# Human-Centred Manufacturing and Usability

Sommer

## HCAMU

(in German: Human-Centred Manufacturing and Usability )

**Module-ID: FIN-INF-120512**

| Abbreviation | Credit Points | Semester | Term | Duration | Language | Level |
|---|---|---|---|---|---|---|
| HCMU | 6 | Sommer | 2. | 1 Semester | english | Master |

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|---|---|
| **Link:** | LSF |
| **Limited accessability:** | |
| **Responsibility:** | Ernesto William De Luca |
| **Lecturer:** | Marianna Ciccarelli |
| **Classes:** | Lecture/Exercise: *Human-Centred Manufacturing and Usability* |
| **Applicability in curriculum:** | - M.Sc. INF: Informatik<br>- M.Sc. INGINF: Informatik<br>- M.Sc. WIF: Informatik<br>- M.Sc. DKE: Applied Data Science<br>- M.Sc. DE: Fachliche Spezialisierung<br>- M.Sc. VC: Computer Science |

**Intended learning outcomes:**
The students ...

- have theoretical and practical skills for the evaluation and design of safe, efficient, and human-centered work environments

- can apply principles of Human-Centered Design and Human-Centered Manufacturing
- understand risk assessment methodologies

**Content:**
The course aims to provide both theoretical and practical skills for the evaluation and design of safe, efficient, and human-centered work environments. It will cover key concepts related to health and safety in industrial settings, with a particular focus on risk prevention and the integration of human resources into Industry 4.0 processes. Special attention will be given to the principles of Human-Centered Design and Human-Centered Manufacturing, with an introduction to occupational ergonomics and methods for analyzing physical and cognitive ergonomics. The course will also explore risk assessment methodologies, including applications in human-robot collaboration, as well as user-machine interaction paradigms and usability concepts. Learning activities are supported by hands-on exercises in ergonomic analysis and usability testing.

**Workload:**

- block course
- 40 contact hours + 140 hours self study

| Pre-examination requirements: | Type of examination: | Teaching method / lecture hours per week (SWS): |
|---|---|---|
| | Written report (Hausarbeit) | 4 SWS Lecture/Exercise |

| Prerequisites according to examination regulations: | Recommended prerequisites: |
|---|---|
| keine | |

| Media: | Literature: |
|---|---|
| | |

**Comments:**

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