MSc Engineering for Marine Professionals – Admissions Criteria

The MSc Engineering for Marine Professionals is a standalone 60 credit top-up module. As part of the admissions process students therefore need to show that they possess a further 120 credits at level 7 from either previous academic study or professional experience in order to obtain a full MSc award. The University of Plymouth standard regulations on Accreditation of Prior Learning will be followed, and students will be assessed on accreditation to prior certificated learning (APCL) and/or accreditation to prior experiential learning (APEL).

Please complete Table 1 and 2 below, ensuring that you also include evidence to support where learning outcomes and competencies have been met.

Please submit your completed table with any relevant documents attached to the MLA College Partnerships and Admissions Manager at

info@mla.ac.uk. This will then be reviewed by an IMarEST panel for your eligibility to be admitted to the course. This process will also inform discussions towards any applications for Chartered status if relevant.

**Table 1:**

Graduates from a Master’s degree accredited by the Engineering Council must achieve a systematic understanding of the learning outcomes described below. In order to be granted APEL of 120 credits at Level 7, candidates will have to demonstrate how they have met the learning outcomes below, and clearly identify any gaps in their knowledge and understanding.

(Note that the EAB codes refer to the Engineering Accreditation Board (EAB), Appendix B: Learning outcomes specified in AHEP for Masters Degrees (other than the integrated Masters) accredited as further learning to CEng level. The codes are reproduced here as an enabler for a candidate compiling a portfolio for professional review).

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|  | **EAB Code** | **Related AHEP Learning Outcomes** | **Met?** | **Evidence** |
| **Science and Mathematics** |  |  |  |  |
|  | SM7M | A comprehensive understanding of the relevant scientific principles of the specialisation  |  |  |
|  | SM8M | A critical awareness of current problems and/or new insights most of which is at, or informed by, the forefront of the specialisation |  |  |
|  | SM9M | Understanding of concepts relevant to the discipline, some from outside engineering, and the ability to evaluate them critically and to apply them effectively, including in engineering projects  |  |  |
| **Engineering Analysis** |  |  |  |  |
|  | EA6M | Ability both to apply appropriate engineering analysis methods for solving complex problems in engineering and to assess their limitations  |  |  |
|  | EA5m | Ability to use fundamental knowledge to investigate new and emerging technologies  |  |  |
|  | EA7M | Ability to collect and analyse research data and to use appropriate engineering analysis tools in tackling unfamiliar problems, such as those with uncertain or incomplete data or specifications, by the appropriate innovation, use or adaptation of engineering analytical methods  |  |  |
| **Design** |  |  |  |  |
|  | D9M | Knowledge, understanding and skills to work with information that may be incomplete or uncertain, quantify the effect of this on the design and, where appropriate, use theory or experimental research to mitigate deficiencies  |  |  |
|  | D10M | Knowledge and comprehensive understanding of design processes and methodologies and the ability to apply and adapt them in unfamiliar situations  |  |  |
|  | D11M | Ability to generate an innovative design for products, systems, components or processes to fulfil new needs |  |  |
| **Economic, legal, social, ethical and environmental context**  |  |  |  |  |
|  | EL8M | Awareness of the need for a high level of professional and ethical conduct in engineering  |  |  |
|  | EL9M | Awareness that engineers need to take account of the commercial and social contexts in which they operate  |  |  |
|  | EL10M | Knowledge and understanding of management and business practices, their limitations, and how these may be applied in the context of the particular specialisation  |  |  |
|  | EL11M | Awareness that engineering activities should promote sustainable development and ability to apply quantitative techniques where appropriate  |  |  |
|  | EL12M | Awareness of relevant regulatory requirements governing engineering activities in the context of the particular specialisation  |  |  |
|  | EL13M | Awareness of and ability to make general evaluations of risk issues in the context of the particular specialisation, including health & safety, environmental and commercial risk  |  |  |
| **Engineering Practice** | P12M | Advanced level knowledge and understanding of a wide range of engineering materials and components  |  |  |
|  | P9m | A thorough understanding of current practice and its limitations, and some appreciation of likely new developments  |  |  |
|  | P10m | Ability to apply engineering techniques, taking account of a range of commercial and industrial constraints  |  |  |
|  | P11m | Understanding of different roles within an engineering team and the ability to exercise initiative and personal responsibility, which may be as a team member or leader  |  |  |
| **Additional General Skills** |  |  |  |  |
|  | G1 | Apply their skills in problem solving, communication, information retrieval, working with others, and the effective use of general IT facilities  |  |  |
|  | G2 | Plan self-learning and improve performance, as the foundation for lifelong learning/CPD  |  |  |
|  | G3m | Monitor and adjust a personal programme of work on an on-going basis  |  |  |
|  | G4 | Exercise initiative and personal responsibility, which may be as a team member or leader  |  |  |
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**Table 2:**

UK SPEC defines a framework for the competence and commitment required of engineers to perform work to the necessary standard (Engineering Council, 2014). Potential registrants for CEng and professional review assessors from the IMarEST use the following threshold generic competence and commitment standards for all registrants. UKSPEC states the formal education qualification required to demonstrate the necessary knowledge and understanding.

**Note that applicants without exemplifying qualifications may demonstrate the required knowledge and understanding in other ways, including through workplace learning (Engineering Council, 2014)**

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|  | **CEng/CMarEng competence:** | **Met?** | **Evidence** |
| **A** | **Use a combination of general and specialist engineering knowledge and understanding to optimise the application of existing and emerging technology.** |  |  |
| A1 | Maintain and extend a sound theoretical approach in enabling the introduction and exploitation of new and advancing technology. |  |  |
| A2 | Engage in the creative and innovative development of engineering technology and continuous improvement systems. |  |  |
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| **B** | **Apply appropriate theoretical and practical methods to the analysis and solution of engineering problems.** |  |  |
| B1 | Identify potential projects and opportunities. |  |  |
| B2 | Conduct appropriate research and undertake design and development of engineering solutions. |  |  |
| B3 | Manage implementation of design solutions and evaluate their effectiveness. |  |  |
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| **C** | **Provide technical and commercial leadership** |  |  |
| C1 | Plan for effective project implementation |  |  |
| C2 | Plan budget organise direct and control tasks people and resources. |  |  |
| C3 | Lead teams and develop staff to meet changing technical and managerial needs |  |  |
| C4 | Bring about continuous improvement through quality management. |  |  |
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| **D** | **Demonstrate effective interpersonal skills** |  |  |
| D1 | Communicate in English with others at all levels |  |  |
| D2 | Present and discuss proposals |  |  |
| D3 | Demonstrate personal and social skills |  |  |
| D4 |  |  |  |
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| **E** | **Demonstrate a personal commitment to professional standards recognising obligations to society the profession and the environment** |  |  |
| E1 | Comply with relevant codes of conduct |  |  |
| E2 | Manage and apply safe systems of work. |  |  |
| E3 | Undertake engineering activities in a way that contributes to sustainable development |  |  |
| E4 | Carry out and record CPD necessary to maintain and enhance competence in own area of practice |  |  |
| E5 | Exercise responsibilities in an ethical manner |  |  |