

Appendix 2: Module / Courses List for Industrial and Systems Engineering Dual Master Degree Program

| Module Groups - TUB | Language | ECTS | Courses - KAIST | Language | Credits |
|---|----------|------|---|----------|---------|
| Systems Engineering Modules (Minimum: 12 ECTS) | | | Systems Engineering Modules (Minimum: 3 credits) | | |
| Manufacturing Factory Planning (Prof. Seliger) | EN | 6 | IE434 Telecommunication Service and Systems | EN | 3 |
| Global Production Management I (Prof. Mertins) | EN | 6 | IE435 Telecommunication Service and Policy | EN | 3 |
| Global Production Management II (Prof. Mertins) | EN | 6 | IE451 IT Service Engineering | KOR/EN | 3 |
| Production Technology (Prof. Uhlmann) | EN | 6 | IE511 Human Centered Systems Design | EN | 3 |
| Industrial Information Technology (Prof. Stark) | EN | 6 | IE523 Production System Design | EN | 3 |
| Sustainable Global Engineering (Prof. Seliger) | EN | 6 | IE554 Knowledge-Based Design Methodologies and System | EN | 3 |
| Sustainable Technology Management (Prof. Seliger) | | | IE566 Human-Computer Interaction : Theory and Design | EN | 3 |
| Operations Management Modules (Minimum: 12 ECTS) | | | Operations Management Modules (Minimum: 3 credits) | | |
| Supply Network Planning (Prof. Günther) | EN | 6 | IE425 Project Management | EN | 3 |
| International Procurement (Prof. Straube) | EN | 6 | IE426 Supply Chain Management | EN | 3 |
| Geographical Economics and Climate Change (Prof. Edenhofer) | EN | 6 | IE432 Decision Analysis and Risk Management | EN | 3 |
| Management of Sustainable Development: Methods and Tools (Prof. Finkbeiner) | EN | 6 | IE536 Scheduling Theory and Applications | EN | 3 |
| Strategies for Sustainable Development in Politics and Economy (Prof. Finkbeiner) | EN | 6 | IE561 Management Information Systems Analysis | EN | 3 |
| Network and Infrastructure Regulation (Prof. von Hirschhausen) | EN | 6 | IE573 Healthcare Service Delivery System | EN | 3 |
| IP Management (Prof. Blind) | EN | 6 | | | |
| Elective Modules (Minimum: 12 ECTS) | | | Elective Modules (Minimum: 3 credits) | | |
| Engineering Statistics (Prof. Werwatz) | EN | 6 | CC513 Engineering Economy and Cost Analysis | EN | 3 |
| Time Series Analysis (Prof. Werwatz) | EN | 6 | CC530 Entrepreneurship and Business Strategies | EN | 3 |
| Strategic Management of Innovation / Technology Management (Prof. Gemünden) | EN | 6 | CC531 Patent Analysis and Invention Disclosure | EN | 3 |
| Strategic Management (Prof. zu Knyphausen-Aufseß) | EN | 6 | CC532 Collaborative System Design and Engineering | EN | 3 |
| Project Work on Sustainability (Prof. Seliger) | EN | 6 | IE531 Linear Programming | EN | 3 |
| Production Technological Project (Prof. Seliger) | EN | 6 | IE532 Simulation | EN | 3 |
| SAP Software Project (Prof. Günther) | EN | 6 | IE551 Manufacturing and Supply Systems | EN | 3 |
| Industrial Optimization (Prof. Günther) | EN | 6 | IE552 CAD/CAM and Geometric Modeling | EN | 3 |
| | | | IE553 Concurrent Engineering and PDM | EN | 3 |
| Master thesis | EN | 24 | Master thesis | EN | 9 |