

Agreement of Cooperation among
University of Bergen, Norway;
University of Barcelona, Spain;
University of Cádiz, Spain;
University of the Algarve, Portugal;
Gdańsk University of Technology, Poland;

on an ERASMUS MUNDUS Joint Master Degree programme in
Quality in Analytical Laboratories (EMQAL) 2019-2025

Between:

The University of Bergen, represented by Dag Rune Olsen, Rector, Musépllass 1, Postboks 7800, 5020 Bergen, Norway, hereinafter referred to as Coordinator
The University of Barcelona, represented by Alejandro Aguilar Vila, Vice-rector, Gran Via de les Corts Catalanes, 585, 08007 Barcelona, Spain,
The University of Cádiz, represented by Eva Garrido Pérez, Vice-rector, Centro Cultural Reina Sofía, Paseo Carlos III, nº 9, 11003, Cádiz, Spain
The University of the Algarve, represented by Paulo Águas, Rector, Campus de Penha, 8005-139, Faro, Portugal,
Gdańsk University of Technology, represented by Janusz Nieznański, Vice-rector, 11/12 Narutowicza str., 80-233 Gdańsk, Poland,

Hereafter referred to as the parties

HAVE AGREED

On the goals and tasks stated below.

Article 1: Background

EMQAL is a continuation of a joint international master's programme that has been in existence since the first student admission in 2008. 10 student intakes have received Erasmus Mundus funding, up to and including the 2017 intake. After a successful application, EMQAL have received funding for an additional four intakes, starting in 2020. That means that EMQAL will cover the following four cohorts of students: 1st (2020-2022), 2nd (2021-2023), 3rd (2022-2024) and 4th (2023-2025).

The EMQAL consortium consists of five European universities. Previous editions have had consortium partners from outside of Europe. For practical and administrative reasons these are now associated partners.

This agreement is in part based on the previous agreement between the parties, but is expanded to encompass areas not covered in the original agreements. These additions are in correspondence with the current EMQAL practice.

Article 2: Purpose

The mission of EMQAL is capacity building and training of students to form highly competent professionals for implementing and managing Quality Systems in analytical laboratories. These can be in diverse fields of analysis according to European standards and policies. EMQAL also promotes European cooperation and research leading to higher quality standards in laboratory accreditation.

The vision of EMQAL is to be a world leader and reference in Higher Education for analytical laboratory professionals. EMQAL also aspires to be a model of successful European cooperation promoting international harmonization of analytical procedures.

The parties share similar missions, academic interests and research foci. The parties wish to further develop their collaboration under ERASMUS MUNDUS by offering an integrated study programme and cooperating on common standards for admission, a common application procedure, and joint selection of candidates based on transparent selection procedures.

Article 3: Roles and duties of the parties

The coordinator represents the link between the EMQAL consortium and the European Commission. The other parties have given the coordinator mandate to deal with the communication with the European Commission. He is responsible for submitting reports in accordance with EU rules and deadlines, and overseeing all aspects of the master's programme. He is responsible for maintaining the EMQAL website. The coordinating institution receives the allocated funds from the EU, and distributes these according to the rules described in this agreement. The coordinating institution is responsible for issuing diplomas. This will be signed by the coordinating institution and any other Partner University in which the student studied. The coordinating institution is responsible for arranging insurance for students financed via the Erasmus Mundus scholarships.

All parties contribute to a large extent and are involved in all decisions of the programme. All parties are actively involved in teaching the contents of the course. Each university teach at least 10 ECTS annually in the taught course. The role of hosting the taught course is rotated among the institutions on an annual basis. All universities offer and supervise Research Master's Theses (RMTs) and arrange for an internship period of three months.

All parties are equally dedicated to promoting EMQAL and distributing information to prospective students.

Article 4: Joint governing bodies

EMQAL is coordinated by the University of Bergen. The University of Bergen is represented by Professor Bjørn Grung from the Department of Chemistry. The coordinator has overall responsibility for the program.

Each of the four editions will have a Program Director (PD). The PD is a representative from the institution hosting the current edition of EMQAL, and is the main person responsible for running that edition of EMQAL.

EMQAL is governed by several bodies. The daily and continuous operation of EMQAL is ensured by the Program Management Team (PMT). The PMT consists of a member from each of the consortium full partners. The PMT assists the PD with the academic administration of the course; assists with the day-to-day operation of the programme; assists with the recruitment and induction of students; assists with the preparation of the programme calendar including timetabling and administration of dissertation selection and supervision; assists with the publicity and marketing of the programme and obtaining external sponsorship; assists with careers guidance; assists with personal tutoring and the management of research projects. The PMT suggests and External Examiner to the Program Committee. The PMT is responsible for quality assurance of the master. The PMT may introduce changes in the course curriculum, including the distribution of modules across the disciplines, if they find this necessary. Student complaints are handled by the PMT. Inclusion of new associate partners must be approved by the PMT. Partner disputes are handled by the PMT. The PMT has at least two annual physical meetings, and conduct meetings by videoconference whenever needed. Such meetings are usually conducted on a monthly basis.

The Selection Committee, appointed by the PMT, consists of one member of staff from each European institution, chosen to provide a balanced representation of the specific disciplines under consideration. The selection committee utilises a confidential, fair and equitable evaluation procedure in accordance with the applicable criteria, and in full adherence of the relevant rules and regulations. The committee ensures that the process runs efficiently and fairly, avoiding any conflict of interest, that access to the information pertaining to the procedures is strictly controlled and that the most efficient use is made of the time of the all committee members.

The Programme Committee (PCm) is responsible for proposed policy developments, academic standards and any substantial matters affecting course delivery. It meets once a year, after or towards the end of the curricular year, to review the implementation of policy, development of the programme and student feedback. It is also responsible for the annual review of the programme. Members of the PCm include the coordinator; the PD, all members of the PMT, representatives and observers from collaborating organisations (to ensure the courses are relevant to the "world of work"), student representatives (one representative from each of the two current editions); a representative module leader and at least one project/internship supervisor. Its terms of reference are: to monitor student admissions; to review the performance and progress of the programme; to address student concerns; to recommend the appointment of appropriate External Examiners; to consider proposals from the PMT concerning the operation and development of the programme.

For each edition, the students select a student representative. This representative acts as a link between the student body and the PMT and PD. The selection takes place during the first weeks of the edition. As there are two editions running at the same time, most of the time there are two student representatives. The student representatives are full members of the PCm, and their travel to and stay at their meetings is paid by the consortium. For these meetings, the student representatives provide a written report, highlighting strong and weak points of the programme. They also present their findings orally and there is a plenary discussion following this

presentation. Furthermore, in the event of any problems or complaints the student representatives act as a link between the PMT and the student body.

The Examiner's Board (EB) consists of the coordinator and representatives from three Universities: the previous year's host, the current year's host and next year's host. The EB meets annually to draft the annual report based on the quality indicators of the Master's, including student, lecturer and supervisor feedback, complaints, student performance, research results and previous reports. The report evaluates the course, the actions and the mechanisms put forward by the consortium to achieve the objectives established previously by the PCm, from the point of view of their effectiveness and efficiency. The report from the EB is presented to the PCm and is used as the basis for new decisions regarding course development.

The External Examiner assures an external and independent evaluation of the course. The PMT suggests an External Examiner to the PCm who appoints the External Examiner. The External Examiner is either a university professor in a relevant field with experience in academic management, or a professional with knowledge on audit processes. The External Examiner cannot be affiliated with any of the EMQAL consortium members or their universities. The External Examiner attends the annual Examiner's Board and Program Committee meetings. The role of the External Examiner is to provide the Program Committee with an independent analysis of the mechanisms and actions established for the evaluation and continual improvement of the course, verifying their effectiveness and consistency. The External Examiner also serves as a contact point for students in case of any complaints.

Article 5: The academic programme

EMQAL is a two year, 120 ECTS, programme. There are three main components: The first year consists of 60 ECTS in the shape of a fully integrated taught (curricular) course. The second year consists of two parts: A three-month internship in an accredited laboratory or in a laboratory with a quality management system implemented, and a research project leading to a dissertation. Combined, this constitutes a further 60 ECTS.

The taught curriculum is integrated and jointly developed. It is fully recognised by all the institutions in the consortium, and hosted on an annual rotating basis at the consortium member institutions. At the time of writing, the course consists of 4 main disciplines: Quality Management; Analytical Methods, Data Analysis and Professional Skills. These disciplines are essential for the training of a successful laboratory manager. Each discipline is made up of "stand alone" modules worth 2 ECTS. Each module is taught during one week of classes. Project work, submissions and examinations are in addition to this. All modules in Quality Management, Data Analysis and Professional Skills are mandatory. This means that every student will have 20 ECTS Quality Management, 12 ECTS Data Analysis and 10 ECTS Professional Skills. The remaining 18 ECTS are selected individually from the Analytical Methods modules and modules offered by invited scholars, to arrive at a total of 60 ECTS. These modules are selected so as to best meet the professional development needs of each student. At least 10 ECTS must be selected from Analytical Methods modules.

Each module is lectured by a specialist in the field, drawn from one of the universities in the consortium. The teaching staff of the five universities in the consortium is, as such, considered as one large faculty. Each university is responsible for offering at least 5 modules (10 credits).

The second year consists of a three-month internship and a research project. At the onset of the programme, the students choose a research project from a list of research projects offered by the consortium. Some projects are offered jointly by two universities in the consortium, in which case the student divides the time between the institutions. Other projects are offered jointly by a full partner university and an associate partner.

The students are asked to select up to five research projects from the list provided, ranking them in order of preference. In case of several students selecting the same project, the student ranking list resulting from the selection of candidates in the application to the programme is used to decide who gets their preferred choices fulfilled. Self-paying students are ranked using the same approach as for EU grant holders, and the two ranking lists are merged when ranking the students for the selection of the research projects. When assigning research projects, equal distribution of students among consortium partners is aimed at.

A suitable internship in the same country as the research project is presented to the student after the selection of the research project. This is carried out in an accredited laboratory or in a laboratory with a quality management system implemented. It takes place towards the end of the second academic year.

The internship and the research project are reported in a dissertation. In total, this corresponds to 60 ECTS. The dissertation is to be publicly defended at the end of the second year in the University in the consortium where the student has run the research project. Students who have done a research project shared between two institutions defend their dissertation in the university in the consortium where the student finished their research project.

The curriculum program and learning outcomes are included as an annex (A1) to this agreement.

Article 6: Programme structure and mobility paths

For the first year all students take courses worth 60 ECTS. These are all taught at the host university, the role of which rotates annually. The annual hosts for the taught programme covered by this application are: 2020-2021 Bergen; 2021-22 Barcelona; 2022-23 Gdańsk; 2023-24 Algarve (Faro).

EU rules states that studentship holders must spend at least one semester (30 ECTS) in at least two of the consortium partner institutions based in countries other than that in which the studentship holder obtained his/her last university degree. Most students will spend the second year (60 ECTS) with another consortium partner institution in a different country, in compliance with these mobility rules. Some students may opt for spending only one semester (30 ECTS) with another consortium partner institution in a different country, while spending one semester (30 ECTS) with a consortium partner institution in the same country as where the curriculum year was hosted. This

requires that a cooperative research project exists which enables student's to choose this option.

A final version of the mobility scheme involves the associate partners. Provided no conflict with the requirements of spending at least six months in a second Program Country (as defined by the Erasmus Mundus mobility rules), time may be spent working on the research project at the site of an associate partner outside of the second Program Country. This location cannot be in the homeland of the student. Funding from the EU can only cover a maximum of three months in such a situation.

Article 7: Financial transactions and funding

The coordinating university receives funding from the EU, and distributes the funds according to the distribution scheme mapped out later in this agreement.

Students with Erasmus Mundus scholarships are entitled to financing according to the EU rules and regulations, as found in the Erasmus Mundus Programme Guide. On arrival in Europe, the travel cost is paid by the coordinating university to the students. The size of this payment is decided using the Erasmus Mundus regulations. Students are paid monthly by the university where they study. The monthly stipend consists of two parts: The actual studentship, as well as the installation costs. The latter is divided into monthly aliquots to cover the whole period of their stay. No tax is deducted from the payment to the students. The payment is done via monthly bank transfers for the duration of the programme. Students must therefore open a European bank account once in Europe, and submit the necessary information to the financial office. As it may take some time to open a bank account after arrival, alternative payment schemes (cheque, cash card etc.) will be utilised until the bank account is opened. Payment may also be carried out to the students' bank account in their home countries, if practical. In such cases, bank commissions are paid by the recipient. This corresponds to the established practice in EMQAL.

Before registering at the host university, studentship holders are asked to sign a student agreement. This is signed by the coordinator on behalf of the consortium and covers the mutual rights, obligations and responsibilities of the student and the consortium as regards the academic, administrative and financial aspects of the Master's and the grant. Due to the nature of the research master project, an agreement on intellectual property rights (IPR) is also signed. This is based on the IPR agreement in use at the University of Bergen.

The fixed contribution to EMJMD management is 50.000€ for each edition. Out of this, 15.600€ is used to pay for scholarships for visiting experts (8 weeks at 1950€ per week). These payments are handled by the coordinating university and paid to scholars before they initiate their mobility programme.

The remaining 34.400€ is the lump sum (L) per edition. This is divided among the consortium partners as follows: The coordinating institution receives $2L/(n+1)$, where n is the total number of partners. Currently, $n = 5$. The other partners receive a sum corresponding to $L/(n+1)$. This is used to cover administrative and management costs, such as travel and accommodation when participating in EMQAL management meetings.

There is a preparatory year prior to the first intake of students in October 2020. The lump sum for this year is €20.000. There are no visiting scholars during the preparatory year, and this amount is divided among the consortium partners in the same way as described in the previous section.

The participation cost per student per edition paid by the EU depends on whether the student is from a Programme or Partner country. The consortium receives €9.000 for Programme country students and €18.000 for Partner Country students. From this, the coordinating university arranges an insurance policy for each student. The insurance coverage is to be at least equal to the minimum requirements of the Erasmus Mundus regulations. The price of the insurance policy (currently €800 for two years) is deducted from the participation costs for each student. The remainder is the operational costs for each student, which is to be distributed among the host university (to receive 60 %) and the research project university (to receive 40 %). In the event of the research project being shared between two or more universities, these universities share the operational costs, according to the duration of stay at each university.

The operational costs are used to run the master's programme. This includes travel expenses and accommodation for visiting lecturers, payments for external professionals teaching some modules, chemicals, equipment, consumables, software licenses, costs connected with excursions, expenses linked to the master project, exams and other operational costs.

The coordinating university transfers all appropriate funds annually around October 1st to the host and research master project universities, according to the number of students present at each site. A document explaining the details of the transactions is to be emailed to the PMT member at the receiving university at the same time. The transmitted funds are paid to the students by the receiving universities, according to the Erasmus Mundus regulations. In the event of students quitting the program prematurely for any reason, monthly payments to the students immediately stop. Any unspent funds because of this are returned to the coordinating institution, which returns it to the EU.

The host university is responsible for the travels and accommodation for the visiting lecturers. Other expenses (diet etc.) are not the responsibility of the Host university but are covered by the lecturer's home university. For research master thesis exams, the partner at which the exam takes place pays for accommodation and travel for the external PMT member being part of the jury. During the annual meeting of the Program Committee, the current edition Host pays travel and accommodation expenses for the student representatives and members of the Program Committee external to the consortium.

All complementary funding from non-EU sources is to be distributed among the consortium members in a similar way as the EU funds. Funds for self-paying students are distributed according to the 60-40 rule described above, as long as the university at which the student is registered get their normal operation costs covered. Surplus funds received due to external participation in modules are shared with 60 % to the host university, 16 % to the coordinating university and 8 % to the other members of

the consortium. Funds received for any other reason are divided with the $L/(n+1)$ rule described above.

Article 8: Student selection and management

Application and admission procedures are common for all students, whether they receive an EU grant or not. The application form is accessed through the EMQAL website, which links to the database and system in use at the University of Barcelona for student applications. Deadline for the application is usually in February. Candidates upload all necessary documents electronically when applying. On submitting the form, applicants are sent confirmation by email. In exceptional cases, applicants may forward copies of additional documentation (diplomas, English certificates, etc.) by email to the coordinator. The application form is designed to allow the evaluators to identify and select highly qualified and motivated graduates. The application consists of a CV including academic qualifications and language skills, a personal statement, a motivational statement; and two referee reports confidential to the student. Candidates are evaluated based on the suitability of their background, their previous grades, their language skills, their personal and motivational statements and the quality of their references. The Selection committee carries out the evaluation, usually in March. Students in contention for a place in the programme must submit a five minute video by email prior to the final selection committee meeting. This is done to ensure adequate language skills among the accepted students. After the evaluation of candidates by the Selection Committee, successful applicants are notified as soon as possible to ensure that visa applications can be processed in time. The documentation pertaining to the selected applicants is checked by the admission officer at the host institution, and candidates are contacted in the event of need for additional information or documentation. All requirements of the respective national legislations of the partner universities must be fulfilled to complete the registration and gain access to the programme. Candidates are asked whether they have special needs (physical disabilities, reduced mobility, vision, hearing or speech, dyslexia, etc.), and provisions are made to help their integration in the learning environment. This may include an increase in the monthly allowance to help cover additional costs. Help is provided to students travelling with their families in order to arrange adequate living facilities.

Self-paying students are treated differently from those receiving EU grants in one aspect only: The application deadline for students applying for EU grants is not observed for self-paying students. These can apply up until three weeks prior to the start of the course.

The following sources of information are made available to students prior to their enrolment and at three different stages: (a) information for candidates and the general public; (b) information for selected students and (c) information for enrolling students.

- (a) Candidates can find general information about EMQAL's objectives, modular content and structure at the EMQAL web page (www.emqal.org). This web page contains information about the partner institutions and links to websites with detailed information about each partner. The application procedure is completed online via the EMQAL website. The student selection procedure

and criteria for selection are described, together with the types of studentship available, costs and services offered.

- (b) All candidates are informed by the publication of provisional lists in the "News" section of the EMQAL web page following the Selection Committee meeting. A short period of appeals is observed. The Selection Committee evaluates each complaint thoroughly, and responds in writing. After the appeal period, the final and definitive lists are published and sent to the EACEA. Candidates awarded Erasmus Mundus studentships are immediately informed via an email from the coordinator. This explains the details of the value of the studentship, deadlines, insurance, alumni and student associations and asks for confirmation of acceptance of the studentship.
- (c) Enrolling students, both grant holders and non-grant holders, are contacted by email by the PD of the Host university with specific information regarding enrolment procedures, the conditions stipulated by the host university, and, where relevant, support for visa application, accommodation and travel arrangements.

Article 9: Student performance monitoring and evaluation

During the curricular year, the Program Director monitors student performance. This includes logging the mandatory attendance to the lectures, and the exam results. In the event of a student failing an exam or submission, a re-sit exam or submission will be given. Students not attending an exam will be registered as Failed, unless they can provide a doctor's sick leave or similar.

Students may attempt passing an exam or submission no more than three times.

For the curricular year, students registering a formal complaint regarding the result of an exam or submission have the right to have their work re-evaluated by a new exam commission appointed by the PMT. Such complaints must be submitted in writing no later than 14 days after the result is conveyed to the student.

Each module is graded. Usually, the ECTS scale (A-F) is used. This is always accompanied by a percentage score (100 – 0 %). If required by local regulations, a grade in the national grade system is issued as well. Annex 2 contains a table describing how to convert between the different grading scales. Upon completion of the curricular year, a grades' transcript is sent by the host university to the university where the student is to carry out the research project, as well as to the coordinating university.

Each individual lecturer is free to decide upon the format of examination. Oral examinations are not recommended due to lack of documentation. In the event of oral examinations taking place, an examiner external to EMQAL must be present and have equal input to the lecturer when it comes to the grade given.

The research master thesis and internship period is evaluated at a public examination, carried out using the regulations at the local university. The thesis defence starts with

an approximately 30 minute presentation by the student. To ensure harmonization of the grades across the consortium, one member of the PMT external to the local university must be one of the examiners.

Upon successful defence of the thesis, the student is presented with a temporary certificate, issued by the local PMT representative. This certificate is used to demonstrate completion of the program while waiting for the official diploma to be finished.

Article 10: Diplomas and diploma supplements

Students who complete the program obtain a joint degree awarded by the consortium universities. All consortium partners have recognized the Erasmus Mundus Master in Quality in Analytical Laboratories degree based on a fully integrated programme. The official name of the master in the different countries is: Norway – Europeisk felles mastergrad i kvalitet i analytiske laboratorier. Spain – Master Universitario Erasmus Mundus en Calidad En Los Laboratorios Analiticos. Portugal – Mestrado Erasmus Mundus em Qualidade em Análises. Poland – Magister (w zakresie) Jakości Laboratoriów Analitycznych. The coordinating institution issues the diplomas. The coat of arms of all partner universities and the Erasmus Mundus logo must be present on the diploma. The diploma is signed by the coordinating institution and any other full Partner University in which the student studied. After issuing and signing the diploma, the coordinating university sends it to the next university for signing. The last university signing the diploma is responsible for sending the diploma and supplement to the student.

If the diploma issued must be validated in Spain, it will be necessary to include the diligence established by the Spanish legislation. The text of the Spanish diligence is included as an annex (A3) to this agreement.

Students will additionally obtain a Diploma Supplement, issued by the coordinating university. The Diploma Supplement clearly indicates the study programme elements and the institutions at which the different parts of the degree have been earned.

Article 11: Common services to students

All consortium partner institutions provide services to the students. The International Offices (or similar units) at the partner institutions assist with applying for visas, assistance in finding adequate accommodation, orientation and help with administrative formalities such as opening a bank account, applying for a residence permit, registering at the university, obtaining a library card, etc. Students with family and/or special needs receive assistance according to these needs. The facilities at host institutions are adapted for disabled students.

Accepted EMQAL students will upon arrival be given access to the electronic Learning Management System in use at the host university. They are provided with a username and password. There, students can find study materials for each module, a discussion forum and access to online questionnaires for the quality assessment of the course. Students will be provided with library and reading room access in the same way as local students. The host university sets up an intensive language survival course of a few weeks duration at the beginning each edition.

Health insurance for Erasmus Mundus scholarship holders is arranged by the coordinating university. Students without such scholarships must provide for such insurance on their own account.

Article 12: Quality Assurance

In order to maintain a high quality Erasmus Mundus Joint Master Degree, the consortium will carry out student evaluation of the course. The Master programme will be subject to transparent quality Assurance mechanisms by the competent national authorities. The parties will collaborate with the national authorities and ENQA in establishing a common framework of reference for Quality Assurance.

Article 13: Quality Policy and Quality Management

The parties agree on the quality principles and concepts as described in the Quality Policy for EMQAL. Their commitment to quality is enshrined in the Quality Policy statement. This statement is attached as an Annex (A4) to this agreement. The Quality Management structure of the EMQAL programme was agreed by all partners and described in detail in its Quality Manual.

Article 14: EMQAL dissemination

Each university will provide information about the programme on their website. The coordinator is responsible for maintaining the EMQAL website (www.emqal.org). Starting September 2022, an annual EMQAL online open access workshop will be held. Here, all students will present their research project as a 20 minute oral presentation. The workshop will be streamed live on the internet, and will be available online for future access. Speakers will deliver their talks using a videoconference system, allowing the workshop to take place without raising prohibitive costs. Attendance is mandatory for the students. Associated partners (and other parties of interest) will be encouraged to participate.

The associate partners, which come from all over the world, have a significant role in promoting EMQAL and attracting new students. All PMT members are committed to spreading information about EMQAL in all relevant fora to attract the best possible students. This includes utilizing the networks at the International Offices at the participating institutions. In order to ensure a geographical balance of potential candidates, the parties will disseminate the existence of EMQAL by oral presentations, posters, brochures at conferences and higher-education fairs, by national and international associations and through websites.

Article 15: Modifications of this agreement

The agreement can be modified only by mutual consent of all parties in written form. Modifications remain otherwise null and void. Any institution wishing to terminate or withdraw from the agreement must inform the other partners in writing, with one year notification. All modifications to this agreement are subject to the condition that they may not endanger the continuation of the Erasmus Mundus Joint Master Degree, as approved by the European Commission. All substantial changes to the agreement, such as the number of ECTS credits, the award of degrees and the termination or withdrawal of a partner should be notified to the European Commission. These

changes cannot be implemented if the Commission is of the opinion that they conflict with the rules of the EMJMD.

Any legislation changes on a national level, or any change in the European Union rules, influencing the contents of this agreement will be handled accordingly.

Article 16: Duration

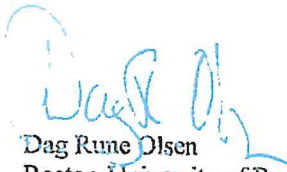
This agreement will be in force from June 1st 2020. The first intake takes place in October 2020. The students from the fourth and final intake are scheduled to graduate by the end of September 2025.

This agreement is valid until September 30th 2025.

Annexes:

1. EMQAL syllabus and learning outcomes
2. Relation between the absolute and relative grades and the different national scales
3. Text of Spanish diligence for diplomas
4. Quality Policy Statement for EMQAL


Signatures:



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Annex 1: EMQAL syllabus and learning outcomes

All parts of the programme (modules, internship, and research project) contribute to the 8 EMQAL learning outcomes:

Upon successful completion of the programme, graduates will be able to:

1. design, implement and manage a quality system in an analytical laboratory;
2. implement suitable internal and external quality control activities in an analytical laboratory;
3. understand, select and apply a set of instrumental analytical techniques appropriate for a given problem;
4. develop and validate new methods of analysis;
5. plan a validation program for a given method of analysis;
6. critically analyse and evaluate data using statistical tools and software;
7. prepare and compile a scientific report and communicate the findings orally;
8. seek employment and be a valuable asset in a professional environment.

Proposed study programme element	Learning outcomes
QM01 Introduction to Quality Management	1
QM02 Laboratory Quality Systems: ISO/IEC 17025	1, 2
QM03 Good Laboratory and Manufacturing Practice	1,2
QM04 Quality Systems Documentation	1
QM05 Risk Assessment in analytical laboratories	1
QM06 Calibration and Verification	2, 4, 5, 6
QM07 Proficiency testing schemes and Reference Materials	2, 4, 5, 6
QM08 Method validation	4, 5, 6, 7
QM09 Internal Quality Control	1, 2, 6
QM10 Laboratory Audits (EN ISO 19011)	1, 7, 8
PS01 Technical writing and scientific communication	7, 8
PS02 IT Tools	6,8
PS03 Project management	8
PS04 Job search strategies	7, 8
PS05 Entrepreneurship and Leadership skills	7, 8
AM01 Water analysis	3
AM02 Food Analysis	3

AM03 Environmental Analysis	3
AM04 Sampling and sample treatment	3
AM05 Advanced Instrumental Analysis in practice	3
AM06 Biological analysis	3
AM07 Molecular Spectroscopy	3
AM08 Vibrational Spectroscopy	3
AM09 Atomic Spectroscopy	3
AM10 Mass spectrometry and Hyphenated techniques	3, 6
AM11 Electroanalytical Techniques	3
AM12 Gas Chromatography	3
AM13 Liquid Chromatography	3
AM14 Extraction methods in analytical chemistry	3
AM15 Quality Parameters and Optimization in Chromatography	3 6
DA01 Statistics	6
DA02 Statistical Decision and Analysis of Variance	6
DA03 Uncertainty Measurement	3, 6
DA04 Experimental Design and Optimization	3, 6
DA05 Pattern Recognition and Classification	6
DA06 Multivariate data analysis	6
Internship	1- 8
Research Master Thesis (RMT)	1 -8

In addition to this, extra modules will be offered by visiting scholars and other experts each edition.

Annex 2: Relation between the absolute and relative grades and the different national scales

Scale 20 - 0 (Portugal)	Scale 5 - 2 (Poland)	Scale 10 - 0 (Spain)	Absolute grade	ECTS Scale Relative grade
20	5,0	10,0	100	A
20		9,9	99	
20		9,8	98	
19		9,7	97	
19		9,6	96	
19		9,5	95	
19		9,4	94	
19		9,3	93	
18		9,2	92	
18		9,1	91	
18		9,0	90	
17		4,5	8,9	
17	8,8		88	
17	8,7		87	
17	8,6		86	
17	8,5		85	
17	8,4		84	
17	8,3		83	
16	8,2		82	
16	8,1		81	
16	8,0		80	
16	7,9		79	
16	7,8		78	
16	7,7	77		
16	7,6	76	C	
15	4,0	7,5		75
15		7,4		74
15		7,3		73
15		7,2		72
15		7,1		71
15		7,0		70
15		6,9		69
14		6,8		68
14		6,7		67
14		6,6		66
14		6,5		65
14		6,4	64	
14	6,3	63		
14	6,2	62		
14	6,1	61		

Scale 20 - 0 (Portugal)	Scale 5 - 2 (Poland)	Scale 10 - 0 (Spain)	Absolute grade	ECTS Scale Relative grade
13	3,5	6,0	60	D
13		6,0	59	
13		5,9	58	
13		5,9	57	
13		5,8	56	
13		5,8	55	
12		5,7	54	
12		5,7	53	
12		5,6	52	
12		5,6	51	
12		5,5	50	
11		3,0	5,4	
11	5,4		48	
11	5,3		47	
11	5,3		46	
11	5,2		45	
10	5,2		44	
10	5,1		43	
10	5,1		42	
10	5,0		41	
10	5,0		40	
9 - 0	<3	4,9 - 0	< 40	F

Annex 3: Text of the Spanish diligence for diplomas. Example from Barcelona.

Universitat de Barcelona

**Diligència per a títol estranger oficial Erasmus Mundus
Diligencia para título extranjero oficial Erasmus Mundus**

El Rector de la Universitat de Barcelona

estén aquesta diligència per fer constar que el present títol sanciona la formació d'Erasmus Mundus pertanyent al Consorci XXXXX que respon al títol de

Master Universitari Erasmus Mundus en XXXXXXX (traducció al català de la denominació que consti en el RUCT un cop aprovat el títol)

Master Universitario Erasmus Mundus en XXXXXXX (denominació exacta que consti en el RUCT un cop aprovat el títol) inclòs en el Registre d'Universitats, Centres i Títols.

El present títol diligenciat faculta

XXXXXX XXXXXXXX

per gaudir en tot el territori nacional dels drets

que les disposicions vigents atorguen a aquest títol,

l'anotació del qual consta en el Registre Nacional de Títols

Universitaris Oficials amb el número 2017/XXXXXX,

i que té la data de fi d'estudis d'XXXX de 20XX.

La persona Interessada El Rector La Cap de Gestió Acadèmica

extiende la siguiente diligencia para hacer constar que el presente título

sanciona la formación de Erasmus Mundus perteneciente al Consorcio

XXXXX que responde al título de

Master Universitari Erasmus Mundus en XXXXXXX (traducció al català de la denominació que consti en el RUCT un cop aprovat el títol)

Master Universitario Erasmus Mundus en XXXXXXX (denominació exacta que consti en el RUCT un cop aprovat el títol)

incluido en el Registro de Universidades, Centros y Títulos.

El presente título diligenciado faculta a

XXXXXX XXXXXXXX

para disfrutar en todo el territorio nacional de los derechos

que a este título otorgan las disposiciones vigentes,

constando su anotación en el Registro Nacional de Títulos

Universitarios Oficiales con el número 2017/XXXXXX,

y con fecha de fin de estudios d'XXXX de 20XX.

La persona interesada El Rector La Jefa de Gestión Académica

XXXX XXXX Joan Elias i Garcia Dèlia Monfort Gramisel

Clau / Clave:

Annex 4:

Quality Policy for Erasmus Mundus Master in Quality in Analytical Laboratories

The Erasmus Mundus Master in Quality in Analytical Laboratories (EMQAL) is a Joint Master course developed by the consortium of Universities. These are the University of Bergen, University of Barcelona, University of Algarve, University of Cádiz and Gdansk University of Technology. The Universities in the Consortium have agreed on the following Quality Policy regarding EMQAL:

The mission of EMQAL is the capacity building and training of students to form highly competent professionals for implementing and managing Quality Systems in analytical laboratories. These can be in diverse fields of analysis according to European standards and policies. EMQAL also promotes European cooperation and research leading to higher quality standards in laboratory accreditation.

The vision of EMQAL is to be a world leader and reference in Higher Education for analytical laboratory professionals. EMQAL also aspires to be a model of successful European cooperation promoting international harmonization of analytical procedures.

EMQAL has implemented a Quality System in order to pursue this vision and continuously enhance the quality of the joint master course. It has established the following quality objectives:

- to implement adequate internal quality assurance mechanisms at three different levels: lecture modules, programme and host institutions facilities;
- to implement transparent external quality assurance mechanisms by the respective competent national authorities; and to contribute to the development of international quality assurance mechanisms for transnational courses
- to collaborate with the national authorities and ENQA in establishing a common framework of reference for Quality Assurance.

The Universities in the Consortium are totally committed to quality and will put forward all necessary and available resources for quality assurance.