



MG118V Responsive Manufacturing I 22,5 hp

Responsive Manufacturing I

När kurs inte längre ges har student möjlighet att examineras under ytterligare två läsår.

Fastställande

Kursplan för MG118V gäller från och med VT10

Betygsskala

A, B, C, D, E, FX, F

Utbildningsnivå

Grundnivå

Huvudområden

Teknik

Särskild behörighet

Eligibility/admissions requisites:

- Completed upper secondary education incl documented proficiency in English and
- at least 120 Swedish university point (hp) or equivalent.

Undervisningsspråk

Undervisningsspråk anges i kurstillfällesinformationen i kurs- och programkatalogen.

Lärandemål

Course goals: This course will provide an introduction to the field of “Responsive Manufacturing”. The course will develop student’s knowledge in three areas: operations research, production and operations management, and project management. First part of the course i.e. Operations Research undertakes the study of some of the prominent and analytical techniques which are used to make more informed decisions in today’s complex manufacturing world. During this part students would learn how to use mathematical tools to solve manufacturing, forecasting, transportation and queuing problems. They would be introduced to the problem solving and decision making processes and would develop mathematical models for analyzing real world problems. Operation Management, second part of the course addresses the management of operations in manufacturing organizations. Efficient operations can provide a firm with major competitive advantages by enhancing its ability to respond to consumer and market requirements quickly, at a low cost, and with high quality. In this part various Production and Operations activities such as capacity planning, inventory control, and scheduling would be discussed. The philosophies of Material Requirement Planning (MRP) and Just in Time (JIT) would also be discussed with reference to Responsive Manufacturing.

Kursinnehåll

Course contents: It is a 15 point course which means 15 weeks full time study. The course is structured with literature study, MCQ test (self assessment test) for each chapter, comprehensive exam combining all chapter and project work (group work). The course curriculum during 15 weeks will be as follows, Linear programming, Queuing Model, Forecasting, Transportation Model, Supply Chain Management, Capacity Planning and Forecasting Demand, Operations Scheduling, Inventory Control, MRP and JIT, Aggregate Planning and Scheduling, Project Management, Group Project

Kursupplägg

Disposition: The course is carried out on distance - one or two meetings at KTH. The course is given in English.

Kurslitteratur

Litterature: E-learning documentation

Examination

- INL1 - Assignment, 4,5 hp, betygsskala: P, F
- INL2 - Assignment, 4,5 hp, betygsskala: P, F
- INL3 - Assignment, 4,5 hp, betygsskala: P, F
- PRO1 - Project, 9,0 hp, betygsskala: A, B, C, D, E, FX, F

Examinator beslutar, baserat på rekommendation från KTH:s handläggare av stöd till studenter med funktionsnedsättning, om eventuell anpassad examination för studenter med dokumenterad, varaktig funktionsnedsättning.

Examinator får medge annan examinationsform vid omexamination av enstaka studenter.

Examination: Examination, assignments

Etiskt förhållningssätt

- Vid grupparbete har alla i gruppen ansvar för gruppens arbete.
- Vid examination ska varje student ärligt redovisa hjälp som erhållits och källor som använts.
- Vid muntlig examination ska varje student kunna redogöra för hela uppgiften och hela lösningen.