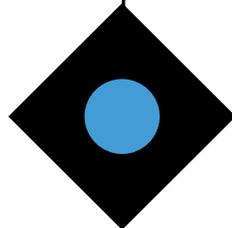


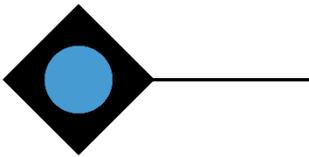
# THE ENHANCE ALLIANCE

TCA: Promoting Erasmus+ Mobilities in STEM in Higher Education - 05/16/2025



# Persona

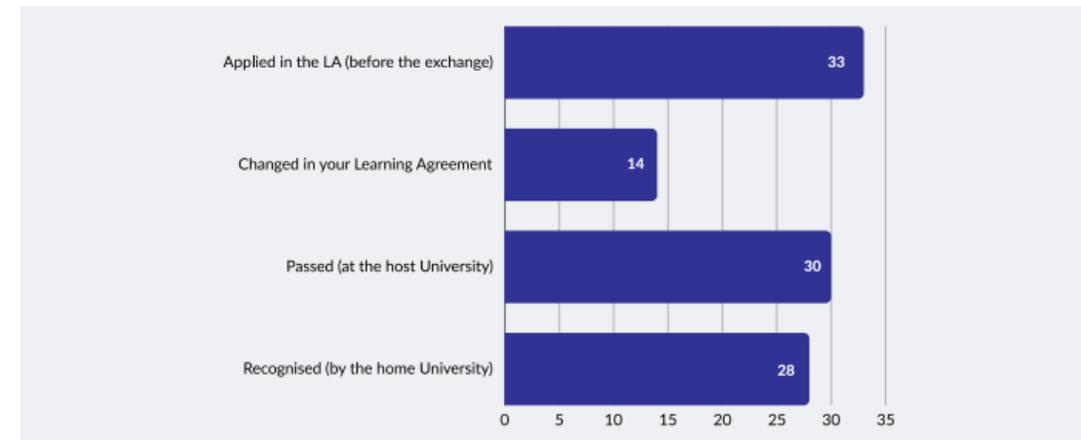
- Philipp Hoehne, Master's student in biochemistry
- Erasmus+ in Vienna
- Co-founder of the local Erasmus Student Network association - ESN Berlin
- Currently Liaison Officer of ESN Germany
- ENHANCE Student
- Passionate about Erasmus+, mobility programs, internationalisation and education offers

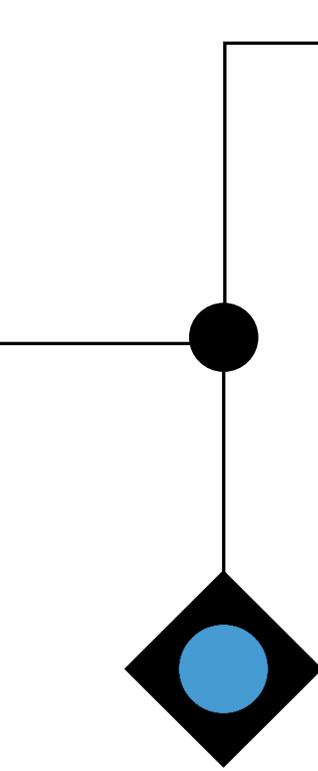


# Status Quo from the ESNsurvey XV

- Low STEM participation in mobility ~ 28% of the participants (Engineering 18.56% & Natural Sciences 9.02%) from around 20,000 answers
- Academic course issues remain one key obstacle, with 33.97% of respondents reporting difficulties in this area
- Structural issues contributing to this problem:
  - Inflexibility in degree programs
  - Trust issues between partner universities
  - Recognition decisions influenced by individual professors
  - Lack of understanding of the ECTS system
  - Limited access to information about available courses

Recognition of learnings aboard, the credits taken compared with the credits recognised (N= 6,620).





# European University Alliances and STEM

What is the added value of ENHANCE for internationalisation in STEM mobility?



# The ENHANCE Alliance



CHALMERS  
UNIVERSITY OF TECHNOLOGY

**ETH** zürich



GDANSK UNIVERSITY  
OF TECHNOLOGY



NTNU  
Norwegian University of  
Science and Technology



POLITECNICO  
MILANO 1863



RWTH AACHEN  
UNIVERSITY



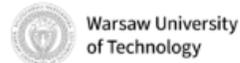
TU Delft



TECHNISCHE  
UNIVERSITÄT  
BERLIN



UNIVERSITAT  
POLITÈCNICA  
DE VALÈNCIA



Warsaw University  
of Technology



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# The ENHANCE Alliance

- Universities in Metropolitan areas
- Institutions at coastal/remote in-land locations
- Partners with a long industrial tradition
- Universities with a strong emphasis on agriculture



**ETH** zürich



 **NTNU**  
Norwegian University of  
Science and Technology



**RWTH**AACHEN  
UNIVERSITY

**TU** TECHNISCHE  
UNIVERSITÄT  
BERLIN

 **TU**Delft



Warsaw University  
of Technology



# Education Offers in ENHANCE



## **Innovative Learning Campus (ILC)**

Advancing and sharing opportunities  
for physical and virtual short-term  
mobility.



## **ENHANCED Erasmus**

Enhancing physical mobility  
opportunities for students and staff.

## **Guided Education Paths**

Designing thematic learning pathways  
in targeted disciplines.



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# Innovative Learning Campus



Welcome to the ENHANCE Innovative Learning Campus Catalogue! Here, you'll find a comprehensive overview of all our innovative learning opportunities designed to enrich your experience as a student, teaching or administrative professional in higher education of life-long learner. We invite you to browse our current offerings and discover the diverse options available to you. If you're interested in long-term ENHANCE opportunities, such as the ENHANCED Erasmus initiative or the ENHANCE Guided Education Paths please visit the [ENHANCE website](#) for more detailed information. We're excited to support your learning journey!

## Learning Opportunities

**Filters**

Only favourites

**Application period** None All

Closed

Open

**University** None All

- Chalmers University of Technology
- Delft University of Technology
- ETH Zurich
- Gdansk Tech
- Politecnico di Milano
- RWTH Aachen
- Technische Universität Berlin
- Universitat Politècnica de València
- Warsaw University of Technology

**Category** None All

- (Micro-credential) Programmes
- Instructor paced Courses
- MOOCs/Self-paced Courses
- Summer & Winter Schools
- Trainings

**Offered to** None All

- BSc Students
- General Public
- MSc Students
- PhD Candidates/Researchers
- Professionals
- University Administrative Staff

88

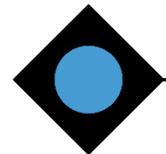
Sort

<p><b>RWTH Aachen - Germany</b> Application OPEN</p> <p><b>Training of Facilitators: Anti-Bias Lunch Breaks</b> Trainings</p> <p>OFFERED TO University Teaching Staff, BSc Students, MSc Students, University Administrative Staff, General Public, Professionals, PhD Candidates/Researchers</p> <table border="1" style="width: 100%; border-collapse: collapse; font-size: 8px;"> <tr> <th>LANGUAGE</th> <th>TEACHING PERIOD</th> <th>PARTICIPATION</th> <th>APPLICATION PERIOD</th> </tr> <tr> <td>English</td> <td>Jun 24, 2025 -</td> <td>Online</td> <td>Mar 25, 2025 - Dec 31, 2025</td> </tr> <tr> <th colspan="3">PLACES AVAILABLE</th> <td>unlimited</td> </tr> </table> <p><a href="#">Gender and Diversity</a></p> <p style="text-align: center; background-color: #333; color: white; padding: 5px;">VIEW DETAILS</p>	LANGUAGE	TEACHING PERIOD	PARTICIPATION	APPLICATION PERIOD	English	Jun 24, 2025 -	Online	Mar 25, 2025 - Dec 31, 2025	PLACES AVAILABLE			unlimited	<p><b>Gdansk Tech - Poland</b> Application OPEN</p> <p><b>Hub of Methodological Consultations for academic teachers</b> Trainings</p> <table border="1" style="width: 100%; border-collapse: collapse; font-size: 8px;"> <tr> <th>OFFERED TO</th> <th>LANGUAGE</th> <th>TEACHING PERIOD</th> </tr> <tr> <td>University Teaching Staff</td> <td>English</td> <td>Mar 03, 2025 - Sep 30, 2026</td> </tr> <tr> <th>PARTICIPATION</th> <th>APPLICATION PERIOD</th> <th>PLACES AVAILABLE</th> </tr> <tr> <td>Online</td> <td>Mar 03, 2025 - May 01, 2026</td> <td>limited</td> </tr> </table> <p><a href="#">Others</a></p> <p style="text-align: center; background-color: #333; color: white; padding: 5px;">VIEW DETAILS</p>	OFFERED TO	LANGUAGE	TEACHING PERIOD	University Teaching Staff	English	Mar 03, 2025 - Sep 30, 2026	PARTICIPATION	APPLICATION PERIOD	PLACES AVAILABLE	Online	Mar 03, 2025 - May 01, 2026	limited	<p><b>Gdansk Tech - Poland</b> Application OPEN</p> <p style="float: right; background-color: #4a86e8; color: white; padding: 2px 5px; font-weight: bold;">6 ECTS</p> <p><b>Advanced Measurement Methods with Smart Sensing Using Machine Learning</b> Summer &amp; Winter Schools</p> <table border="1" style="width: 100%; border-collapse: collapse; font-size: 8px;"> <tr> <th colspan="3">OFFERED TO</th> </tr> <tr> <td colspan="3">University Teaching Staff, MSc Students, PhD Candidates/Researchers</td> </tr> <tr> <th>LANGUAGE</th> <th>TEACHING PERIOD</th> <th>PARTICIPATION</th> </tr> <tr> <td>English</td> <td>Jul 05, 2025 - Jul 14, 2025</td> <td>Blended</td> </tr> <tr> <th colspan="2">APPLICATION PERIOD</th> <th>PLACES AVAILABLE</th> </tr> <tr> <td colspan="2">Mar 08, 2025 - May 31, 2025</td> <td>limited</td> </tr> </table> <p><a href="#">Digitalisation and Artificial Intelligence</a></p> <p style="text-align: center; background-color: #333; color: white; padding: 5px;">VIEW DETAILS</p>	OFFERED TO			University Teaching Staff, MSc Students, PhD Candidates/Researchers			LANGUAGE	TEACHING PERIOD	PARTICIPATION	English	Jul 05, 2025 - Jul 14, 2025	Blended	APPLICATION PERIOD		PLACES AVAILABLE	Mar 08, 2025 - May 31, 2025		limited
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# Education Offers in ENHANCE

Name	Category	ECTS	Editions	Number of registrations:
Ethics & Epistemology of AI	Summer & Winter Schools	6	3	243
Transdisciplinarity Methods for Dealing with Sustainability and Land Use Conflicts	Summer & Winter Schools	6	1	63
Built Environment and Architecture Education for Children and Youth	MOOCs/Self-paced courses	6	2	3
Engineering for Impact - Responsible Innovations	Instructor-paced courses	6	1	8
Microphone Array Project	Summer & Winter Schools	6	1	28
Advances in Water Management and Climate Adaptation	Instructor-paced courses	3	2	8
Gender and Diversity in Science, Technology and Society	(Micro-credential) Programmes	9	4	275
Democratizing Sustainability	Instructor-paced courses	6	1	104
Critical Sustainability	Instructor-paced courses	6	1	108
Plotting Sustainability	Summer & Winter Schools	6	1	26
Introduction to Gender & Diversity in Science, Technology and Society	MOOCs/Self-paced courses	3	2	52



# Education Offers in ENHANCE



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# ENHANCE Guided Education Paths

- Five pathways implemented so far:
  - B.Sc. & M.Sc. Mechanical Engineering
  - M.Sc. Computer Science
  - M.Sc. Energy Engineering
  - M.Sc. Urban Planning
- Pre-recognized courses for home programs → **Guaranteed ECTS Recognition!**
- Up to two mobilities in a row
- Combination of physical, virtual, and short-term mobility → **Adaptable Mobility**
- ENHANCE Education Dashboard with >1.000 courses
- First exchanges in summer 22/23
  - Since then: ~72 participants from TU Berlin including the upcoming semester
- Long-term vision: **ENHANCE Degree Label** based on the European Degree Label



# Pre-approved Course Catalogue



Explore all the available courses and choose those that suit best your study plan

**Filters**

Only favourites

**Years**

2022/2023

2023/2024

2024/2025

2025/2026

**Pilot Study field** None All

Computer Science

Energy Engineering

Mechanical Engineering BSc

Mechanical Engineering MSc

Urban Planning

**Home University** None All

Chalmers University of Technology

Delft University of Technology

ETH Zurich

Gdansk Tech

Norwegian University of Science and Technology

Politecnico di Milano

RWTH Aachen

Technische Universität Berlin

Universitat Politècnica de València

Warsaw University of Technology

**Selected Destination** None All

Chalmers University of Technology

Gdansk Tech

Norwegian University of Science and Technology

**Information** This course catalog shows only the courses that have already been pre-approved by each partner Institution for its ENHANCE students. E.g. if you are a student of TUB, by selecting TUB as your home Institution, you will see the courses that professors and study coordinators at TUB have chosen as appropriate and approved for your exchange period at partner Universities.

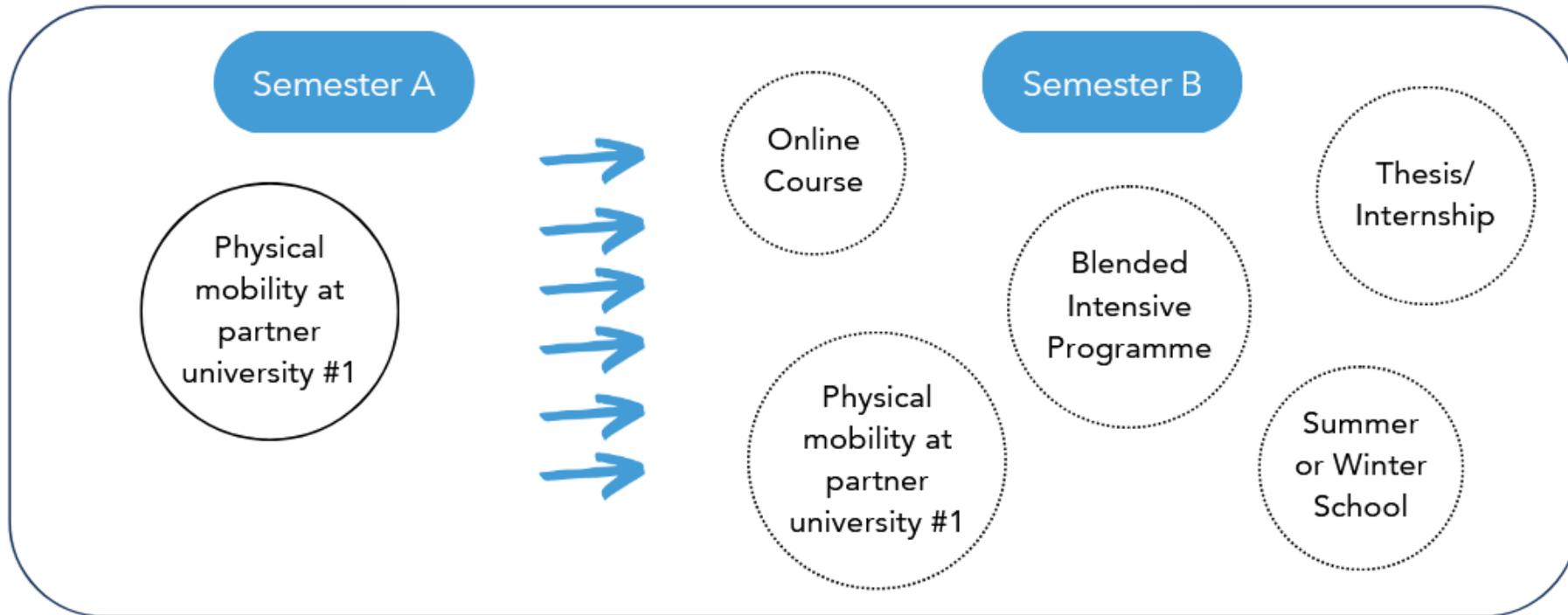
Search for course Sort

<p>Universitat Politècnica de València - Spain BSc Informatics Engineering - BSc <b>4.5 ECTS</b></p> <p><b>3D Print</b></p> <p>TEACHING LANGUAGE: English   TEACHING PERIOD: Spring   PARTICIPATION: onsite</p> <p><a href="#">Computer Science</a></p> <p><b>VIEW DETAILS</b></p>	<p>Universitat Politècnica de València - Spain BSc Informatics Engineering - BSc <b>4.5 ECTS</b></p> <p><b>3D modeling and design</b></p> <p>TEACHING LANGUAGE: English   TEACHING PERIOD: Spring   PARTICIPATION: onsite</p> <p><a href="#">Computer Science</a></p> <p><b>VIEW DETAILS</b></p>	<p>Politecnico di Milano - Italy COMPUTER SCIENCE AND ENGINEERING - MSc <b>5 ECTS</b></p> <p><b>ADVANCED ALGORITHMS AND PARALLEL PROGRAMMING</b></p> <p>TEACHING LANGUAGE: English   TEACHING PERIOD: Fall   PARTICIPATION: onsite recording</p> <p><a href="#">Computer Science</a></p> <p><b>VIEW DETAILS</b></p>
<p>Politecnico di Milano - Italy COMPUTER SCIENCE AND ENGINEERING - MSc <b>5 ECTS</b></p> <p><b>ADVANCED COMPUTER ARCHITECTURES</b></p> <p>TEACHING LANGUAGE: English   TEACHING PERIOD: Spring   PARTICIPATION: onsite recording</p> <p><a href="#">Computer Science</a></p> <p><b>VIEW DETAILS</b></p>	<p>Politecnico di Milano - Italy COMPUTER SCIENCE AND ENGINEERING - MSc <b>5 ECTS</b></p> <p><b>ADVANCED USER INTERFACES</b></p> <p>TEACHING LANGUAGE: English   TEACHING PERIOD: Fall   PARTICIPATION: onsite remoting</p> <p><a href="#">Computer Science</a></p> <p><b>VIEW DETAILS</b></p>	<p>Politecnico di Milano - Italy COMPUTER SCIENCE AND ENGINEERING - MSc <b>5 ECTS</b></p> <p><b>ECONOMICS AND COMPUTATION</b></p> <p>TEACHING LANGUAGE: English   TEACHING PERIOD: Spring   PARTICIPATION: blended</p> <p><a href="#">Computer Science</a></p> <p><b>VIEW DETAILS</b></p>
<p>Politecnico di Milano - Italy COMPUTER SCIENCE AND ENGINEERING - MSc <b>10 ECTS</b></p> <p><b>ALGORITHMS AND PARALLEL COMPUTING</b></p> <p>TEACHING LANGUAGE: English   TEACHING PERIOD: Fall   PARTICIPATION: onsite recording</p> <p><a href="#">Computer Science</a></p>	<p>Politecnico di Milano - Italy COMPUTER SCIENCE AND ENGINEERING - MSc <b>5 ECTS</b></p> <p><b>ARTIFICIAL NEURAL NETWORKS AND DEEP LEARNING</b></p> <p>TEACHING LANGUAGE: English   TEACHING PERIOD: Fall   PARTICIPATION: onsite recording</p> <p><a href="#">Computer Science</a></p>	<p>Universitat Politècnica de València - Spain MSc Mechatronics Engineering - MSc <b>4.5 ECTS</b></p> <p><b>Electric Drives</b></p> <p>TEACHING LANGUAGE: Spanish   TEACHING PERIOD: Fall   PARTICIPATION: onsite</p> <p><a href="#">Mechanical Engineering MSc</a></p>



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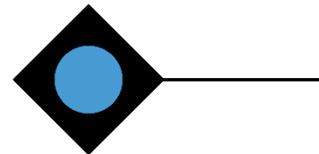
# ENHANCE Guided Education Paths



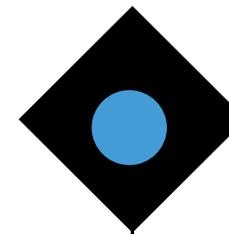
Layer 1:  
Semester-based Offers

+

Layer 2-3:  
Other Offers



# ENHANCE Guided Education Paths in action



## Example Scenarios:

### Water Energy Path for a PoliMi student in Energy Engineering



Semester mobility (incl. set of semester-based courses) at **Warsaw University of Technology**

+

Thesis abroad at **Chalmers University of Technology**

### Water Energy Path for a Chalmers student in Energy Engineering



Semester mobility (incl. set of semester-based courses) at **TU Berlin**

+

Summer School at **Gdańsk Tech**

+

MOOC at **UPV**



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# Impact on mobility in STEM

1. Systemic Impact
  - ENHANCE addresses **mobility barriers** on institutional and regulatory level
  - Example: efforts to adapt general study regulations
2. Improved participation from low-mobility STEM fields
3. Guaranteed ECTS Recognition
4. Stronger promotion of different types of mobility for different situations



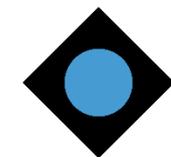
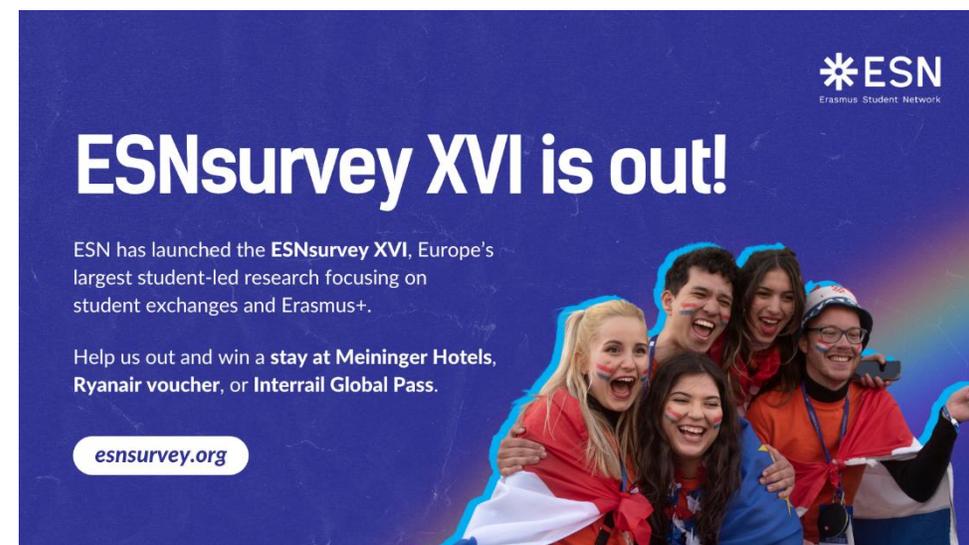
# Challenges and Lessons Learned

1. Guaranteed ECTS recognition has its cost
  - Diverse credit recognition practices
  - Still low participation numbers
2. Resistance from some professors remain ("my lecture is irreplaceable")
3. STEM-specific issue are unsolved
  - Long module structures (e.g. spanning two semesters, lab-courses)
4. Gradual mindset change through continuous dialogue with faculty needed
5. More communication about the options needed
6. Pre-recognized courses must become standard



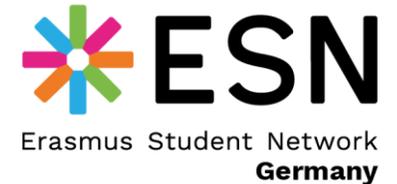
# ESNsurvey XVI is out!

- Open until 31 July 2025
- Target Groups
  1. Exchange students (mobility since Aug 2023)
  2. Full-degree international students (studying abroad since Aug 2021)
  3. Non-mobile students (currently enrolled in higher education)
- Enhanced Content on:
  - Alumni who went abroad before Aug 2023
  - European University Alliances
- Take a look → <https://esnsurvey.org/>



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# Thank you for your attention!



**philipp.hoehne@campus.tu-berlin.de**



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[twitter.com/enhancealliance](https://twitter.com/enhancealliance)



[instagram.com/enhancealliance](https://www.instagram.com/enhancealliance)



[facebook.com/enhanceuni](https://www.facebook.com/enhanceuni)



<https://esn-germany.de/>



<https://www.instagram.com/esngermany/>



<https://www.facebook.com/esngermany>



<https://www.linkedin.com/company/erasmus-student-network-germany/>



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