



Republic of the Philippines
Professional Regulation Commission
Manila



PROFESSIONAL REGULATORY BOARD OF MECHANICAL ENGINEERING

Resolution No. 08

Series of 2021

**GUIDELINES ON THE CREATION OF A CAREER PROGRESSION AND
SPECIALIZATION PROGRAM FOR THE MECHANICAL ENGINEERING PROFESSION**

WHEREAS, Section 2 of Republic Act (R.A.) No. 10968 or the “Philippine Qualifications Framework (PQF) Act” states that it is the policy of the State to institutionalize the PQF to encourage lifelong learning of individuals, provide employee specific training standards and qualifications aligned with industry standards;

WHEREAS, Section 4 of R.A. No. 10968 states that a PQF shall be established which shall describe the levels of educational qualifications and set the standards for qualification outcomes. It is a quality assured national system for development, recognition and award of qualifications based on standards of knowledge, skills and values acquired in different ways and methods by learners and workers of the country;

WHEREAS, Section 5 (c) of the Implementing Rules and Regulations of R.A. No. 10968 provides for the objective of the PQF which is to align domestic qualification standards with the international qualifications framework thereby enhancing recognition of the value and comparability of Philippine qualifications and supporting the mobility of Filipino students, workers and professionals;

WHEREAS, Section 8 of R.A. No. 10968 states that PQF shall incorporate the qualifications level descriptors defined in terms of knowledge, skills and values, application, and degree of independence;

WHEREAS, Section 4 (a), Article II of R.A. No. 10912 or the Continuing Professional Development Act of 2016 states that there shall be formulated and implemented Continuing Professional Development (CPD) Programs in each of the regulated professions in order to enhance and upgrade the competencies and qualifications of professionals for the practice of their professions pursuant to the PQF, the ASEAN Qualifications Reference Framework (AQRf) and the ASEAN Mutual Recognition Arrangements;

WHEREAS, Section 12, Article III of R. A. No. 10912 mandates the Professional Regulation Commission (PRC) and the Professional Regulatory Boards (PRBs) to formulate and implement a Career Progression and Specialization Program (CPSP) for every profession;

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WHEREAS, Section 2, Article I of R.A. No. 8495, known as the Philippine Mechanical Engineering Act of 1998, states that “The State recognizes the importance of mechanical engineers in nation-building and development. Their talents through sustainable human development shall be promoted. Thus, the State shall nurture competent, virtuous, productive and well-rounded mechanical engineers whose standard of professional practice and service shall be excellent, qualitative, world-class and globally competitive through regulatory measures, programs and activities”;

WHEREAS, Section 9, Article II of R.A. No. 8495 states that “The Professional Regulatory Board of Mechanical Engineering (PRB-MEE) shall exercise the following specific powers, functions, duties and responsibilities: (a) promulgate and adopt rules and regulations necessary for carrying out the provisions of this Act; (g) look into the conditions affecting the practice of the mechanical engineering profession and whenever necessary, adopt such measures as may be deemed proper for the enhancement and maintenance of high professional and ethical standards of the profession; (j) prescribe guidelines in the Continuing Professional Education (CPE) program in coordination with accredited association of mechanical engineers; and (m) discharge such other duties and functions as maybe deemed necessary for the enhancement of the mechanical engineering profession;”

WHEREAS, 4th paragraph of Section 22, Article III of R.A. No. 8495 states that “Subject to the approval of the Commission, certificates of specialty shall be issued by the PRB-MEE to Professional Mechanical Engineers who have been screened and recommended by accredited mechanical engineers association. These are for specific fields in which the applicants have specialized knowledge, training and experience and have documented their competence and expertise. The PRB-MEE, subject to the approval of the Commission, and after consultation with said association concerned, prescribe and issue the necessary guidelines for the issuance of these certificates;”

WHEREAS, upon recommendation of the stakeholders, there is a necessity for qualified professional mechanical engineers with focused expertise to address specialized aspects of the industry; and to associate the Professional Qualification Title of the Professional Mechanical Engineer with international credentials;

WHEREAS, there is a need to issue guidelines for the PRBs in the formulation of a CPSP for their respective professions for inclusion in the Philippine Qualifications Register (PhQuaR);

WHEREAS, the PRB-MEE formulated the CPSP for the Mechanical Engineering profession to address the Pathways and Equivalencies of PQF and which was subjected to various national consultation with the Professional Organizations, concerned national government agencies, academe, and industry.

NOW THEREFORE, the Professional Regulatory Board of Mechanical Engineering **RESOLVES**, as it hereby **RESOLVED**, to issue these Guidelines on the Creation of a CPSP for the Mechanical Engineering Profession, as follows:

Section 1. Definition of Terms

1. **Accredited Integrated Professional Organization (AIPO)** refers to the concerned Board and PRC Accredited Integrated Professional Organization for a given profession which is specifically mandated by the provision of the Professional Regulatory Law to integrate the professionals into one national organization and where the membership therein by professionals is automatic and mandatory¹;
2. **Accredited Professional Organization (APO)** refers to the PRC Accredited Professional Organization where membership therein by professionals is only voluntary²;
3. **ASEAN Qualifications Reference Framework (AQRF)** is a common reference framework which functions as a device to enable comparisons of qualifications across ASEAN Member States³;
4. **Career Progression in professional life** is the process of developing or moving towards a more advanced state in a person's job, title, position, or profession; it outlines the route one may follow in order to reach identified career development goals⁴;
5. **Competence** refers to an ability that extends beyond the possession of knowledge and skills, which include cognitive, functional, personal and ethical competence⁵;
6. **Competency** refers to the capability to apply or use a set of knowledge, skills and abilities required to successfully perform and implement critical work functions or tasks in a defined work setting⁶;
7. **Equivalency** refers to a process that involves assigning equivalent credits to the competencies demonstrated by a learner through assessment, thereby providing entry points to different levels of qualifications, the purpose of which is to provide opportunities to the learner to continue to learn and to re-enter the educational and training programs at various higher levels without retaking courses on which a learner has already demonstrated competence and knowledge⁷;
8. **Learning Outcomes** are clear statements of what a learner is expected to know, understand and/or do as a result of a learning experience⁸;

¹ Sec 1(e) of PRC Resolution No. 1089, s. 2018 (Revised Rules on the Accreditation of Professional Organizations and Integrated Professional Organizations)

² Sec. 1(f) of PRC Resolution No. 1089, s. 2018 (Revised Rules on the Accreditation of Professional Organizations and Integrated Professional Organizations)

³Annex 2 (Glossary) of AQRF document

⁴ Sec. 3 (c) of IRR of PQF Act

⁵ Sec. 3 (3.7), Rule I of PRC Resolution No. 1032, s. 2017 (Implementing Rules and Regulations of R.A. No. 10912, known as the Continuing Professional Development Act of 2016)

⁶ Sec. 3 (3.8), Rule I of PRC Resolution No. 1032, s. 2017 (Implementing Rules and Regulations of R.A. No. 10912, known as the Continuing Professional Development Act of 2016)

⁷Sec. 3 (d) of IRR of PQF Act

⁸Sec. 3 (h) of IRR of PQF Act

9. **Level Alignment Matrix of the Table of Specifications to the corresponding Policies, Standards and Guidelines and the PQF descriptors** which serves as evidence of the Licensure Examination Quality Assurance system. It is also a requirement in the National Referencing Committee procedures for listing and updating of Professional Qualifications in the PhQuaR as issued/conferred by the PRC;
10. **Level Descriptor** is a general statement that summarizes the learning outcomes appropriate to a specific level in the PQF grouped in domains of learning. It describes what an individual should be able to know, perform or demonstrate at a particular level⁹;
11. **Lifelong Learning** refers to all learning activities whether formal, non-formal or informal, undertaken throughout life, which results in improving knowledge, know-how, skills, competencies and/or qualifications for personal, social and/or professional reasons¹⁰;
12. **Mechanical Engineer** refers to a person who is degree holder of Bachelor of Science in Mechanical Engineering and has passed the licensure examination for mechanical engineers and is qualified to practice as a duly registered/licensed Mechanical Engineer under R.A. No. 8495 and to affix to his/her name the letters "ME";
13. **Pathways** refers to mechanisms or access ramps which provide access to qualifications and assist people to move easily and readily between the different education and training sectors and between these sectors and the labor market¹¹ which includes professional work experience;
14. **Practice of Mechanical Engineering (Scope of practice of profession)** shall embrace and consist of any work or activity relating to the application of mechanical engineering sciences and/or principles such as but not limited to: Consultation, valuation, investigation and management services requiring mechanical engineering knowledge; Engineering design, preparation of plans, specifications and projects studies or estimates for mechanical equipment, machinery, or processes of any mechanical works, projects or plants; Management or supervision of the erection, installation, alteration, testing and commissioning of mechanical equipment, machinery, or processes in mechanical works, projects or plants; Management, supervision, operation, tending or maintenance of any mechanical equipment, machinery or processes in mechanical work, projects or plants; Management or supervision of the manufacture, sale, supply or distribution of mechanical equipment parts or components; Teaching of mechanical engineering professional subjects in government recognized and accredited engineering schools; and Employment in government as a professional mechanical engineer, registered mechanical engineer, or certified plant mechanic if the nature and

⁹Sec. 3 (i) of IRR of PQF Act

¹⁰Sec. 3 (j) of IRR of PQF Act

¹¹Sec. 3 (l) of IRR of PQF Act

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character of his work is in line with his profession requiring professional knowledge of the science of mechanical engineering.

15. **Philippine Qualifications Framework (PQF)** describes the levels of educational qualifications and set the standards for qualification outcomes. It is a quality assured national system for the development, recognition and award qualifications based on standards of knowledge, skills and values acquired in different ways and methods by learners and workers of the country¹²;
16. **Philippine Qualifications Register (PhQuaR)** is the national database of quality assured qualifications authorized under the PQF. It provides information to employers, education and training providers and students. The information includes the Qualification title, Qualification Descriptors, the PQF Level, the Authority granting Agency, the Qualification Code, the Instrument and Date of Authorization. It also includes information on the quality assurance system and procedures applied to the awarding/conferment of the qualifications and the agencies mandated to authorize/issue such qualification¹³;
17. **Professional Mechanical Engineer** refers to a person who is qualified to hold himself/herself out as a duly registered/licensed Professional Mechanical Engineer under R.A. No. 8495 and to affix to his/her name the letters “PME”; refers to a person who is a holder of a Certificate of Registration and Professional Identification Card as a PME, and who is authorized to undertake any activity within the field of practice under R.A. No. 8495;
18. **Qualification** refers to a formal certification that a person has successfully achieved specific learning outcomes relevant to the identified academic, industry or community requirements. A qualification confers official recognition of value in the labor market and in further education and learning¹⁴;
19. **Qualification Title** refers to the recognition conferred on mechanical engineers who achieve specific relevant learning outcomes, such as Mechanical Engineers (Level 6), Professional Mechanical Engineers (Level 7), and Advanced Professional Mechanical Engineers (Level 8); and
20. **Specialization** refers to the field of practice of a profession for a particular area of knowledge or the process of becoming an expert in a particular field of professional practice.

Section 2. Creation of CPSPs

- a. **Career Pathway/s** – The Career Pathways of the Mechanical Engineering profession is from Mechanical Engineering Practice (Level 6) to Professional Mechanical

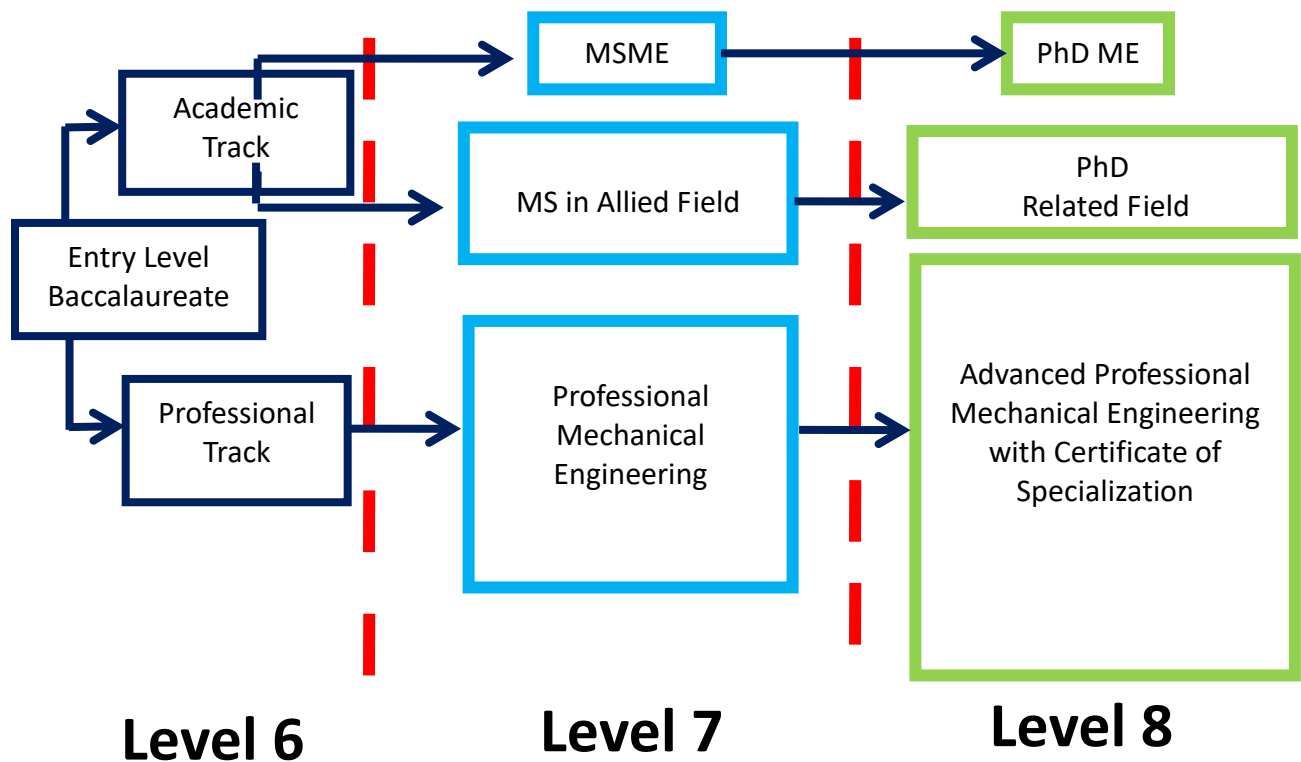
¹²Sec. 4 of RA 10968 (PQF Act)

¹³ <https://pqf.gov.ph/PhQuaR>

¹⁴Sec. 3 (m) of IRR of PQF Act

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Engineering Practice (Level 7) and to Advanced Professional Mechanical Engineering Practice (level 8) as diagrammed below.



b. Identification of CPSPs

Initially, the Professional Mechanical Engineering has been identified as a pathway to career progression. The CPSPs shall be identified in the future.

c. CPSPs

The Philippine Mechanical Engineering CPSP as herein envisioned shall be governed by enabling Rules and Guidelines as prescribed and promulgated by the PRB-MEE in accordance with the provisions of the R.A. No. 8495¹⁵ and PRC Resolution No. 1117 (s. 2018)¹⁶.

Each specialty Group shall develop its own CPSP guided by the rules and guidelines mentioned above.

¹⁵ Philippine Mechanical Engineering Act of 1998

¹⁶ Formulation of Guidelines on the Creation and Implementation of a Career Progression and Specialization Program for the Regulated Professions

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1. Philippine Qualifications Register (PhQuaR)

Qualification Code	Qualification Title	Descriptor	Level	Authority Granting Agency/ Organizations
PMEE 70715-1	Professional Mechanical Engineering	The practice of the Professional Mechanical Engineering embraces and consists of the practice of the Mechanical Engineering plus the authority to provide general consulting services as defined in R.A. No. 8495 and to sign and seal mechanical plans, drawings, construction permit applications, specifications, reports and other technical documents prepared by himself/herself and/or under his direct supervision.	7	PRC upon recommendation of the PRB-MEE

2. PQF Level Alignment

The qualification and professional practice outcomes of the abovementioned qualification title in relation to the descriptors of PQF level 7 are shown in Annex A.

This Resolution shall take effect after fifteen (15) days following its publication in the Official Gazette or in major newspaper of general circulation in the country.

Let a copy hereof be furnished the U.P. Law Center.

Done in the City of Manila this 18th day of May, 2021.



LEANDRO A. CONTI

Chairman



LORENZO P. LARION

Member



JERICO T. BORJA

Member

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Attested by:



ATTY. OMAIMAH E. GANDAMRA
Officer-In-Charge, PRB Secretariat Division

Approved by:



TEOFILO S. PILANDO, JR.
Chairman



YOLANDA D. REYES
Commissioner



JOSE Y. CUETO, JR.
Commissioner

DATE OF PUBLICATION IN THE
OFFICIAL GAZETTE : *August 2, 2021*
Date of Effectivity : *August 17, 2021*

ANNEX A: LINKS BETWEEN QUALIFICATION OUTCOMES TO THE PQF LEVEL 7 DESCRIPTORS

QUALIFICATION TITLE	Professional Mechanical Engineering
QUALIFICATION CODE	PMEE 70715-1

PROFESSIONAL PRACTICE OUTCOMES	PQF Level 7		
	Knowledge, Skills and Values	Application	Degree of Independence
	Demonstrated advanced knowledge and skills in a specialized or multi-disciplinary field of study for professional practice, self-directed research and/or lifelong learning	Applied in professional/creative work or research that requires self-direction and/or leadership in a specialized or multi-disciplinary professional work/research	High substantial degree of independence that involves exercise of leadership and initiative individual work or in teams of multi-disciplinary field
<p>1. Applies knowledge of mathematics, physical sciences, Information Technology, and complex mechanical engineering principles.</p> <p>1.1 Uses relevant and appropriate applied science, mechanical engineering principles and techniques in formulating process design and operations improvement.</p> <p>1.2 Develops computer programs to solve mechanical engineering problems.</p> <p>1.3 Manages and supervises multi-disciplinary team.</p>	<p>1.1</p> <p>1.2</p>	<p>1.1</p> <p>1.2</p>	<p>1.2</p> <p>1.3</p>
<p>2. Identifies, formulates research literature and analyzes complex mechanical engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and advanced engineering sciences.</p> <p>2.1 Proposes changes to achieve the desired outputs.</p> <p>2.2 Applies results research literature and other technological advances in design and operations improvement.</p>	<p>2.1</p> <p>2.2</p>	<p>2.2</p>	

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2.3 Manages and supervises multi-disciplinary team.		2.3	2.3
<p>3. Designs and proposes solutions for complex mechanical engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.</p> <p>3.1 Studies, investigates and gathers data related to problems and prepares proposals to implement solutions while incorporating ethics, safety and environmental considerations.</p> <p>3.2 Develops prototypes; tests runs and prepares final recommendations based on results gathered.</p> <p>3.3 Manages and supervises multi-disciplinary team.</p>	3.1	3.1 3.2	3.3
4. Conducts investigations and proposes solutions of complex problems using research-based knowledge and research methods including design of			

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	Knowledge, Skills and Values	Application	Degree of Independence
	Demonstrated advanced knowledge and skills in a specialized or multi-disciplinary field of study for professional practice, self-directed research and/or lifelong learning	Applied in professional/creative work or research that requires self-direction and/or leadership in a specialized or multi-disciplinary professional work/research	High substantial degree of independence that involves exercise of leadership and initiative individual work or in teams of multi-disciplinary field
<p>experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusion.</p> <p>4.1 Uses available database information, coordinates with other technical experts.</p> <p>4.2 Plans and designs experiments in conducting investigations of complex mechanical engineering problems.</p> <p>4.3 Conducts lab-scale and plant scale trials as may be deemed necessary to validate conclusions.</p> <p>4.4 Prepares reports and makes presentations to concerned entities on the proposed solutions to the complex mechanical engineering problems.</p> <p>4.5 Manages and supervises multi-disciplinary team.</p>	<p>4.1</p> <p>4.2</p>	<p>4.1</p> <p>4.2</p> <p>4.3</p> <p>4.4</p>	<p>4.4</p> <p>4.5</p>
<p>5. Creates, selects and employs appropriate techniques, resources, and modern mechanical engineering and IT tools, including prediction and modeling, to solve complex mechanical engineering problems, with an understanding of the limitations.</p> <p>5.1 Be familiar with the appropriate techniques, resources, and modern</p>	<p>5.1</p>	<p>5.1</p>	

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<p>mechanical engineering and IT tools, including prediction and modeling, to complex mechanical engineering problems, with an understanding of the limitations.</p> <p>5.2 Consolidates applicable techniques and modern tools that can be used to solve complex mechanical engineering problems.</p> <p>5.3 Prepares recommendations based on results considering practical applications and limitations of process parameters and equipment.</p> <p>5.4 Manages and supervises multi-disciplinary team.</p>	5.2	5.3	5.4
<p>6. Utilizes reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional mechanical engineering practice and solutions to complex mechanical engineering problems.</p> <p>6.1 Be familiar with relevant policies, laws, regulations and technical standards both locally and internationally in conjunction with the Mechanical Engineering Professional Practice.</p> <p>6.2 Prepares plans and designs to address industrial process problems while</p>	6.1	6.1 6.2	6.2

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	Demonstrated advanced knowledge and skills in a specialized or multi-disciplinary field of study for professional practice, self-directed research and/or lifelong learning	Applied in professional/creative work or research that requires self-direction and/or leadership in a specialized or multi-disciplinary professional work/research	High substantial degree of independence that involves exercise of leadership and initiative individual work or in teams of multi-disciplinary field
taking into consideration moral, ethical and environmental concerns. 6.3 Imparts learning to peers.			6.3
7. Recognizes and assesses the sustainability and impact of professional engineering work in the solution of complex mechanical engineering problems in societal and environmental contexts. 7.1 Be familiar with relevant applicable technical and engineering standards that can be applied in professional mechanical engineering practice. 7.2 Uses gained experience in industrial professional practice to measure impacts on society and environment. 7.3 Imparts learning to peers.	7.1	7.2	7.2 7.3
8. Acts according to ethical principles and commits to professional ethics and responsibilities and norms of mechanical engineering practice. 8.1 Be familiar with the Mechanical Engineering Code of Ethics and apply and	8.1		

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<p>behave according to this code in professional practice.</p> <p>8.2 Be familiar with corporate and industrial policies.</p> <p>8.3 Applies ethical principles in conjunction with mechanical engineering practice incorporating public safety as a priority.</p> <p>8.4 Be an example to upcoming mechanical engineers in terms of integrity, morality and ethics.</p>	8.2	8.3 8.4	8.4
<p>9. Performs effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.</p> <p>9.1 Plans, leads, coordinates and implements designated tasks either as a team leader or member.</p> <p>9.2 Handles small to medium sized projects.</p> <p>9.3 Interacts with a network of professionals and participate in projects or activities.</p>	9.1	9.1 9.2	9.3
10. Communicates effectively on complex mechanical engineering activities with the			

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<p>mechanical engineering community and with society at large, such as being able to comprehend and prepare effective reports and design documentation, make effective presentations, and give and receive clear instruction.</p> <p>10.1 Prepares reports, presentations and other mechanical engineering documents in an organized way and relay information related to these effectively.</p> <p>10.2 Prepares policies, procedures and other documents related to an activity or project and cascade to subordinates, peers and superiors effectively.</p> <p>10.3 Conducts trainings to subordinates and peers.</p> <p>10.4 Communicates clearly with legal entities/ authorities regarding mechanical engineering activities.</p> <p>10.5 Manages and supervises multi-disciplinary team.</p>	<p>10.1</p> <p>10.2</p>	<p>10.1</p> <p>10.3</p> <p>10.4</p>	<p>10.1</p> <p>10.5</p>
<p>11. Demonstrates knowledge and understanding of mechanical engineering management principles and economic decision-making and utilizes these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.</p>			

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11.1 Plans, leads, organizes and controls small to medium-sized projects or tasks as may be deemed necessary in the practice of mechanical engineering. 11.2 Manages financial aspects of the project. 11.3 Prepares reports related to projects. 11.4 Supervises subordinates and peers when needed.	11.1	11.2 11.3	11.2 11.3 11.4
12. Appreciates the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. 12.1 Attends trainings, seminars, conferences and participates in professional organizations that encourage continued learning in the mechanical engineering profession. 12.2 Pursues graduate studies. 12.3 Complies with CPD units required annually. 12.4 Conducts research studies and imparts results to peers.	12.1	12.2 12.3	12.1 12.2 12.3 12.4

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13. Provides extensive and meaningful contribution to science and to the development of mechanical engineering practice.			
13.1 Develops or applies new mechanical engineering concepts or principles. 13.2 Formulates or develops new codes, or technical standards in the practice of mechanical engineering profession. 13.3 Introduces technical innovations to enhance the effectiveness of mechanical engineering practice. 13.4 Introduces, implements policies and guidelines in the practice of mechanical engineering profession 13.5 Helps in the promulgation of engineering body of knowledge 13.6 Shares technical skills or know-how to fellow professionals.	13.1 13.2	13.1 13.2 13.3 13.4	13.5 13.6
14. Demonstrates substantial technical skills and know-how in the chosen area of specialization through the ability to design, invent, or analyze to fulfill objectives			

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and requirements with limitations imposed by practicality, regulation, safety, and cost.			
14.1 Exhibits unique features and functionality in mechanical engineering system design	14.1	14.2	14.4
14.2 Identifies technical problems and provide technical solutions	14.2	14.3	14.5
14.3 Identifies or evaluate risks and its potential impact and developed risk minimization plan	14.3	14.4	14.6
14.4 Employs the latest technology and facilitates innovation		14.5	14.7
14.5 Creates a demonstration model		14.6	14.8
14.6 Prepares supporting (design) documentations		14.7	
14.7 Considers practicality, regulation, safety, and cost			
14.8 Reviews and evaluates design outcome to achieve acceptance			
15. Demonstrates ability to lead or manage project within the area of specialization.			
15.1 Establishes and manages mechanical engineering business/organization.	15.1	15.2	15.4
15.2 Implements planning and design processes.	15.2	15.3	15.5

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	Knowledge, Skills and Values	Application	Degree of Independence
	Demonstrated advanced knowledge and skills in a specialized or multi-disciplinary field of study for professional practice, self-directed research and/or lifelong learning	Applied in professional/creative work or research that requires self-direction and/or leadership in a specialized or multi-disciplinary professional work/research	High substantial degree of independence that involves exercise of leadership and initiative individual work or in teams of multi-disciplinary field
15.3 Facilitates improvements and innovations. 15.4 Manages significant mechanical engineering projects. 15.5 Manages a multi-disciplined team. 15.6 Initiates and leads workplace change. 15.7 Motivates and mentors other professionals. 15.8 Helps and provides guidance to other professionals.	15.3	15.4 15.5 15.6	15.6 15.7 15.8
16. Demonstrates advanced knowledge and understanding in research and development. 16.1 Identifies opportunities for new or improved processes or initiated concept of developments. 16.2 Analyzes situation or required outcomes and explored solutions. 16.3 Patents or publishes research outputs.	16.1 16.2	16.2 16.3	16.2 16.3