KURSPLAN

Developing Sustainable Supply Chain Operations, 7,5 högskolepoäng

Developing Sustainable Supply Chain Operations, 7.5 credits

Kurskod:	TSSS22	**Utbildningsnivå:**	Avancerad nivå
Fastställd av:	VD 2021-03-01	**Utbildningsområde:**	Tekniska området
Reviderad av:	2023-10-25	**Ämnesgrupp:**	IE1
Gäller fr.o.m.:	2025-01-01	**Fördjupning:**	A1F
Version:	2	**Huvudområde:**	Produktionssystem

Lärandemål

After a successful course, the student shall

Kunskap och förståelse
- show familiarity with the implications of digitalisation and connectivity on operations development
- display knowledge of key elements and broad approaches to development of operations
- demonstrate comprehension of continuous development of operations for improvement
- demonstrate comprehension of ways to manage improvement processes

Färdighet och förmåga
- demonstrate skills of problem identification and applications of various concepts in operations development activities
- demonstrate the ability in speech and writing to clearly report and discuss development of operations
- demonstrate the ability to understand the approaches applicable for operations improvement, in particular the application of quality management principles, practices and tools

Värderingsförmåga och förhållningssätt
- demonstrate the ability to make assessments of different measures taken for development of operations and be able to evaluate such initiatives
- demonstrate the ability to critically analyse the impact the development of operations has on economic, social and environmental sustainable development

Innehåll

The course covers the topics below in relation both to digitalization and connectivity and to economic, social and ecological sustainable development.

- PDSA and DMAIC cycles
- Evidence-based problem solving

- Customer centricity
- Waste and variation identification
- Total Quality Management (TQM)
- Lean
- Business Process Re-engineering (BPR)
- Six Sigma
- Quality Excellence and standards
- Statistical Process Control (SPC)
- Risk Management
- Failure Mode and Effects Analysis (FMEA)

Undervisningsformer

Active learning and participation of students are encouraged; therefore the course is designed to include seminars and assignments in connection to industry examples. Students are required to work in groups on case studies. The teaching consists of lectures, where concepts and frameworks are presented; seminars for discussion of journal articles and cases; exercises for opportunities to apply the tools and methodologies; and regular supervision to support the assignments.

Undervisningen bedrivs på engelska.

Förkunskapskrav

The applicant must hold the minimum of a bachelor's degree (i.e the equivalent of 180 ECTS credits at an accredited university) in Engineering or Technology. The bachelor's degree should comprise a minimum of 15 credits in mathematics, and taken course Introduction to Supply Chain Operations Management, 7,5 credits (or the equivalent). Proof of English proficiency is required.

Examination och betyg

Kursen bedöms med betygen 5, 4, 3 eller Underkänd.

The course is examined through group and individual assignments, and a written exam. In order to pass the course, the students need to be approved on all three parts: group and individual assignment, and written examination.

Poängregistrering av examinationen för kursen sker enligt följande system:

Examinationsmoment	Omfattning	Betyg
Tentamen[I]	3 hp	5/4/3/U
Inlämningsuppgifter	4,5 hp	U/G

[I] Bestämmer kursens slutbetyg vilket utfärdas först när samtliga moment godkänts.

Övrigt

All course information and communication throughout the course are managed through the education platform Canvas. Each student must register to participate in the Inspera examination.

Kurslitteratur

The literature list for the course will be provided two months before the course starts.

Quality Management – An Introduction (QM), Ida Gremyr, Bjarne Bergquist & Mattias Elg, 1st Ed, 2020, Studentlitteratur, ISBN 978-91-44-13214-3.

SCOM Program Book: ***Operations Management*** (OM), Nigel Slack & Alistair Brandon-Jones, 9th Ed, 2019, Pearson