## Engineering Project Management

<table>
<thead>
<tr>
<th>Module Title</th>
<th>Engineering Project Management</th>
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<tbody>
<tr>
<td>Level</td>
<td>5</td>
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<tr>
<td>Reference No.</td>
<td>EAX_5_277/MANE10I04</td>
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<tr>
<td>Credit Value</td>
<td>10 credit points</td>
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<tr>
<td>Student Study Hours</td>
<td>Contact hours: 15 lectures + 10 Tutors</td>
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<td></td>
<td>Student managed learning hours: 100</td>
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<tr>
<td>Pre-requisite learning</td>
<td>-</td>
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<td>Co-requisites</td>
<td>-</td>
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<tr>
<td>Excluded combinations</td>
<td>-</td>
</tr>
<tr>
<td>Module co-ordinator (Name + Email)</td>
<td>Dr. Yehia El Mashad <a href="mailto:Yehia.Elmashad@bue.edu.eg">Yehia.Elmashad@bue.edu.eg</a></td>
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<tr>
<td>Faculty/Department</td>
<td>Engineering/Petroleum and Natural Gas Technology Engineering</td>
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<tr>
<td>Short Description</td>
<td>Management, Business communications.</td>
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| Aims          | • To introduce the methods and tools required for the planning and management of a project  
• To use these methods and tools in the execution of a simple research and/or development project in a relevant subject area |
| Learning Outcomes | Knowledge and Understanding: On completion of this module students should be able to demonstrate knowledge and understanding of:  
1. The basic technical and management skills required to deliver a collaborative project.  
2. The dynamics of group structure and why this is a key part of successful engineering in an industrial setting.  
| | Intellectual Skills:  
3. Project management skills, including project planning and time management.  
4. Underlying principles and further development of a simple, subject specific project |
| | Practical Skills: On completion of this module students should be able to demonstrate ability in:  
5. Use relevant project management software S/W to design projects.  
6. Apply scheduled tasks, allocate recourses, estimate budgets, monitor and control progress of projects and manage risks |
| | Transferable Skills: On completion of this module students should be able to demonstrate ability in:  
7. Interaction in a large meeting and within smaller groups;  
8. Time management and planning;  
| Employability | To prepare student to get job and be professional graduate in future, the development of one or more of top engineering skills, namely problem solving, communication, management and environment and economics, is addressed in this module. Personal development planning is also one |
## Teaching and learning pattern

- 15, 1 hour lectures this method informs learning outcomes 1, 2, 3, 4, 5.
- 10, 1 hour board meetings (a substantial amount of student effort is expected outside of the formal sessions and progress will be monitored and guided through the board meetings). This method informs learning outcomes 6, 7, 8, 9.

## Indicative content

- Fundamental Management:
  - Introduction to Management, Historical view and evolution of concepts. Basic Managerial Functions: Planning-
  - Basic Terminology (Mission, Vision,......)
  - Essentials of planning- Basic Terminology (Mission, Vision,......)
  - Total Quality Management, Continuous Improvement.

- The overall objective of this module is to introduce and develop the skills and knowledge associated with delivering a successful engineering project. The module is taught with a combination of lecture material and group work. The lecture component focuses on key skills for good project management and the practical skills for designing and making any relevant hardware and software components. The group work component will be delivered interactively in the form of a weekly board meeting with a team of academic supervisors. Students will be allocated to a 'company'. The lecture material will deliver the following components: Project management: project definition and scope, costs, benefits and risks; project planning - activities, milestones, Gantt charts, CPA; resource allocation and levelling; project implementation – record systems and decision risk analysis; project control - gap analysis (cost, time, progress), corrective methods; project outcome evaluation, expert systems; health and safety. Project practical and technical skills: effective use of departmental resources; prototyping; computer modelling and computer-aided design; modular design of systems and software; research methods and application to R & D projects. Humane side of PM; project communications, tracking and reporting; project quality assurance.
## Assessment Elements & weightings

Total student effort for the module: 100 hours on average.

- **Examination:** A 180 minutes unseen written examination assesses learning outcomes 1, 2, 3, 4  
  70%

- **Course Work:** 20% Project management report.  
  This is of 6 pages length. The limit does not include the preamble or appendices, but includes a formal project plan in the form of a Gantt chart. This assesses learning outcomes 1, 2, 3, 4, 5, 6 and 5% Individual written minutes of one meeting assesses learning outcomes 3, 4, 5 and 5% Technical Achievement. Groups will deliver a technical data sheet for their project including appropriate measurements, technical specifications, and instructions. This assesses learning outcomes 6, 7, 8, 9.  
  30%

- Students must achieve (i) 40% for the total module mark and (ii) at least 30% in the unseen examination and the course work in order to achieve an overall passing mark for this module.

## Indicative Sources (Reading lists)

- Lack T. Marchewka, “Information technology project management” providing Measureable organizational value.