

Engineering Tripos Part IIA, 3E10: Operations Management for Engineers, 2018-19

Leader

[Dr F Erhun-Oguz](#) [1]

Lecturer

Lab Leader

Dr R McKenzie

Timing and Structure

Lent term. 16 lectures and 4 examples classes.

Aims

The aims of the course are to:

- Introduce Operations Management to students coming specifically from an engineering background.
- Give a foundation course for any engineering student who aims to join large manufacturing firms or go into management consultancy.

Objectives

As specific objectives, by the end of the course students should be able to:

- Understand the role, objectives and activities of Operations Management
- Be familiar with the main Operations Management concepts and techniques, which they can apply in practice.

Content

Operations management is concerned with the processes by which organisations deliver goods and services. The course will be covering the basic concepts and techniques used in managing modern manufacturing and service operations, from the composition of a manufacturing system, to planning and scheduling at factory level, and the coordination of supplier networks

- Process Fundamentals, Types of Manufacturing and Service Operations.
- Inventory Management.
- Forecasting.
- Machine-level Scheduling and Assembly Line Balancing.
- Factory-level Scheduling and MRP Systems.
- Toyota Production System and Lean Thinking.
- Quality Management, Six Sigma and Project Management
- Supply Chain Management

Further notes

TEACHING METHODS

A mixture of:

- Interactive lecture sessions
- Group discussion of case studies
- In-class exercises

Coursework

To be announced in lectures.

There is no Full Technical Report (FTR) associated with this module.

[Coursework Title]

Learning objectives:

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Practical information:

- Sessions will take place in [Location], during week(s) [xxx].
- This activity [involves/doesn't involve] preliminary work ([estimated duration]).
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Full Technical Report:

There is no Full Technical Report (FTR) associated with this module.

Booklists

Please see the [Booklist for Part IIA Courses](#) [2] for references for this module.

Examination Guidelines

Please refer to [Form & conduct of the examinations](#) [3].

UK-SPEC

The [UK Standard for Professional Engineering Competence \(UK-SPEC\)](#) [4] describes the requirements that have to be met in order to become a Chartered Engineer, and gives examples of ways of doing this.

UK-SPEC is published by the Engineering Council on behalf of the UK engineering profession. The standard has been developed, and is regularly updated, by panels representing professional engineering institutions, employers and engineering educators. Of particular relevance here is the ['Accreditation of Higher Education Programmes' \(AHEP\) document](#) [5] which sets out the standard for degree accreditation.

The [Output Standards Matrices](#) [6] indicate where each of the Output Criteria as specified in the AHEP 3rd edition document is addressed within the Engineering and Manufacturing Engineering Triposes.

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Links

[1] <mailto:fe251@cam.ac.uk>

[2] <https://www.vle.cam.ac.uk/mod/book/view.php?id=364091&chapterid=52151>

[3] <http://teaching.eng.cam.ac.uk/content/form-conduct-examinations>

[4] <http://www.engc.org.uk/ukspec.aspx>

[5] <http://www.engc.org.uk/standards-guidance/standards/accreditation-of-higher-education-programmes-ahep/>

[6] <http://teaching.eng.cam.ac.uk/content/output-standards-matrices>