

t.TRV - Technology-Induced Risks and Responsibility

Person responsible for the course: Heinrich Kuhn, kuhn

Credits: 1,5

Valid for: 2009/2010

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Learning objectives:

Engineers must take the responsibility for risks that result from technological development. This course teaches the students the basic principles of integrated risk management (IRM). IRM is useful in identifying, analysing and solving the question of how engineers are to assume their responsibility. IRM relies heavily on interfaces. On the one hand there are interfaces with other management systems (QM, safety/security, etc.), on the other hand there are interfaces which result from the integration into IRM of social, psychological, political and economic dependencies. The basic principles of IRM are applied to a number of case studies during the course. The aim is for students to be able to understand how IRM is used in practice.

Course content:

1. Basic principles of integrated risk management: overview of current IRM-norms (ONR 49000 ff; AS/NZS 4360:2004, ISO 25700, u.a)

2. Interface of IRM with other management systems (QM, EKAS/OHSAS, u.a.)

3. Interface with economy, law and ethics: legislation for technology induced risks (risk regulation); basic principles of ethical problem analysis and decision making, e.g. in order to identify, analyse, evaluate and solve conflicts of interest, intention or values; overview of current economic, sociopolitical and ethical problem solving approaches.

4. Interface with psychology: overcoming differences between acceptability and acceptance of risks; Human Factors (models of J. Reason, J. Rasmussen); relevance of soft factors in the RM-process: processes of group dynamics (e.g. risky-shift-phenomenon), influencing factors of risk awareness/risk perception (emotions, power constellations, gender, intercultural factors, etc.).

5. Interface with communication: overcoming differences in risk communication between laypersons and experts, placement services of risk communication, relevance of confidence-building measures, opportunities and threats of risk comparisons, transition from risk dialogue to risk discourse.

Previous knowledge:

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Teaching method:

Type of lesson:	Number of lessons per week:
Lecture	14*2
Tutorial/Practicum	
Group teaching	
Block instruction	
Seminar	

Assessment:

According to the table or as specified in writing by the lecture at the beginning of the semester!

Number	Type	Weighting
1	End of term exam	
1	Exam during the semester	
	Further assessments	

Language of instruction:

German

Instruction material:

script, extracts from RM-norms, further reading materials (TBD)

Comments:

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