

COURSE OUTLINE

1. Data about the study programme

1.1 Higher education institution	Transilvania University of Brasov
1.2 Faculty	Technological Engineering and Industrial Management
1.3 Department	Engineering and Industrial Management
1.4 Field of study ¹⁾	Engineering and Management
1.5 Study level ²⁾	MA
1.6 Study programme/ Qualification	Engineering and Management in Aviation / Master

2. Data about the course

2.1 Name of course	Safety Management Systems in Aviation							
2.2 Course convenor	Adriana FLORESCU							
2.3 Seminar/ laboratory/ project convenor	Adriana FLORESCU							
2.4 Study year	II	2.5 Semester	3	2.6 Evaluation type	E	2.7 Course status	Content ³⁾	PC
							Attendance type ⁴⁾	CPC

3. Total estimated time (hours of teaching activities per semester)

3.1 Number of hours per week	3	out of which: 3.2 lecture	2	3.3 seminar/ laboratory/ project	0/1/0
3.4 Total number of hours in the curriculum	42	out of which: 3.5 lecture	28	3.6 seminar/ laboratory/ project	0/14/0
Time allocation					hours
Study of textbooks, course support, bibliography and notes					10
Additional documentation in libraries, specialized electronic platforms, and field research					5
Preparation of seminars/ laboratories/ projects, homework, papers, portfolios, and essays					5
Tutorial					10
Examinations					3
Other activities.....					
3.7 Total number of hours of student activity		33			
3.8 Total number per semester		75			
3.9 Number of credits ⁵⁾		3			

4. Prerequisites (if applicable)

4.1 curriculum-related	• Not specified
4.2 competences-related	• Not specified

5. Conditions (if applicable)

5.1 for course development	• Classroom with a whiteboard and video projector
5.2 for seminar/ laboratory/ project development	• Laboratory room with a whiteboard and a computer network

6. Specific competences and learning outcomes

Professional competences	<p>Cp.1 Applies advanced manufacturing systems</p> <p>L.O. 1.2 The graduate will be able to effectively understand, interpret and apply work instructions regarding different activities at work.</p> <p>Cp.5. Production control</p> <p>L.O.5.2. The graduate will be able to ensure the monitoring of quality standards regarding the products/services offered.</p>
Transversal competences	

7. Course objectives (resulting from the specific competences to be acquired)

7.1 General course objective	<ul style="list-style-type: none"> Knowledge of the principles and components of security management systems, the regulatory framework, including their role in aviation safety, and the promotion of a proactive security culture within companies/organizations in the aviation sector.
7.2 Specific objectives	<ul style="list-style-type: none"> Development of critical competencies for addressing security challenges in a dynamic and highly regulated environment, utilizing resilience frameworks to implement efficient incident response mechanisms. Knowledge and application of techniques for identifying and mitigating threats to civil aviation by implementing risk assessment models and proactive safety measures. Acquiring effective collaboration skills among stakeholders, such as airlines, airports, and regulatory organizations.

8. Content

8.1 Course	Teaching methods	Number of hours	Remarks
Safety Management Systems (SMS): Concept, Key Elements, and Promoting a Safety Culture	Lecture; debates on specific issues; modern methods	4	Highlighting new concepts in the field
The Safety Management System of aviation activities: legislation, specific international regulations.		4	
Components of an SMS. Organizational structure. The role of human factors in SMS.		4	
Risk management in civil aviation/airports		4	
Security monitoring and control in airports; implementation of artificial intelligence elements		6	
Stakeholder safety management		4	
Organizational Resilience Strategies		2	
Bibliography			
1. Stolzer A., s.a. Safety Management Systems in Aviation, Editura Taylor&Francis, 2023.			
2. Müller R., Wittmer A., Aviation Risk and Safety Management, Editura Springer, 2014.			
3. ICAO Doc 9856, Safety Management Manual, 1st Edition, 2006.			
4. iata.org – Safety Management System			
5. jaato.com - ICAO & EASA Safety Management System Requirements			

8.2 Seminar/ laboratory/ project	Teaching-learning methods	Number of hours	Remarks
Safety culture. Debates	Interactive activity; Discussions; Case studies.	2	
Case studies regarding international regulations, including ICAO and EASA standards governing the implementation of SMS in aviation.		2	
The role and responsibilities of the human factor in SMS. Analysis through case studies.		2	
Safety risk management. Case studies.		2	
Security control at airport terminals through AI. Applications - case studies.		4	
Promoting aviation safety through specific programs. Case studies.		2	
Bibliography			
1. ICAO Doc 9856, Safety Management Manual, 1st Edition, 2006.			
2. iata.org – Safety Management System			
3. jaato.com - ICAO & EASA Safety Management System Requirement			

9. Correlation of course content with the demands of the labour market (epistemic communities, professional associations, potential employers in the field of study)

The contents have been developed in accordance with the employers' requirements, so that the learning outcomes can be applied in the industrial environment and in research.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of the final grade
10.4 Course	<ul style="list-style-type: none"> Correct explanation of new concepts in the field Ability to exemplify and apply methodologies and principles of safety management through case studies and solving specific problems. 	Written exam: summary on specific topics from the field of the subject; multiple-choice test solution.	60%
10.5 Seminar/ laboratory/ project	<ul style="list-style-type: none"> Correct use of domain-specific terms and concepts. Application of individual and teamwork techniques. 	Continuous assessment	20 %
	<ul style="list-style-type: none"> Applications, case studies. 	Laboratory colloquium	20%
10.6 Minimal performance standard <ul style="list-style-type: none"> Correct handling of fundamental theoretical and applicative concepts within the field of the discipline. Reviewing the minimum required bibliography. 			

This course outline was certified in the Department Board meeting on 17/09/2024 and approved in the Faculty Board meeting on 26/09/2024.

Prof. dr. ing. Tudor DEACONESCU,	Conf. dr. ing. Flavius-Aurelian SÂRBU
Decan	Director de departament
Prof. dr. ing. Adriana FLORESCU	Prof. dr. ing. Adriana FLORESCU
Titular de curs	Titular de seminar/ laborator/ proiect

Note:

- 1) Field of study – select one of the following options: Bachelor / Master / Doctorat (to be filled in according to the forceful classification list for study programmes);
- 2) Study level – choose from among: Bachelor / Master / Doctorat;
- 3) Course status (content) – for the Bachelor level, select one of the following options: **FC** (fundamental course) / **DC** (course in the study domain)/ **SC** (speciality course)/ **CC** (complementary course); for the Master level, select one of the following options: **PC** (proficiency course)/ **SC** (synthesis course)/ **AC** (advanced course);
- 4) Course status (attendance type) – select one of the following options: **CPC** (compulsory course)/ **EC** (elective course)/ **NCPC** (non-compulsory course);
- 5) One credit is the equivalent of 25 study hours (teaching activities and individual study).