

AREA 1 : VISION, MISSION, EDUCATIONAL GOALS AND LEARNING OUTCOMES

1.1 Statement of Vision, Mission and Educational Goals				
Benchmarked Standards				
	Description	Action	Evidence	Relevant Parties
1.1.1	State or provide a copy of HEP's vision, mission and general educational goals (EGs).	<p>The following are UTeM's vision, mission and general educational goals.</p> <p>VISION</p> <p>To be one of the world's leading innovative and creative technical universities.</p> <p>MISSION</p> <p>To produce highly competent professionals through quality and world class technical university education based on an application-oriented approach to teaching and learning as well as research with smart university-industry partnership in line with national aspirations.</p>	<p>Appendix A1</p> <ul style="list-style-type: none"> • Pelan Strategik 2006-2010 KUTKM. • Pelan Strategik 2004-2015 KUTKM. • Pelan Strategik UTeM 2009-2010 . 	PJKA/ Faculties

		<p>MOTTO</p> <p>Excellence Through Competency.</p> <p>GENERAL EDUCATIONAL GOALS</p> <ol style="list-style-type: none">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 method, critical thinking, creative and innovative problem solving and autonomy in decision making amongst graduates.4. To foster research development and innovation activities in collaboration with industries for the development of national wealth.		
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		<p>5. To equip graduates with leadership and teamwork skills as well as develop communication and life-long learning skills.</p> <p>6. To develop technopreneurship and managerial skills amongst graduates.</p> <p>7. To instil an appreciation of the arts and cultural values and awareness of healthy life styles amongst graduates.</p>		
1.1.2	Describe how the mission statement and educational goals reflect the crucial elements of the processes and outcomes of HEP in line with national and global developments which may include issues of social responsibilities, competency, research attainment,	<p>UTeM focuses on an application-oriented approach to teaching and experience learning with emphasis on core competency in engineering and technical education.</p> <p>The 2009–2010 UTeM strategic plan has 8 objectives. It outlines the action plans, implementations, performance indicators and targets that must be achieved by 2010. It also provides the vision and future plans to support the development of the University. The objectives of University Teknikal Malaysia Melaka are as follows:</p>		Faculties

	community involvement, ethical values and leadership.	<ol style="list-style-type: none">1. To conduct academic and professional programmes in line with the needs of the industries and to produce graduates who are adept in technical and soft skills.2. To develop competent and knowledge professionals (K-Professionals).3. To spur research and development with the support of strategic industries to generate wealth for the nation.4. To provide a conducive learning environment for students.5. To effectively fortify leadership and administrative qualities.6. To strengthen partnerships with organisations and international institutions.		
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		<p>7. To vigorously promote income generating activities in order to reduce monetary dependence.</p> <p>8. To offer programmes based on professional and academic knowledge to foster life-long learning.</p> <p>The University adheres to the Practice Application Oriented (PAO) approach which requires students to experience the professional practice of their specializations and to apply their knowledge to solve industrial related problems.</p> <p>Active learning methods have been introduced to all students through various courses organized by the University. Innovative and creative teaching and learning approaches emphasize on application and practical work in the laboratory, workshop, teaching factory and. These activities are based on competency, problem-solving, application, experiential learning, simulation and case</p>	<p>Appendix A2</p> <ul style="list-style-type: none"> • Practice and Application Oriented Education at KUTKM. 	
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		<p>studies or projects. Problem based learning in UTeM encourages students to investigate, explore, analyze and produce viable solutions to the real-world problems. This will encourage student participation in classes as well as develop their confidence and soft skills.</p> <p>The educational goals (EGs) and crucial elements in relation to the mission statement of the University are mapped in Appendix A4.</p>	<p>Appendix A3</p> <ul style="list-style-type: none"> • Matrix of Educational Goals versus University Objectives. <p>Appendix A4</p> <ul style="list-style-type: none"> • EGs and University objectives versus crucial elements. 	
1.1.3	Describe the appropriate body and members responsible for approving the vision, mission and EGs of the HEP.	The university has established its vision and mission in early 2000 after its establishment. They were developed by the top management with participation by the academic and other staffs.	<p>Appendix A5</p> <ul style="list-style-type: none"> • Akta Universiti dan Kolej 1971. 	Faculties/ PJKA

		<p>In 2003, the university produced the first “Pelan Strategik KUTKM 2004-2015”. It was guided by the vision of “To be one of the world’s leading innovative and creative technical universities” and its mission “To produce highly competent professionals through quality and world class technical university education based on an application-oriented teaching, learning and research with smart university-industry partnership in line with national aspirations”.</p> <p>In 2005, the university revisited its vision and mission. Then reviewed the university objectives, identified action plan and set the 2010 targets as documented in “Pelan Strategik KUTKM 2006 – 2010”.</p> <p>However, in 2008, the university again reviewed its strategic plan 2006-2010. This is due to the need to incorporate the direction described in the “Pelan Strategik Pengajian Negara Menjangkau 2020”. In</p>	<p>Appendix A6</p> <ul style="list-style-type: none"> • Warta Kerajaan: Perlembagaan UTeM. <p>Appendix A7</p> <ul style="list-style-type: none"> • University organization chart. 	
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		<p>addition, this is also to accommodate the change of name from Kolej Universiti Teknikal Malaysia to Universiti Teknikal Malaysia Melaka.</p> <p>In 2009, the workshop was held that developed University's general educational goal as listed in 1.1.1. The workshop was attended by the management, faculty and support staffs.</p> <p>The approved bodies of the University as mentioned in the policy and AUKU 1971 can be summarized as follows:</p> <ul style="list-style-type: none"> • Lembaga Pengarah Universiti • Senat • Pengurusan Universiti • The Faculty/Center: <ul style="list-style-type: none"> ➤ Majlis Akademik Fakulti/Pusat/Institut • The University Committees: <ul style="list-style-type: none"> • The Senate Academic committee <ul style="list-style-type: none"> ➤ Jawatankuasa Tetap Senat Mengenai 	<p>Appendix A8</p> <ul style="list-style-type: none"> • Chart of approving body. <p>Appendix A9</p> <ul style="list-style-type: none"> • TOR/Membership of Senate Committees . 	
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		<p>Peperiksaan/ Keputusan Peperiksaan</p> <ul style="list-style-type: none"> ➤ Jawatankuasa Tetap Senat Pengajian Siswazah ➤ Jawatankuasa Tetap Senat Perancangan Akademik ➤ Jawatankuasa Tetap Senat Hadiah Akademik UTeM ➤ Jawatankuasa Tetap Senat Penyelidikan, Inovasi dan Perhubungan Industri ➤ Jawatankuasa Tetap Senat Kemasukan Pelajar ➤ Jawatankuasa Tetap Senat Hal Ehwal Akademik <ul style="list-style-type: none"> • Jawatankuasa Peringkat Fakulti <p>Any new university policy or changes to the policy will be discussed and finalised by the Jawatankuasa Tetap (Akademik) chaired by the Deputy Vice Chancellor (Academic and Internationalisation). The final decision</p>		
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		<p>will be made by the Senate chaired by the Vice Chancellor. The eight members of the Jawatankuasa Tetap (Akademik) are six deans of the faculties and two directors of the centres. Normally, a Dean of a faculty is nominated by the Vice Chancellor for a period of two years. The Senate comprises all the deans of faculties, directors, professors and deputy vice chancellors.</p> <p>The relationship of the approved bodies of the University is shown in Appendix A9.</p>		
1.1.4	Describe how the vision, mission and EGs are made known to the relevant parties.	<p>The mission and vision statements have been published within the relevant parties using a promotion platform as well as in the formal documents to make it visible to everybody. The information tools that have been used for promoting the vision, mission and EG are:</p>	<p>Appendix A1</p> <ul style="list-style-type: none"> • Pelan Strategik 2009 -2010 UTeM. <p>Appendix A10</p> <ul style="list-style-type: none"> • Buku panduan Akademik Fakulti. 	BPAK/ Faculties

		<p>Corporate Publications</p> <p>The vision and mission statements are included in all of corporate publications that are published by the University as such the annual report and the University Prospectus.</p> <p>Promotion Tools</p> <p>Most of the promotions made to promote the University have included the vision and mission statements. This shows the commitment of the university commitment towards the society. The promotional tools that publicise those vision and mission statement are banners, displays at exhibition booths and also the pamphlets or brochures.</p>	<p>Appendix A11</p> <ul style="list-style-type: none"> • Diary • UTeM Prospectus. <p>Appendix A12</p> <ul style="list-style-type: none"> • University Annual Report 2007. <p>Appendix A13</p> <ul style="list-style-type: none"> • UTeM Convocation Book. <p>Appendix A14</p> <ul style="list-style-type: none"> • Perutusan Naib Canselor 2009. <p>Appendix A15</p> <ul style="list-style-type: none"> • University Brochure. 	
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		<p>Website</p> <p>The university website also provides the statements for a global viewing.</p>	<p>Appendix A16</p> <ul style="list-style-type: none"> • www.utm.edu.my. 	
Enhanced Standards				
1.1.5	<p>Provide information to what extent the institutional mission and EGs incorporate aspects of leadership, social responsibility, research, scholarship, community engagement, ethical values, professionalism and knowledge creation.</p>	<p>The seven skills identified to be important for the graduates are :</p> <ul style="list-style-type: none"> • Communication • Problem solving & creative thinking • Teambuilding • Life-long learning • Entrepreneurship • Professional Ethics and morals • Leadership <p>UTeM offers engineering programmes that emphasize on an application oriented educational approach, as well as the seven elements of soft skills. The elements of soft skills are integrated and incorporated in the academic and non academic programmes of the University.</p>	<p>Appendix A4</p> <ul style="list-style-type: none"> • Matrix EG, objectives versus crucial elements. <p>Appendix A17</p> <ul style="list-style-type: none"> • Subject Teaching Plan. • Subject versus Learning Outcomes. 	<p>Faculties/ PBPI</p>

		All the faculty programme outcomes (PO) address the broad requirements of the engineering or non-engineering professions. PO1 to PO4 encompass knowledge and technical competencies needed by graduates in order to excel in their professions. PO5 to PO10 focus on the various soft skills, such as teamwork and communication, with an emphasis on awareness of social, cultural and global responsibilities together with the importance of life-long learning.	<p>Appendix A18</p> <ul style="list-style-type: none"> • Buku Kemahiran Insaniah Universiti/KPT <p>Appendix A2</p> <ul style="list-style-type: none"> • Practice and Application Oriented Education. <p>Appendix A10</p> <ul style="list-style-type: none"> • Buku Panduan Akademik Fakulti. 	
1.1.6	State that the HEP's planning and evaluation processes, educational programmes, educational support services, financial and physical resources, administrative processes are adequate and	<p>In January 2008, UTeM published Buku Panduan Fakulti (Faculty Handbook) which includes the teaching and learning activities for the undergraduate and diploma programmes offered by the faculties. This is in line with the rules and regulations of the University to fulfil the needs of the clients.</p> <p>The handbook includes aspects related to the policies,</p>	<p>Appendix A10</p> <ul style="list-style-type: none"> • Buku Panduan Akademik Fakulti . 	<p>Faculties/ PJK/A/BPA/ Computer Centre/ PPPA/Bursary/ PBPI</p>

	<p>appropriate to fulfil its stated EGs.</p>	<p>departmental responsibilities, resource management, finance and procurement; curriculum development and programme accreditation. Besides being a reference document, it also provides documentation or circulation linkages.</p> <p>Each faculty has established its programme educational and learning outcomes for each course. Besides, it has also established a matrix cross link between PEO, LO, Bloom's Taxonomy and soft skills in relation to a course so as to ensure the effectiveness of the teaching and learning process, in line with the University's educational goals, mission and objectives.</p> <p>Several processes are involved before a curriculum is offered by the University. This involves curriculum design and evaluation as well as approval by the Ministry of Higher Education. In addition, internal discussions among academics, external reviewers and recommendations from other institutions of higher learning and industrial experts</p>	<p>Appendix A17</p> <ul style="list-style-type: none"> • Subject Teaching Plan. 	<p>Faculties</p>
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		<p>are also taken into consideration.</p> <p>All the programme outcomes covered in engineering and non-engineering subject such as Foundation English, Third Languages, Technical Communication, Technocrat Communication, Negotiation/ Creative and Critical Thinking TITAS and Co-Curriculum. Students' achievements including soft skills are accessed by means of formal examination and ongoing coursework.</p>		
1.2 Participation in the Formulation of Vision, Mission and Educational Goals				
Benchmarked Standards				
1.2.1	Describe how the HEP involves major stakeholders in the formulation and renewal of the mission and educational goals as well as the educational programmes.	<p>The process to review the mission and educational goals of the university involves various stakeholders such as :</p> <ul style="list-style-type: none"> • Lembaga Pengarah Universiti (LPU) • Industrial Advisory Panel (IAP) • Industries • Academic staff • Students • MOHE representatives 	<p>Appendix A19</p> <ul style="list-style-type: none"> • Syllabus Review Workshop. 	BPA/ Faculties

		<ul style="list-style-type: none"> External Examiners <p>Invite all the stakeholders during the curriculum design, review and assessment through formal meetings, workshops and survey sessions.</p>		
Enhanced Standards				
1.2.2	Describe how the HEP consults and involves a wide range of stakeholders in the ongoing refinement of the vision, mission and goals.	<p>The major stakeholders from the industries, public and private sectors, parents and alumni were involved in the establishment of the vision, mission and educational goals of the University. This includes internal discussions and recommendations among academics, external reviewers and experts from other institutions of higher learning and industries. The evidences are provided in Appendix A1</p> <p>The process to review the mission and educational goals of the University involves various stakeholders such as the:</p> <ul style="list-style-type: none"> Lembaga Pengarah Universiti (LPU) IAP Industries Academic staff 	<p>Appendix A20</p> <ul style="list-style-type: none"> Kelulusan SENAT/KPT. 	BPA/ Faculties

		<ul style="list-style-type: none"> • Students • MOHE representatives • External Examiners 		
1.3 Academic Autonomy				
Benchmarked Standards				
1.3.1	Describe how the curriculum is designed and the resources allocated to show sufficient autonomy in such functions.	<p>By referring to the ISO documents (UTeM (ISO)/PP/PK01, PK02 and PK03) the University has outlined the processes for planning, developing, reviewing and assessing programmes. All the processes outlined involve academics, students and support staff. PK01 outlines the process of planning, developing and reviewing if necessary. Furthermore, the ISO documents of PK02 outlines the teaching plan for each of the academic staff to follow and PK03 shows the teaching methods and procedures of the final examinations.</p> <p>The curriculum design adhere to several plans including Rancangan Malaysia (RMKs), Pelan Induk Perindustrian (IMP), Pelan Strategik Pengajian Tinggi Negara and Pelan Strategik UTeM. These strategic plans cover aspects like human resources, niche areas and career prospects. This ensures that the curriculum design is relevant not only for current needs but</p>	<p>Appendix A21:</p> <ul style="list-style-type: none"> • Refer to KPT/COPA/EAC Manual • UTeM (ISO)/PS/PK 01/PK02/PK03 	<p>PJKA/ Faculties BPA/PBPI</p>

		<p>also to fulfil the requirements in the next 5 to 10 years.</p> <p>In addition, questionnaires are distributed to various stakeholders to gain input on the kinds of graduates stakeholders expect. The data obtained from the survey will indicate whether the graduates meet the demands of the industries.</p> <p>Faculties have also established Curriculum Advisory Committees that periodically monitor and revise the curriculum structure and syllabus. The panel of curriculum committee involves representatives from industries, Public Institutions of Higher Learning (IPTA), alumni, parents, Ministry of Higher Education and also academic staff. These stakeholders ensure that all input from various stakeholders is taken into consideration in deciding the best direction for the course.</p>	<p>Appendix A10</p> <ul style="list-style-type: none"> • Buku Panduan Akademik Fakulti <p>Appendix A 19</p> <ul style="list-style-type: none"> • Syllabus Review Workshop <p>Appendix A22</p> <ul style="list-style-type: none"> • Faculty Committee Chart <p>Appendix A23</p> <ul style="list-style-type: none"> • Faculty Organization Chart 	<p>Faculties</p>
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		<p>Documents such as teaching plan, lecture notes, tutorials and final examination answer scripts are well documented in each of the ISO Subject File. The programme delivery is based on the subject teaching plan. The teaching plan is an ISO document and must be followed by all academic staff. The details of the teaching plan include the title, subject code, learning outcomes, course synopsis, practical applications, references, assessment methods, subject implementation and weekly plan. The evaluation of each subject is based on a minimum of 60% coursework and maximum of 40% final examination.</p> <ul style="list-style-type: none"> The Curriculum is designed according to the needs of the industries as well as to the advice from External Examiners and Visiting Professors. 	<ul style="list-style-type: none"> Lantikan Jawatankuasa Penasihat Kurikulum dan Silibus <p>Appendix A24</p> <ul style="list-style-type: none"> Fail Subjek Buku Peraturan Akademik dan Panduan Sistem Peraturan Akademik 	
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		<ul style="list-style-type: none"> • Comments from External Examiners and Visiting Professors. • Results of surveys from various stakeholders. • Implementations of soft-skills elements set by The Ministry of Higher Education. <p>A lecturer's workload varies from 8 to 15 contact hours per weeks. This includes a two-hour/three-hour lecture and three-hour practical session (per 30 students). On average; lecturers teach a course that carries three credit hours. For a group of 60 students, lecture is conducted for two hours. Students are divided into 2 groups for practical sessions of 3 hours each. Thus, the total contact hour for a class of 60 is 8. For engineering programme the staff student ratio is 1:10 while non engineering is 1:20.</p>	<p>Appendix A25</p> <ul style="list-style-type: none"> • Lecturers' Workload • Staff to Student ratio 	
1.3.2	How does the HEP ensure that the members of the academic staff have sufficient autonomy to focus on areas of their	<p>University has established seven thrust areas as listed below. Staff may engage in any of those thrusts as their area of expertise. Seven Thrust Area</p>		<p>CRIM/ Unit Cuti Belajar/ Faculties</p>

	expertise?	<p>a. Manufacturing Process, technology & Design.</p> <p>b. Energy & Automotive.</p> <p>c. Industrial Automation & Robotic.</p> <p>d. Telecommunication & Computer Engineering.</p> <p>e. Advanced Computing Technologies</p> <p>f. Technology Management & Entrepreneurship.</p> <p>g. Soft Skill for Engineers & Technologies</p> <p>At the university level, the Division of Human Resource Development (HRD) and Centre for Life-Long Learning are established to help the staff in developing an all rounded person in terms of career and outstanding service to the University.</p>	<p>Appendix A26</p> <ul style="list-style-type: none"> • UTeM(ISO)/PS/ PK03. • Study Leave Report. <p>Appendix A27</p> <ul style="list-style-type: none"> • UTeM(ISO)/PS/ PK04. <p>Appendix A28</p> <ul style="list-style-type: none"> • UTeM(ISO)/PS/ PK05. <p>Appendix A29:</p> <ul style="list-style-type: none"> • UTeM(ISO)/PS/ PK06 	
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		<p>Faculties also send lecturers to the Academic Advisory Courses conducted by the Teaching and Learning Centre (Pusat Pengajaran dan Pembelajaran). Here, they are exposed to the proper and effective methods in handling student academic advisory matters.</p> <p>The academic staffs consist of teaching engineers, tutors and lecturers with masters and PhD qualifications. Tutors and lecturers are continuously sponsored to pursue their studies at the masters or doctorate level.</p> <p>Speakers from industries and public bodies are invited to give talks on current issues annually to upgrade the knowledge of lecturers and students of the faculty. The faculty continuously updates its staff with knowledge pertaining to the engineering society, practices and environment. In order to enhance this</p>	<p>Appendix A30</p> <ul style="list-style-type: none"> • Research Policy & Guidelines. <p>Appendix A31</p> <ul style="list-style-type: none"> • MOUs 	
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		<p>UTeM does the following:</p> <ul style="list-style-type: none"> • provide facilities and financial support for staff to further their studies • Encourage staff to participate in research activities as well as establish collaboration with industries and international universities • provide internal short term research grants • Encourage staff to be attached to the relevant industries for at least six months • Establish centre of excellence (CoE) for each faculty 		
Enhanced Standards				
1.3.3	What are the HEP's plans to expand the boundaries of academic autonomy?	<p>All the academic staff at the faculties are given flexibility in terms of undergoing training, furthering studies, attending seminars or workshops and carrying out consultancies.</p> <p>Staffs are encouraged to apply research grants including short term grants. Academic staff who hold administrative posts could apply for a short term grant up to RM40,000. They are also eligible to employ at least one research or graduate</p>		CRIM/ Faculties

		<p>assistant.</p> <p>Staffs are also encouraged to publish technical papers, books, modules and participate in national and international committees as well as establish collaborations with industries and universities. Staffs are also encouraged to undergo industrial attachment for at least six months. They can also use their research grants to participate in exhibitions and competitions at the national and international levels.</p> <p>Staffs are encouraged to contribute in technology cluster groups such as in developing and setting up laboratory testing, and supervising postgraduate students.</p>		
1.4 Learning Outcomes (make use of LOs for Faculties)				
Benchmarked Standards				
1.4.1	Show how the LOs and EGs are in line with, and supportive of the vision and mission of the HEP.	<p>The mapping in Appendix 1 features the links of LOs, EGs and vision, mission of the University.</p> <p>The Learning Outcomes (LO) of the faculty is as follows(example Faculty of Electrical Engineering):</p> <p>1. Ability to apply fundamental knowledge of</p>	<p>Appendix A17</p> <ul style="list-style-type: none"> Matrix Eg vs Mission and 	Faculties

		<p>mathematics, sciences, electrical and/or mechatronics engineering. (K)</p> <p>2. Ability to design a system, component, or process to meet desired needs within certain specifications. (P,K)</p> <p>3. Ability to design and conduct experiments, as well as to analyze and interpret data for practice and applications. (P,K)</p> <p>4. Ability to identify, formulates, and solves engineering problems. (CTPS)</p> <p>5. Ability to use engineering tools necessary for engineering practices. (P)</p> <p>6. Ability to practice professional and ethical conduct. (EM)</p> <p>7. Ability to communicate effectively, not only within the engineering society but also within the community at</p>	<p>vision</p> <ul style="list-style-type: none"> • Matrix LO versus EGs • Subject vs leaning Outcome • Teaching Plan • Matrix subject versus soft skill • Program Outcomes 	
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		<p>large. (CS)</p> <p>8. Ability to function in a team effectively with the capacity to be a leader. (TS, LS)</p> <p>9. Ability to undertake lifelong learning. (LL)</p> <p>10. Ability to identify fundamental entrepreneurship skills as applied in the engineering profession. (ES)</p> <p>11. Ability to acquire knowledge of contemporary issues. (K)</p>		
1.4.2	Specify the broad competencies and attributes expected of students upon completion of a period of study.	<p>Attributes of graduates</p> <ul style="list-style-type: none"> • Competent and technically skilful • Suitable to the needs of industries • Adaptable and requires short training period • Flexible and be able to apply theoretical knowledge to practical applications • Trained with a balance of theory and practice • Creative and innovative in problem-solving. 	<p>Appendix A17</p> <ul style="list-style-type: none"> • Matrix Eg vs Mission and vision • Matrix LO versus EGs • Subject vs leaning 	Faculties

		<p>All the activities of students are aimed to help students mature and become competitive in the context of academic, sports, spiritual development and personality growth. These qualities equip students with the competencies that are relevant to the current needs of the global and competitive job market.</p> <p>Academic performance of students is further strengthened through skills of study, effective writing, communication and leadership.</p> <p>The Programme Educational Objectives (PEO) of the Faculty (example Faculty of Electrical Engineering):</p> <ol style="list-style-type: none"> 1 .To produce engineers who are able to apply engineering knowledge in their professional careers. 2. To produce engineers who are creative and innovative in adapting themselves to the global working environment. 3. To produce engineers who practice high standards of 	<p>Outcome</p> <ul style="list-style-type: none"> • Teaching Plan • Matrix subject versus soft skill • Program Outcomes 	
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		<p>ethical conduct and societal responsibilities.</p> <p>4. To produce engineers who are capable of developing their professional career through both practical experience and lifelong learning.</p> <p>5. To produce engineers who have strong technical competency in the field of electrical engineering.</p>		
1.4.3	Describe how these relate to the existing and emergent needs of the profession, discipline and the larger society.	<p>All of the POs have addressed broad requirements for any engineering or non-engineering professions. PO1 to PO4 cover knowledge and technical competencies that are needed by graduates in order to excel in their career development. PO5 to PO10 focus on various soft skills, such as teamwork and communication with an emphasis on an awareness of the social, cultural and global responsibilities together with the importance of life-long learning.</p> <p>UTeM adopts a unique strategy for effective teaching and learning inclusive of the teaching factory aspect that offers an exposure to the industrial environment in relation to the process</p>	<p>Appendix A2</p> <ul style="list-style-type: none"> • Practice and Application Oriented Education at KUTKM <p>Appendix A17</p> <ul style="list-style-type: none"> • Matrix Eg vs Mission and vision • Matrix LO 	Faculties

		<p>of design prototyping, production and quality assurance. These practices ensure that students develop an in-depth understanding of their learning based on real situations.</p> <p>The broad and continuous learning in the respective fields delivered via the practice and application oriented approach allows UTeM to produce highly competent professionals with global perspective and thinking.</p>	<p>versus EGs</p> <ul style="list-style-type: none"> • Subject learning Outcome vs Teaching Plan • Matrix subject versus soft skill • Program Outcomes 	
Enhanced Standards				
1.4.4	<p>Explain how the competencies are related to the needs of students in their future workplace, studies and being good citizens.</p>	<p>Programme Outcomes (PO) have been formulated for all programmes offered by the University, particularly in engineering courses. Programme Outcomes (PO) are statements that describe what students are expected to know and be able to perform or attain by the time of graduation. These relate to skills, knowledge and behaviour that students are expected to acquire throughout the programme.</p> <p>Students of an engineering programme are expected to attain the following:</p>		<p>Faculties/ HEPA</p>

		<ul style="list-style-type: none">•PO1. Ability to apply knowledge of science, mathematics and electronic engineering.•PO2. Ability to apply in-depth technical competence in a specific electronic engineering discipline.•PO3. Ability to undertake problem identification, formulation and solution.•PO4. Ability to utilize systems approach to design and evaluate operational performance.•PO5. Understanding of the principles of design for sustainable development.•PO6. Understanding of professional and ethical responsibilities and a commitment to them.PO7. Ability to communicate effectively, not only with		
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		<p>engineers but also with the community at large.</p> <ul style="list-style-type: none">•PO8. Ability to function effectively as an individual and in a group with the capacity to be a leader and manager.•PO9. Understanding of the social, cultural, global and environmental responsibilities of a professional engineer.•PO10. Recognition of the need to undertake life-long learning, as well as the capacity to do so•PO11. Identification of fundamental entrepreneurship skills as applied in the engineering profession. <p>All the POs of the faculties address broad requirements for any engineering or non-engineering profession. PO1 to PO4 cover knowledge and technical competencies that are needed by graduates in order to excel in their career development. PO5 to PO10 focus on various soft skills, such as teamwork and</p>		
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		communication with an emphasis on the awareness of social, cultural and global responsibilities and the importance of life-long learning.		
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