

# Information security management (EM054M6C)

Program	PGE
Module / ECTS / Path / Specialisation	<b>Module :Information security management : 5 ECTS.</b> <ul style="list-style-type: none"><li>• MGA</li></ul>
Discipline	Management Information Systems
Year	2019
Semester	B
Open for visitors	yes (5 ECTS)
Available places	40

## Coordinator

Laura GEORG SCHAFFNER

## Lecturers

Instructor	Population	Email
Laura GEORG SCHAFFNER	Population	<a href="mailto:laura.g.schaffner@em-strasbourg.eu">laura.g.schaffner@em-strasbourg.eu</a>

## Course format

Working language :	English
Volume of contact hours :	27 h
Workload to be expected by the student :	108 h

## Course track

Track : Attendance

### "Attendance" track :

Attendance at lecture / tutorial classes and intermediate / final exams is mandatory. As evaluation of in class work constitutes an essential element of grading, any absence will be penalized and is taken into account for grading purposes (see academic rules and regulations).

### "Autonomous" track :

Attendance at intermediate / final exams is mandatory, but students are free to attend lecture / tutorial classes.

For all Master programs and all other programs realized in the form of dual internships (apprentissage), attendance at lecture / tutorial classes and intermediate / final exams is entirely mandatory. Therefore, only the "Attendance" track can be selected.

# Contribution of the course to the educational objectives of the programme

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How the course contributes to the programme :

## Description

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Securing the availability, confidentiality and integrity of information became key success factors for enterprises to create, preserve, and extend their competitiveness in the information age. Information Security is an integral part of Information Systems Management going beyond IS boundaries and touching issues of HR, Marketing or Risk Management. This course gives students a comprehensive overview of relevant topics in the area starting with developing Security Management & Governance strategies, designing Security Architectures, explaining the logic of Security Infrastructure and learning about Security Processes. The course combines theories with practical examples, using a case study to deepen students understanding of the topic. The course will also contain a final chapter on discussing Security Ethics encouraging students' critical thinking while deploying security tools.

## Educational organisation

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In class

**Lectures**

**Presentations**

In groups

**Projects**

**Oral presentations**

Interaction

**Discussions / debates**

Assignments

**Specific projects / case studies**

## Learning outcomes

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Upon completion of this course, students should be able to :

- **Memorize** the main theories/frameworks from InfoSec disciplines on Security Management and Governance, incl. HR Security, operational risk management etc.
- **Apply** the principles for design of security architectures
- **Analyze** Information Security Infrastructure elements to perform efficient and effective choices on their deployment.
- **Generate** unanswered questions that may provide fruitful venues for research
- **Generate** a qualitative research case study.

## Outline

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Introduction :The role of Information Security in Companies

- Definition of Information Security Getting familiar with terms
- Security Management Frameworks
- Key Performance Indicators
- Security Governance and Organisation

Module 1 (2 sessions): Information Security Research on Elements and presenting Management System their Meaning  
Origins  
PDCA Cycle  
Control content

Module 2: Security Management Metrics (2 sessions) Application of analysis techniques  
Drivers for Metrics  
Metric Types and Data Sources  
Metric Characteristica  
Infonomics

Case Study (1 session): Work on Security Advantages for Distributed Ledger Systems / Presentation  
Presentation of case

Module 3 (2 sessions): Security Architecture  
Architecture Design Principles  
- End-to-end Security  
- Outsourcing Security  
- Industry 4.0 Security Multiple topographies and risk reports

Module 4 (2 sessions): Infrastructure Building Blocks  
Identity & Access Management  
- Need to have/know/be  
- IAM solutions Analysis of life case solutions  
Data Leakage Prevention  
- Security (Awareness) Training Analysis of data leakage cases  
Big Data Security  
- Virtualization  
- Logging & Monitoring  
- Security data analysis SWOT analysis

Module 5 (across sessions): Security Ethics  
Security Ethics  
Security Developments: Research & Practice Presentation of ethical dilemma:  
awareness exercise  
QUIZ at the beginning of every session, starting at the second session.  
Course Group Project: Presentation of results at every session by (at least) one group, starting at the second session

## Prerequisites

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**Key concepts to understand :**

**Knowledge of :**

None

## Teaching material

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**Documents in all formats**

- Syllabus

**Software**

- Office Pack (Word, Excel, PowerPoint, Access)

## Recommended reading

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**Major works :**

Course Book:

Management of Information Security, 5th Edition

Michael E. Whitman Michael J. Coles College of Business, Kennesaw State University/ Herbert J. Mattord  
Michael J. Coles College of Business, Kennesaw State University

ISBN-10: 130550125X | ISBN-13: 9781305501256

592 Pages

**Further reading :**

**Research works by EM Strasbourg :**

## Assessment

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**Intermediate evaluation / continuous assessment 1 : session n° 2,3,4,5,6,7,8,9**

written (10 min) / individual / English / weighting : 50%

additional information : Each session starts with a short quiz in moodle revisiting the content of the previous session as well as posing questions on the prepared material of the class of the day. Unexcused absences result in a reduction of 1 pt of the final grade. Excused absences can be compensated through bonus questions from quizzes of other sessions.

**This evaluation serves to measure LO1.1, LO1.2, LO1.3, LO3.1**

**Intermediate evaluation / continuous assessment 2 : session n° 2,3,4,5,6,7,8,9**

written + oral (20 min) / in group / English / weighting : 50%

additional information : Groups of minimum of 2 students present their results of an ongoing course project at every session. The presentation must be made available to the class 2 days before the session.

**This evaluation serves to measure LO1.1, LO1.2, LO1.3, LO2.1, LO2.3, LO4.2**

## Grounds for expulsion from classes

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Such behaviors as...

**arriving late, leaving early or unannounced leaving of the classroom during class time**

**disruptive eating or drinking in class**

**using smartphones and laptops for non class-related purposes**

**reading non class-related documents**

**chatting on non class-related issues**

**showing disrespect towards lecturers**

... may lead to expulsion from classes.