

Master IEM electives as inspiration

The MSc programme Industrial Engineering and Management (IEM) has four specializations or “tracks”: Production and Logistic Management (PLM), Financial Engineering and Management (FEM), Information Technology and Management (ITM) and Health Care Technology and Management (HCTM). There is considerable room for modifying the standard curriculum through elective courses. Topics that students can focus on at our University are for instance Health, Technology Venturing and Innovation Management or Mechanical Engineering, Mathematical Finance or Management Business Information. Furthermore it is also possible that students want to study a topic abroad.

We will explain the general procedure for including elective courses and then provide you with some information on possible elective courses.

No formal permission from the Board of Examiners

The general procedure is as follows: You may choose five elective courses, which means that you can substitute five courses from your MSc programme with other MSc courses from IEM or indeed with courses from other MSc programmes from the Faculty of Engineering Technology, the Faculty of Faculty of Electrical Engineering, Mathematics and Computer Science, of the Faculty of Science and Technology.

An extra topic that IEM students can focus on is *Technology Venturing en Innovation Management*.

However, many courses in the first year of the IEM MSc programme cannot be exchanged, and this is indicated in the official IEM MSc programme. Most flexibility is found in the first semester of the second year of the IEM MSc programme.

For this you do not require formal permission from the Board of Examiners. Discuss your plans with the study advisor and the track coordinator, because you do need their approval.

Formal permission from the Board of Examiners

If you want to substitute courses from your MSc programme with courses from MSc programmes from the Faculty of Behavioural Sciences or the Faculty of Management and Governance (with exception for the below mentioned topic *Technology Venturing en Innovation Management* of IEM or MBT courses), or other (international) Universities then you will also require the formal permission of the Examination Board. The Board will rely on the advice provided by the track coordinator or the programme director, and they will ask you to write a clear motivation and study plan.

In this document we mention possible electives per topic for your personal inspiration. The below mentioned courses are more or less a random choice. Depending on your personal objectives or goals you want to achieve you can choose (other) courses which give you the freedom to adapt the study programme to your personal interests. To prevent disappointments a check on availability of courses in Osiris is always necessary.

Make your proposal and we will welcome your initiative.

On behalf of the director of education
Bernadette Pol, 2010-09-22

Topic: Technology Venturing and Innovation Management

Technology and entrepreneurship are clearly important at the University of Twente and for the IEM programme. Networks of entrepreneurs and other actors can create innovation and create economic growth. Courses and research address the development of knowledge intensive enterprises, the context of technological innovation (such as the role of networks, alliances, and market orientation), and also university-industry-interaction in context of academic entrepreneurship. A relevant set of courses could be:

- n a) Management & Organization of Technology Innovation (191810840), or
b) Organisation, Technology & Innovation (201000088)
- n Business Development in Network Perspective (194108040),
- n Two of the below mentioned courses:
 - a) Innovation & Technology Dynamics (194111500) or,
 - b) Principles of Entrepreneurship (194108030) or,
 - c) HRM, Innovation & Entrepreneurship (194121040), or
 - d) Entrepreneurial Finance (201000087) or
 - e) Supply Chain Management & Innovation (available per September 2011)
- n Special Topics Technology Venturing & Innovation (course code and content not available yet)

Students who are interested in courses in technology venturing en innovation management should contact the programme director or track coordinator early. They can help you to put your plan together and to integrate this topic in your track in the best possible way.

Topic: Production and Logistics Management (PLM)

Students who study our PLM specialization can get inspired by courses like:

- n 192850730 Governing Product Development
- n 192850740 Product Life Cycle
- n 191102040 Manufacturing Facility Design
- n 191581420 Optimization Modelling
- n 191531830 Stochastic Models in Production and Logistics
- n 195810200 Project Control & Risk management
- n 195420610 Intelligent Transport Systems I

The course "Design of production and inventory systems (112472)" is NOT allowed as elective, because it has a lot in common with other IEM-PLM courses

Topic: Health Care and Technology Management (HCTM)

Students who study our HCTM specialization can get inspired by courses like:

General orientated courses

Medical statistics and epidemiologie
Organising innovation
Interactie training gezondheidszorg

Logistics like courses from the PLM specialization:

Purchasing
Optimization of health care processes
New production concepts
Warehousing
Reverse logistics and re-manufacturing
Production and logistics information systems
Business process engineering
Business process modelling in health care

Medical technology

Breakthrough technology: capita selecta (new)
Organizational aspects of applying medical technology
Integrative design of biomedical products
Technology for the support of human functions
Technology policy in health care
Innovation and technology dynamics
Clinical rehabilitation and technology
Home care technology
Design tools
Design, production and materials

Topic: Information and Technology Management (ITM)

Information & Knowledge Exchange Services;
Datawarehousing & business intelligence;
E-Health strategies;
BIT courses (23.....code).