

Course syllabus for

# P41: Manual work analysis

Syllabus adopted 2020-06-25 by Professor Bengt-Göran Rosén, Produktion2030 Head of Education



Credits	3 credits
Grading scale	Satisfactory/not satisfactory
Education cycle	Third-cycle
Examiner	Associate Professor Peter Almström, Chalmers
Eligibility	A Master's degree in production engineering or equivalent
Aim	The course aims to give an insight into the area of work study and what is required to determine correct times for manual activities. Advanced digital decision support requires accurate data for all resources in the production system. Manual work activities have been neglected for a long time and available data is generally of very low quality.
Intended learning outcomes	<p>After completion of the course the course participant should be able to</p> <ul style="list-style-type: none"> <li>• Question the operation times used in “the systems” of industrial companies and other organisations.</li> <li>• Select a proper analysis method for an existing work place.</li> <li>• Understand the factors that affect time and productivity (capacity and cost) in manual work tasks.</li> </ul>

- Use the work sampling method.
- Use the time study (stop watch) method properly.
- Estimate performance rate (speed) of work.
- Understand the requirements for setting correct time of a new work task.
- Understand the requirements for Time Data Management.

**Course content**

The course will cover the following topics:

- Manual work activity break-down
- Productivity
- Time Data Management
- Pre-determined time systems
- Work sampling
- Time study using stop watch and video
- Performance rating

**Course organisation**

The course is based on three physical class room sessions where the work analysis methods are taught hands on. These sessions are spread over a period of 6 weeks and the student is expected to work halftime with this course during the period. Before each session there will be compulsory reading. The course will be examined by three individual assignments.

**Examination**

A successful completion of this course will be judged on individual hand-in assignments about application of the methods studied in the course.

**Literature**

Maynard's Industrial Engineering Handbook  
Articles