



1. Programme title(s):

MEM – Master of Engineering Management

MEM – Master of Engineering Management with Industry

Postgraduate Certificate in Engineering Management (exit award only)

Postgraduate Diploma in Engineering Management (exit award only)

Postgraduate Diploma in Engineering Management, with Industry (exit award only)

Postgraduate Certificate in Management (exit award only)

HECOS Code

HECOS CODE	%
100184	100

2. Awarding body or institution:

University of Leicester

3. a) Mode of study:

MEM: Full-time.

MEM with Industry: Full-time.

With Industry only: The taught modules would all be taken in the first two semesters. This is followed by the industrial placement, which is between 3 and 12 months long, and would be taken following the end of the first year January exam period. This is followed by the in-house project, taking 10 weeks.

b) Type of study:

The taught modules and project are campus based.

The Industrial placement ('with Industry' programme only) is off campus, on the site of the Placement Provider.

4. Registration periods:

a) MEM September Intake

The normal period of registration is 12 months

The maximum period of registration is 24 months

b) MEM January Intake

The normal period of registration is 16 months

The maximum period of registration is 28 months

c) MEM with Industry September Intake

The normal period of registration is 24 months

The maximum period of registration is 33 months

d) MEM with Industry January Intake

The normal period of registration is 28 months

The maximum period of registration is 40 months

5. Typical entry requirements:

Academic:

Candidates should normally have at least a good second class honours degree in a relevant subject from a British university; or a qualification recognized by the University as equivalent.

Candidates who have acquired experience through work or other means that enables staff responsible for admissions to be confident of the candidate's ability to succeed in the programme will be considered.

English language

Candidates whose first language is not English will be required to provide evidence of appropriate language skills. A score of 6.5 in IELTS or an equivalent is required, but if candidates have been instructed in their u/g courses in English in certain countries for a period of at least two years, this may be deemed adequate. Courses at the University's English Teaching Unit are offered to candidates who fail this requirement. The course must be completed before the MEM can begin.

6. Accreditation of Prior Learning:

None

7. Programme aims:

This is an advanced career entry programme focussed on industrial careers in the engineering / technology sector. The focus of this programme is Engineering Management. A more practical and engineering-focussed alternative to an MBA for aspiring engineering managers, the Masters in Engineering Management (MEM) is designed to train and develop future leaders of technological companies.

Incorporating distinctive modules such as Lean manufacturing, product and service design, Cost Management, Value Driven Design and Engineering Business Management, the MEM covers usable pragmatic management techniques to complement the technical skills that are necessary for future leaders in the Engineering industry. The technical element of this programme will be dominated by systems engineering, concurrent engineering methodologies and quantitative engineering management techniques that will allow students to design engineering products that are optimum business solutions. The combination of advanced business optimisation and management methodologies will equip students with the knowledge and skills required to secure leadership roles in global engineering industries.

For the 'with industry' variant only, these additional programme aims apply:

- Prepare students for career and training opportunities which relates to their degree – in both the private and public sectors, and voluntary organisations.
- Construct effective applications for placement opportunities
- Provide students the opportunity to recognise suitable plans for transitioning into the workplace

8. Reference points used to inform the programme specification:

- QAA Benchmarking Statement
- Framework for Higher Education Qualifications (FHEQ)
- UK Quality Code for Higher Education
- Engineering Accreditation Board (EAB) Masters Degree other than Integrated Masters, and EngD Learning Outcomes (AHEP 3rd Edition)
- UK-SPEC (UK Standard for Professional Engineering Competence)
- Engineering Council Compensation and Condonement requirements November 2018.
- [University Learning Strategy](#)
- [University Assessment Strategy](#)
- University of Leicester Periodic Developmental Review Report
- External Examiners’ reports (annual)
- United Nations Education for Sustainable Development Goals
- Student Destinations Data

9. Programme Outcomes:

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
<i>(a) Discipline specific knowledge and competencies</i>		
Knowledge		
<p>A successful student will develop, and therefore be able to deploy a core knowledge of general and specialist Engineering management topics and techniques to problems encountered in engineering industries (PGCert/PGDip/MEM), and apply this knowledge to a major extended engineering management case study (MEM only)</p>	<p>Lectures, Specified reading, Exercises, Tutorials, Group discussion, private study, and assignment feedback (formative and summative). Major project work, including team meetings and supervision meetings.</p>	<p>Module examinations, coursework exercises, tutorial questions, individual reports/essays. Major project report and presentation.</p>

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Concepts		
<p>A successful student will explain and critique the application of general and specialist engineering management techniques (such as project management methodologies, cost engineering and value driven design) to engineering systems and products (PGCert/PGDip/MEM). A successful MEM student will demonstrate the selection and application of appropriate techniques to a substantive engineering management problem.</p>	<p>Lectures, Specified reading, Exercises, Tutorials, Group discussion, private study, and assignment feedback (formative and summative). Major project work, including team meetings and supervision meetings.</p>	<p>Module examinations, coursework exercises, tutorial questions, individual reports/essays. Major project report and presentation.</p>
Techniques		
<p>A successful student will apply general and specialist engineering management techniques to undertake analysis of engineering systems and to critique the business performance of engineering systems and products (PGCert/PGDip/MEM) and to a major substantive case study (MEM).</p>	<p>Lectures, Specified reading, Exercises, Tutorials, Group discussion, private study, and assignment feedback (formative and summative). Major project work, including team meetings and supervision meetings.</p>	<p>Module examinations, coursework exercises, tutorial questions, individual reports/essays. Major project report and presentation.</p>
Critical analysis		
<p>A successful student will critically appraise results of engineering management analyses, results and literature on the discipline of management and its application in engineering, including in different cultural, environmental and organisational contexts (PGCert/PGDip/MEM).</p>	<p>Lectures, Specified reading, Exercises, Tutorials, Group discussion, private study, and assignment feedback (formative and summative). Major project work, including team meetings and supervision meetings.</p>	<p>Module examinations, coursework exercises, tutorial questions, individual reports/essays. Major project report and presentation.</p>

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Presentation		
<p>A successful student will present and defend scientific and business results, management analysis and conclusions in an organized and appropriate medium to a professional standard with clarity, fluency and coherency (PGCert/PGDip/MEM), and present the results of a substantive team engineering management project (MEM).</p>	<p>Exercises, Tutorials, Group discussion,</p> <p>Major project work, including team meetings and supervision meetings.</p>	<p>Module examinations, coursework exercises, tutorial questions, individual reports/essays. Major project report and presentation.</p>
Appraisal of evidence		
<p>A successful student will locate, organise and assess data, analyse complex ideas and appraise and criticise different arguments (PGCert/PGDip/MEM).</p> <p>A successful student will conduct independent inquiry, evaluating engineering management topics and application at an advanced level and proposing and justifying solutions (MEM only)</p>	<p>Lectures, Specified reading, Exercises, Tutorials, Group discussion, private study, and assignment feedback (formative and summative).</p> <p>Major project work, including team meetings and supervision meetings.</p>	<p>Module examinations, coursework exercises, tutorial questions, individual reports/essays. Major project report and presentation.</p>
<p><i>MEM with industry students only:</i></p> <p>Practical experience of the application of knowledge, concepts and techniques of engineering and management to processes and systems in a real industrial environment.</p>	<p>Talk from Student Support in induction, 'with industry' support programme. Industry-based experience, individual advice from project supervisor.</p>	<p>Successful completion of 'with industry' activities organised by college. Industry report.</p>

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
<i>(b) Transferable skills</i>		
Research skills		
<p>A successful student will demonstrate intellectual independence through selecting appropriate methods (PGCert/PGDip/MEM), applying them to unfamiliar context and delivering a credible and substantial research project at an advanced level (MEM)</p>	<p>Lectures, Specified reading, Exercises, Tutorials, Group discussion, private study, and assignment feedback (formative and summative). Major project work, including team meetings and supervision meetings.</p>	<p>Module examinations, coursework exercises, tutorial questions, individual reports/essays. Major project report and presentation.</p>
Communication skills		
<p>A successful student will be able to communicate to an acceptable standard in a professional environment (PGCert/PGDip/MEM).</p>	<p>Exercises, Tutorials, Group discussion, private study, and assignment feedback (formative and summative). Major project work, including team meetings and supervision meetings.</p>	<p>Module examinations, coursework exercises, tutorial questions, individual reports/essays. Major project report and presentation.</p>
Data presentation		
<p>A successful student will be able to select and use appropriate IT, Analytical and graphical methods, CAD drawings, Statistics, financial results, and be able to locate, organise and marshal evidence and select and apply appropriate software packages for quantitative analysis (PGCert/PGDip/MEM).</p>	<p>Lectures, Specified reading, Exercises, Tutorials, Group discussion, private study, and assignment feedback (formative and summative). Major project work, including team meetings and supervision meetings.</p>	<p>Module examinations, coursework exercises, tutorial questions, individual reports/essays. Major project report and presentation.</p>
Information technology		
<p>A successful student will be able to use standard and specialist IT tools (PGCert/PGDip/MEM, if appropriate developing tools or templates or applying programmes in unusual contexts (MEM).</p>	<p>Lectures, Specified reading, Exercises, Tutorials, Group discussion, private study, and assignment feedback (formative and summative). Major project work, including team meetings and supervision meetings.</p>	<p>Coursework exercises, tutorial questions, individual reports/essays. Major project report and presentation.</p>

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Problem solving		
A successful student will be able to propose one-off and continuous improvements to processes in specific contexts (PGCert/PGDip/MEM) and in complex, industrially relevant situations (MEM).	Lectures, Specified reading, Exercises, Tutorials, Group discussion, private study, and assignment feedback (formative and summative). Major project work, including team meetings and supervision meetings.	Module examinations, coursework exercises, tutorial questions, individual reports/essays. Major project report and presentation.
Working relationships		
A successful student will demonstrate effective skills in project management, organisation, time management (PGCert/PGDip/MEM) collaborative and responsible working and/or leadership in teams (MEM).	Lectures, Specified reading, Exercises, Tutorials, Group discussion, private study, and assignment feedback (formative and summative). Major project work, including team meetings and supervision meetings.	Coursework exercises, tutorial questions. Major project report and presentation.
Managing learning		
A successful student will demonstrate advanced study skills and identify their strengths and interests, including self-reflection upon behaviour and skills with a view to personal and professional development (PGCert/PGDip/MEM).	Lectures, Specified reading, Exercises, Tutorials, Group discussion, private study, and assignment feedback (formative and summative). Major project work, including team meetings and supervision meetings.	Module examinations, coursework exercises, tutorial questions, individual reports/essays. Major project report and presentation.
Career management		
A successful student will reflect on motivation, strengths, interests and skills, using this to identify future career opportunities (PGCert/PGDip/MEM).	Lectures, Specified reading, Exercises, Tutorials, Group discussion, private study, and assignment feedback (formative and summative). Major project work, including team meetings and supervision meetings.	Module examinations, coursework exercises, tutorial questions, individual reports/essays. Major project report and presentation.

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
<p><i>MEM with industry students only:</i></p> <ol style="list-style-type: none"> 1. Select appropriate resources for researching/securing placement opportunities 2. Explain the process for applying for and securing a relevant placement 3. Construct effective applications for placement opportunities 4. Recognise suitable plans for transitioning into a placement 5. Apply the theoretical and practical aspects of the material studied at the University and demonstrate the personal and professional skills necessary for your role within the organisation. 6. Compose a Professional Development Plan considering your strengths, development areas and motivations for your next step 7. Modify your CV to include the skills and experience you have gained through your significant experience gained in the past 12 months. 	<p>Placement preparation 1 & 2:</p> <p>Students are provided with dedicated and timetabled sessions to prepare to search and secure an industrial placement.</p> <p>Problem solving classes, Masterclasses, Career development programmes, Independent research.</p> <p>On placement:</p> <p>Students undertake a minimum of 3 months experience in the workplace.</p> <p>Project supervision, independent research</p>	<p>Formative module feedback through session tasks and exercises</p> <p>Completion of Monthly Reflective Journals to record skills development, major achievements, key areas of work, learning points and challenges overcome.</p> <p>Assessed by a Placement Portfolio, comprising of a Reflective Summary, Professional Development Plan, and Updated CV (excluded from word count) to formally assess on a pass or fail basis.</p> <p>Formative feedback during a Placement Visit (in person or via Skype) from Placement Provider and Placement Tutor regarding reflection on skills development, areas of strength and weakness and contribution to the workplace.</p>

10. Special features

The course is accredited by IMechE and IET and is subject to 5 yearly re-accreditation.

The Masters in Engineering Management (MEM) with Industry variant is the same as the Masters in Engineering with Management programme in the modules offered. The difference is that students undertake an industrial placement.

i. After completing the eight taught modules and exams in the first year of the course, students will carry out between 3 and 12 months employment in an industrial placement. Students will be encouraged to undertake the maximum period of employment possible, to gain the full benefit of experience in industry.

ii. On the return from an industrial placement, the Placement Student will carry out an in-house project in the School or Department, as per the normal non-Industry MEM. The project will be supervised and assessed within the Department. The project title will be decided, in conjunction with the Placement Student, while they are on placement.

iii. During the industrial placement, appropriate support will be provided by the School or Department as defined in the Code of Practice.

iv. Placement Students will be expected to complete a Monthly Reflective Journal to record their training. This will support the Placement Student to complete the Placement Portfolio which is assessed on a pass/fail basis, and will have no credit weighting in the MEM

v. Placement Students who do not pass the assessment or meet the minimum duration of an industrial placement will receive the standard MEM degree.

11. Indicators of programme quality

The programme is subject to all normal departmental, college and institutional academic quality assurance processes.

It is the student's responsibility to secure an industrial placement. Students are invited to attend Placement Preparation modules, additional support workshops and 1-2-1 appointments with the Career Development Service. Employer led activities provide a platform for students to engage with organisations who are recruiting students for year in industry roles.

The 'with Industry' MEM relies on the Placement Provider to provide work suitable for an MEM student. To ensure the role is relevant, the School or Department assesses the industrial placement through the University's Placement Approval Process. The Placement Provider will be asked to provide:

- An indication of the area of the organisation where the Placement Student will work.
- An indication of the area of expertise that the Placement Student should have or will gain.
- Whether the work is suitable only for a UK national, for and EU national or for an overseas student.
- The resources available to the Placement Student. For example, design software, textbooks, laboratory equipment, product specimens, access to facilities in the organisation.
- Identification of a suitable industrial mentor (i.e. a graduate with knowledge of the area and at least a couple of years of experience in the field).

When a Placement Student starts an industrial placement, they will be required to complete health and safety documents and confirm they have completed a formal induction process no later than the 2nd week of placement.

Placement Students will be provided with a Study Guide for their industrial placement and support them to complete the assessment. The School or Department will undertake a placement start check, regular communications, visits to the workplace (physical and/or virtual) and evaluation. Communication and contact between the Placement Student, Placement Provider and University provides support should issues arise.

12. Scheme of Assessment:

As defined in [Senate Regulation 6](#): Regulations governing taught postgraduate programmes of study.

The following additional award requirements for this programme have been approved:

- This programme follows the Scheme of Assessment for Master degree programmes with a structure of 120 credits of taught modules and a project of 60 credits, with the variation (required by the Engineering Council for accreditation purposes) that a maximum of 15 credits may be failed at grade D (40-49%) and no credits failed at grade F (0-39%). Students who fail to meet this criterion will be considered for an interim award based on the taught component of the programme.
- A student who successfully completes an industry placement but does not meet the award requirements for an MEM may be considered for the exit award of PGDip in Engineering Management with industry.
- Special conditions are required for the PGCert exit route to ensure engineering / management learning outcomes achieved are appropriate to the title of the award. If only the management (MN) modules are passed a PGCert in Management will be awarded. For other combinations of passes a PGCert in Engineering Management or a PGDip in Engineering Management will be awarded in accordance with the normal provisions of Senate Regulation 6.

13. Progression points

As defined in [Senate Regulation 6](#): Regulations governing taught postgraduate programmes of study.

The following additional progression requirements for this programme have been approved:

A Placement Student will revert back to the degree without Year in Industry if:

1. At the semester 1 exam board, they have less than one module at merit level and any failed modules at <50%. No progression rule is applied at the semester 2 exam board. In the case of failed modules with mitigating circumstances, the semester 1 board will use its discretion.
2. They fail to secure an industrial placement role.
3. They fail to pass the assessment related to the industrial placement.
4. The industrial placement ends early due to the behaviour of the Placement Student not being in accordance with the University's Regulations for Students, Student Responsibilities. The Placement Student will need to return to the University and carry out an in-house project in the School or Department, as per the normal non-Industry MEM. To prevent such an incident from happening, processes are in place to identify any possible issues or concerns early in the industrial placement role. This includes a start check, regular communications, visits to the workplace (physical and/or virtual) and evaluation. Communication and contact between the Placement Student, Placement Provider and University provides support should issues arise.
5. They discontinue their industrial placement and carry out an in-house project in the School or Department, as per the normal non-Industry MEM.

In the event that a Placement Student is moved to the standard campus-based MEM, the Placement Provider will be notified immediately. For overseas students, the UKBA will also be informed immediately. Placement Provider's will be made that any contract of employment shall be made subject to satisfactory completion of the taught part of the MEM.

Three months is the minimum time required for an industrial placement to be formally recognised. If the industrial placement is terminated earlier than 3 months as a result of event outside of the Placement Students control (for example redundancy, or company liquidation), the following process will be adopted:

1. If the Placement Student has completed less than 2 months, they will be supported to search for another placement to take them up to the required minimum of 3 months for the industrial placement to be formally recognised. If the Placement Student does not find a

placement to meet this criteria they will be required to suspend and transferred onto the degree without industry.

2. If the Placement Student has completed 2 months, they will be supported to search for another placement to take them up to the 3 months required for the industrial placement to be formally recognised. If the Placement Student cannot source an additional placement to take them to 3 months, assessments related to the industrial placement will be set for the student to make it possible for the individual learning objectives for the industrial placement to be met. This will allow with industry to be recognised in the degree certificate.
3. The duration of time between the two Placement Providers to meet the minimum 3 months of an industrial placement must not exceed the period of time required to comply with visa requirements.
4. A Placement Student is permitted to undertake an industrial placement which runs across two academic years.

14. Rules relating to re-sits or re-submissions:

As defined in [Senate Regulation 6](#): Regulations governing taught postgraduate programmes of study.

14. External Examiners reports

To be included following receipt of first report.

15. Additional features (e.g. timetable for admissions)

None.

Appendix 1: Programme structure (programme regulations)

MEM – Master of Engineering Management

Postgraduate Diploma in Engineering Management (exit award only)

Postgraduate Certificate in Engineering Management (exit award only)

September Entry:

Semester 1 (September)

MN7403 Accounting and Finance for Managers	15
MN7402 Business Economics	15
EG7311 Engineering Project Management	15
EG7312 Systems Engineering	15
Semester total	60

Semester 2 (January)

MN7406 International Business	15
EG7321 Engineering Business Management	15
EG7322 Lean Engineering	15
EG7323 Cost Engineering	15
Semester total	60

Summer

EG7302 Engineering Management Project	60
Total credits	180

January Entry:

Semester 2 (January)

MN7406 International Business	15
EG7321 Engineering Business Management	15
EG7322 Lean Engineering	15
EG7323 Cost Engineering	15
Semester credits	60

Semester 1 (September)

MN7403 Accounting and Finance for Managers	15
MN7402 Business Economics	15
EG7311 Engineering Project Management	15
EG7312 Systems Engineering	15
Semester credits	60

January to April

EG7302 Engineering Management Project	60
Total credits	180

MEM – Master of Engineering Management with Industry

Postgraduate Diploma in Engineering Management, with Industry (exit award only)

YEAR 1

September Entry:

Semester 1 (September)

MN7403 Accounting and Finance for Managers	15
MN7402 Business Economics	15
EG7311 Engineering Project Management	15
EG7312 Systems Engineering	15
ADEG7221 Placement Preparation 1	0
	<u>Semester credits 60</u>

Semester 2 (January)

MN7406 International Business	15
EG7321 Engineering Business Management	15
EG7322 Lean Engineering	15
EG7323 Cost Engineering	15
ADEG7222 Placement Preparation 2	0
	Semester credits 60

January Entry:

Semester 2 (January)

MN7406 International Business	15
EG7321 Engineering Business Management	15
EG7322 Lean Engineering	15
EG7323 Cost Engineering	15
ADEG7222 Placement Preparation 2	0
	<u>Semester credits 60</u>

Semester 1 (September)

MN7403 Accounting and Finance for Managers	15
MN7402 Business Economics	15
EG7311 Engineering Project Management	15
EG7312 Systems Engineering	15
ADEG7221 Placement Preparation 1	0
	<u>Semester credits 60</u>

YEAR 2*

ADEG7223 On Placement	0
EG7302 Engineering Management Project	60

* The 'with industry' programme includes an industrial placement of between 3 and 12 months, following the end of the final exam period in the taught phase, Placement Students will return to the University to complete the project/dissertation after the industrial placement.

Appendix 2: Module specifications

See individual module specifications.