

## 2.1 Risk Management in Airline Operation (RMAO)

Module leader:	Prof. Ernst Folz		
ECTS points:	6 ECTS	Workload (h):	180
Type of module and position in the course of study:	Mandatory module taught in the 2. semester	Contact hours (h):	56
Scope und frequency of teaching:	14 classes in winter term	Self-study (h):	124
Type of module and position in other study programs or continuing education offers:	-		
<b>Learning outcomes:</b>			
Upon completion of this module students will be able to ...			
Knowledge and understanding (extension, consolidation and understanding of knowledge)			
<ul style="list-style-type: none"><li>Understand the concepts of risks and safety in the aviation industry</li><li>Understand the use of stochastic methods in risk management</li><li>Extend the understanding of impacts of cultural and social factors to the assessment of risks and accidents within the aerospace industry</li><li>Detect conflict of goals between safety and profitability as well as between learning from mistakes and punishment</li></ul>			
Using, applying and generating knowledge (applying and transferring knowledge, Scientific innovation)			
<ul style="list-style-type: none"><li>Apply concepts of risk management (identification, qualitative and quantitative assessment)</li><li>Apply the mandatory rules and regulations for risk management within the aviation industry</li></ul>			
Communication and cooperation			
<ul style="list-style-type: none"><li>Assess the identification, assessment and communication of risks with respect to the cognitive and cultural background of individuals in aviation industry</li><li>Establish communication strategies for risks: content and mitigation actions</li><li>Conduct aerospace related risk management in a team: detect, assess, communicate and mitigate</li></ul>			
Reflection of academic and professional identity			
<ul style="list-style-type: none"><li>Critical assessment of possibilities and limits of risk management theories in a professional aviation related environment</li></ul>			
<b>Course content:</b>			
<ul style="list-style-type: none"><li>General Principles of Risk Management: Concepts of risks and safety</li><li>Stochastic approaches in risk management: reliability engineering, risk matrices, pros and cons of methods</li><li>Factors for the individual perception of risks: cognitive/psychological; cultural/social</li><li>“Human errors” in aerospace business and in everyday life</li><li>Misinterpretation of systematic causes of accidents as human errors</li><li>Methods for the assessment of accidents (e.g. HFCAS – Human Factors Analysis and Classification System)</li><li>Reporting in sensitive industries: Conflict of legal sentence and quality of information</li><li>Cognitive bias: Cognitive influences on the decision making process</li><li>Risk management in aerospace industry: Regulations (ICAO) and best practices</li><li>Case studies: Investigation of accidents in the aviation business and other industries</li><li>Recent developments in risk management (e.g. systematic safety)</li></ul>			
Language of teaching:	English		
Prerequisites:	None		
Preparation/literature:	Sidney Dekker: The field guide to understanding ‘human error’: 3rd Edition, Ashgate, 2014 ICAO Safety Management Manual, Fourth Edition - 2018 (Doc 9859-AN/474)  Further info to be presented and discussed in the first session of the course		
Further information:	Aulis platform to be used		

Courses of the module				
Course title	Teaching staff	Contact hours per week	Learning and teaching methods	Examination method(s), scope and duration
Risk Management in Airline Operation	SFO Julian Oehling, MSc	3	S	R or MP
Risk Management in Airline Operation	Dr. Simone Eulitz	1	S	R or MP