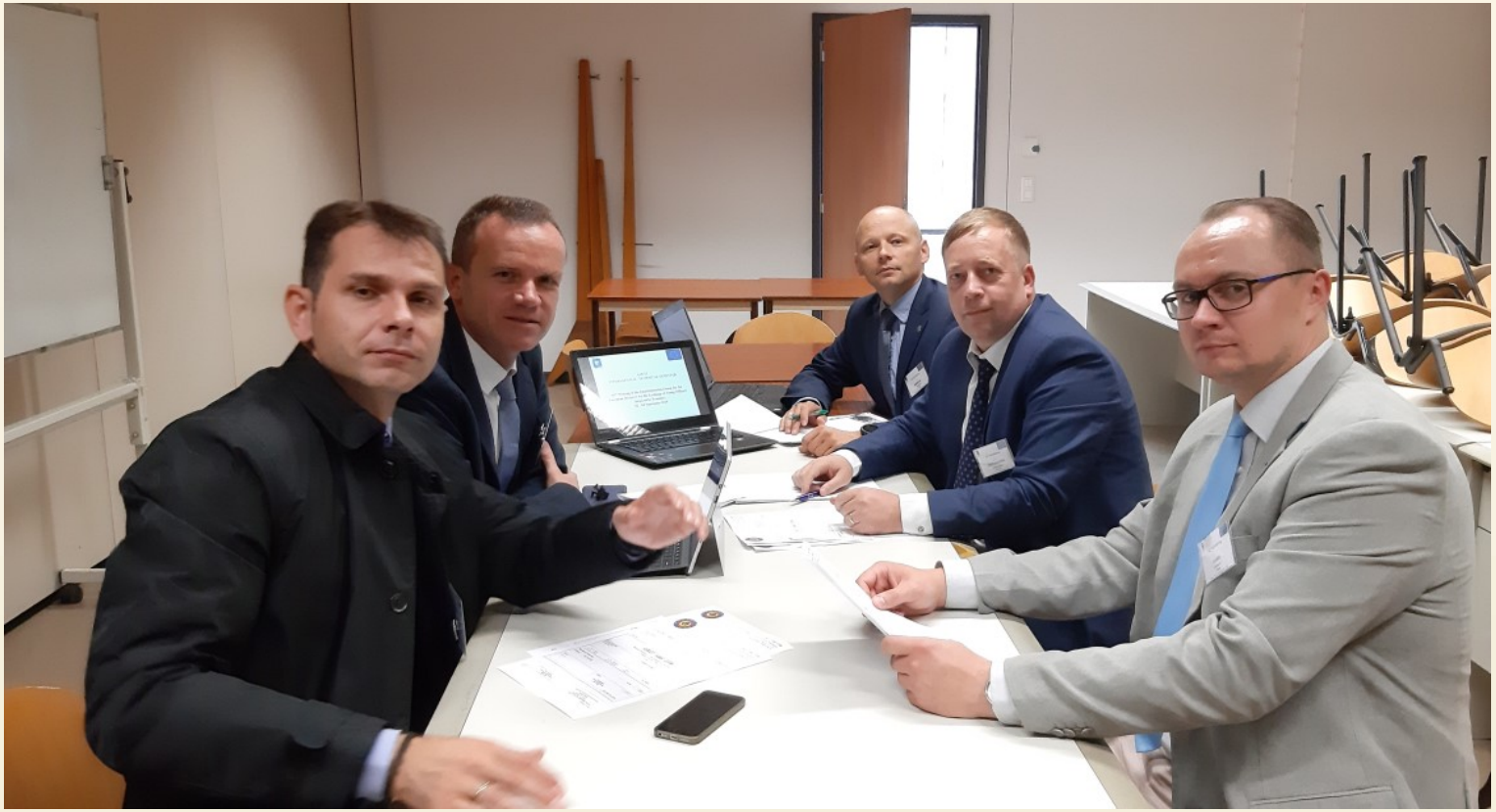
43rd Meeting of the Implementation Group for the European Initiative for the Exchange of Young Officers
02 - 04 September 2019

1st PLENARY MEETING OF THE LoD 13 INTERNATIONAL TECHNICAL SEMESTER



Challenges

1. Military Technical Academies/Faculties have as mission the training of **engineer officers**

2. Military Technical Academies/Faculties develop and conduct higher education study programs organized in undergraduate, master and/or PhD studies in **a high number of fields and specializations.**

3. Difficulties to establish **common courses** for **all engineering branches** in order to organize an **International Technical Semester**.

Objectives

1. To develop an international technical semester for the military technical academies/faculties in order to facilitate the technical cadets and teachers mobilities

2. To establish a network of military technical institutions/faculties and networks of teachers around military technical fields and specializations

3. To develop educational materials useful for cadets and teachers

4. To support the implementation process of the military technical modules/international technical semester generated in the framework of LoD13

LoD 13 - INTERNATIONAL TECHNICAL SEMESTER

Partners/Members

1. **Military Technical Academy "Ferdinand I" of Bucharest, Romania**

2. **Military University of Technology Warsaw, Poland**

3. **Hellenic Air Force Academy, Athens, Greece**

4. **"Vasil Levski" Military National University, Bulgaria** *(not confirmed yet)*

5. **Portuguese Air Force Academy, Lisbon, Portugal** *(not confirmed yet)*

6. **Italian Air Force Academy, Pozzuoli, Italy** *(not confirmed yet)*

7. **Royal Military Academy, Bruxelles, Belgium** *(associate partner)*

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LoD 13 - INTERNATIONAL TECHNICAL SEMESTER

PILOT INTERNATIONAL SEMESTER

"DEFENCE AND SECURITY TECHNICAL SYSTEMS", 18th March – 30th June 2019

Military Technical Academy "Ferdinand I", Bucharest, Romania

LoD 13 - INTERNATIONAL TECHNICAL SEMESTER

PILOT INTERNATIONAL SEMESTER
"DEFENCE AND SECURITY TECHNICAL SYSTEMS", 18th March – 30th June 2019

PARTICIPANTS (1st Edition)

No.	University	No. of cadets	No. of students	Total
1.	Military University of Technology in Warsaw, Poland	5	-	**5**
2.	„Vasil Levski" National Military University , Bulgaria	1	-	**1**
3.	IUT „Paul Sabatier", Toulouse, France	-	6	**6**
4.	Military Technical Academy „Ferdinand I" of Bucharest, Romania	3	-	**3**
TOTAL		**9**	**6**	**15**

Armament System Team

-1 cadet WAT Warsaw
- 1 cadet NMU Shumen
-2 students IUT Toulouse
-1 cadet MTA Bucharest

Military Engineering Team

-2 cadets WAT Warsaw
-2 students IUT Toulouse
-1 cadet MTA Bucharest

Aviation Team

-2 cadets WAT Warsaw
-2 students IUT Toulouse
-1 cadet MTA Bucharest

LoD 13 - INTERNATIONAL TECHNICAL SEMESTER

PILOT INTERNATIONAL SEMESTER
"DEFENCE AND SECURITY TECHNICAL SYSTEMS", 18th March – 30th June 2019

CURRICULUM (1st Edition)

No.	COURSES	ECTS
1.	Project Management	2
2.	Methods and Tools of Modeling and Simulation of Technical Systems	2
3.	Sensors, Acquisition and Data Processing Systems	2
4.	Intercultural and Professional Communication	2
5.	Romanian Language for International Students	2
6.	Complements of Engineering	2
7.	Armament Systems	2
8.	Electronic Warfare and Cyber Security Elements	2
9.	Complements of Engineering	2
10.	Scientific Project Elaboration	18
TOTAL		**34**

LoD 13 - INTERNATIONAL TECHNICAL SEMESTER

CURRICULUM (2nd Edition)

No.	COURSES	Modules	ECTS
1.	Mathematics Applied to Engineering	1	2
2.	Programming Techniques for Engineering	1	2
3.	Basics of Electrotechnics	1	2
4.	Robotics and Automation	1	2
5.	Electronic Warfare and Cyber Security Elements	1	2
6.	Sensors, Acquisition and Data Processing Systems	1	2
7.	Mechanics and Strength of Materials	1	2
8.	Fluid Mechanics and Aerodynamics	1	2
9.	Armament Systems	1	2
10.	Basic of Logistics	1	2
11.	Intercultural and Professional Communication	1	2
12.	Combat Modeling and Simulation	1	2
13.	Scientific Project	2	6
14.	Romanian Language for International Students*	-	2
15.	Physical Education and Sports*	-	2
TOTAL		**14**	**34**

LoD 13 - INTERNATIONAL TECHNICAL SEMESTER

PILOT INTERNATIONAL SEMESTER
"DEFENCE AND SECURITY TECHNICAL SYSTEMS", 18th March – 30th June 2019

INTERDISCIPLINARY SCIENTIFIC PROJECTS

LoD 13 - INTERNATIONAL TECHNICAL SEMESTER

PILOT INTERNATIONAL SEMESTER
"DEFENCE AND SECURITY TECHNICAL SYSTEMS", 18th March – 30th June 2019

CONCLUSIONS

- A study programme including courses on different subjects such as basic engineering modules (*specific to any engineering student*), military science and complementary modules (*specific to any military student*), electrical engineering modules and mechanical engineering modules.

- A real life project, performed by a multi-national, multi-disciplinary team of students with the support of a company.

- Objective: to train students from different countries and different universities (military and/or civilian) and different engineering fields to work together in multi-cultural and multi-disciplinary groups.

PROPOSED STRUCTURE FOR LoD 13 INTERNATIONAL TECHNICAL SEMESTER

No.	COURSES	Modules	ECTS
1.	Basic Engineering modules	3	6
2.	Military Science and Complementary modules	3	6
3.	Electrical Engineering modules Mechanical Engineering modules	6	12
4.	Scientific Project modules	2	6
5.	Optional Supplementary courses	-	4
TOTAL		**14**	**34**

PROPOSED STRUCTURE FOR LoD 13 INTERNATIONAL TECHNICAL SEMESTER

1. **Basic Engineering (3 Modules)**
   - Mathematics Applied to Engineering
   - Computer Programming
   - Basic of Logistics
   - Probability and Statistics, ...

2. **Military Science and Complementary (3 Modules)**
   - Combat Modeling and Simulation
   - Philosophy of War
   - Law of Armed Conflict
   - Common Security and Defence Policy
   - Intercultural and Professional Communication
   - Technical English
   - Sociology
   - Phycology/Ethics, ….

PROPOSED STRUCTURE FOR LoD 13 INTERNATIONAL TECHNICAL SEMESTER

3. Electrical Engineering (6 Modules)

- Basics of Electrotechnics
- Robotics and Automation
- Automatic Control Systems
- Sensors, Acquisition and Data Processing Systems
- Antennas
- Computer System Architecture
- Digital Microelectronics
- Aerospace and Geospatial Data
- Electronic Warfare and Cyber Security Elements

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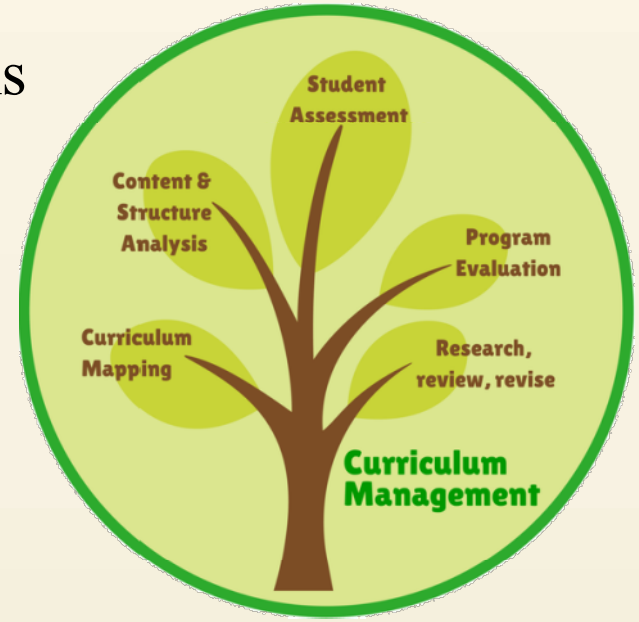

PROPOSED STRUCTURE FOR LoD 13 INTERNATIONAL TECHNICAL SEMESTER

4. Mechanical Engineering (6 Modules)

- Mechanics and Strength of Materials
- Fluid Mechanics and Aerodynamics
- Armament Systems
- Exterior and Interior Ballistics
- Propulsion of Military Platforms
- Aircraft Structural Design
- Modelling and Simulation of Mechanical Systems

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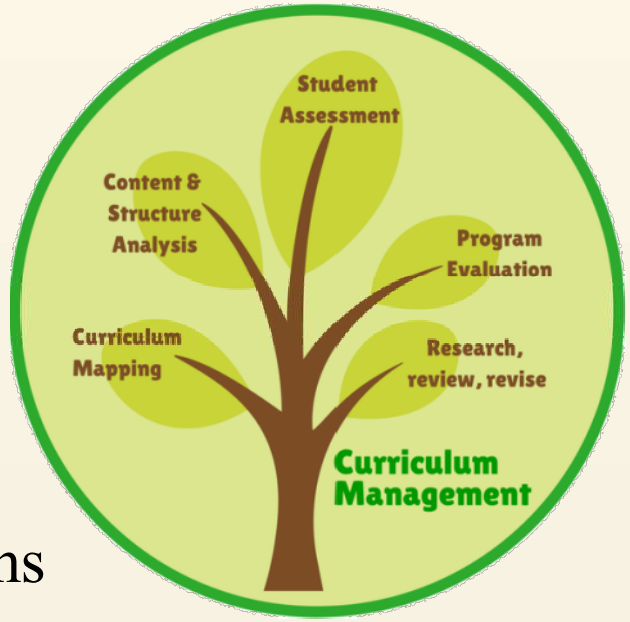

Next Steps

1. Final list of partners (01.10.2019)
2. Chose the subjects for the ITS curricula (01.10.2019)
3. Defining the role of each partner in the project (15.10.2019)
4. Short description of the subjects (01.11.2019)
5. Defining the areas for the scientific projects (01.11.2019)
6. Defining activities /intellectual output (15.11.2019)
7. 1st Draft of KA203 Application form (10.12.2019)
8. 2nd Draft of KA203 Application form (18.02.2020)
9. Final form of KA203 Application form (01.03.2020)

LoD 13 - INTERNATIONAL TECHNICAL SEMESTER

Meeting Opportunities

1. 2019.09.18, Wroclaw, Poland (LoD 09 – Future Projects)
2. 2019.10.01-03, Shumen, Bulgaria (Defence Technology Forum 2019)
3. 2019.11.07-09, Bucharest, Romania (International Expert Conference, SECDEF'19)
4. 2019.12.09-12, Bucharest, Romania (44th IG Meeting)
5. 2019.10.24-25, Warsaw, Poland (1st International Conference Language – Security – Technology 2019)
6. 2020.02.18-19, Bruxelles, Belgium (45th IG Meeting)
7. Online meetings (skype, emails, phones etc)

LoD 13 - INTERNATIONAL TECHNICAL SEMESTER

PoC

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LoD 13 - INTERNATIONAL TECHNICAL SEMESTER