



MINISTRY OF NATIONAL DEFENCE
"NICOLAE BĂLCESCU" LAND FORCES
ACADEMY
SIBIU, ROMANIA



Sibiu, 2024

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Dear Commandants, Dear Rectors,

"Nicolae Bălcescu" Land Forces Academy of Sibiu has the pleasure and privilege of inviting you to the first edition of the common module *Problem Solving and Critical Thinking*, which will be organized between the 13th of January and the 24th of January 2025.

The module aims to create models and strategies for the resolution of problem in social, economic and logistic contexts inspired from real situations. Upon completion of the module, all participants obtain 2 ECTS and those who also take the e-learning are awarded with one additional ECTS.

It is our pleasure to invite students to participate in this module in order to develop creative strategies for solving problems critically, together with all the other participants from our academy and from other foreign partner institutions.

LFA offers the participants free lodging and meals throughout the duration of the module. Sending institutions are responsible for their delegations' transport expenses to Sibiu.

No participation fee is required. All EU participants should bear the European Health Insurance card with them or any valid insurance.

The deadline for registration is the 06th of December 2024. We kindly request you to submit the attached Registration Form at the e-mail address: international.relations@armyacademy.ro / armyacademy.erasmus@gmail.com (POC: Col. Răzvan BARBU).

Please find attached further details about the module, a short description and other administrative information.

Looking forward to welcoming your students at "Nicolae Bălcescu" Land Forces Academy of Sibiu!

Sincerely,

Brigadier General Prof. Eng. Ghiță BĂRSAN, PhD

Commandant (Rector) of "Nicolae Bălcescu" Land Forces Academy of Sibiu



Common Module
Problem Solving and Critical Thinking
 Module Description



| | | | |
|----------------------|---------------------------|--|--|
| Country RO | Institution LFA | Module Problem Solving and Critical Thinking | ECTS 2.0 (+1.0 e-learning) |
|----------------------|---------------------------|--|--|

| | |
|--|---|
| Service ALL | Minimum Qualification for Lecturers (Officers and/or NCOs) Officers or Civilian Lecturers: <ul style="list-style-type: none"> • English: Common European Framework of Reference for Languages (CEFR) Level B2 or NATO STANAG Level 3. • Expertise on relevant topics. • Relevant academic publications. |
| Language English, Romanian¹ | |

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|--|---|
| Prerequisites for international participants: <ul style="list-style-type: none"> • English: Common European Framework of Reference for Languages (CEFR) Level B1 or NATO STANAG Level 2. • Basic knowledge of calculus. • Basic knowledge of descriptive statistics. | Goal of the Module <ul style="list-style-type: none"> • Models for the resolution of problem in social, economic and logistic contexts. |
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|--------------------------|-----------------------------|---|
| Learning outcomes | Know-ledge | <ul style="list-style-type: none"> • Formulate problems coming from real situation. • Describe and distinguish different kind of data. |
| | Skills | <ul style="list-style-type: none"> • Develops creative strategies and procedures in order to solve problems. • Deals and discusses critically proposed solutions. |
| | Responsibility and autonomy | <ul style="list-style-type: none"> • Find solutions for real-world problems. • Evaluate the consistency of proposed solutions and make decisions critically. |

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| Verification of learning outcomes <ul style="list-style-type: none"> • Observation: Throughout the module, students are to be observed and evaluated on their understanding to allow for remedial action of needed. • Discussions: Throughout the module, students are to discuss given topics in syndicates and in the plenary to allow for reflexions and in-depth understanding. • Test: Written tests during the e-learning phase abd at the (beginning) end of the module. |
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¹ **Remark:** If the Module or parts of the Module are conducted in Romanian language, international participants are to be informed in advance to react properly.



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| Module Details | | | |
|---|----------------------|----------------------|--|
| Topic | Residential | E-learning | Details |
| Introduction to problem solving and critical thinking | 2 | 1 | <ul style="list-style-type: none"> • Definition of problem solving. • Definition of critical thinking. • Applications in defence and security contexts. |
| Basic Mathematics Knowledge | - | 4 | <ul style="list-style-type: none"> • Calculus (elementary functions, their properties and graphics, derivatives) • Elements of combinatorics • Statistics indices |
| Shifts and codes | 2 | 1 | <ul style="list-style-type: none"> • Applications of permutations and combinations in security and defence contexts. |
| Reading data | 2 | 1 | <ul style="list-style-type: none"> • Statistics indices to read and interpret data and reports |
| Dynamic models | 2 | 1 | <ul style="list-style-type: none"> • Analysis of examples of dynamic models in security and defence contexts. |
| Strategic games | 2 | 1 | <ul style="list-style-type: none"> • Deterministic games in security and defence contexts. |
| Optimization problems | 2 | - | <ul style="list-style-type: none"> • Guideline for solving optimization problems. • Examples: maximization and minimization in different contexts. • Discussion of the solution. |
| Working group | 10 | - | <ul style="list-style-type: none"> • Problem solving and critical thinking activities on real-world problems. • Team building for problem solving activities. • Collaborative learning to find resolute strategies. |
| Presentations and discussions | 2 | - | <ul style="list-style-type: none"> • Presentation of results and discussion. |
| Total lectures and e-learning lessons | 24 | 10 | <ul style="list-style-type: none"> • In case of a 3 ECTS PSCT CM Version (BIP) it is required 1/3 of lectures via e-learning. The selection of e-learning topics is up to the Course Director. |
| Self-studies | 26 | 15 | <ul style="list-style-type: none"> • Preparation for the upcoming lessons and for exam(s). • Reflection of the topics issued. • E-learning self-studies are also counted. |
| TOTAL | 50 2 ECTS | 25 1 ECTS | <ul style="list-style-type: none"> • The total amount of hours depends on the selected version (2 or 3 ECTS) and it is up to the course director according to national law or home institution's rules. • The Course Director is invited to integrate in the module some syndicate works in order to emphasize the team working. |



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LIST OF ABBREVIATIONS:

| | |
|-------------|---|
| B1, B2..... | Common Reference Levels |
| BIP..... | Blended Intensive Programme |
| CEFR..... | Common European Framework of Reference for Language |
| CM..... | Common Module |
| ECTS..... | European Credit Transfer and Accumulation System |
| ESDC..... | European Security and Defence College |
| IG..... | Implementation Group |
| LFA..... | Land Forces Academy |
| LoD..... | Line of Development |
| PSCT..... | Problem Solving and Critical Thinking |
| RO..... | Romania |
| STANAG..... | Standardization Agreement |
| WH..... | Working Hour |



Registration Form



Data protection:
Your data will be used for necessary internal administrative procedures only.
They will not be published in any case!

| | |
|---|--|
| Remarks: - Please fill in the yellow fields only or mark with an X - Fill in 1 form for 1 person - Send this application form to: international.relations@armyacademy.ro armyacademy.erasmus@gmail.com | I want to participate in the: |
| | Problem Solving and Critical Thinking Common Module 13 – 24 January 2025* |

| Arrival date in Sibiu | Arrival time in Sibiu (if possible) | By plane | By train | By car | By bus | Need local transport to the LFA location | |
|-----------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--|-----------------------------|
| | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Yes <input type="checkbox"/> | No <input type="checkbox"/> |

| Departure date from Sibiu | Departure time from Sibiu (if possible) | By plane | By train | By car | By bus | Need local transport from the LFA location | |
|---------------------------|---|--------------------------|--------------------------|--------------------------|--------------------------|--|-----------------------------|
| | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Yes <input type="checkbox"/> | No <input type="checkbox"/> |

| Gender | Rank | Family name / Surname | First name / Given name |
|--------|------|-----------------------|-------------------------|
| | | | |

| Date of birth | Nationality | Passport (ID) number* | Passport validity until |
|---------------|-------------|-----------------------|-------------------------|
| | | | |

| Branch of Service (if available) | Sending institution | I want to participate as | | |
|----------------------------------|---------------------|--------------------------|--------------------------|--------------------------|
| | | Officer | N.C.O. | Cadet |
| | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| My phone number (if available) | My e-mail address |
|--------------------------------|-------------------|
| | |

| Postal address |
|----------------|
| |

| Special dietary or food requirements due to medical or religious reasons | | If yes, please specify food you cannot eat | Additional remarks (Need for special equipment, special travel arrangements) |
|--|--------------------------|--|--|
| No | Yes | | |
| <input type="checkbox"/> | <input type="checkbox"/> | | |

*** Deadline for submitting the Registration form: 06th of December 2024**



Registration Form



Data protection:
Your data will be used for necessary internal administrative procedures only.
They will not be published in any case!

* Please enclose the photo of your Passport/ID on the next page of this registration form:

Please integrate a copy of your passport / ID hereinafter:

A large rectangular area with a light yellow background, intended for pasting a copy of a passport or ID. The area is currently blank.