This is to ensure the student is progress on the right track and right position during the study for graduate on time. The student will be supervised by his/her supervisors. The student will be evaluated by submitting the Doctorate Thesis Part 1 with the presentation to the panels formed by faculty members (apart from the supervisors) through a colloquium. Only if the student passed the Doctorate Thesis Part 1 evaluation (both on thesis examination and presentation), the student is allowed to start the data collection as the next phase of Doctorate Thesis 2.

References

1. Kingsley O. Omeihe, Christian Harrison (2024). Qualitative Research Methods for Business Students.
2. Cooper, D and Schindler, P. (2013) . Business Research Methods. 12thEdition. New York. McGraw-Hill Irwin.
3. Saunders, M. S. and Lewis, P. (2016). Research Methods for Business Students. 8thEdition. New York. Pearson Prentices Hall.
4. Sekaran, U. and Bougie, R. (2016). Research Method for Business: A Skill Building Approach. United Kingdom. John Wiley & Son.
5. Jackson, K and Bazeley, P. (2019). Qualitative Data Analysis with NViVO. 3rd Edition. Sage Publications Ltd.
6. George, D. an Mallery, P. (2018). IBM SPSS Statistics 25 Step by Step: A Simple Guide and Reference. 15th Edition. Routledge.

DOCTORATE THESIS 2 (PDTM 6612)

Course Learning Outcome (CLO)

CLO1 Evaluate data analysis using appropriate analytical tools and techniques to derive valid, reliable, and meaningful research findings (C5, PLO7).
CLO2 Construct and refine the final empirical and analytical chapters of the Doctoral Thesis, demonstrating coherence, scholarly depth, and methodological rigor (P7, PLO3).
CLO3 Integrate empirical evidence and theoretical insights to establish significant contributions to knowledge, advancing both theory and practice in the chosen field of study (A4, PLO6).

CLO4 Exhibit professional and ethical responsibility in conducting and presenting research findings aligned with institutional and academic integrity standards (A4, PLO11)

Course Mapping & Synopsis

This subject requires the student to complete the next two chapters of a Doctorate Thesis Part 2 (Discussion and Analysis chapter, and Conclusion chapter). This is to ensure the student is progress on the right track and capable to produce a good quality thesis for university graduation requirement. The student will be supervised by his/her supervisors till the end of the thesis completion. The student needs to submit the complete Doctorate Thesis with the oral examination (viva session) examined by the panels formed: 1 internal examiner (nominated from the faculty members), 1 external examiner (nominated from other university). After that, the student must pass the Doctorate Thesis (both on thesis examination and presentation), and granted with 3 conditions: no correction, minor corrections and major corrections. After the corrections are made, the student is ready to graduate from the program of DTM, UTeM.

References

1. Kingsley O. Omeihe, Christian Harrison (2024). Qualitative Research Methods for Business Students.
2. Cooper, D and Schindler, P. (2013) . Business Research Methods. 12thEdition. New York. McGraw-Hill Irwin.
3. Saunders, M. S. and Lewis, P. (2016). Research Methods for Business Students. 8thEdition. New York. Pearson Prentices Hall.
4. Sekaran, U. and Bougie, R. (2016). Research Method for Business: A Skill Building Approach. United Kingdom. John Wiley & Son.
5. Jackson, K and Bazeley, P. (2019). Qualitative Data Analysis with NViVO. 3rd Edition. Sage Publications Ltd.
6. George, D. an Mallery, P. (2018). IBM SPSS Statistics 25 Step by Step: A Simple Guide and Reference. 15th Edition. Routledge.

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