# Briefing on Malaysian Qualifications Framework (MQF) Second Edition (2024)

**18th March 2025**

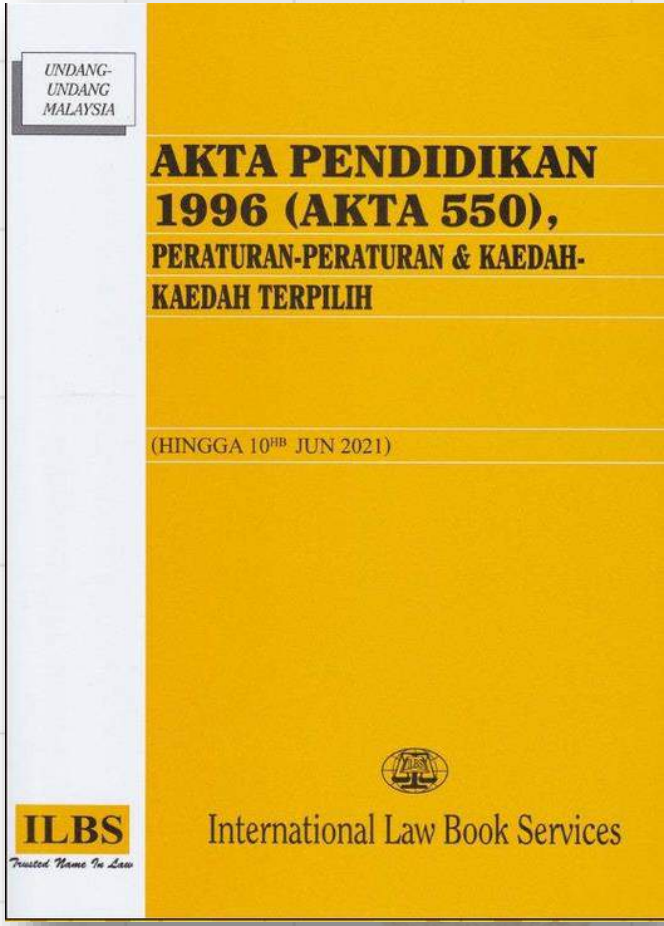
*By the end of this briefing, the academic staff should be able to incorporate eight Sustainability Competencies in order to compliance with the MQF (2024) requirements.*

# PRESENTATION OUTLINE

1. Background to the Malaysian Qualifications Framework (MQF).
2. Updates in MQF 2024
3. Learning outcomes, skillsets, & competencies
4. Integrating sustainability competencies into the existing MQF five clusters of learning outcomes.

# National Education **Philosophy** (1988; Act 550-1996)

- Education in Malaysia is an **on-going effort** towards further **developing the potential of individuals** in **holistic and integrated manner**, so as to produce individuals who are **intellectually, spiritually, emotionally, and physically balanced and harmonious**, based on a firm belief in and devotion to God.
- Such an effort is designed to produce Malaysian citizens who are **knowledgeable and competent**, who possess **high moral standards**, and who are responsible and capable of achieving high level of **personal well-being** as well as being able to contribute to the **harmony and betterment of the family, the society and the nation at large.**



# NEP Competencies

On-going effort

Life-long learning:

- APEL A, C, Q, M
- MOOCS
- Micro-Credential

## 1 Knowledgeable Competent & High Moral Standards

Developing industry talent with knowledge and skills of the discipline

## 2 Harmony Betterment of Family, Society and Nation

Moulding citizens with shared values/norms working together capitalizing on unity in diversity

## 3 High Moral Standards & Personal Well-Being

Developing personality and character

# MQF: THE FOUR MAIN FEATURES

1. level of qualifications
2. learning outcomes (includes value-based education; education for sustainable development; flexibility & adaptability)
3. credit system (including flexible learning pathway & harmonisation of other framework)
4. sectors: education & training

**Malaysian Qualifications Framework (MQF) Second Edition**

| MQF Level | Minimum Graduating Credits* | Academic Sector | TVET Sector |
|---|---|---|---|
| 8 | No credit rating | PhD by Research | |
| | 80 | Doctoral Degree by Mixed Mode & Coursework | |
| 7 | No credit rating | Master's by Research | |
| | 40 | Master's by Mixed Mode & Coursework | |
| | 30 | Postgraduate Diploma | |
| | 20 | Postgraduate Certificate | |
| 6 | 120 | Bachelor's Degree | Bachelor's Degree |
| | 64 | Graduate Diploma | Graduate Diploma |
| | 34 | Graduate Certificate | Graduate Certificate |
| 5 | 40 | Advanced Diploma | Advanced Diploma |
| 4 | 90 | Diploma | Diploma |
| 3 | 60 | Certificate | Certificate |
| 2 | 30 | Certificate | Certificate |
| 1 | 15 | Certificate | Certificate |

* Inclusive of general studies subjects for an undergraduate programme.

# MQF Second Edition (2017)

- 5 CLUSTERS

(1. KNOWLEDGE & UNDERSTANDING; 2. COGNITIVE SKILLS; 3. FUNCTIONAL WORK SKILLS; 4. PERSONAL & ENTREPRENEURIAL SKILLS; 5. ETHICS & PROFESSIONALISM)

- 11 Domains

(1. KNOWLEDGE & UNDERSTANDING; 2. COGNITIVE SKILLS; 3. PRACTICAL SKILLS; 4. INTERPERSONAL SKILLS; 5. COMMUNICATION SKILLS; 6. DIGITAL SKILLS; 7. NUMERACY SKILLS; 8. LEADERSHIP, AUTONOMY & RESPONSIBILITY; 9. PERSONAL SKILLS; 10. ENTREPRENEURIAL SKILLS; 11. ETHICS & PROFESSIONALISM)

| | | |
|---|---|---|
| Level 6<br><br>Bachelor<br><br>Graduate Certificate | Cluster 1: Knowledge and Understanding | • Describe advanced and comprehensive, theoretical and technical knowledge and demonstrate relevant skills in a specialised field, or of a multidisciplinary nature related to the field of study, work and/or practice. |
| | Cluster 2: Cognitive Skills | • Demonstrate intellectual independence in the application of knowledge within specific field(s) by applying critical, analytical and evaluation skills in the fields of study/work/practice.<br>• Manage, resolve, complex applications and handle unpredictable issues with creative and innovative solution(s).<br>• Apply skills/knowledge to a range of approaches in the field of study/work/practice. |

Level 6

Bachelor

Graduate Certificate

# Cluster 3: Functional Work Skills (1)

## Cluster 3(a): Practical Skills

- **Apply** a range of **essential methods and procedures** to solve a broad range of complex problems.
- **Review, make adjustments and supervise** related **practices and processes** concerning field of specialisation.

## Cluster 3(b) & (c): Interpersonal & Communication Skills

- **Convey** ideas both in **written or oral forms** using appropriate and different forms of **presentation**, confidently, accurately and coherently in appropriate context in a well-structured manner to diversity of audiences.
- **Work together with** different people in diverse learning and working **communities** as well as other groups locally and internationally.

Level 6

Bachelor

Graduate Certificat

e

# Cluster 3: Functional Work Skills (2)

## Cluster 3(d) & (e): Digital & Numeracy Skills

- Use a broad range of information, media and technology applications to support study and/or work.
- Use and combine numerical and graphical/visual data for study/work.

## Cluster 3(f): Leadership, Autonomy and Responsibility

- Work autonomously and show leadership and professionalism in managing responsibilities within broad organisational parameters.
- Demonstrates satisfactory level of autonomy (being the lowest level, conducts basic research, acceptable/considerable autonomy).
- Undertake significant levels of work-related responsibilities of others as well as self.
- Demonstrate decision making capacities and professionalism by working towards pre-determined goals and outcomes.
- Demonstrate accountabilities, especially in professional fields.

Level 6

Bachelor

Graduate Certificate

## Cluster 4: Personal and Entrepreneurial Skills

- **Engage** effectively in **self-directed lifelong learning and professional pathways**.
- **Demonstrate flexibility and adaptability** to changes in industry.
- **Demonstrate entrepreneurial competency** with selected project(s).
- **Demonstrate** an appreciation of **broader socio-political economic and cultural issues** at local/national and regional level.

## Cluster 5: Ethics and Professionalism

- **Demonstrate** adherence, and ability to identify ethical issues, make decision ethically, and act professionally within the varied social and professional environment and practice.
- **Demonstrate** a **deep familiarity and knowledge** of local and global issues relating to science, technology, business, social and environmental issues.

| MQF LEVEL | Summary of Learner Profile | CLUSTER 1: Knowledge and Understanding | CLUSTER 2: Cognitive Skills | CLUSTER 3: FUNCTIONAL WORK SKILLS | | | | CLUSTER 4: Personal and Entrepreneurial Skills | CLUSTER 5: Ethics and Professionalism |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Practical Skills | Interpersonal and Communication Skills | Digital and Numeracy Skills | Leadership, Autonomy and Responsibility | | |
| **Level 7**<br><br>**MASTERS**<br><br>**POSTGRADUATE CERTIFICATE/ DIPLOMA** | Learners at this level will demonstrate a mastery of knowledge in specific field/fields of study/work and through further learning, research, and/or professional practice; and<br>Buttressed by a comprehension of strong theoretical knowledge, critical thinking, creative and innovative skills.<br>They will also be able to generate new solutions to problems.<br><br>They operate with confidence, knowledge and skills both in Malaysia/ASEAN as well as the wider world. | Demonstrate innovation and independence in undertaking analytical and critical evaluation, and synthesis of complex information, specialized concepts, theories, methods and practice in a field(s) of study/practice as a basis for research. | Apply knowledge critically and integratively to manage and resolve complex problems/issues in a field(s) of study/practice through research, using advance techniques, tools, skills or by a range of approaches or (integrative) combination of approaches for decision making and producing new ideas, and/or innovative solutions or practice.<br><br>Exemplify capacity to solve and manage complex problems or | Conduct standard and specialized research methods/ approaches and/or apply practical skills, tools or investigative techniques which are informed by knowledge at its forefront and the latest development in the subject/discipline. | Communicate clearly the knowledge, skills, ideas, critique and conclusion/rationale using appropriate methods to peers, experts, and non-experts in at least one international language.<br><br>Work together and collaboratively with different people in learning and working communities and other groups and networks, ethically and professionally.<br><br>Demonstrate competencies to work and undertake advanced study in at least one foreign language. | Competently use a wide range of suitable digital technologies and appropriate software to enhance study, research and/or work/practice.<br><br>Adapt applications and systems to address defined and new situations/problems.<br><br>Show skills to design, plan evaluation activities, using quantitative/ statistical tools.<br><br>Establish the mechanism mathematical and other quantitative, qualitative tools to | Build engagement within professional environment with substantial autonomy, independence, and leadership.<br><br>Show substantial responsibility in planning, resource management, supervision and problem solving and managing work within own team and collaboratively with other teams especially in the context of complex application and unpredictable situations.<br><br>Demonstrates high level of autonomy (can conduct research independently but | Exemplify self-advancement through continuous academic and/or professional development.<br><br>Demonstrate flexibility and adaptability to new changes in industry.<br><br>Initiate and/or lead innovative entrepreneurial ventures/ projects. | Demonstrate adherence to legal, ethical and professional codes of practice.<br><br>Demonstrate confidence to give advice and make decision(s) on complex issues based on critical reflections and ethical considerations.<br><br>Contribute professionally to social, technological and economic development both nationally and internationally.<br><br>Demonstrate ability to engage meaningfully on a range of civic and global issues in one's |

| MQF LEVEL | Summary of Learner Profile | CLUSTER 1: Knowledge and Understanding | CLUSTER 2: Cognitive Skills | CLUSTER 3: FUNCTIONAL WORK SKILLS | | | | CLUSTER 4: Personal and Entrepreneurial Skills | CLUSTER 5: Ethics and Professionalism |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Practical Skills | Interpersonal and Communication Skills | Digital and Numeracy Skills | Leadership, Autonomy and Responsibility | | |
| **Level 8**<br><br>**DOCTORAL** | Learners will demonstrate critical understanding of the most advanced knowledge at the frontiers of a field of study or professional practice.<br><br>Independently conduct, manage, and lead advanced research which contributes to substantial, new and original knowledge, and/or professional practice.<br><br>Produce research outputs in the form of a thesis, patents, products, new advanced professional practice or advanced technologies, creative models or works of art, or music. | Demonstrate originality and independence in undertaking critical, comprehensive, systematic evaluation of integrated, new, complex and abstract idea of current critical issues in the most advanced frontiers of knowledge of a field of study, discipline or practice. | Critically analyze, evaluate and synthesize new, complex and abstract ideas and current critical issues in the most advanced frontiers of knowledge of a field of study/discipline/practice and refine existing concepts and practices.<br><br>Solve complex, abstract and emerging contemporary issues and challenges by independently applying advanced research methods, analytical tools and skills to creatively generate new knowledge, theories, novel solutions and/or new practices within the field(s) of | Demonstrate mastery of practical, technical skills/practices and scientific skills which is at the forefront of one or more areas of specialization and to develop new complex skills or techniques and solutions to resolve new highly complex and emerging problems.<br><br>Portray ability to design and implement or adapt highly advanced, specialized research methodologies which is at the forefront of one or more area of specialization. | Communicate effectively research findings to peers, scholarly communities and society at large in the relevant field of expertise.<br><br>Work to deal with different people in learning and working communities and other groups and networks, ethically and professionally.<br><br>Convey information, insights, ideas, problems and present solutions cogently/coherently to peers, scholarly community and society at large in the field of expertise.<br><br>Build network in an advanced/sophisticated leadership skills and abilities to bring effective | Use/select/improve existing or develop new appropriate tools/methodologies to support and enhance research activities.<br><br>Undertake critical evaluation of numerical and graphical data. | Work with significant autonomy, independence, and authority in the conduct and management of research and resources, which contribute, to new knowledge, advanced practices, processes and products.<br><br>Demonstrates full autonomy (highest level, minimal or almost no guidance, critical analysis of problems and solutions).<br><br>Demonstrate leadership, professionalism and management skills, and take full responsibility for own work, and significantly for others in the | Integrate knowledge for lifelong learning with development of new ideas, solutions and systems.<br><br>Take full responsibility for own work and where relevant be accountable for overall management of one's research organization.<br><br>Possess flexibility and adaptability to new environment and changes in technology and industry.<br><br>Initiate and lead entrepreneurial ventures and projects. | Demonstrate adherence to legal, professional and ethically sound codes of practice.<br><br>Identify emerging ethical and professional issues, its complexities, and implications to advancement of research in the field and its societal impact.<br><br>Continue to contribute professionally to social, technological and economic development. |

# Regulators: Professional Programmes in Malaysia

## REGULATORS: PROFESSIONAL PROGRAMMES IN MALAYSIA



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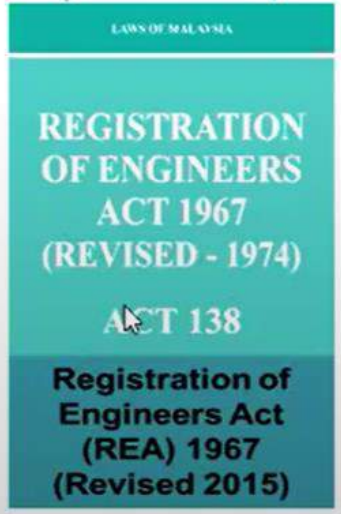


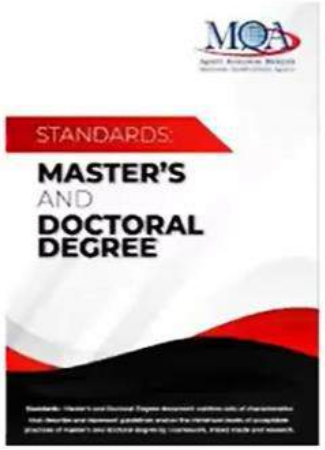



# Additional Requirements under MQF 2nd Edition (2024)

- ✓ Values-Based Education (VBE)
- ✓ Flexible Learning Pathway (FLP)
- ✓ Global Sustainability Agenda (ESD)
- ✓ Harmonisation of the MQF with Other Sectoral/Occupational Frameworks

# Glossary

## 1) Values-Based Education (VBE)

- *VBE focuses on strengthening moral and ethical values alongside academic rigour. VBE aims to nurture character, personality, attitude and behaviour based on humanistic, societal and communal values.*

## 2) Flexible Learning Pathways (FLPs)

- *FLPs refer to learning pathways that lead to a qualification. It comprises 3 phases: (i) pathways for getting into higher education; (ii) pathways for getting through higher education (credit transfer); and (iii) pathways for getting out of higher education.*

## 3) Education for Sustainable Development (ESD)

- *ESD embodies the acquisition of knowledge, skills, values and empowerment for learners of all ages to address interconnected global challenges, such as climate change, biodiversity loss, resources depletion and social inequality. It also requires participatory teaching methods that inspire and enable learners to transform their behaviour and actively engage in actions promoting sustainable development. This educational approach fosters essential competencies, including critical thinking, envisioning future scenarios and collaborative decision-making. (UNESCO, 2017)*

# New Emphasis in MQF 2024

- The MQF (2024) remains as an overarching framework for all qualifications from the education and TVET sectors which is **based on and maintains**, the **structure of the framework established in MQF (2017)**.

Renewed emphasis on VBE focusing on humanistic, communal & Societal values **in line with NEP**.

Renewed emphasis on Global Sustainability Agenda, requiring programmes to ***integrate sustainability competencies within the five clusters of learning outcomes***

A more comprehensive treatment of Flexible Learning Pathway (FLP) encompassing flexible entry, progression, and completion of an academic programme.

# ESD Sustainability Competencies / Sub-attributes

1. System Thinking
2. Anticipatory Thinking
3. Normative
4. Strategic Thinking
5. Collaboration
6. Critical Thinking
7. Self-awareness
8. Integrated Problem Solving

# ESD-Sustainability Competencies-1 (UNESCO, 2017)

| Sustainability Competencies | Operational Definition (the ability to…) |
|---|---|
| System Thinking | • Recognise and understand relationships<br>• Analyse complex systems<br>• Consider how systems are embedded within different domains and scales.<br>• Deal with uncertainty. |
| Anticipatory Thinking | • Understand and evaluate multiple outcomes<br>• Create their own visions for the future<br>• Apply the precautionary principle<br>• Assess the consequences of actions<br>• Deal with risks and changes |
| Normative | • Understand and reflect on the norms and values that underlie one's action<br>• Negotiate sustainability values, principles, goals, and targets, in a context of conflicts of interests and trade-offs, uncertain knowledge and contradictions. |
| Strategic Thinking | • Collectively develop and implement innovative actions that further sustainability at the local level and further afield. |

# ESD-Sustainability Competencies -2 (UNESCO, 2017)

| Sustainability Competencies | Operational Definition (the ability to…) |
|---|---|
| Collaboration | • Learn from others<br>• Understand and respect the needs, perspectives and actions of others (empathy)<br>• Understand, relate to and be sensitive to others (empathic leadership)<br>• Deal with conflicts in a group<br>• Facilitate collaborative and participatory problem solving. |
| Critical Thinking | • Question norms, practices and opinions<br>• Reflect on own one's values, perceptions and actions<br>• Take a position in the sustainability discourse |
| Self-awareness | • Reflect on one's own role in the local community and (global) society<br>• Continually evaluate and further motivate one's actions<br>• Deal with one's feelings and desires |
| Integrated problem-solving | • Apply different problem-solving frameworks to complex sustainability problems and develop viable, inclusive and equitable solution options that promote sustainable development, integrating the above-mentioned competences. |

# Example: Mapping on MQF Clusters of Learning Outcomes and ESD Sustainability Competencies

| Extract from National Education Philosophy | MQF Domains | Sustainability Competencies |
|---|---|---|
| Developing industry talent with knowledge and skills of the discipline | • Knowledge & Understanding<br>• Cognitive skills<br>• Practical Skills<br>• Numeracy Skills<br>• Digital Skills | • System Thinking<br>• Anticipatory Thinking<br>• Strategic Thinking<br>• Critical Thinking<br>• Integrated Problem Solving |
| Moulding citizens with shared value/norms working together capitalising on unity in diversity | • Communication skills<br>• Interpersonal Skills<br>• Leadership, Responsibility & Autonomy | • Normative Competency<br>• Collaboration Competency<br>• Strategic Competency* |
| Developing personality and character | • Personal skills<br>• Ethics & Professionalism | • Self-awareness Competency<br>• Collaboration Competency* |

# Example: Mapping on MQF Clusters of Learning Outcomes and ESD Sustainability Competencies

Schools need to prepare the mapping of MQF Domains to ESD Competencies, and later table it to SAC, UAC/SENATE.

# Integrate Sustainability Competencies into existing five clusters

**For example,**

- ***Knowledge*** **+** ***System Thinking****: Students move beyond rote learning, connecting facts to the larger global systems, understanding the broader implications of individual elements.*
- ***Practical Skills*** **+** ***Integrated Problem Solving:*** *Task-based learning is enriched with holistic problem-solving, ensuring skills are applied in diverse, real-world context.*

# How to Incorporate Sustainability Competencies into existing courses?

- The constructive alignment between PLOs, CLOs, existing MQF (2017 Edition) and ESD Sustainability Competencies (2024 Edition).
- For example,
  - ✓ **Ethics and professionalism** are integrated with other MQF outcomes
    - ➢ e.g., **Value-Based Education**: *Ethics, Professionalism, Honest, Integrity*).
    - ➢ e.g., problem solving couples with ethics and professionalism.

# Notes for Implementation

- MQF **does not specify** the percentage of changes of CLOs that required.
- **Recommended mix & match of MQF Clusters with Sustainability Competencies:**
  - **Knowledge & Understanding and Cognitive:** *System Thinking, Anticipatory Thinking; Critical Thinking; Strategic Thinking; Integrated Problem Solving* ~ ***Select 5 Courses***
  - **Interpersonal Skills**: Collaboration; Normative ~ ***Select 2-3 Courses***
  - **Ethics and Professionalism**: Self-awareness ~ **Select 1-2 Courses**

# Selecting Right Courses to Incorporate Sustainability Competencies

- For each of the competencies, **at least TWO (2) courses** are selected for each competencies
  - Reason: If one of the courses selected is failed to attain the CLO, there is another one course that course be back-up

- It is **not recommended** to place **all EIGHT competencies** at the **final semesters** as the development of students could not clearly indicated.

# How to write a good Course Learning Outcomes (CLOs)?

- Verb
- Condition / Substance / Content
- Criteria / Standard / Competency Level

For example:

Evaluate economic and business problems with the help of probabilities and statistics.


Figure 1.3 Alignment of teaching and learning elements (MoHE, 2016)

# Try to avoid these verbs and phrases such as…

- ☒Know…
- ☒Understand…
- ☒Believe…
- ☒Learn the basics of…
- ☒Be aware of…
- ☒Appreciate…

- ☒Have a good grasp of…
- ☒Be interested in…
- ☒Be familiar with…
- ☒Realise the significance…
- ☒Become acquainted with…
- ☒Obtain a working knowledge of …

# Samples of Revised CLO

1. MBB3133 STRATEGIC MANAGEMENT (BBA)
2. ESH3453 ETHICS AND LEADERSHIP IN SAFETY (BSH)
3. ESH3443 OSH RISK ASSESSMENT AND MANAGEMENT (BSH)

# MBB3133 Strategic Management

| PLO | PLO Statement | MQF Cluster | CLO | Current CLO | Sustainability Competencies (ESD) / Value-Based Education (VBE) | New CLO after incorporation of ESD/VBE | Remarks |
|---|---|---|---|---|---|---|---|
| PLO 2 | Upon completion of this programme, graduates will be able to apply critical thinking, analytical, problem-solving and evaluation skills for decision making | C2: Cognitive skills | CLO 2 | Analyse complex business environment facing organization. (C4, PLO2) | Integrated problem solving | Analyse complex business environment facing organization **through integrated problem solving approaches**. | Cognitive Skills **+ Integrated Problem Solving**: Students will be able to apply cognitive skills by analysing and making reasoning to solve problem through consideration of multiple factors to find effective solutions. |
| PLO 3 | Upon completion of this programme, graduates will be able to demonstrate ability to work and lead in a multi-disciplinary environment and convey ideas using broad range of information, media and technology applications | C3B: Interpersonal skills | CLO 3 | Evaluation argument for and against a business and recommend strategies for future growth. (C5,PLO3) | Collaboration | Evaluation argument for and against a business and recommend strategies **through collaboration** for future growth. | Interpersonal skills **+ Collaboration**: The students will be able to reflect the ability to effectively interact with others and work together as a team. |

Remarks: Red (Keywords to decide ESD type to use), Green (Added ESD to the current CLO)

# ESH3453 Ethics and Leadership in Safety

| PLO | PLO Statement | MQF Cluster | CLO | Current CLO | Sustainability Competencies (ESD) / Value-Based Education (VBE) | New CLO after incorporation of ESD/VBE | Remarks |
|---|---|---|---|---|---|---|---|
| PLO 1 | Relate and explain knowledge in OSH at workplace. | C1: Knowledge and Understanding | CLO 1 | Explain ethical and leadership theories related to safety management and their role in addressing ethical issues in safety practices. (PO1,C1) | | | |
| PLO 6 | Demonstrate responsibility, leadership, communication, and interaction skills in carrying out OSH task. | C3F: Leadership, Autonomy and Responsibility | CLO 2 | Demonstrate different leadership styles to develop strategies for enhancing safety culture within organizations. (PO6,C3) | Normative competency<br><br>Value-based education (honesty and integrity) | Demonstrate different leadership styles **using normative competency** to develop strategies for enhancing safety culture within organizations **based on honesty and integrity**. | Leadership, Autonomy and Responsibility **+ Normative Competency + VBE**: Students will be able to demonstrate leadership while reflecting ethical norms and values into decision making process. |
| PLO 8 | Develop responsibility when collaborating with other OSH related professionals. | C5: Ethics and Professionalism | CLO 3 | Analyze workplace situation and apply ethical-decision model to resolve ethical issues in workplace. (PO8,C4) | Collaboration | Analyze workplace situation **through collaboration** and apply ethical-decision model to resolve ethical issues in workplace. | Ethics and Professionalism **+ Collaboration**: The students will be able to reflect transparent collaboration which ensuring unified progress of the task given. |

Remarks: Red (Keywords to decide ESD type to use), **Green** (Added ESD to the current CLO)

# ESH3443 OSH Risk Assessment and Management

| PLO | PLO Statement | MQF Cluster | CLO | Current CLO | Sustainability Competencies (ESD) / Value-Based Education (VBE) | New CLO after incorporation of ESD/VBE | Remarks |
|---|---|---|---|---|---|---|---|
| PLO 1 | Relate and explain knowledge in OSH at workplace. | C1: Knowledge and Understanding | CLO 1 | Explain risk management concepts related to safety management and accident prevention. (PLO1, C2) | System thinking | Explain risk management concepts **by using system thinking** related to safety management and accident prevention. | Knowledge **+ System Thinking**: The students will be able to explain and connecting facts on how one domain can relate to other domain and their implications. |
| PLO 2 | Identify, formulate, conduct research, and analyse issues to provide solutions on OSH. | C2: Cognitive skills | CLO 2 | Evaluate analytical tools that assess workplace hazards and risks. (PLO2, C4) | Anticipatory thinking | Evaluate analytical tools **using anticipatory thinking** that assess workplace hazards and risks. | Cognitive **+ Anticipatory Thinking**: Students will be able to forecast and think of future outcomes of their analysis. |
| PLO 3 | Interpret, analyse, synthesis, and apply evidence-based scientific principles in discussing ideas of preventive and corrective measures in OSH. | C3A: Practical skills | CLO 3 | Apply risk control strategies to reduce workplace hazards. (PLO3, C3) | Integrated problem solving | Apply risk control strategies **using integrated problem solving approaches** to reduce workplace hazards. | Practical skills **+ Integrated Problem Solving**: The students will be able to apply their skills in diverse context to solve complex problems. |

Remarks: Red (Keywords to decide ESD type to use), Green (Added ESD to the current CLO)

# REPORTING OF THE SUSTAINABILITY COMPETENCIES

## (RECOMMENDED - DOMINATING APPROACH)

1. Select courses having the sustainability competencies as the CLOs
2. Develop a table with mapping of selected courses to sustainability competencies
3. Report on the sustainability competencies

- For a 3-years programme, select courses in the last 2 semesters that covers all the sustainability competencies;
- For a 4-year programme, select course in the last 3 semesters that covers all the sustainability competencies

# OTHER APPROACHES

1. Therefore, schools and programmes are free to use any approach depends on the nature of the programme

- For Msc. And Phd (by research), select all courses or select course in final semester (e.g. Thesis).
- For certificate level (Foundation), can use accumulating approaches.

| | Name and Code of Course | Classification (Compulsory Major/Minor/ Elective) | Credit Value | Programme Learning Outcomes (PLO) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PLO1 | PLO2 | PLO3 | PLO4 | PLO5 | PLO6 | PLO7 | PLO8 | PLO9 | PLO10 | PLO11 | PLO12 |
| **Semester 1** | | | | | | | | | | | | | | | |
| 1 | ETF 3213 Physics | Major Core | 3 | x | | x | | | | | x | | | | |
| 2 | ETF 3113 Chemistry | Major Core | 3 | x | x | x | | | | | | | | | |
| 3 | ESH 3515 Elementary Statistics | Major Core | 3 | x | x | | | | x | | | | | | |
| 4 | ESH 3213 Human Anatomy and Physiology | Major Core | 3 | x | x | x | | | | | | | | | |
| 5 | ESH 3113 Occupational Safety | Major Core | 3 | x | x | x | | | | | | | | | |
| 6 | ESH 3123 Behavior-Based Safety | Major Core | 3 | x | x | | | | | | x | | | | |
| **Semester 2** | | | | | | | | | | | | | | | |
| 7 | ESH 3223 Occupational Psychology | Major Core | 3 | x | x | x | | | | | | | | | |
| 8 | ESH 3133 Construction Safety | Major Core | 3 | x | | x | | x | | | | | | | |
| 9 | ESH 3413 Safety and Health Legislation | Major Core | 3 | x | | x | | | | | x | | | | |
| 10 | ESH 3423 Human Resource Management | Major Core | 3 | x | | | x | | | | | x | | | |
| 11 | ESH 3143 Machinery & Warehouse Safety | Major Core | 3 | x | | x | | | | | x | | | | |
| 12 | ESH 3153 Accident Investigation and Prevention | Major Core | 3 | x | x | x | | | | | | | | | |
| **Semester 3** | | | | | | | | | | | | | | | |
| 13 | ESH 3163 Fire & Building Safety | Major Core | 3 | x | x | x | | | | | | | | | |
| 14 | ESH 3234 Industrial Hygiene | Major Core | 4 | x | | x | | x | | x | | | | | |
| 15 | ESH 3243 Occupational Health | Major Core | 3 | x | x | x | | | | | | | | | |
| 16 | ESH 3253 Toxicology and Chemical Safety | Major Core | 3 | x | | x | | | | | | | | | |
| 17 | ESH 3433 OSH Management System | Major Core | 3 | x | | x | | | | | | | x | | |
| 18 | ESH 3313 Environmental Science | Major Core | 3 | x | | x | | x | | | x | | | | |
| **Semester 4** | | | | | | | | | | | | | | | |
| 19 | ESH 3263 Human Factors & Ergonomics | Major Core | 3 | x | | x | | | | x | | | | | |
| 20 | ESH 3443 OSH Risk Assessment and Management | Major Core | 3 | x | x | x | | | | | | | | | |
| 21 | ESH 3173 Process Safety | Major Core | 3 | x | x | | | | x | | | | | | |
| 22 | ESH 3183 Emergency Management | Major Core | 3 | x | x | x | | | | x | | | | | |
| 23 | ESH 3523 Related Legislation and Standards | Major Core | 3 | x | x | x | | | x | | | | | | |
| 24 | ESH 3532 Research Methodology | Major Core | 2 | | x | | | | | x | x | x | | | |
| **Semester 5** | | | | | | | | | | | | | | | |
| 25 | ESH 3323 Facility and Waste Management | Major Core | 3 | x | x | x | | | | | | | | | |
| 26 | ESH 3193 Plant Safety Management | Major Core | 3 | x | x | | | | | | x | | | | |
| 27 | ESH 3333 Pollution Control | Major Core | 3 | x | x | | | x | | | | | | | |
| 28 | ESH 3453 Ethics and Leadership in Safety | Major Core | 3 | | | | | x | | | x | | | x | |
| 29 | ESH 3544 Final Year Project | Major Core | 4 | | x | x | | x | | x | x | x | | | |
| **Semester 6** | | | | | | | | | | | | | | | |
| 30 | ESH 3912 Industrial Training | **Industrial Training** | **12** | | | x | | x | | | x | | | x | x |

**Accumulating approach:**
Choose major core courses of each semesters

**Dominating approach:**
Choose major core courses in the last 2 - 3 semesters

**Culminating approach:**
Choose major core courses in final semester

# STEPS TO INCOPORATE THE CLUSTER OF MQF LEARNING OUTCOMES WITH ESD COMPETENCIES

1.Prepare revise mapping of **MQF Clusters of Learning Outcomes & Sustainability Key Competencies (ESD), PLO-MQF Clusters, CLO** and course syllabus

1.Select the courses using ***Dominating Approach***

1.Mix and match MQF Clusters + ESD competencies

1.Gain approval from SAC and UAC/Senate

1.Implementation starting from February Semester 2025/2026

**Important Notes:**

Mapping of **MQF Clusters of Learning Outcomes & Sustainability Key Competencies (ESD), PLO-MQF Clusters, and CLO** must get approval from UAC/Senate

# Malaysian Qualifications Framework (MQF) 2024 Implementation's Timeline

| No. | Process Description | Date | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mar-25 | Apr-25 | May-25 | Jun-25 | Jul-25 | Aug-25 | Sep-25 | Oct-25 | Nov-25 | Dec-25 | Jan-26 | Feb-26 |
| 1 | Briefing on Incorporation of Sustainability Competencies towards the Compliance of MQF 2024 for Academic Staff | 18 | | | | | | | | | | | |
| 2 | Revision based on MQF 2024 | 19 | | | | 31 | | | | | | | |
| 3 | Workshop on revision's carried out: | | | | | | | | | | | | |
| | School of Foundation Studies (SFS) | | | | | 02 | | | | | | | |
| | School of Business and Management (SBM) | | | | | 03-04 | | | | | | | |
| | School of Engineering and Technology (SET) | | | | | 08-09 | | | | | | | |
| | Centre for University Courses and Innovative Learning (UCiL) | | | | | 11 | | | | | | | |
| | School of Built Environment (SBE) | | | | | 15-16 | | | | | | | |
| | School of Computing and Creative Media (SCM) | | | | | 23-24 | | | | | | | |
| 4 | Table to SAC, UAC/Senate | | | | | | | | | | | | |
| 5 | Implementation of MQF 2024 (February Semester 25/26) | | | | | | | | | | | | 23 |

# RECAPPING…

1. ESD-competencies may be treated as sub-attributes of MQF learning outcomes
2. Can be assessed at CLO and collectively contribute to the PLOs
3. School and programme level to determine how to mix & match the Clusters of MQF learning outcomes and ESD competencies