



SELCUK UNIVERSITY  
ENGINEERING FACULTY  
MECHANICAL ENGINEERING DEPT.





## MECHANICAL ENGINEERING

**Head of Department** : Prof.Dr. Muammer Ozgoren  
**Erasmus Coordinator** : R.A. Muharrem Hilmi Aksoy  
**Farabi Coordinator** : Assist.Prof.Dr. Selcuk Darıcı  
**ECTS Coordinator** : Assoc.Prof.Dr. Ömer Sinan Şahin  
**Mevlana Exchange Program Coordinator** : R.A. Okan Demir

**Purpose:** Bachelors of our department: -are acterised with their enthusiasm and ability for progress in their profession and some of them have plans for graduate study, -are preferred because of their attributes, -are successful in management of processes such as production, production planning, product and process design, R & D, project management, purchasing, sales, maintenance, service, testing, certification, quality control. -are capable to become top-level managers, entrepreneurs and scientists, -can reach to rational and competitive solutions for professional problems taking into consideration global, social, environmental, economic, ethical, and security issues.

**Vision:** Our vision is to graduate engineers who are aware of their duties and responsibilities to the nation and humanity, and who have necessary knowledge, and qualifications to be successful in business life, to contribute to economic and social development of our country and sustainable development of universal science and technology with research work conducted

**Mission:** We expect our graduates have the following acteristics: -Adequate knowledge in mathematics, science and engineering subjects pertaining to the relevant discipline ability to use theoretical and applied information in these areas to model and solve engineering problems. -Ability to identify, formulate, and solve complex engineering problems ability to and apply proper analysis and modeling methods for this purpose. -Ability to design a complex tem, process, device or product under realistic constraints and conditions, in such a way as to meet the desired result ability to apply modern design methods for this purpose. (Realistic constraints and conditions may include factors such as economic and environmental issues, sustainability, manufacturability, ethics, health, safety issues, and social and political issues, according to the nature of the design.) -Ability to devise, , and use modern techniques and tools needed for engineering practice ability to employ information technologies effectively. -Ability to design and conduct experiments, gather data, analyze and interpret results for investigating engineering problems. -Ability to work efficiently in intra-disciplinary and multi-disciplinary teams ability to work individually. -Ability to communicate effectively in Turkish, both orally and in writing knowledge of a minimum of one foreign language. -Recognition of the need for lifelong learning ability to access information, to follow developments in science and technology, and to continue to educate him/herself. -Awareness of professional and ethical responsibility. -Information about business life practices such as project management, risk management, and change management awareness of entrepreneurship, innovation, and sustainable development. -Knowledge about contemporary issues and the global and societal effects of engineering practices on health, environment, and safety awareness of the legal consequences of engineering solution



**Language Program:** More than 45 percent of the courses are conducted in English, remaining in Turkish

**Description of the program:** Mechanical Engineering Department of Selcuk University Engineering Faculty offers undergraduate (B.Sc. degree) and graduate education (M.Sc. and Ph.D. degrees) in mechanical engineering. There are 3 undergraduate programs in the department:

- Normal Education Program
- Second Education Program
- Selcuk University-Montana State University(USA) ME Dual Diploma Program

The syllabus and curriculum Mechanical Engineering Department at undergraduate and graduate levels are annually Updated taking into consideration the on-going developments in science and technology, and the needs of the related parties. Mechanical Engineering Department undergraduate program is a four year eight semester program. Courses offered in the program can be classified in two groups: Courses that are obligatory for all engineering departments and the courses aimed at providing special information on mechanical engineering. The obligatory courses that aim to set up an engineering foundation include: basic sciences and mathematics courses, common engineering subjects and the courses of social sciences. Total credit of mathematics and basic science courses (Physics, Chemistry, and Statistics) is 33 credit hours. Total credit hours for graduation is about 140.

**Admission Requirements:** Students are admitted to our department according to the score they receive from Central University Entrance Examination conducted by Student Selection and Placement Center (ÖSYM).

**Recognition of Prior Learning:** Transfer students have the right to be exempted to take the courses that they had been successful in their earlier education. The list of the courses to be exempted is decided by ME Department Adaptation Committee after comparing the catalogue definition of the courses received with the courses in our curriculum and corresponding grades received.

**Graduation Requirements:** Students should fulfill the necessary credit requirements stated in ME Dept. Curriculum and receive a GPA standing of at least 2.00 in order to graduate.

**Principles of Measurement and Evaluation:** Normally, students should receive a minimum of CC grade in order to be successful in a course. Besides, students who make a semester grade point average of 2.00 are pass the courses that they have received a minimum of DD grade in that semester. Students should repeat any course that they couldn't pass.

**Employment Opportunities:** Approximately 25 % of our junior and senior students work in industry during their education. Graduates of our department find a job with good salary in a few months following their graduation.

**Jump to the top of Degree Programs:** Approximately 25 % of our graduates enter graduate programs. Ratio of graduate students to undergraduate students is about %25 in our department. Our graduates enter to M.Sc., MBA or Ph.D. programs in Turkish universities or universities abroad.



**Head of Department:** Prof. Dr. Muammer Ozgoren

Approximately, 45 percent of the courses are conducted both in English and Turkish, remaining are conducted in Turkish. 30 % of the credits to be fulfilled for graduation must be collected from courses conducted in English.

Normal Education and 2. Education bachelor degree programs of Selcuk ME are accredited by the board of national MÜDEK and international ENAEE simultaneously. <http://www.enaee.eu/what-is-eur-ace-label/heis-seeking-the-eur-ace-label-for-their-engineering-programmes>

MÜDEK -Association for Assessment and Accreditation of Engineering Education Programs is the national accreditation body for engineering education programs in Turkey.

MÜDEK is a member of European Network for Accreditation of Engineering Education-ENAEE. MÜDEK accreditation procedure complies with national accreditation criteria and also European quality criteria set for engineering education.

By receiving MÜDEK accreditation Selcuk ME received the right to use the EUR-ACE ® ENAEE Accreditation quality mark.

Turkish national accreditation body for engineering education; MUDEK became a signatory member of Washington Accord on June 15, 2011. The Washington Accord agreement, signed in 1989, is an international agreement among bodies responsible for accrediting engineering degree programs. It recognizes the substantial equivalency of programs accredited by those bodies and recommends that graduates of programs accredited by any of the signatory bodies be recognized by the other bodies as having met the academic requirements for entry to the practice of engineering.

MÜDEK accreditation received by Selcuk ME is recognized as the substantial equivalent of programs accredited by signatories of Washington Accord. Washington Accord recommends graduates of programs accredited by any of the signatory bodies be recognized by the other bodies as having met the academic requirements for entry to the practice of engineering.





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Signatories of Washington Accord are as follows:

- Australia- Represented by Engineers Australia (1989)
- Canada- Represented by Engineers Canada (1989)
- Chinese Taipei- Represented by Institute of Engineering Education Taiwan (2007)
- Hong Kong China- Represented by The Hong Kong Institution of Engineers (1995)
- Ireland- Represented by Engineers Ireland (1989)
- Japan- Represented by Japan Accreditation Board for Engineering Education (2005)
- Korea- Represented by Accreditation Board for Engineering Education of Korea (2007)
- Malaysia- Represented by Board of Engineers Malaysia (2009)
- New Zealand- Represented by Institution of Professional Engineers NZ (1989)
- Singapore- Represented by Institution of Engineers Singapore (2006)
- South Africa- Represented by Engineering Council of South Africa (1999)
- Turkey- Represented by MUDEK (2011)
- United Kingdom- Represented by Engineering Council UK (1989)
- United States- Represented by Accreditation Board for Engineering and Technology (1989)



**Selcuk University**  
**Department of Mechanical Engineering**

**First Year**

**1. Semester**

Course	Language	ECTS
Preparatory Class	English	30

**2.Semester**

Course	Language	ECTS
Preparatory Class	English	30

**Freshman Year**

**Fall (1.) Semester**

Code	Course	Lect.+Recit.+Lab.	Language	ECTS
1210101	Computer Aided Technical Drawing I	2+2+0	English-Turkish	6
1210123	Calculus I	4+2+0	English	6
1210124	Physics I	3+0+2	English	6
1210106	Turkish Language 1	2+0+0	Turkish	2
1210107	History and Principles Of Ataturk 1	2+0+0	Turkish	2
1210111	Introduction to Mechanical engineering and Professional Ethics	3+0+1	English	5
1210120	Advanced Foreign Language I	3+0+0	English	3
<b>Total ECTS</b>				<b>30</b>

**Spring (2) Semester**

Code	Course	Lect.+Recit.+Lab.	Language	ECTS
1210202	Computer Aided Technical Drawing II	2+2+0	English-Turkish	5
1210203 1210221	Statics	4+0+0	Turkish-English	5
1210223	Calculus II	4+2+0	English	6
1210224	Physics II	3+0+0	English	5
1210206	Turkish Language II	2+0+0	Turkish	2
1210207	History and Principles Of Ataturk II	2+0+0	Turkish	2
1210228	Chemistry	3+0+2	English	5
<b>Total ECTS</b>				<b>30</b>



## Sophomore

### Fall (3.) Semester

Code	Course	Lect.+Recit.+Lab.	Language	ECTS
1210300	Mechanical Engineering Orientation Internship <sup>1</sup>	15 work day	English-Turkish	3
1210301	Materials Science I	3+0+0	English-Turkish	4
1210302 1210310	Dynamics	4+0+0	English-Turkish	5
1210317	Presentation Techniques	1+1+0	English	2
1210304	Thermodynamics I	3+0+0	Turkish	5
1210311	Differential Equations	3+0+0	English	4
1210306	Fundamentals of Electrical Engineering	3+0+2	Turkish	4
1210315	Advanced Foreign Language II	3+0+0	English	3
Total ECTS				30

### Spring (4.) Semester

Code	Course	Lect.+Recit.+Lab.	Language	ECTS
1210401	Theory Of Machines I	3+0+0	Turkish	5
1210402	Materials Science II	3+0+1	English-Turkish	4
1210404 1210410	Strength of Materials Strength of Materials	4+0+0	English-Turkish	5
1210405	Thermodynamics II	3+0+0	Turkish	4
1210412 1210406	Applied Mathematics for Mechanical Engineering Applied Mathematics for Mechanical Engineering	3+0+0	English-Turkish	5
1210411 1210407	Manufacturing Technologies Manufacturing Technologies	3+0+1	English-Turkish	4
1210414	Introduction to Algorithms and Programming	3+0+2	Turkish	3
Total ECTS				30

**Junior**

**Fall (5.) Semester**

Code	Course	Lect.+Recit.+Lab.	Language	ECTS
1210500	Industrial Manufacturing Internship <sup>1</sup>	30 work day	English-Turkish	3
1210501 1210510	Theory of Machines II Theory of Machines II	3+0+0	English-Turkish	4
1210502 1210512	Machine Elements I Machine Elements I	3+0+0	English-Turkish	5
1210504 1210511	Fluid Mechanics Fluid Mechanics	4+0+0	English-Turkish	4
1210505	Heat Transfer	3+0+0	Turkish	4
1210507	Manufacturing Technologies	3+0+0	Turkish	4
1210515 1210516	Numerical Methods for Engineers and MATLAB Numerical Methods for Engineers and MATLAB	3+0+1	English-Turkish	4
1210517	Social Elective I	2+0+0	English-Turkish	2
<b>Total ECTS</b>				<b>30</b>

**Spring (6.) Semester**

Code	Course	Lect.+Recit.+Lab.	Language	ECTS
1210601 1210610	System Dynamics and Control	3+0+1	English-Turkish	5
1210602	Machine Elements II	3+0+0	Turkish	6
1210611 1210604	Thermal Environmental Engineering	3+0+0	English-Turkish	5
1210605	Energy Conversion Systems	3+0+0	English-Turkish	4
1210630	Experimental Methods for Engineers	3+0+0	Turkish	5
1210618 1210619	Statistics and Applications in Engineering	2+1+0	English-Turkish	3
1210616	Social Elective II	2+0+0	English-Turkish	2
<b>Total ECTS</b>				<b>30</b>



Senior

Fall (7.) Semester

Code	Course	Lect.+Recit.+Lab.	Language	ECTS
1210700	Industrial Organization Internship	15 work day	English-Turkish	3
1210729	Graduate Project I	3+3+0	English-Turkish	5
1210752- 1210749	Mechatronic Systems	3+0+0	English-Turkish	5
1210701	Graduate Thesis II	3+3+0	English-Turkish	13
<b>Core Elective I-II-III-IV <sup>4</sup></b>				
Code	Course	Lect.+Recit.+Lab.	Language	ECTS
1210728	Mechanical Engineering Design	3+0+0	English	4
1210755	Injection Technology and Die Design	3+0+0	Turkish	4
1210753	Technology & Innovation Management	3+0+0	English	4
1210742	Energy Management	3+0+0	English	4
1210733	Heating System Design	3+0+0	English	4
1210726	Cooling Technology	3+0+0	Turkish	4
1210751	Industrial Flow Simulation	3+0+0	Turkish	4
1210738	Sheet Metal Die Design	3+0+0	Turkish	4
1210745	Material Selection	3+0+0	Turkish	4
1210743	Thermal Insulation	3+0+0	Turkish	4
1210761	Introduction to Robotics	3+0+0	Turkish	4
1210744	Mechanical Behavior of Materials	3+0+0	English	4
1210748	Plastic Materials	3+0+0	Turkish	4
1210710	Introduction to Nanotechnology	3+0+0	English	4
1210731	Thermal Turbo Machinery	3+0+0	Turkish	4
1210754	Machine Construction	3+0+0	Turkish	4
1210762	Vehicle Dynamics	3+0+0	Turkish	4
1210734	Internal Combustion Engines	3+0+0	Turkish	4
1210711	CNC machine tools	3+0+0	Turkish	4
1210706	Hydraulic Machines	3+0+0	Turkish	4
1210747	Planet Mechanisms	3+0+0	Turkish	4
1210727	Mechanical Vibrations	3+0+0	Turkish	4
1210764	Design of Thermal Systems and Insulation	3+0+0	Turkish	4
<b>Administrative Sciences Elective I</b>				
Code	Course	Lect.+Recit.+Lab.	Language	ECTS
1210756	Strategic Management	2+0+0	Turkish	2
1210757	Operating Organization	2+0+0	Turkish	2
1210758	Enterprise Resource Planning	2+0+0	Turkish	2
1210763	Intellectual and Industrial Property Rights	2+0+0	Turkish	2
1210759	Project Management	2+0+0	Turkish	2
<b>Total ECTS</b>				<b>30</b>

Senior

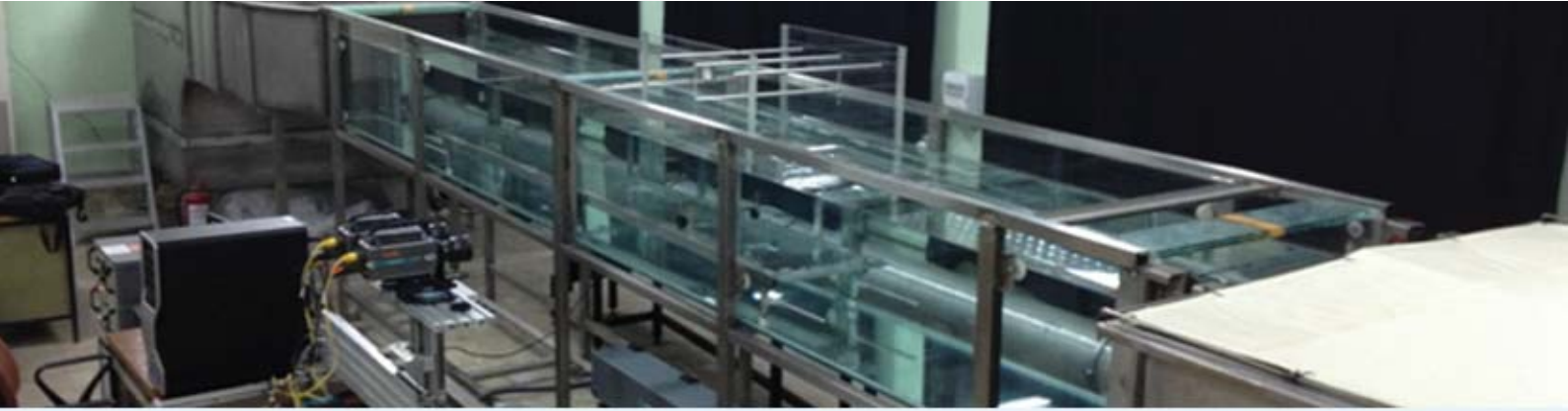
Spring (8.) Semester

Code	Course	Lect.+Recit.+Lab.	Language	ECTS
1210801	Graduate Thesis II	3+3+0	English-Turkish	13
1210805	Social Responsibility	1+1+0	English-Turkish	3
<b>Core Elective V-VI-VII <sup>4</sup></b>				
Code	Course	Lect.+Recit.+Lab.	Language	ECTS
1210831	Solar Energy and Applications	3+0+0	Turkish	4
1210832	Natural Gas System Design	3+0+0	Turkish	4
1210846	Modeling and Simulation of Deformation Processes	3+0+0	Turkish	4
1210816	Hydraulic and Pneumatic	3+0+0	Turkish	4
1210811	Quality Management and Standardization	3+0+0	English	4
1210841	Heat Exchangers	3+0+0	English	4
1210812	Air Conditioning System Design	3+0+0	English	4
1210817	Introduction to Composite Materials	3+0+0	English	4
1210853	Nuclear Energy	3+0+0	Turkish	4
1210840	Engine Dynamics	3+0+0	Turkish	4
1210834	Pumping Systems	3+0+0	Turkish	4
1210847	Alternative Energy Sources	3+0+0	English	4
1210852	Introduction to Finite Element Method	3+0+0	English	4
<b>Administrative Sciences Elective II</b>				
Code	Course	Lect.+Recit.+Lab.	Language	ECTS
1210848	Manufacturing Management	2+0+0	Turkish	2
1210849	Engineering Economics	2+0+0	Turkish	2
1210828	Principles of Marketing	2+0+0	Turkish	2
1210829	Entrepreneurship and Preparing Work Plan	2+0+0	Turkish	2
1210851	Occupational Safety and Ergonomics	2+0+0	Turkish	2
<b>Total ECTS</b>				<b>30</b>























**Selcuk University** is located in the city of KONYA, the largest city in Central Anatolian Region of Turkey and only 1.5 hours from the county's capital Ankara by train. Konya has a rich history of 3.000 years throughout several civilizations and an ever-growing current population of 2 million people. Being the capital of Seljukid Empire in the past and a large industrial, commercial and cultural center today, it offers everything one can expect in a modern metropolitan area while representing the indigenous, local culture and hospitality of Central Anatolia as well.

### ***Transport***

There are a large number of traveling opportunities from Konya like airway, railway or land routes. Konya has an International Airport One can find both domestic and international flights frequently. Turkish Airlines, Pegasus Airlines and Anadolu Jet offer flights from Istanbul to Konya Airport, located about 10 km out of city and 5km to the Campus. In the summer period it's also possible to fly from various European countries, such as Netherlands, Germany, Norway, Denmark. There are many High Speed Train trips during the day to Konya from Ankara, Istanbul and Eskisehir, which makes Konya very accessible to these Metropolitans. It is also possible to travel by bus to any city in Turkey from Konya in any time during the day.





## *Education in Konya*

There are four universities in Konya:

- 1) Selcuk University This is the largest university in Turkey with about 80,000 students. It's main campus is on the edge of town.
- 2) KTO Karatay University: Located in the downtown, focuses on industry and business.
- 3) Mevlana University: private university located on the outskirts of the town. 2,000+ students. About a kilometer from Selcuk University.
- 4) Konya Necmettin Erbakan University: Government University that was a part of Selcuk University in 2011. They have at least two campuses in the downtown.

Tourist Attractions

### *Mevlana Museum*

The former whirling dervish hall shelters the tomb of Jelaleddin Rumî, and draws pilgrims from around the world.

### *Alaaddin Hill (Alaaddin Tepesi).*

This is an artificial hill that was built by the Seljuk Sultan Alaaddin Keykubat. Today it stands right in the middle of the city, and serves mostly as a park.

### *Alaettin Mosque*

Set atop the ancient tumulus of Alaeddin Tepesi, Konya's most venerable mosque (1221) is a forest of columns behind a grand portal, and shelters the tombs of many Seljuk Turkish sultans.

### *İnce Minare Medrese*

Built as a theological seminary, this graceful Seljuk building (1267) now serves as the Museum of Wooden Artifacts and Stone Carving, but it is as beautiful as ever—a must-see.

### *Great Karatay Medrese (Tile Museum)*

An inspiration for the nearby İnce Minare, this slightly earlier seminary (Büyük Karatay Medresesi, 1251-52) endowed by Seljukians.

### *Meram.*

This is the district of Konya which lies somewhat away from the city center, with lighter construction and more greenery. The name "Meram" also refers to the popular picnic area located in the farther corner of the Meram district.

### *İplikçi Mosque*

This big boxy mosque right in the center of Konya dates from the late 1100s, but was extensively restored several times.

## *Sırçalı Medrese*

The "Glass Seminary" takes its name from its glazed blue tiles. It's now a Museum of Gravestones, but it's the wonderful building you want to see.

## *Sille*

Sille was a Greek ('Rum') orthodox village 8km away from city center. It had some importance, judging the size of the 'Aya Eleni'-church that still stands in its centre.

## *Saint Paul Catholic Church*

Alaaddin Hill, between the Alaaddin and Zafer tramway stations. It can be seen from the street. The lone operating church left in Konya. Built in the 1910's by the Italian railroad workers. The church mainly cares for the spiritual needs of tour groups and the handful of Christian expatriates.

## *Archeological Museum*

Konya's Arkeoloji Müzesi is worth a visit for all its exhibits, but especially the artifacts from the Neolithic site at Çatalhöyük.

## *Mevlana Cultural Center*

For years the Şeb-i Aruz commemoration ceremonies of Jelaeddin Rumî's death were held in Konya's sports hall. This wonderful new cultural center was built to be worthy of the solemn occasion, and of Rumî's worldwide renown.

## *Excursion to Çatalhöyük*

Çatalhöyük, 45 km (28 miles) southeast of Konya, holds the remains of a Neolithic (New Stone Age) settlement believed to be among the world's oldest human communities (9500 years old). it was inscribed as a UNESCO World Heritage Site.

## *Excursion to Beyşehir*

This town on the eastern shore of the large Beyşehir Lake boasts one of the finest and most unusual Seljuk Turkish mosques in Anatolia, the Eşrefoğlu Camii. Beyşehir is a great place to stop for tea or a lunch of lake fish 90 km away from Konya.

## *Tuz Gölü (literally Salt Lake)*

about an hour away on the road north to Ankara, is Turkey's second largest lake after Lake Van, although only about 2 meters deep at most. During summer months, it literally evaporates and leaves behind a flat and completely white landscape, just like a salt desert. It's also a good spot for birdwatching as it's an important stop-over for migratory birds on their route from Europe to Africa and vice versa during spring and autumn.



**Alanya** is a beach resort city and a component district of Antalya Province in the Mediterranean Region of Turkey. The Mediterranean climate, natural attractions, and historic heritage makes Alanya a popular destination for tourism. Warm-weather sporting events and cultural festivals take place annually in Alanya.

**Erciyes** The ski centre at Mt Erciyes is located on the side of the mountain of the same name. The extensive skiing at Mt Erciyes takes place between 2200m and 3100m, making this a high-altitude and snowsure destination with open skiing above the tree-line. Mt Erciyes is, also, a summer ski area and 300km away from Konya.

**Cappadocia** which is unique in the world and is a miraculous nature wonder is two hours from Konya. Cappadocia which is in our days one of the most important tourism centers of Turkey and Cappadocia balloon tour on of the most popular balloon tour center of the world is visited every year by hundred thousands of tourists coming from every part of the world.

**Corycos-Mersin** is a very important historical heritage ruled by Selevkoses, Romans, Seljuks, Armenians, French (Kingdom of Cyprus), Karamans and Ottomans throughout the history. This place whose first settlement goes back to B.C. 4. century is located only 3 hours away from Konya

**Pamukkale**, meaning "cotton castle" in Turkish, is a natural site in Denizli Province in southwestern Turkey. The city contains hot springs and travertines, terraces of carbonate minerals left by the flowing water.

**Ankara** is the capital of Turkey since the Ottoman Empire's fall in 1923 and the country's second largest city, 1,5 hours away from Konya.

**Antalya** is one of the most famous touristic cities all over the world. In 2012, Antalya became the third most visited city in the world by number of international arrivals, ranking behind Paris and London, respectively. It is Turkey's biggest international sea resort, located on the Turkish Riviera 3 hours from Konya.



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Erasmus Coordinator

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