

Operations and Service Management

Code: SCI3079

Extent: 20-25

Language: English

Organizing department: Industrial Engineering and Management

Teacher in charge: Kari Tanskanen

Administrative contact: Tarja Timonen

Target group: All master's students with sufficient prerequisite knowledge.

Application procedure: Open for all students of Aalto University.

Quotas and restrictions: No quotas.

Prerequisites: TU-C2020 Operaatioiden johtaminen (Operations Management) or equivalent knowledge OR TU-C3010 Projektien suunnittelu ja ohjaus (Project planning and control) or equivalent knowledge.

Content and structure of the minor

Objectives

Operations management covers issues from operations strategy to efficient execution of operations, i.e., from configuring appropriate resources and processes into a production system that best contributes to the organisation's goals and gives a competitive advantage to managing the production system in order to provide the best match with demand and supply. The minor in Operations and Service Management builds on the generic principles on operations management and emphasizes the novel ways of encountering the challenges and utilising the opportunities related to creating and transforming technology-based business.

Advanced production systems cross organisational borders and utilise external resource networks effectively in global scale. Business models have developed beyond the conventional manufacturing-focused forms into service systems and project or solution business. As technological, social or organisational innovations emerge, resources and processes in production systems should be vigorously re-configured for improved performance from the customers', network partners' and society's perspective. Sustainability, effectiveness and efficiency are all important elements of performance. Consequently, the minor in Operations and Service Management covers issues on operations strategy, management of operations in inter-organisational systems, as well as the life-cycle management of production systems and their offerings to clients. Industrial service systems, project business framework, and integration of digital technologies into operations are central contextual themes.

The students minoring in Operations and Service Management will gain a thorough understanding of modern operations and service management practices and the underlying theories. They will learn the principles of

- planning and controlling operations in multi-firm context;
- configuring and managing resources and processes in inter-organisational relationships;
- analysing the performance of and the risks related to modern production systems through the relevant life cycle; and
- managing value in production systems according to the requirements of the dynamic business environments.

There are several fields of specialisation in operations management, and students can select courses from the list to meet their personal learning objectives. It is possible to focus on either services or projects, for example. On the other hand, it is also reasonable to select courses without an explicit specialisation within operations and service management. All in all, managing operations means getting the right things done. Broad knowledge in the field is a solid foundation for general management duties and it gives capabilities to run a new venture, as well.

Students intending to take the minor should have a basic understanding of the following areas and their terminology:

- Concepts and models used to measure financial performance of a firm (TU-A1100 Tuotantotalous 1)
- Concepts and theoretical frameworks that describe the design and operation of a production systems from strategy to daily operations (TU-C2020 Operaatioiden johtaminen).
- Concepts of project management and project business (TU-C3010 Projektien suunnittelu ja ohjaus)

The course codes given in parenthesis above refer to courses that perfectly provide the required basic understanding.

Structure of the minor

Choose TU-C2020 Operaatioiden johtaminen (Operations Management 5 cr) OR TU-C3010 Projektien suunnittelu ja ohjaus (Project planning and control, 5 cr) if either of these courses (or equivalent courses) is missing from bachelor's degree.

Code	Name	Credits	Period
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Choose 15-20 credits from the following list of 12 courses. Although minor students are primarily to take the 3-credit versions of courses, you may choose one 5-credit course. Please also consider any course-specific prerequisites and restrictions concerning the number of participants. Please note that despite the notation '3-5cr', only two versions of a such courses are available: one for 3 cr and another for 5 cr. Typically, the difference between a 3-credit version and a 5-credit version is a larger assignment. An exception to this is TU-E2000, offered as 3 cr and 6 cr versions.

TU-E2000	Aalto Introduction to Services	3-6	I
TU-E2012	Service Operations Management	5	III-IV
TU-E2020	Advanced Operations Management	3-5	II
TU-E2030	Advanced Project-based Management	3-5	I-II
TU-E2040	Management of External Resources	3-5	I-II
TU-E2110	Innovation in Operations and Service Management	3-5	III-IV
TU-E6110	Management of Networked Business Processes	3-5	I-II
TU-E2130	Operations Management for New Ventures	3-5	III-IV
TU-E2120	Project Business	3-5	III-IV
TU-E6140	Business Game	3	I, II, V
TU-E2140	Sosiaali- ja terveydenhuollon tuotantotalous	5	I-II
TU-E2150	Sosiaali- ja terveyspalveluiden tuotantotaloudelliset menetelmät	5	V