Erasmus Mundus Master in Quality in Analytical Laboratories

Annual Report of the Examiners' Board

University of Bergen

June 26, 2018

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Summary

This report provides a brief description of the EMQAL 2013-2019 project, especially for the professionals invited to the PCm meeting, and summarizes the most relevant information concerning EMQAL from the last PCm meeting at July 2017. It comprises the main figures of the 2015-17, 2016-18 and 2017-19 editions and the plans for the 2018-19 academic year and, eventually, the new EMQAL project. It is intended to be the basis for the discussion and approval by the PCm of possible measures for improvement, and plans for future.

Introduction

The main features of the EMQAL 2013-19 EMMC were described in previous EB reports. Here only to recall that EMQAL was re-selected in the 2012 Application Call, for funding under the Erasmus Mundus Programme for 5 editions from 2013, in an EMJMD coordinated by the University of Barcelona. Because of the implementation of the Erasmus+ Programme in 2014, Erasmus Mundus Programme is now included into Erasmus+.

The EMQAL consortium of universities is constituted by:

Gdansk University of Technology (GUT, Poland, PL)
University of Algarve (UAlg, Portugal, PT)
University of Barcelona (UB, Spain, ES) - Coordinator
University of Bergen (UiB, Norway, NO)
University of Cádiz (UCA, Spain, ES)
Central South University (CSU, China)
Novosibirsk National Research State University (NSU, Russia)
University of São Paulo (USP, Brazil)

Additionally *ca*. 25 institutions were incorporated to EMQAL as Associated Partners.

The organizing and academic structure of the master is very similar to that of the original project (which was described in detail in previous EB reports). The most relevant change concerns the duration of each EMQAL master editions from 2013 onwards. EMQAL duration was expanded to 24 months (120 ECTS) with one year of classes and one year of research master thesis (RMTs), instead of the 6 months running in the first project (before 2013-15 edition).

The calendar for Host Institutions approved by the PMT is:

Academic Year	Host
2013/2014	University of Barcelona
2014/2015	University of Bergen
2015/2016	Gdansk University of Technology
2016/2017	University of Algarve
2017/2018	University of Cádiz

From last PCm meeting at UCa, five PMT meetings took place (45th – 49th), four online and the 46th one at UB (10th and 11th January).

The SGAs (Specific Grant Agreements) of the 8th and 9th EMQAL editions (2015-17 and 2016-18) have been amended (approved by EACEA) and the editions will finish at September 2018 and January 2019, respectively.

The 2nd pre-financing payment request for EMQAL 2017-19 has been sent to EACEA in order to complete the budget for such edition.

Edition 2015/2017 (8th ed - GUT)

Development of the RMT (academic year 2016-2017)

In September 2017 all RMTs were presented out of those by Luz Adriana Díaz Cano, which was presented on January 2018 at UAlg, and by Valeree Ross Bernardo, which will be defensed on 24th July at UB. This has been possible because an extension of this edition was authorized by EACEA at due time. Detailed information of the RMTs is shown in Table 1 (Annex 1). Grades are included, out of that of Valeree Ross Bernardo.

Edition 2016/2018 (9th ed - UAlg)

Students´ performance in the academic year 2016-2017

A general overview of the scores obtained in the 55 modules evaluated (of a total of 60), in terms of relative grades, is shown in Figure 1A (Annex 2). The graph is showing the number of modules (Y-axis) in which A to E grades represents from 0 to 10%, 10 to 25%, 25 to 40%, 40 to 55%, 55 to 70%, 70 to 85% and 85 to 100% of the total qualifications of the module (X-axis). For example, in 12 modules the percentage of A corresponds to 85-100% of the total scores, and in 9 modules the percentage of A is lower than 10% of total scores. The lowest qualification obtained is E (obtained ten times) since F was never obtained. In only two modules E corresponds to the 25 – 40 % and to 40 – 55 % of the total qualifications obtained by students. Figure 1B is a pie chart showing the relative abundance of all grades. A is handed out in 41% of the cases, and A and B taken together makes up 74 % of the grades.

The distribution of relative grades according to the type of modules (QM, AM and DA) is shown in Figure 2 (Annex 2). The distribution has been calculated considering the sum of

students obtaining a grade with respect of the total number of students enrolled at each type of module. As it can be seen, for the AM, A and B grades account for 69 % of the total grades, for DA modules A and B are 74 % of the total grades, but for the QM modules A and B are 78 % of the total grades.

The mean value for absolute grades of the 13 students is 84%, which indicates a great performance of all of them in their first curricular year.

It has to be mentioned, that for this edition, again some lecturers delivered grades with an unacceptable delay, even risking the official enrolling of students before the defence of the RMT works. Unfortunately this situation is repeated after discussion in a PMT meeting, and actions for improving the situation are not working properly.

Development of the RMT (academic year 2017-2018)

The RMT projects carried out by the students during the academic year 2017-2018 are shown in Table 1 (Annex 2). The dates for the presentation and defence of the projects are foreseen around mid/end September 2018 in all cases, except for José Eleazar Rubalcava that, due to personal/medical reasons, will present at January 2019. An extension of this edition was authorized by EACEA at due time.

During the development of the RMT, both the partners' representatives at PMT of the host institutions and the Programme Director of the 9th EMQAL have been in contact with the students to follow the advance in the RMT projects.

EMQAL students are asked to evaluate the course at different levels. The students´ surveys on the development of the RMTs were introduced at the PCm meeting of July 2014 and since then they are sent to second-year students in order to get their opinion on the projects performed. Individual questionnaires for 9th EMQAL students (2016-18 edition) were collected by mid June 2018. The results and analysis of this survey (92,3 % of participation) are presented in Annex 2. According to the results, they are mostly satisfied with the host institutions for the RMT and their respective supervisors. Among the comments on the worst features of the research period, one student would like a better connection with the topics of the first academic year in some cases students are indicating that a better temporary sequence of the modules can be scheduled according to the contents. Only one student pointed out a lack of interest of supervisors and suggests implementing a tool for evaluating the master at the middle of the period to detect these kinds of situations. However, in

general, students are satisfied with the research work, host institution and supervisors.

A survey for the supervisors of RMT projects (implemented in a PMT meeting in June 2015) has been also undertaken. Taking into account than some students had two supervisors, the total number of answers received corresponds to 64 % of participants. The results and analysis of this survey is presented in Annex 2. From the 16 responses received, RMT supervisors are satisfied with EMQAL students hosted and their background, and any lack of knowledge was solved with training. In most cases, it is highlighted that obtained results will be presented in conferences and have potential for being published in a near future. In general, EMQAL students are considered excellent and the experience of hosting students would be repeated in all cases.

Edition 2017/2019 - Current academic year at UCa

1. Students

The total number of EM-studentships awarded by EACEA for the 2017-19 EMQAL edition has been 12: 11 students from Partner countries *category* (from 10 different countries) and one student from Programme countries *category* (from Bosnia and Herzegovina).
Two self-paying students were enrolled in the course this edition, one from Mexico and the other one from Spain. During the second academic semester, two visiting students from Netherlands and Brazil were attending some modules and participated also in the evaluation survey.

Total number of candidates and students of 10th EMQAL edition are summarized in Table 1 (Annex 3) together with those of previous EMQAL editions. Figures 1 to 5 (Annex 3) show statistics of total number of EMQAL students concerning nationalities, gender, grant-holders and background for bachelor and master studies.

2. Study Plan

Modules

Table 2 in Annex 3 lists the names and codes of the 58 modules taught in the 2017-18 academic year at UCa.

From the initial number of modules offered in the 10th EMQAL edition (62 modules), four modules were cancelled due to last time unavailability of lecturer or due to the low number of students interested. Figures 6 and 7 (Annex 3) show the number of modules offered and cancelled distributed by discipline (QM, AM, DA).

Figures 8 to 10 (Annex 3) show the contributions by partner universities concerning the number of modules taught, the lecturers involved and staff mobility. In the statistics dealing with staff mobility it has to be taken into account that in most of the cases when lecturers taught two modules these were placed in the same week for economic sustainability reasons. Additionally, seven EM scholars (Dr. Susana Stegen, from Chile; Dr. Kassio Lima, from Brazil; Dr. Pedro Ávila from México, Dr. Werickson Rocha and Dr. Rodrigo Caciano from Brazil; Dr. Hector Goicoechea from Argentina; and Dr. Michael Sigman from USA) went to UCa for giving the initially proposed modules. Moreover, Dr. Regina Easly, from National Institute for Standards and Technology (NIST) at USA, offered a module sponsored by NIST. Only 2 of the 58 modules have been taught by videoconference due to major force, but any technical incidence was reported and the communication system was very stable and robust.

Research Master Thesis

Table 3 (Annex 3) lists the research master thesis projects selected by the students for the 2017-19 edition where it can be seen that five projects are shared by European Partners and NIST (USA). NIST will support partially the expenses of the stays of the students there because EM rules only allow the payment of monthly allowances for three months. NIST will grant the students during three months plus an amount for travel expenses.

It must be highlighted that recent incorporation of NIST as Associated Partner opens a very promising window of opportunities for future, as the arrangements for the 10th edition show.

3. Quality Assessment

Surveys

EMQAL students are asked to evaluate the course at different levels: *i)* the modules, the programme and the host institution for the first academic year, and *ii)* the RMTs, including the institution, the supervisors and the facilities, for the second academic year. Evaluation of the modules is done through individual questionnaires prepared by the Programme Director at UCa.

The results of already closed module evaluation surveys (19) for 2017/2018 academic year till the end of May 2018, covering 32,4 % of total modules taught, can be found in Annex 4, where Table 1 is indicating the percentages of answers with respect to the enrolled students per module. A summary of the general evaluation of modules is also included for a quick overview. As it can be seen, the percentages of participation are around 90-100 % for most of the cases. In few cases, the number of answers can be higher than the number of EMQAL students due to the visiting students following some modules or some students attending modules outside their Study Plans.

The data treatment of the questionnaires collected until end May 2018 (19 modules) has been performed by the staff of the *Gabinet Tècnic del Rectorat* of UB. The rest of surveys will be equally treated in due time. In general terms, students are highlighting the interest of the topics and the usefulness of the supplied material and contents. Only in two cases, it is mentioned that explanations of the lecturer were not clear enough and in one case it is highlighted difficulties on command on English.

Internal documents

No internal documents have been prepared and approved from the last PCm meeting. In case EMQAL will be renewed for a third time, EMQAL quality system will be revised and adapted to the novelties included in the proposal.

Student initiatives

For each edition of EMQAL, representatives (one for each 10 students) are elected among EMQAL students to participate in the PCm. A student representative for the EMA (Erasmus Mundus Alumni Association) is selected in a separate election. No candidates were available for this edition.

Elected student representatives:

	PCm	EMA
2017-19 edition	Meryl Balanaa Cruz Abraham Kuri Cruz	--------

4. Academic year 2018-19 and future

The next academic year only the RMTs of 10th EMQAL edition students will take place, according to Table 3 (Annex 3).

EMQAL consortium is expecting the resolution of the new EMQAL project presented to EACEA in the 2018 Application Call (at February 2018). The resolution will determine the next future of EMQAL.

Very briefly the EMQAL3 project is keeping on the first academic year the core modules on QM, AM and DA consolidated after 10 years of lecturing and that have been highly appreciated by EMQAL students. As a novelty, and with the aim of increasing potential employability of EMQAL graduates, a mandatory 3 months internship of the students in a company or institution with a quality management system implemented will be introduced in the second academic year. The detailed description of this new activity will be defined if the project is approved.

Annex 1 (2015-17 edition)

Table 1: RMT projects and final grades for 8th EMQAL Edition.

Annex 2 (2016-18 edition)

Figure 1A. Overview of relative grades for taught modules (9th EMQAL edition).

Figure 1B. Pie chart of grades given (9th EMQAL edition).

Figure 2. Distribution of relative grades according to type of modules (9th EMQAL edition).

Table 1: RMT projects for 9th EMQAL Edition.

Results of the RMT surveys for 9th EMQAL students (2016-2018).

Results of the RMT surveys for 9th EMQAL students supervisors (2016-2018).

Annex 3 (2017-19 edition and accumulative data)

Table 1: Total number of candidates and students for EMQAL2 editions.

Table 2: Modules taught in the 2017-18 academic year at UCa (10th EMQAL Edition).

Table 3: Research Master Thesis projects selected by the students of the 10th EMQAL Edition (2017-2019).

Figure 1. Geographical distribution of EMQAL students.

Figure 2. Gender distribution of EMQAL students.

Figure 3. Number of EM scholarship holders.

Figure 4. Students background at undergraduate level.

Figure 5. Students background at master level.

Figure 6. Number of modules offered per year.

Figure 7. Number of modules cancelled per year.

Figure 8. Number of modules taught per partners.

Figure 9. Number of lecturers per partners.

Figure 10. Number of staff mobilities.

Annex 4 (2017-19 edition)

Table 1. Percentages of participation in module evaluation.

Results of module evaluation for 10th EMQAL edition (academic year 2017-2018).

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Annex 1 – Edition 2015/2017

Table 1. RMT projects and final grades (8th EMQAL Edition).

EMQAL student	Host RMT	Title of the project	Grades		
			0-10 (UB, UCa) 0-20 (UAlg)	Absolute (0-100)	Relative (A-E)
Luz Adriana Díaz Cano	UAlg	Biosorption parameters: carob kibbles (ceratonia silique) as a potential biosorbent for boron removal from aqueous solutions	17/20	86	B
Astrid Ayu Maruti	UCa	Determination of volatile compounds in macroalgae and metabolomic study of its dietary intake	9,6/10	96	A
Mohamed Hamdy Said Hemida	UB	UHPLC-MS for profiling and characterization of natural products in foodstuffs	9,2/10	92	A
Nicole Ennis	UAlg – USP	Development of new chromatographic methods for the analysis of pharmaceutical emerging pollutants	18/20	90	A
Mulugeta Legesse Akele	UB	Development of novel analytical methods for separation and characterization of protein biomarkers of clinical interest	9,5/10	95	A
Valeree Ross Bernardo	UCa - UB	Screen-printed gold electrode modified with gold nanoparticles for the electrochemical determination of aminothiols	Defense will be held on 24th July at UB		
Inal Bakhytkyzy	UB	Classification and authentication of food products by liquid chromatography and capillary electrophoresis	9,5/10	95	A
Tamirat Tefera	UiB	Development of an Extraction Method for Quantitative Analysis of Chitin in Insect-based Fish Feed by Liquid Chromatography Tandem Mass Spectrometry	8,5/10	85	B
Monirul Hoque Pasha	UiB	Characterizing Triacylglycerol in Cell. Culture: Can LCMS replace HPTLC when assessing the effect of metformin in salmon in-vitro fatty liver model?	7,7/10	77	B
Susana Espejel	UB – GUT	Stability and homogeneity studies of Certified Reference Materials	8.6/10	86	B
Monica Gissele Diaz	UB – Hospital Clinic	Six Sigma Risk Management In Healthcare	6,1/10	61	C

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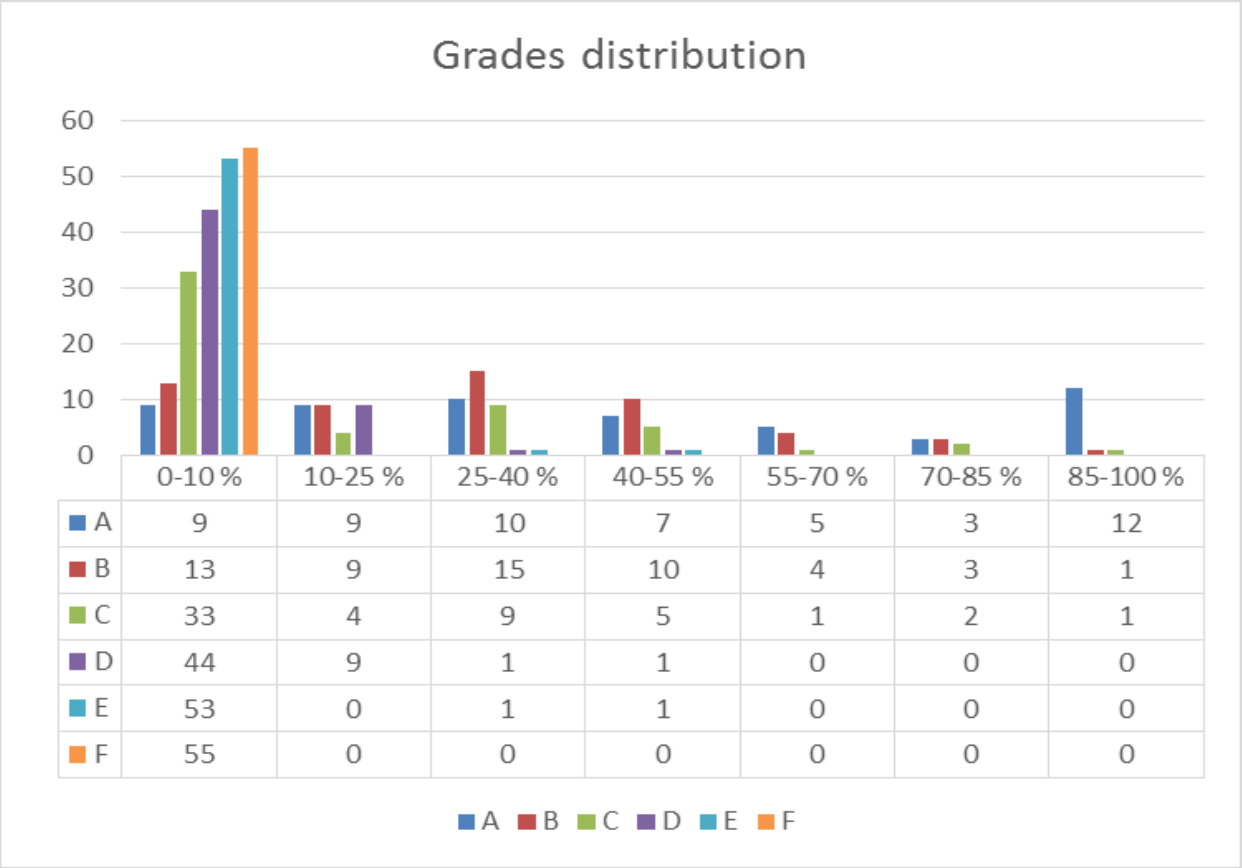
Annex 2 – Edition 2016/2018



	0-10 %	10-25 %	25-40 %	40-55 %	55-70 %	70-85 %	85-100 %
A	9	9	10	7	5	3	12
B	13	9	15	10	4	3	1
C	33	4	9	5	1	2	1
D	44	9	1	1	0	0	0
E	53	0	1	1	0	0	0
F	55	0	0	0	0	0	0

Figure 1A. Overview of relative grades for taught modules (9th EMQAL edition).

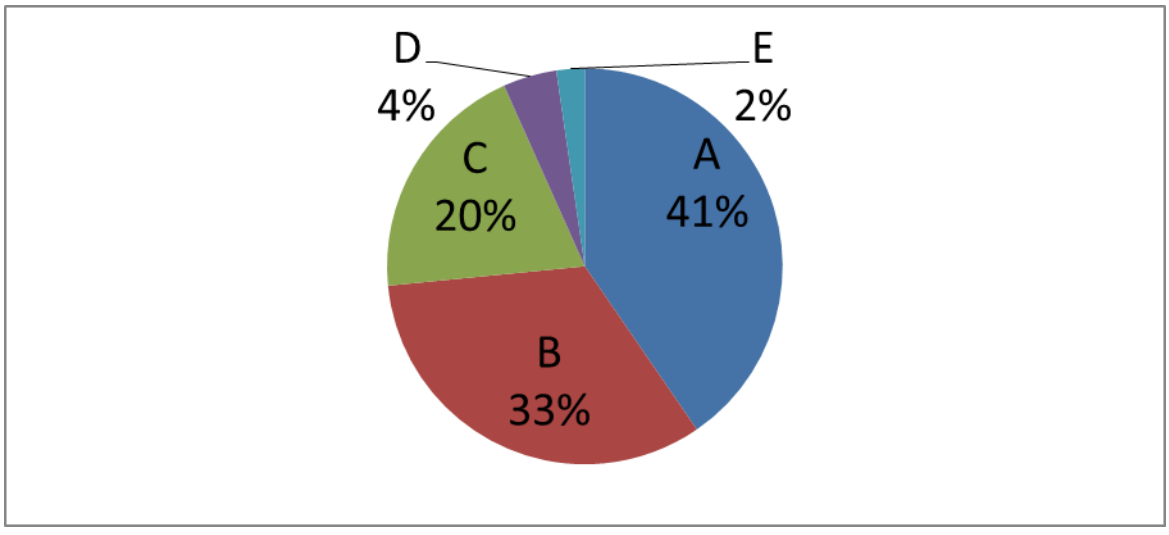
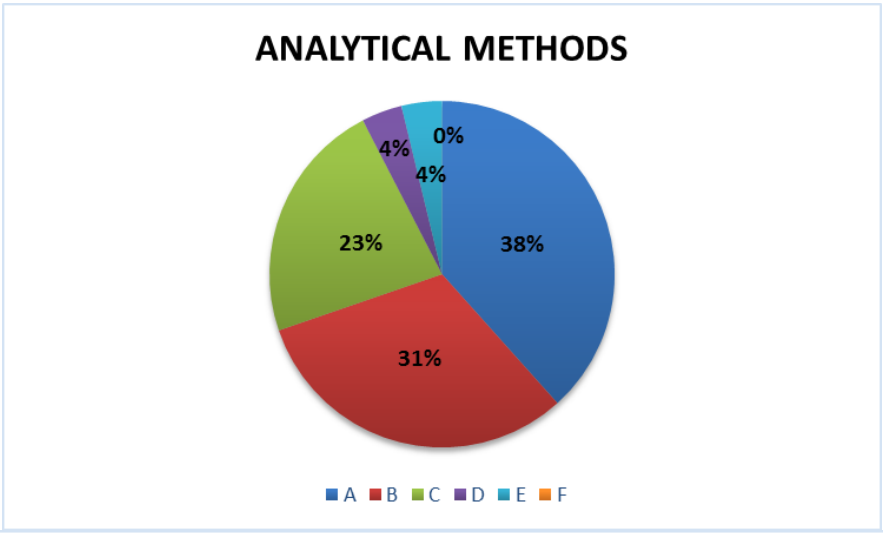
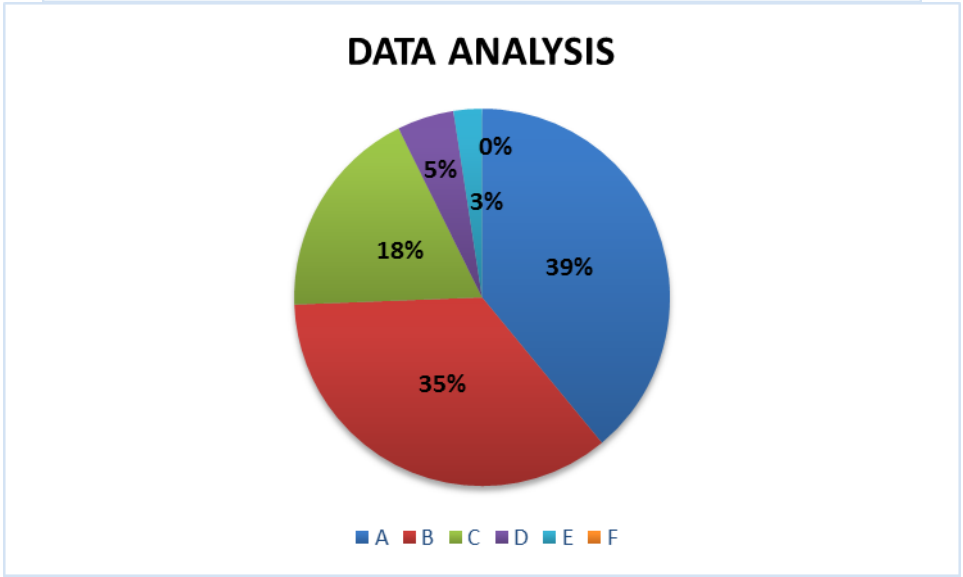


Figure 1B. Pie chart of grades given (9th EMQAL).





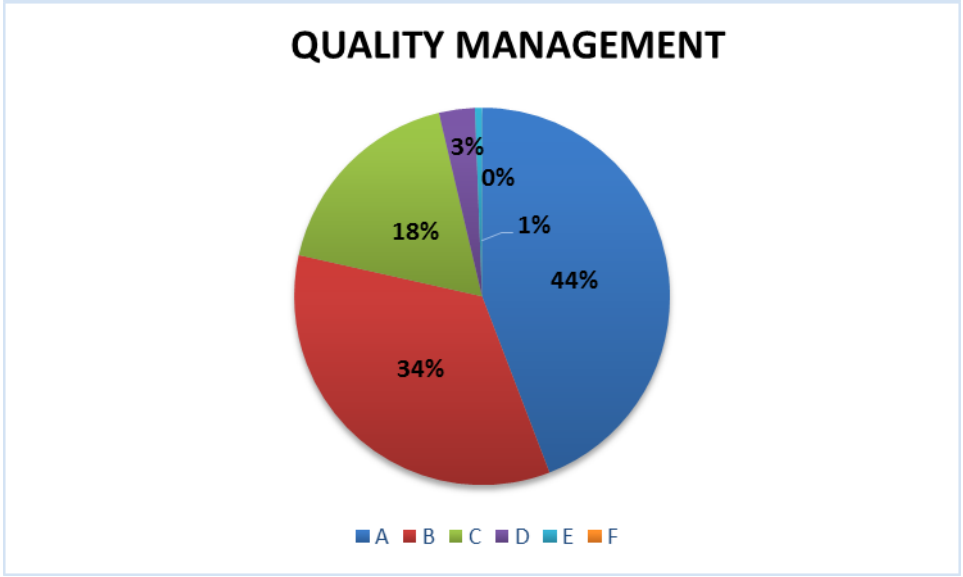


Figure 2. Distribution of relative grades according to type of modules (9th EMQAL).

Table 1. RMT projects (9th EMQAL Edition).

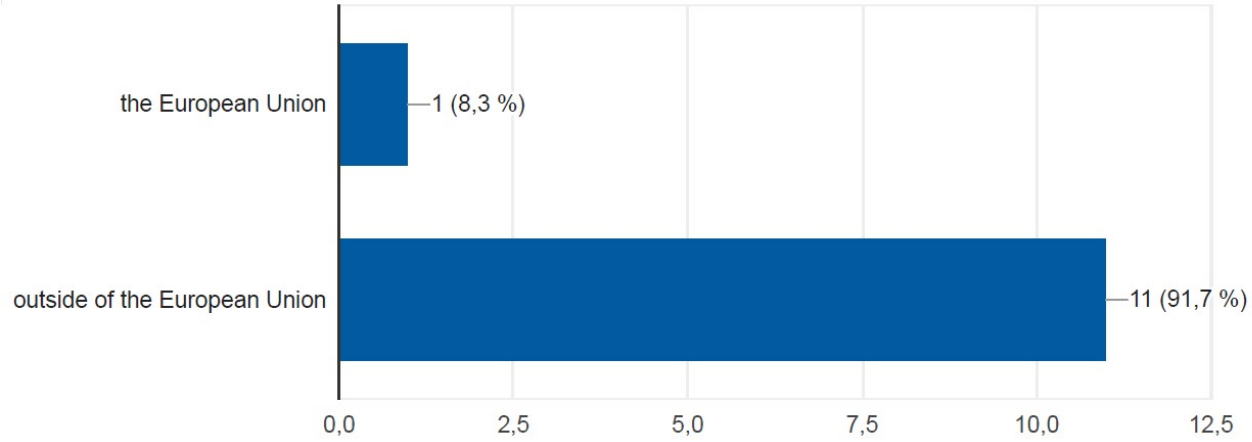
Student	Host University	RMT title
Kevin Arias Alpízar	UB	Characterization, classification and authentication of food products by liquid chromatography (LCUV-FLD and LC-MS) and chemometrics
Nejsi Lleshi	UB	Development of novel analytical methods for separation and characterization of protein biomarkers of clinical interest
Javier Mauricio Melo Diaz	UB	Chromatographic and electrophoretic systems for physicochemical characterization of drugs and estimation of drug activity
Addis Kokeb Alemu	UB-ASPB	Food safety: Development of new analytical strategies based on chromatography and mass spectrometry
MD. Towhidur Rahman	UCA	Development of biosensors for the determination of polyphenols or other agrifood compounds
Aytan Mirzayeva	UCA	Metabolomic study of biomarkers derived from the use of different sweeteners in human diet
Paweł Konieczka	UCA	Ion Mobility Spectrometry vs chromatographic methods in food analysis
Assefa Takele Loha	UCA	Biosensors and chromatographic methods in food analyses
Tsegu Lijalem Gezahegn	UiB-IMR	Assessing infrared spectroscopy as a potential technique for determining chitin in an insect based diet intended for fish nutrition
Setegn Kassawmar	UiB	Optimization of gas chromatographic systems
José Eleazar Ruvalcaba Aranda	UCA	Development and application of a stir bar sorptive extraction (SBSE) method for the determination of volatile compounds in beers.
Claver Numviyimana	GUT	Optimization of gas chromatographic systems
Muhammad Asaduzzaman	GUT	Evaluation of plant phytocomplex as a raw material for production of health promoting foods

ASPB: Laboratory of the Public Health Agency (Barcelona)
IMR: Institute for Marine Research (Bergen)

Results of the survey for the 9th EMQAL students on the RMT period (12 answers).

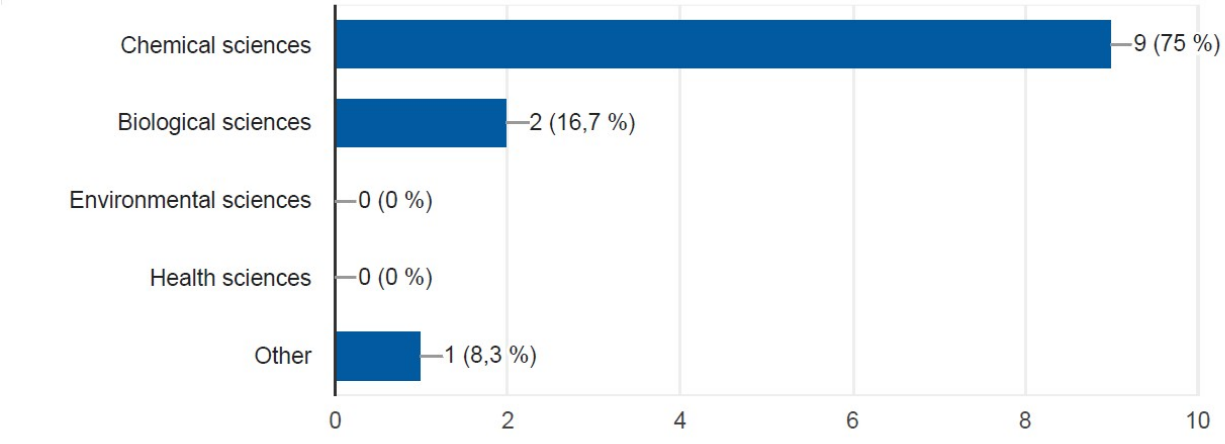
I am a student from

12 respuestas



What is/are the areas of your former degree(s)?

12 respuestas



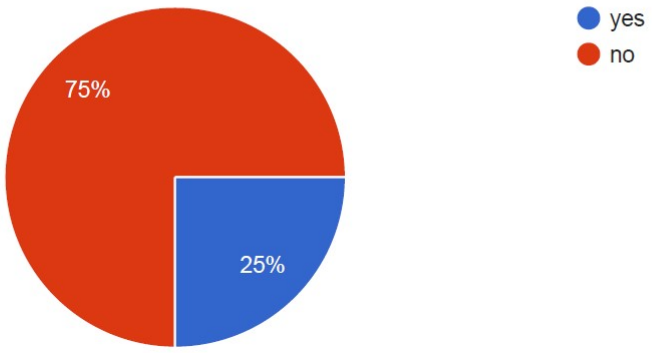
Please specify if you answered Other on the previous question

1 respuesta

Applied Physics, Electronics & Communication Engineering

Did you study abroad (in a country different from your home country) before EMQAL

12 respuestas



If yes - for how many years?

3 respuestas

2

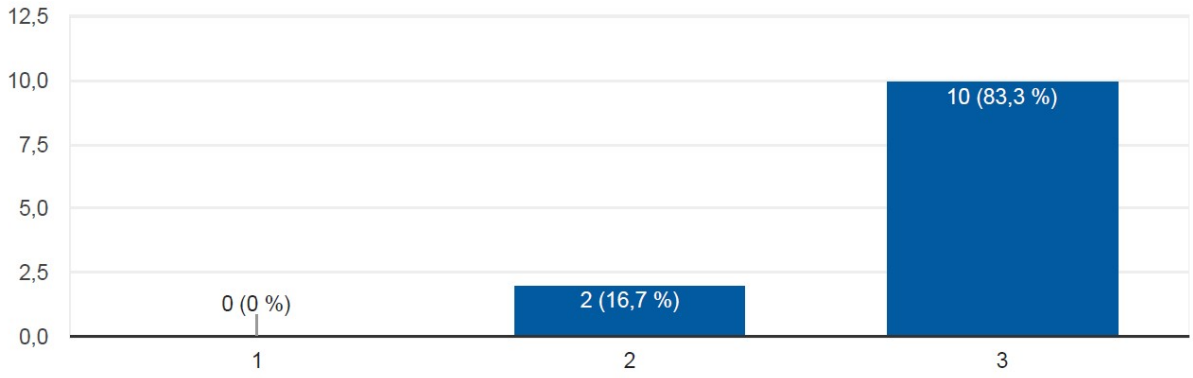
0.3

5

Host University for the MRT

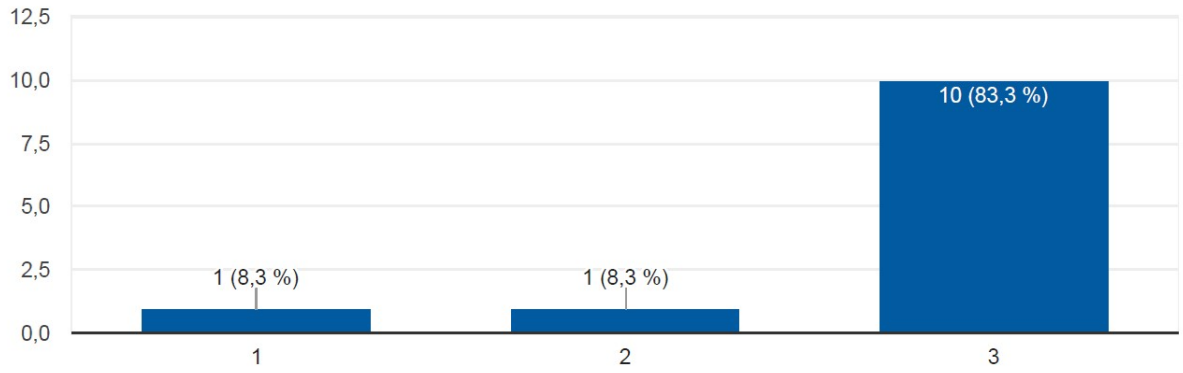
The profesional quality of the local programme coordinator

12 respuestas



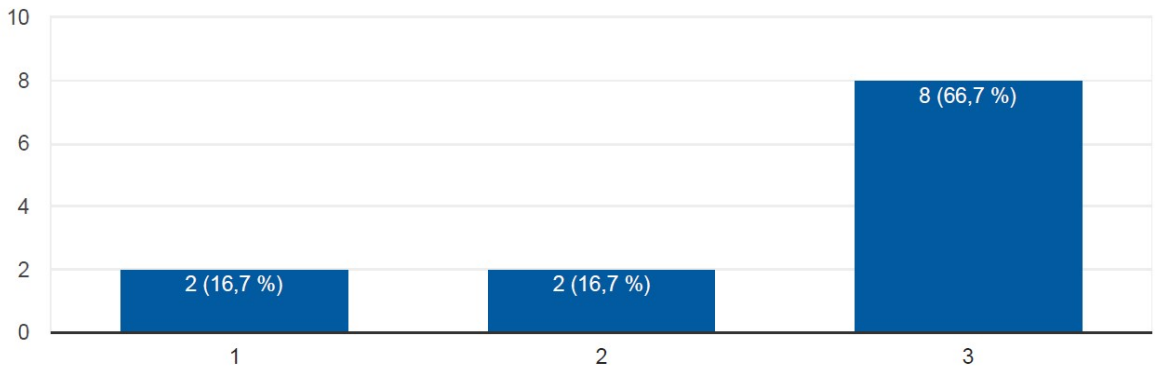
The professional quality of the MRT supervisor

12 respuestas

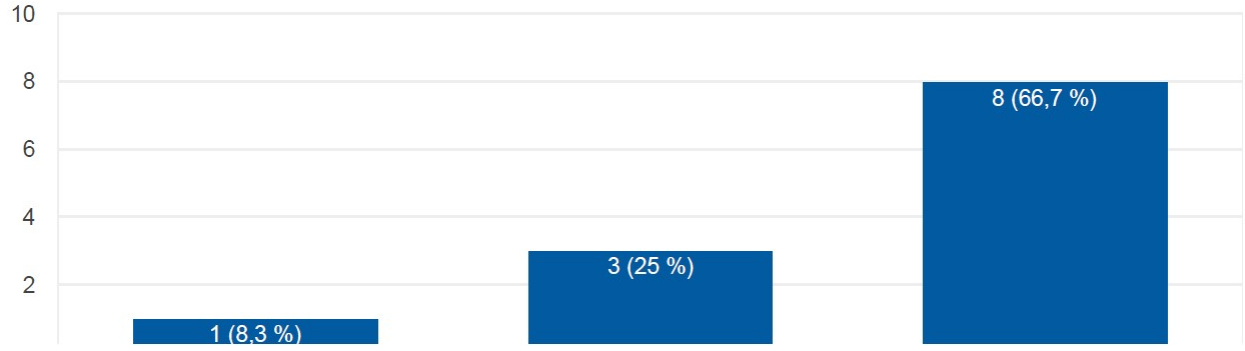


Schedule for the research period

12 respuestas

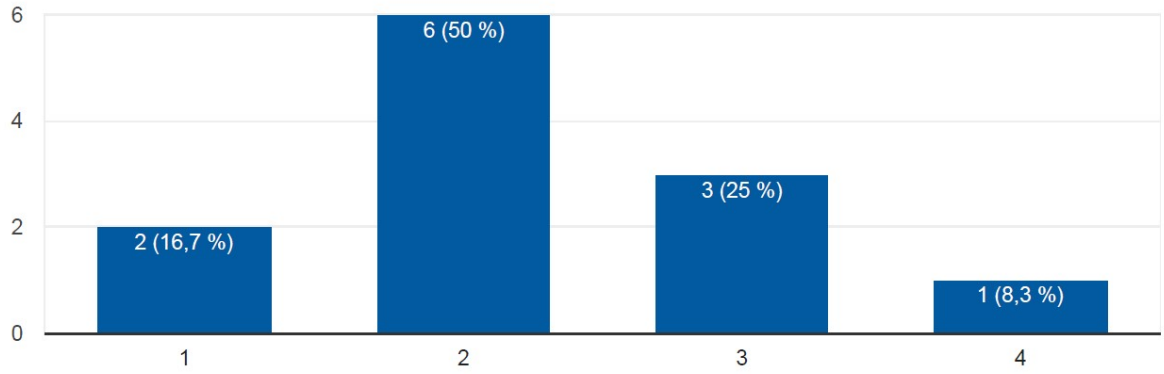


Help, access to and time devoted to you from the supervisor (1)



Help, access to and time devoted to you from the supervisor (2, in case you have had 2 supervisors)

12 respuestas



Do you have any additonal comments to make about the supervisor/coordinator?

4 respuestas

It would be good if there would be periodical evaluations to the schedule/supervisor job/student job/advance of the RMT in order to be able to identify possible incorformities.

Very nice and knowledgeable person

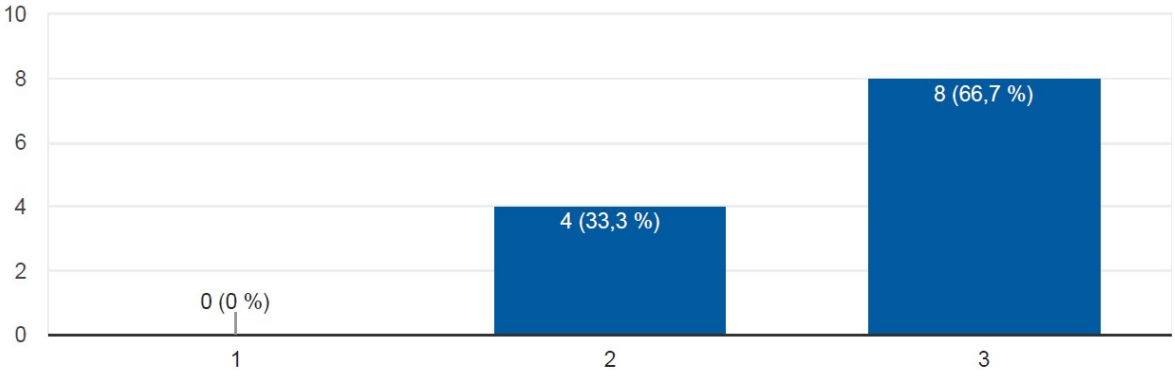
I consider that , there needs to be more connection between the topics of the first year and the RMT. in my case the link is not a goof fit.

Very professional, willing to help and goal oriented.

Facilities and Services

Service from the administrative staff

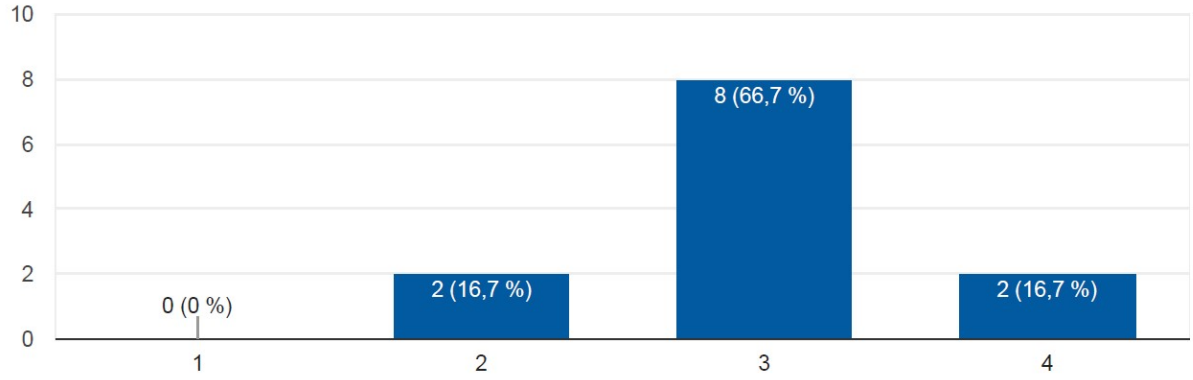
12 respuestas



Service from the international office

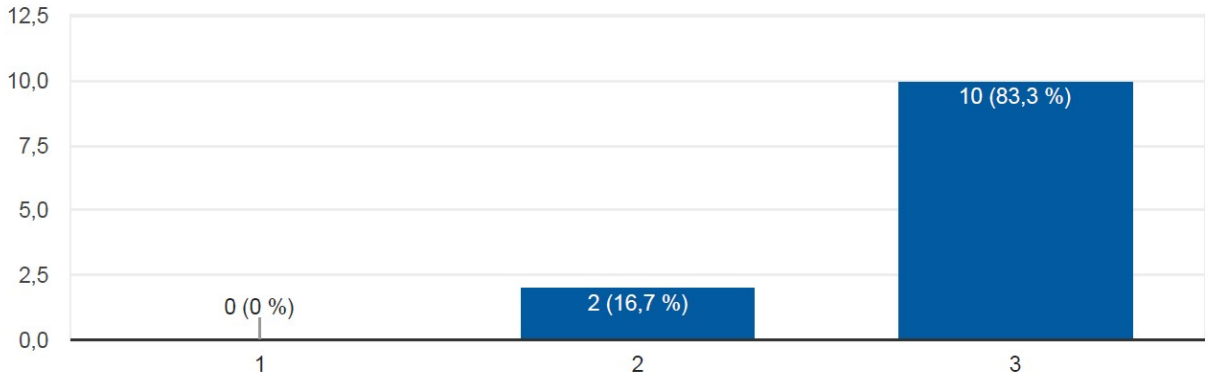
Quality of and access to the library

12 respuestas



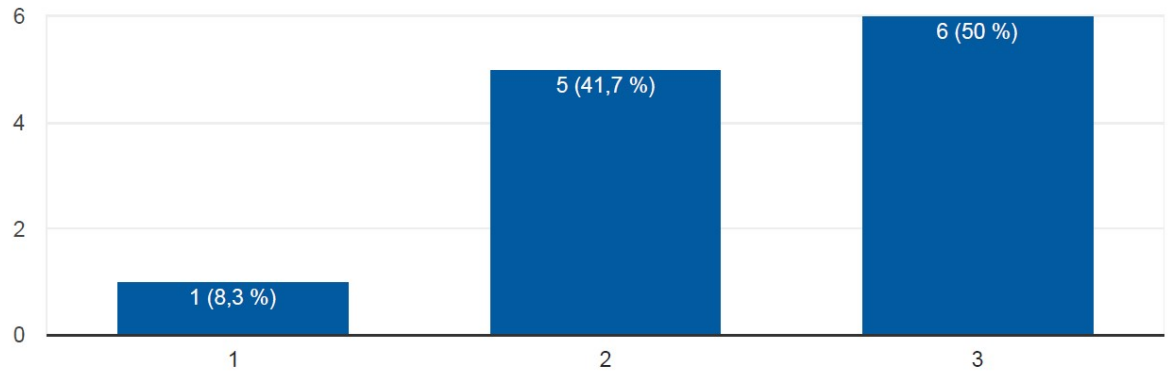
Quality of and access to the laboratories

12 respuestas



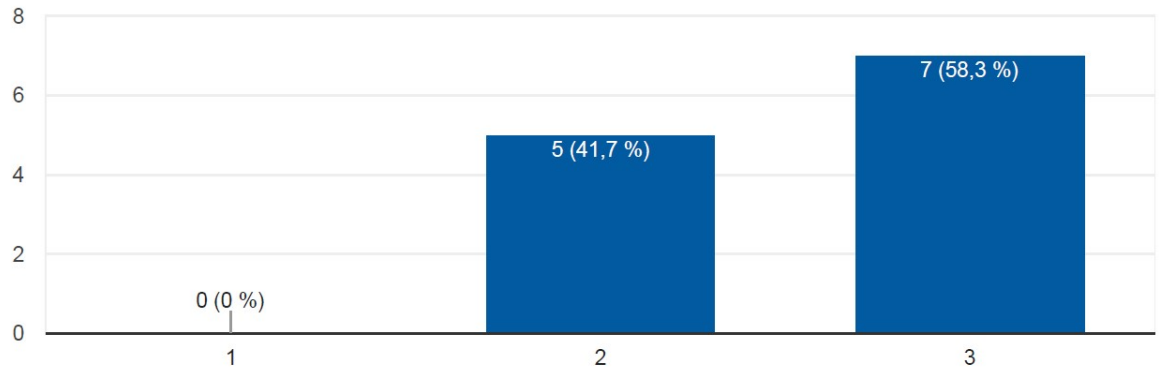
Quality of and access to the computing facilities

12 respuestas



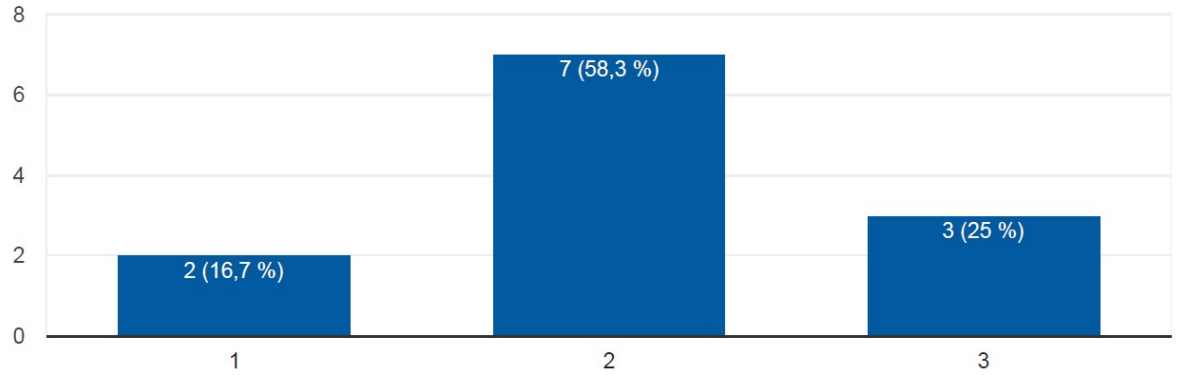
Internet access

12 respuestas



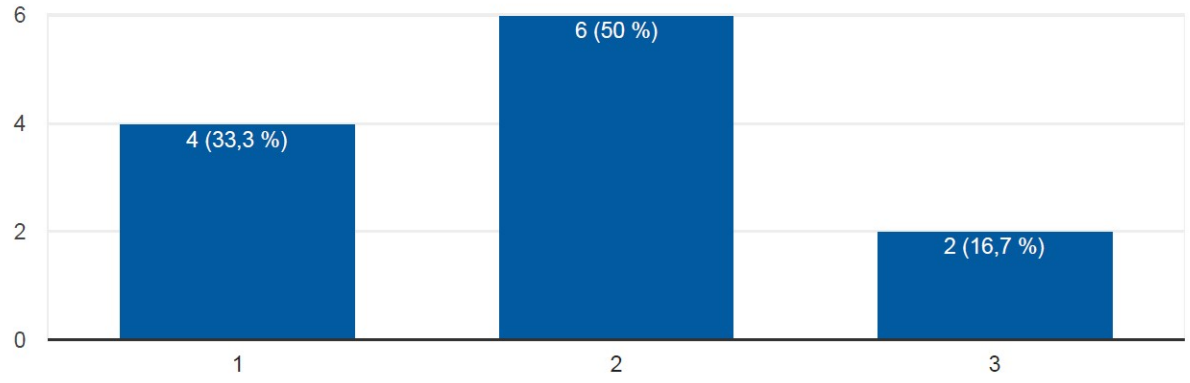
Quality of and access to the canteen/cafeteria

12 respuestas



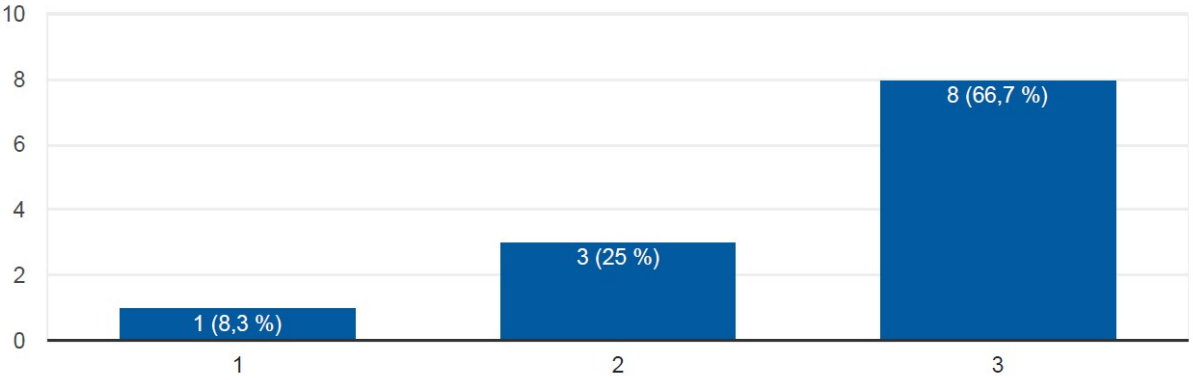
Quality of and access to accommodation

12 respuestas



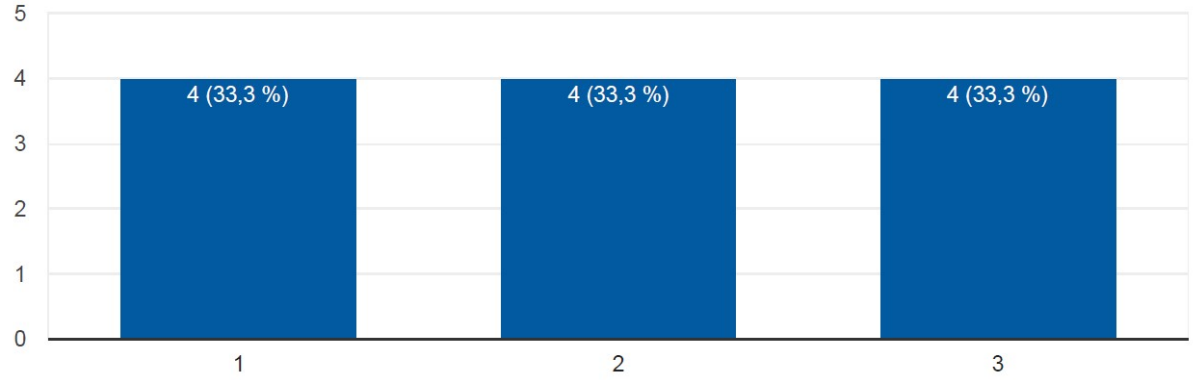
Quality of and access to transport

12 respuestas



Integration activities (welcome program, mentoring and guidance from staff, help from local students and alumni, etc)

12 respuestas



Do you have any additonal comments to make about the assessment of the MRT period?

1 respuesta

Cleared schedule will be nice. With deadlines known in advance

Best/worst features at the host institution

Please summarise the best feature of the MRT period and the host institution

10 respuestas

The working hour and duration is the best to conduct an intensive research and adapt the environment. The University of Barcelona has a good link for accessing journals and other soft copy resources.

To work with new environment ,local culture and local students.To learn new research techniques ,additional work etc.

Working in a research environment, with all the advantages to publish scientific papers it has been amazing. Despite the problems, the way the top professors look at the problems and try to solve them with innovative ideas has given me a new perspective to make science.

Great english from supervisor and people who are always willing to help

smart people with well organized environment

Good facilities and helpful lab mates

I was able to work independently and and develop my ideas with what I was given.

Affordable living expense.

The technical staffs in the laboratory are very cooperative, working environment is very nice, the MRT supervisors are very good, and no problem with resource in the laboratory.

Supervisors, research group and topic, facilities,

Please summarise the worst feature of the MRT period and the host institution

8 respuestas

There is no worst feature in the MRT period. But, the institution does not consider as permanent alumni. The email they had given at the starting will expire soon. Thus, we could not have the right to access it after the completion of the project. Even, we cannot be an ambassador for the University .

To adjust with local weather.

The lack of interest of my supervisor has been the worst. The fact that all the students from my research group was complaining about it all the time has given me the indication that this was not a personal situation. However, I do think that there should be an evaluation tool not only by the end of the master but at the middle, in order to prevent this kind of situations.

none

except being too expensive, the remaining all is pretty much

I feel my research lacked originality and innovation.

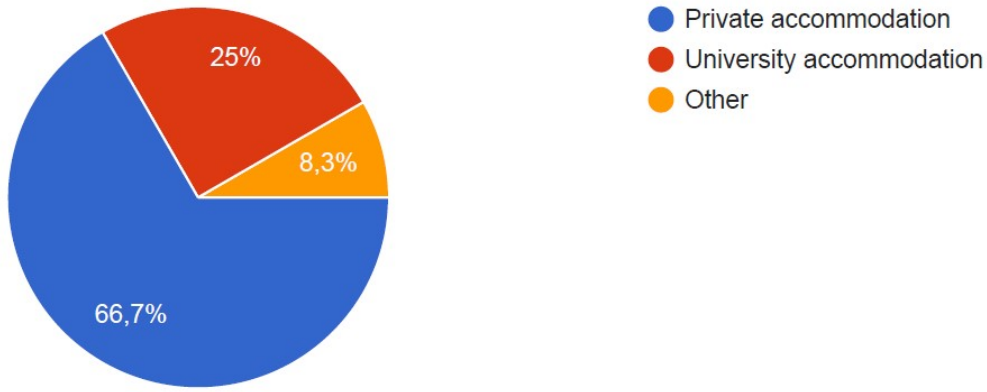
I am still observing. Till now no unusual feature. Sometime I may not be idle to judge. Just I can experience differently.

I didn't encounter worst feature.

Living

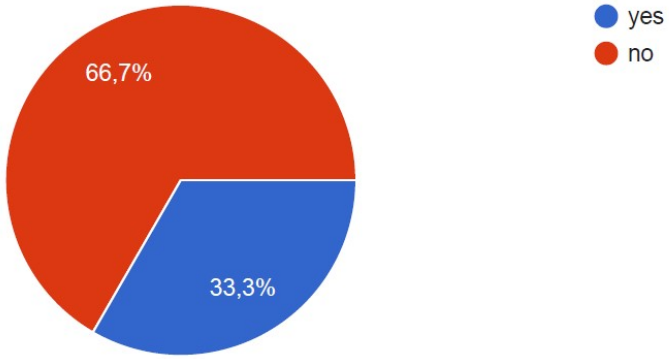
Where are you living?

12 respuestas



Are you satisfied with your accommodation, the conditions and the price?

12 respuestas



If you answered No to the previous question, please explain why

6 respuestas

Expensive (2)

The price is expensive

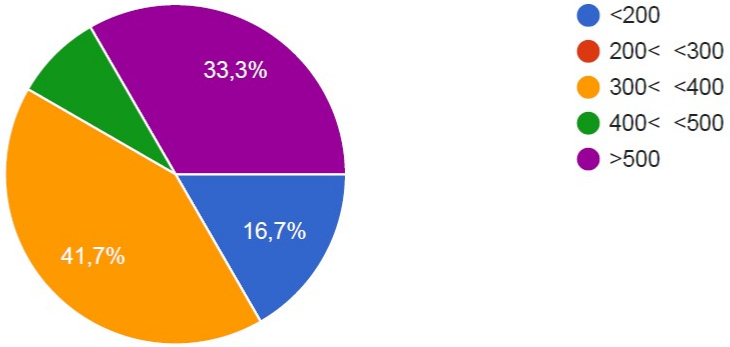
The city is too expensive, the radio quality:benefits is not the best (you are paying too much for a small, dirty and not very good located place).

Well Barcelona is a Expensive City, but I get is OK.

I am living in a common room and sometimes students are disturbing. The price is some what expensive.

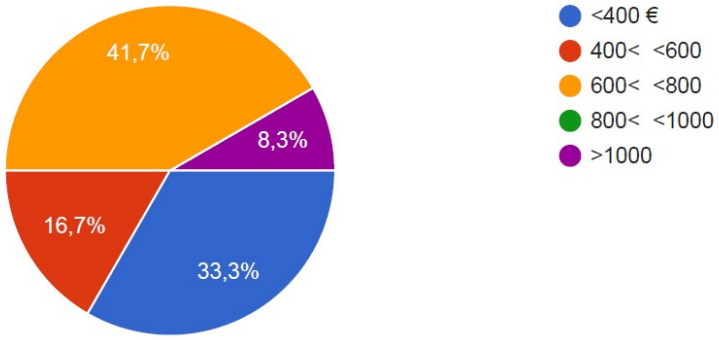
How much do you spend for your monthly accommodation costs (in Euro)?

12 respuestas



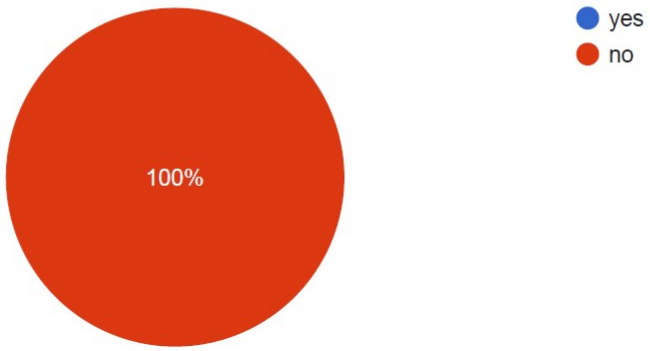
How much do you spend for your monthly living costs without accommodation costs (in Euro)?

12 respuestas



For non-European students only: Would you be able to study in the European Economic Area without the offering of a studentship?

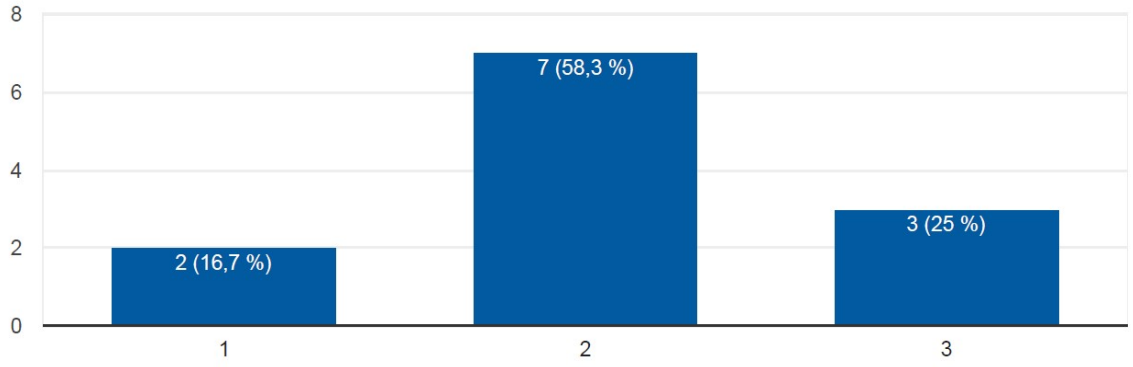
10 respuestas



Environment

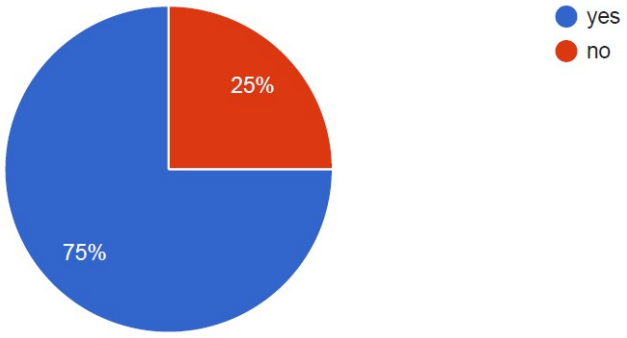
How do you assess the life at the university and you interactions with local and other international students?

12 respuestas



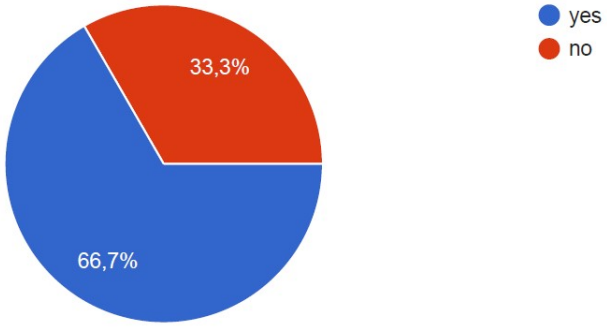
Do you have friends at the university?

12 respuestas



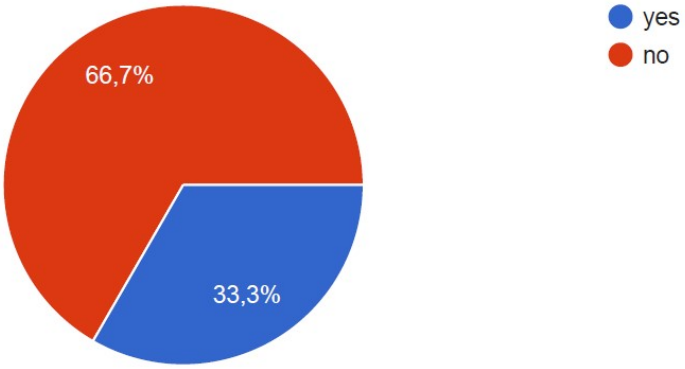
Is it easy to get in contact or be friends with European students?

12 respuestas

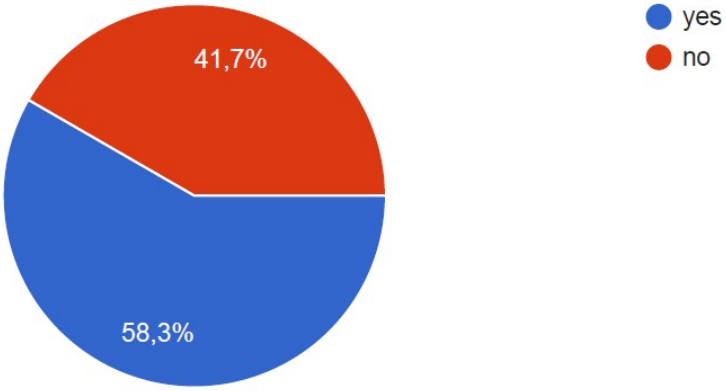


Do you participate in any university group (sport, choir, etc)?

12 respuestas

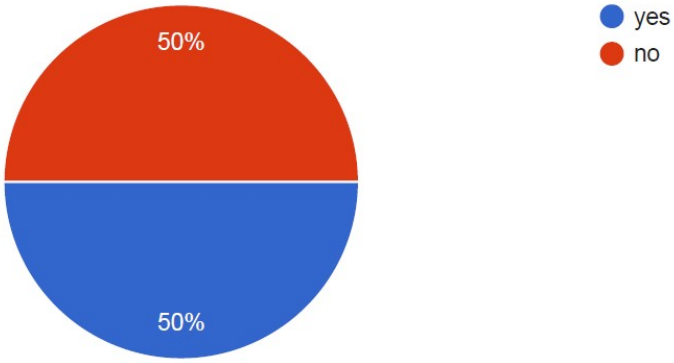


Do you have contacts or friends outside of the university?



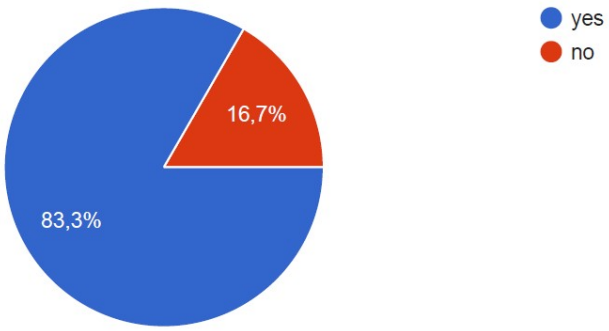
Do you participate in any extra-university group (sport, choir, church, etc)?

12 respuestas



Do you feel integrated and accepted?

12 respuestas



Global opinion

What problems have you faced during your MRT period so far?

9 respuestas

No problem at all

The project is not as my expectation. I have chosen a project which can be done with LCMS and i found it is done by another senior emqal student. The courses i took were based on this project.

No problem so far.

- The project was changed totally before I arrived here.
- Lack of interest of my two supervisors.
- Old analytical and informatic equipment.
- Lack of support to fix the equipment who was always broken.

none

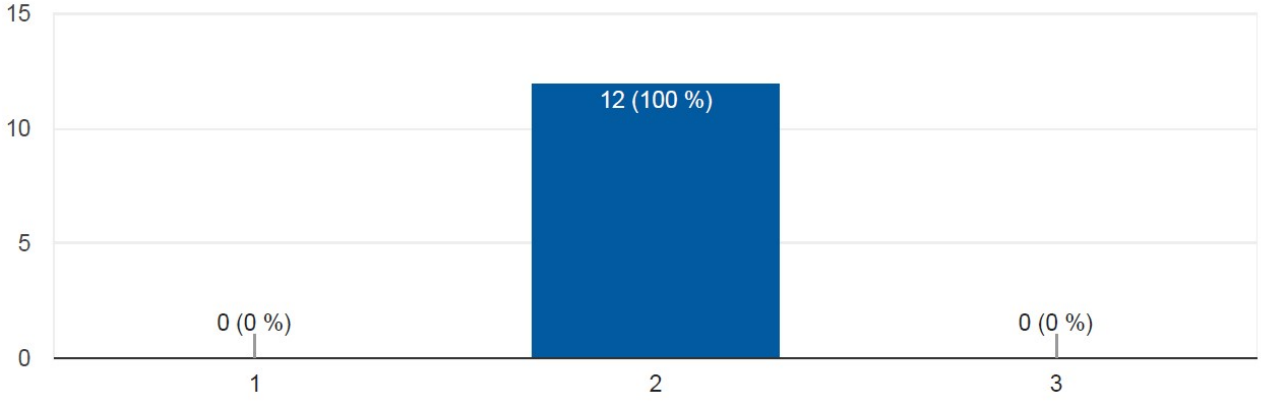
Language

Coordination revision of the work with supervisor due to time schedule

No unusual problem

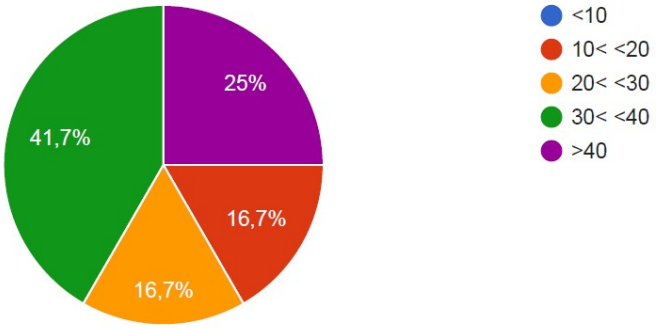
So far no such difficult problem, but during the laboratory work there are some problems with the results since it is a research.

Do you cope with the demands, do you feel well prepared for the level of the MRT - is it too difficult or too easy?



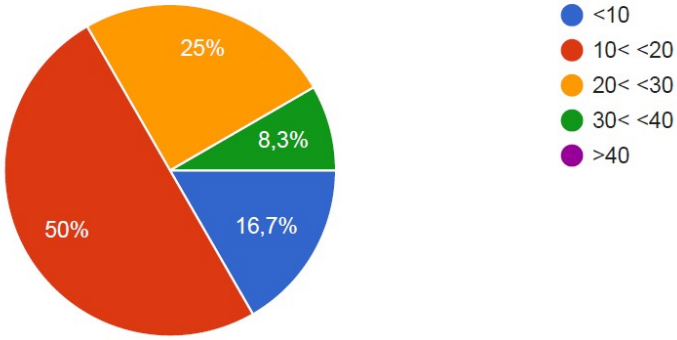
Hours per week required by the MRT inside the lab/faculty/research

12 respuestas



Hours per week required by the MRT outside the lab/faculty/research

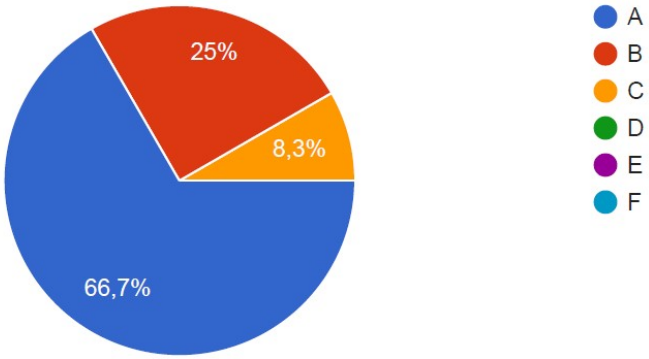
12 respuestas



Grade

Your expected grade for the MRT

12 respuestas



Results of survey Surveys for the 9th EMQAL students on the RMT period and surveys for the supervisors of the 9th EMQAL RMT projects can be found in Annex 1, Part 2.

Annual Report of the Examiners' Board

Annex 3

Table 1. Total number of candidates and students for the second project of EMQAL.

Edition year	Total number of candidates			Number of elegible candidates			Number of students				
	Part.C	Prog.C	Total	Part.C	Prog.C	Total	Part.C	Prog.C	Non-EM	Total	Drops-outs
2013	221	11	232	110	9	119	9	4	2	15	0
2014	133	7	142	112	7	119	6	2	0	7	1*
2015	127	5	132	102	5	107	9	1	2	12	1+
2016	95	11	106	60	9	69	12	1	0	13	0
2017	102	6	107	89	6	95	11	1	2	14	0

Notes:

* Estrella Velasco (end January 2015)

+ In this edition John Hendrix Ortega (Philippines) died during the RMT period at UCa.

The classification Partner Countries (Part.C) and Programme Countries (Prog.C) EM-studentships from 2015 intake, correspond to the previous Category A and Category B, respectively.

Table 2. Modules taught in the 2017-2018 academic year at UCA (10th EMQAL Edition)

Modules 10th Edition UCA (2017 - 2019)	Lecturer University
AM0101 Water Directive and CEN Standards	UAlg
AM0102 Water – Sampling and General Characterization	GUT
AM0104 Water – Metal Analysis	UCA
AM0105 Water - Analysis of Organic Components	GUT
AM0205 Foods – Sample treatment	UB
AM0206 Functional Foods Analysis	UCA
AM0507 Environmental Samples Monitoring	NSU
AM0509 Environmental Toxicology	UAlg
AM0510 Bioindicators and Biomonitoring for Environmental Quality	EM Scholar
AM0801 Design of Sample Strategies and Sampling techniques	UB
AM0903 Introduction to Chromatographic Techniques	Host
AM0907 Molecular Spectroscopy	UAlg
AM0908 Vibrational Spectroscopy	UiB
AM0909 Quantitative IR Spectroscopy	UCA
AM0910 Atomic Spectroscopy	Host
AM0912 Fundamentals of Mass Spectrometry and Hyphenated Techniques	UB
AM0916 Sensors and Biosensors	Host
AM0918 Automated Methods of Analysis	UB
AM0919 Gas Chromatography	Host
AM0920 Liquid Chromatography	Host
AM0923 Extraction Methods in Analytical Chemistry	UCA
AM0925 Quality Parameters and Optimization in Chromatography	UiB
AM0927 The Practice of Capillary Electrophoresis: Optimization and Method Development	USP
AM0928 Green Analytical Chemistry	Host
AM0930 Fire Debris Analysis	EM Scholar
DA0101 Measuring Variability and Error Propagation	UiB
DA0103 Regression Analysis	GUT
DA0104 Statistical Decision and Analysis of Variance	UB
DA0201 Introduction to Uncertainty Measurement	ULisboa
DA0301 Experimental Design and Optimization	UiB
DA0302 Pattern Recognition and Classification	UCA
DA0306 Fundamentals of Multivariate Data Analysis	UiB
DA0315 Sample and Variable Selection Methods for Classification Analysis in Analytical Chemistry	EM Scholar
DA0321 Introduction to Multivariate Calibration	EM Scholar
DA0322 Basic Concepts In Metrology Applied To Spectrometric Measurements	EM Scholar
QM0101 European Quality Policy and Infrastructures	Extern
QM0102 Introduction to Quality Management	UAlg
QM0104 Laboratory Quality Systems: ISO/IEC 17025	SQR-UB
QM0106 Good Laboratory Practice	SQR-UB
QM0107 Laboratory Quality Systems: ISO 15189	Extern
QM0109 How to convert an Analytical lab into an accredidated lab	EM Scholar
QM0203 Managing Instalations, Equipment and Consumables	UAlg
QM0204 Quality Systems Documentation	SQR-UB
QM0208 Risk Assessment in Analytical Laboratories	Extern
QM0302 Calibration and Verification	UB
QM0306 Proficiency Testing Schemes and Certified Reference Materials	UB
QM0307 Metrology in Chemical Analysis: A Practice course	EM Scholar
QM0502 Method Validation	GUT
QM0503 Technical Writing	Extern
QM0504 Internal Quality Control	GUT
QM0601 Laboratory Audits (EN ISO 19011)	Extern
QM0701 Chemical Safety and REACH regulations	Extern
QM0801 Language Course - Intensive "Survival" Spanish	Host
QM0802 IT Tools	Host
QM0803 Laboratory Skills (Introduction for non-chemist)	Host
QM0804 Fieldwork Skills: Practical Implementation of Quality Management Systems	Host
QM0805 Research Skills	Host
QM0808 Communication Skills	Host

Module taught by videoconference

Extern: External collaborators from professional sector
GUT: Gdansk University of Technology (Poland)
NSU: Novosibirsk State University (Russia)
SQR: Service for Quality in Research (Spain)
UAlg: University of Algarve (Portugal)
UB: University of Barcelona (Spain)
UCA: University of Cádiz (Spain)
ULisboa: University of Lisbon (Portugal)
UiB: University of Bergen (Norway)
USP: University of Sao Paulo (Brazil)

Table 3. Research Master Thesis projects for the students of the 10th EMQAL Edition (2017-2019)

Centre	Supervisor/s*	Student	Tentative title of the project
GUT	Justyna Płotka-Wasylka Piotr Konieczka	Alicia Daniela Robles	**New analytical procedures in wine analysis**
UiB	Svein Mjøs/Bjorn Grung	Inés Sanz Álvarez	**Optimization of gas chromatographic systems**
NIST/GUT	Laura Wood(NIST)/Melissa Phillips(NIST)/Werickson Rocha(NIST/ Justyna Płotka-Wasylka (GUT)/ Magdalena Fabjanowicz (GUT)	Meryl Cruz	**Food and Agricultural Products: Characterization and Authentication**
NIST/UiB	Lee Yu(NIST)//Stephen Long(NIST)//Werickson Rocha(NIST)/ Bjørn Grung (UiB)	Dhayaalini Nadarajan	**Clinical Metallomics and Chemical Speciation within Biological Systems**
UAlg	Luísa Barreira (UAlg/CCMAR) Luísa Custódio (CCMAR)	Farah Kamberovic	**Isolation and characterization of marine anti-tumoural compounds from natural extracts**
UAlg	M.C. Costa and T. Palma (UAlg/CCMAR) / António Martins (AdA)	Anastasiia Shylova	**Investigating the removal of emerging pharmaceutical compounds in a wastewater granular sludge treatment process**
UAlg	Luísa Barreira (UAlg/CCMAR) Luísa Custódio (CCMAR)	Kovan Mohammed Ismael	**Isolation and characterization of marine anti-inflammatory compounds from natural extracts**
NIST/UiB	Aaron Urbas(NIST)/Jacolin Murray(NIST)/Werickson Rocha(NIST)/ Bjørn Grung (UiB)	Ricardo Henrique de Paula Pedroza	**Petroleomics: Suitability Assessment of Alternative Fuels**
NIST/GUT	Christina Jones(NIST)//Werickson Rocha(NIST)/ Weronika Hewelt-Belka (GUT)	Abraham Kuri Cruz	**Data Quality Tools for Metabolomics and Clinical Diagnostics**
GUT	Renata Jędrkiewicz Jacek Namieśnik	Temesgen Takele Niguso	**Determination of heat induced lipophilic food contaminants in edible oils and fats and food products with high fat content.**
NIST/UAlg	Regina Easley (NIST)/Jason Waters (NIST)/Werickson Rocha (NIST)/ Ana Rosa García (UAlg), Isabel Cavaco (UAlg)	Madonna Salib	**Advances in pH Measurements for Real World Applications**
UAlg	Luísa Barreira (UAlg/CCMAR) Luísa Custódio (CCMAR)	Sisay Tesema Uota	**Isolation and characterization of marine bioactive compounds with neuroprotective capacity from natural extracts.**
UiB/UCA	Sonnich Meier (IMR) /Bjørn Grung (UiB)	Antonio Sánchez	**Oil exposure of egg from European hake *Merluccius merluccius*. Studies of Uptake and metabolism of polycyclic hydrocarbons (PAHs) during the embryo phase**
UAlg/UCA	J.M. Palacios (UCA) / A.M.S. Rosa da Costa (UAlg)	Christian Hazael Pérez	**Application of magnetic nanoparticles for biosensing and immunoprecipitation.**

AdA: Águas do Algarve (Portugal); CCMAR: Centro de Ciências do Mar (Portugal); IMR: Institute of Marine Research (Norway); NIST: National Institute for Standards and Technology (USA); NSU: Novosibirsk State University (Russia) UAlg: University of Algarve (Portugal); UiB: University of Bergen (Norway); UCA: University of Cadiz (Spain); GUT: Gdansk University of Technology (Poland)

*Total number of RMT supervisors will be adjusted according to each European University rules.

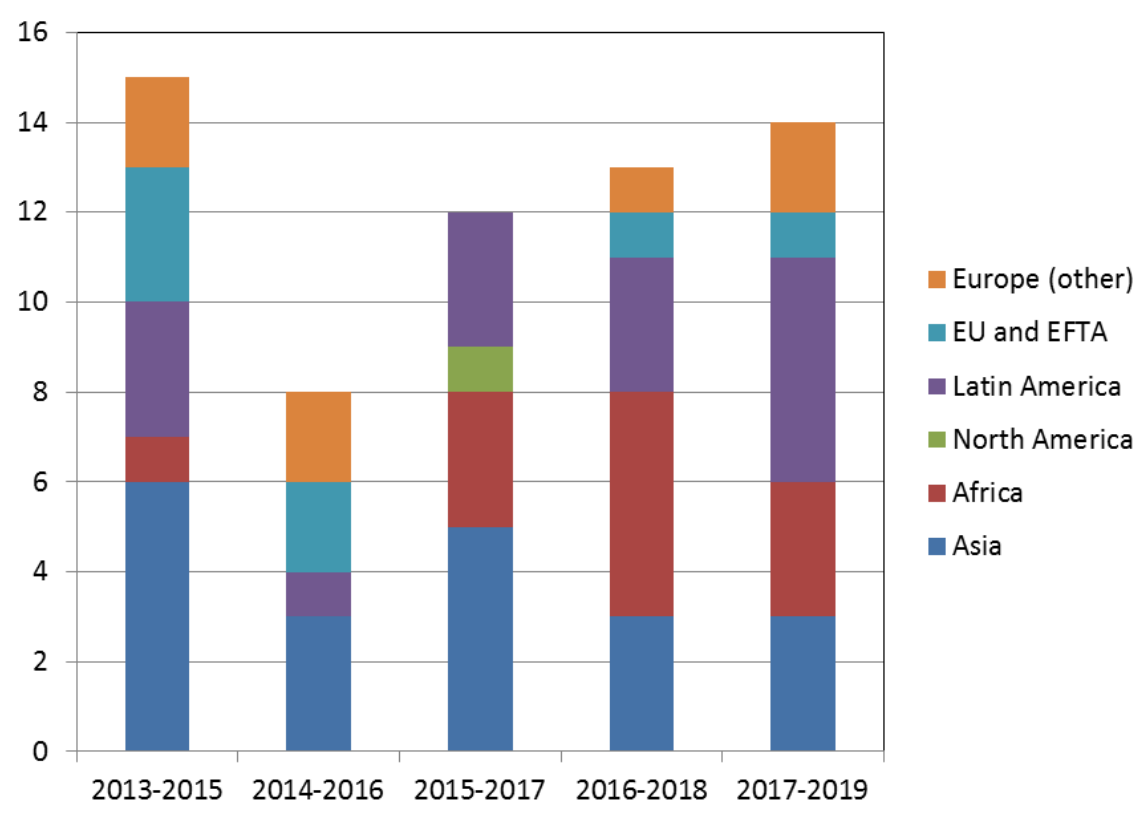


Figure 1. Geographical distribution of EMQAL students.

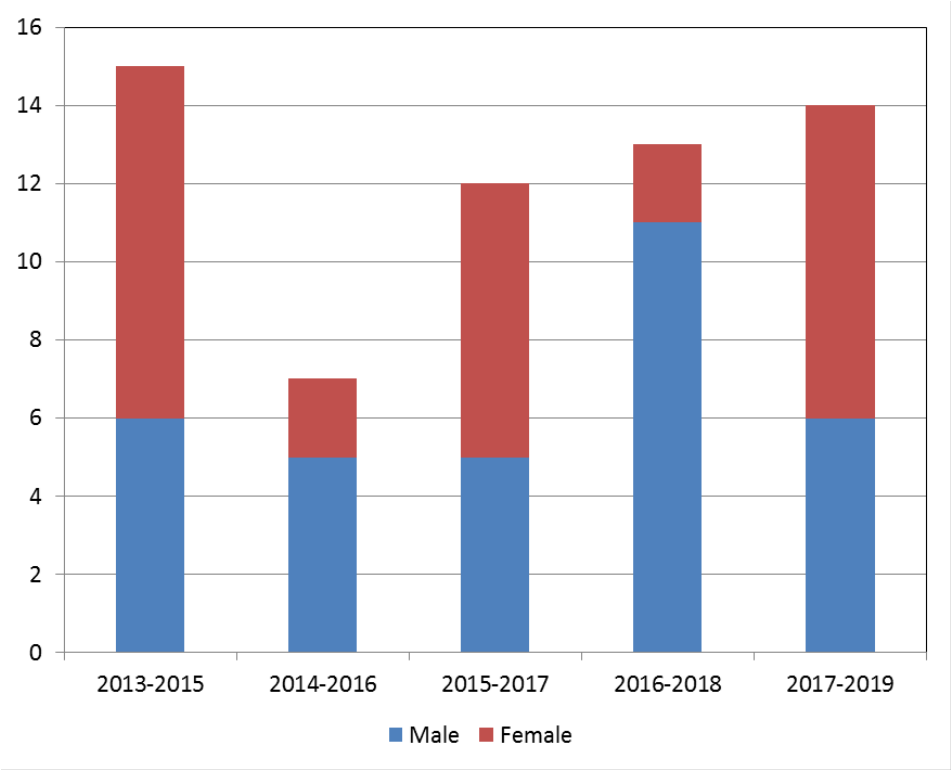


Figure 2. Gender distribution of EMQAL students.

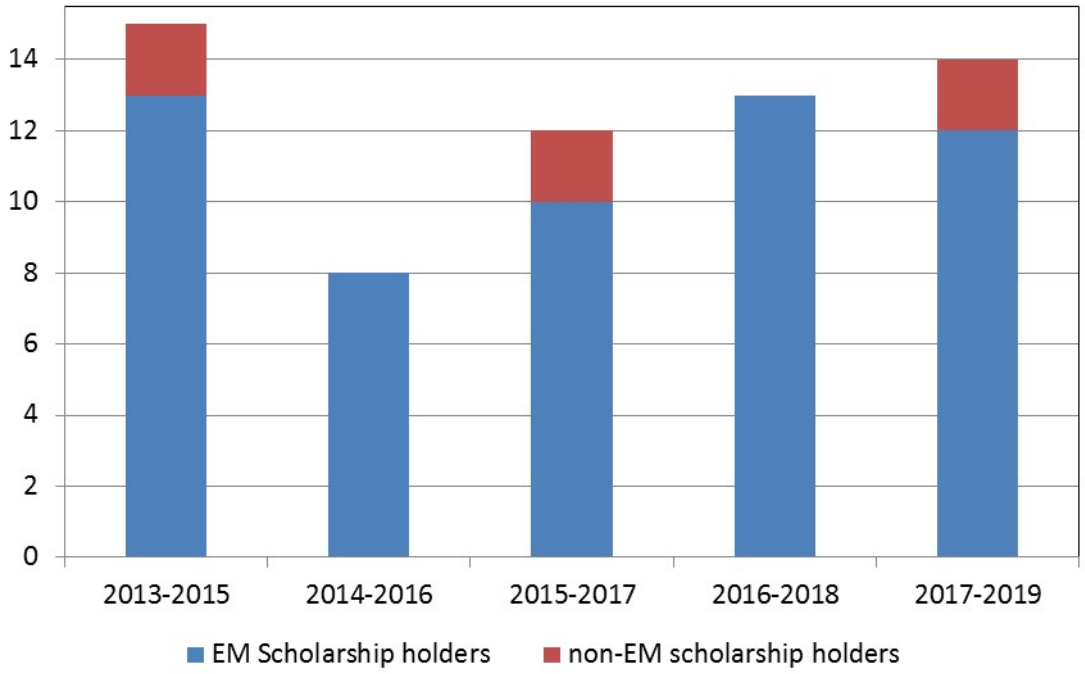


Figure 3. Number of EM scholarship holders.

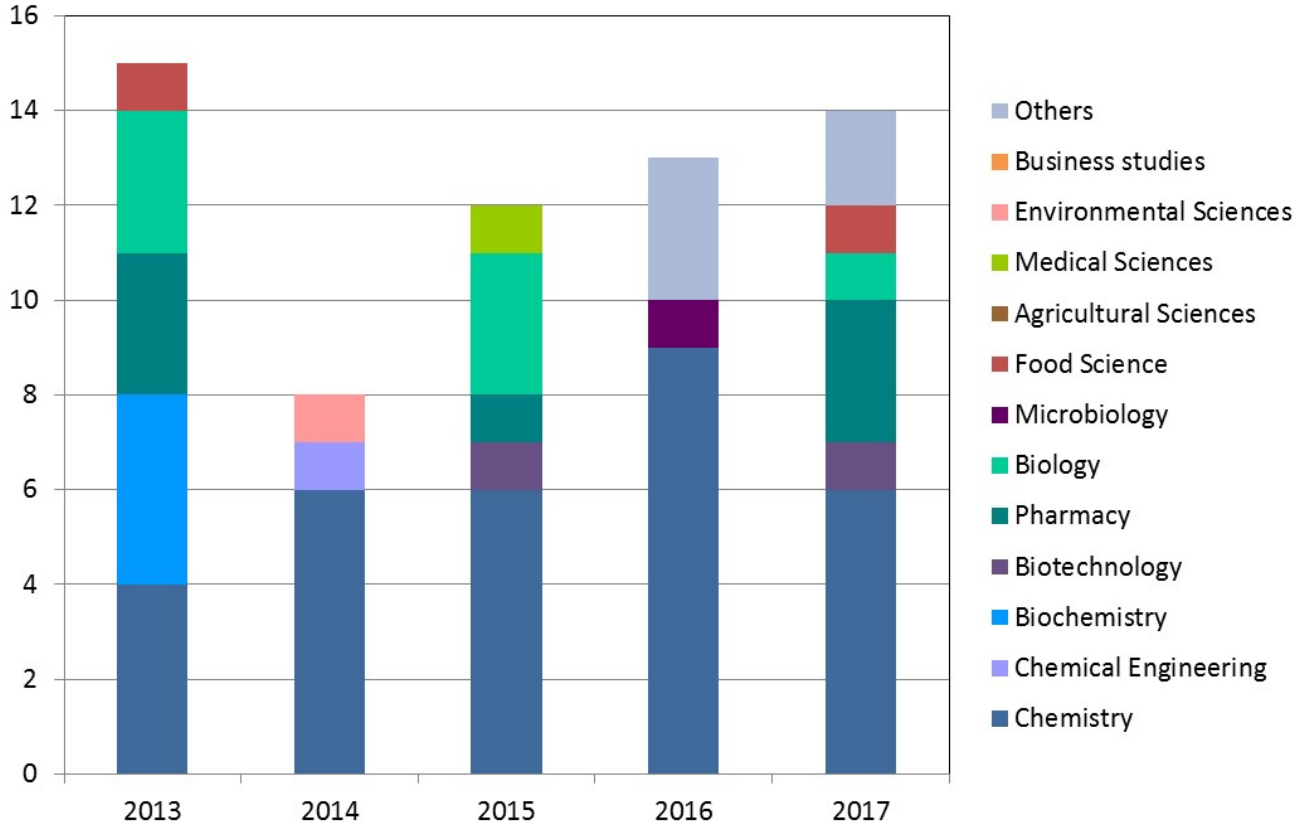


Figure 4. Students background at undergraduate level.

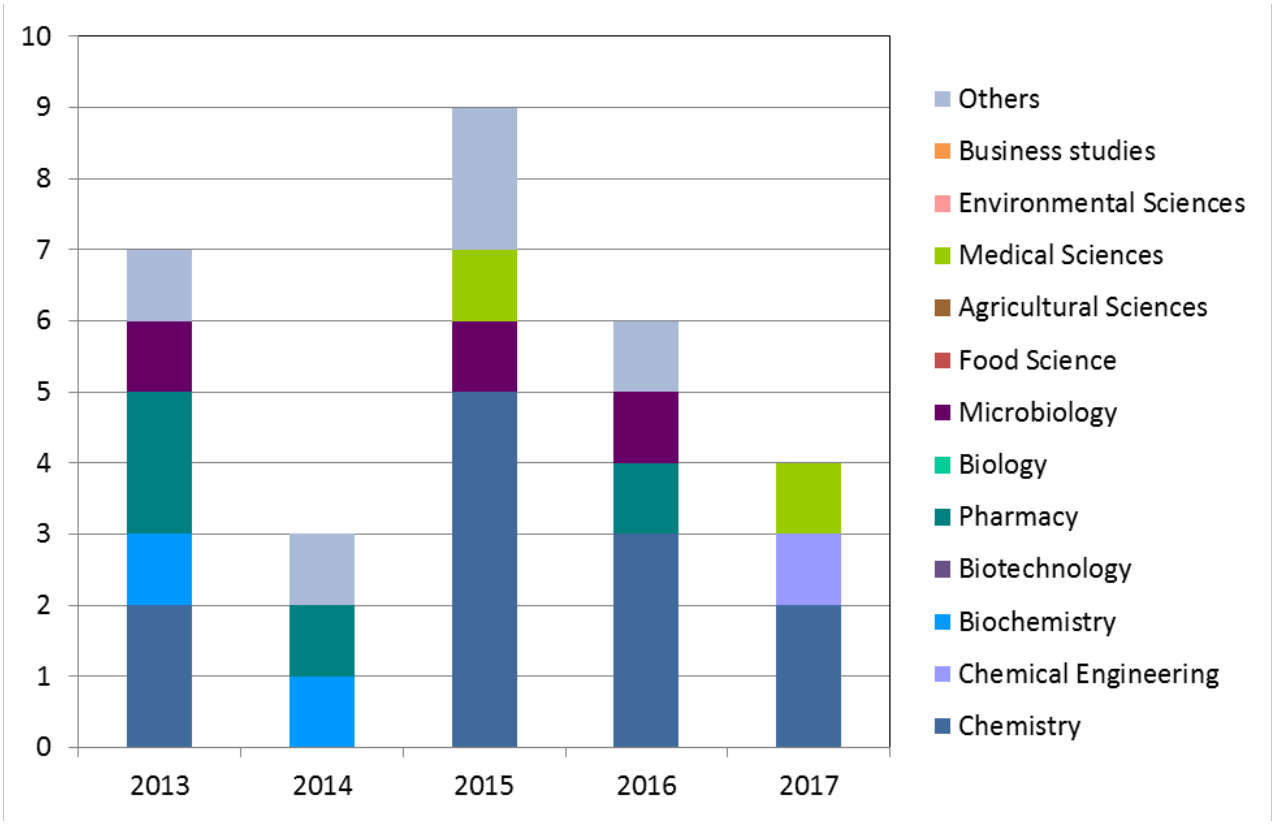


Figure 5. Students background at master level.

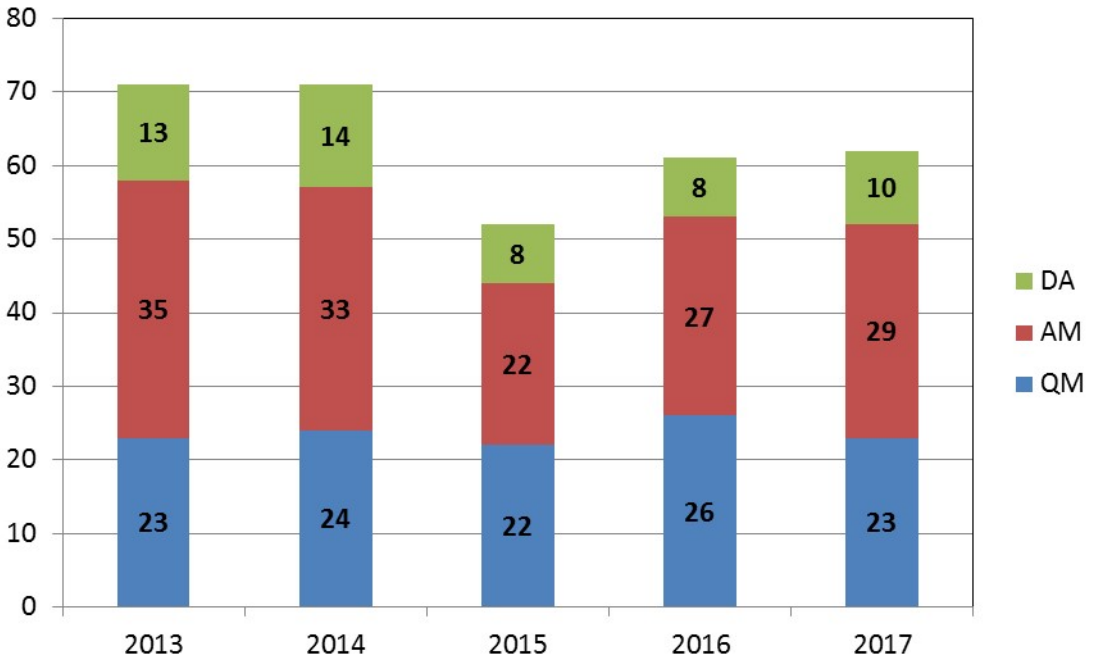


Figure 6. Number of modules offered per year

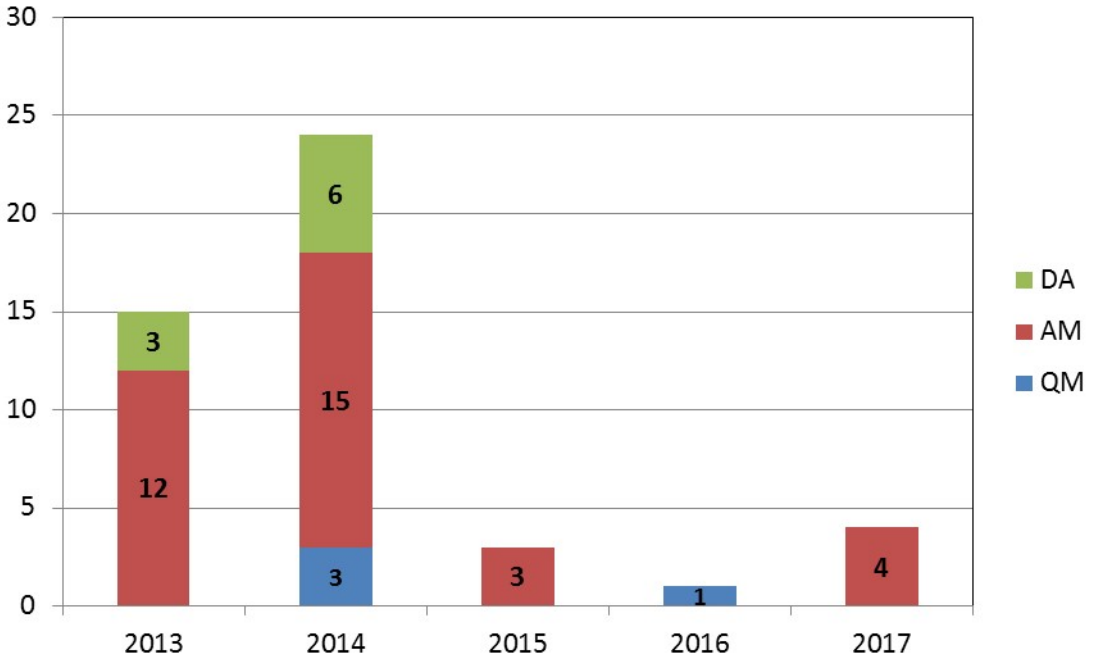


Figure 7. Number of modules cancelled per year.

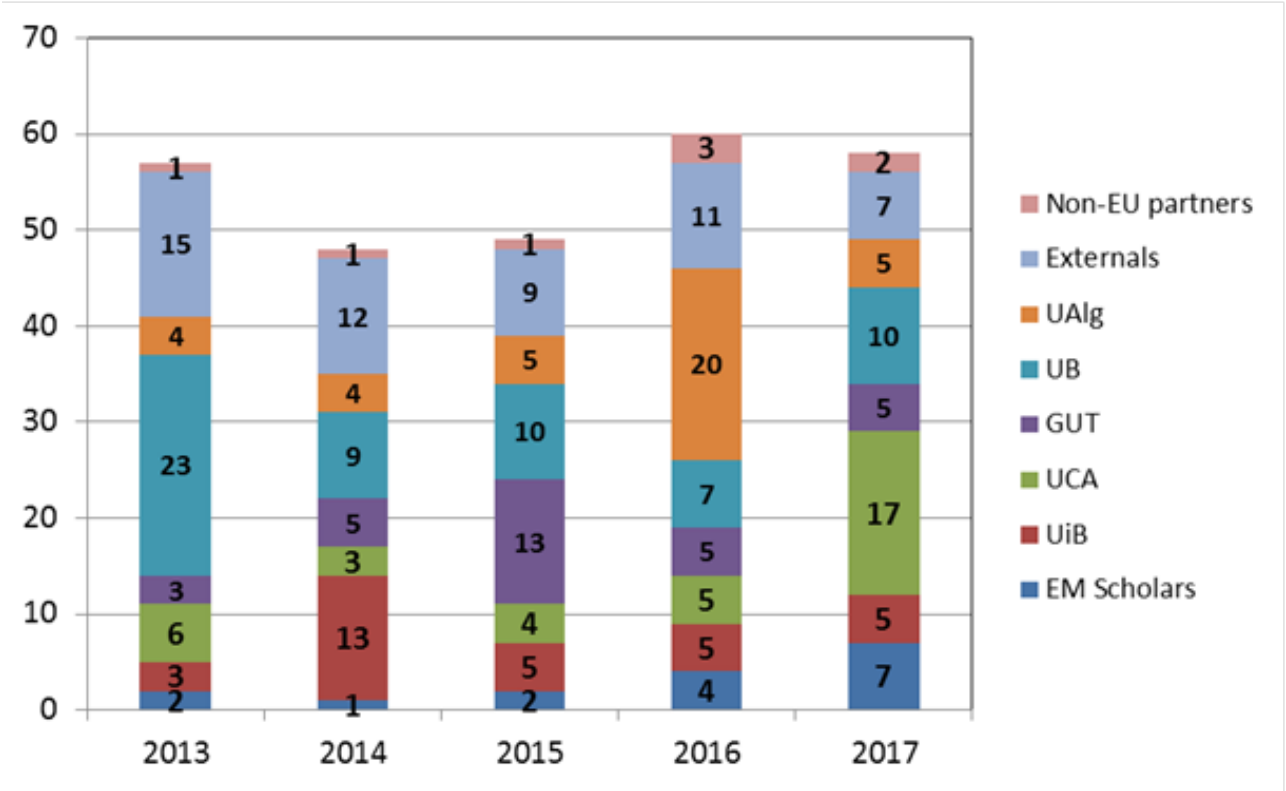


Figure 8. Number of modules taught by partner University.

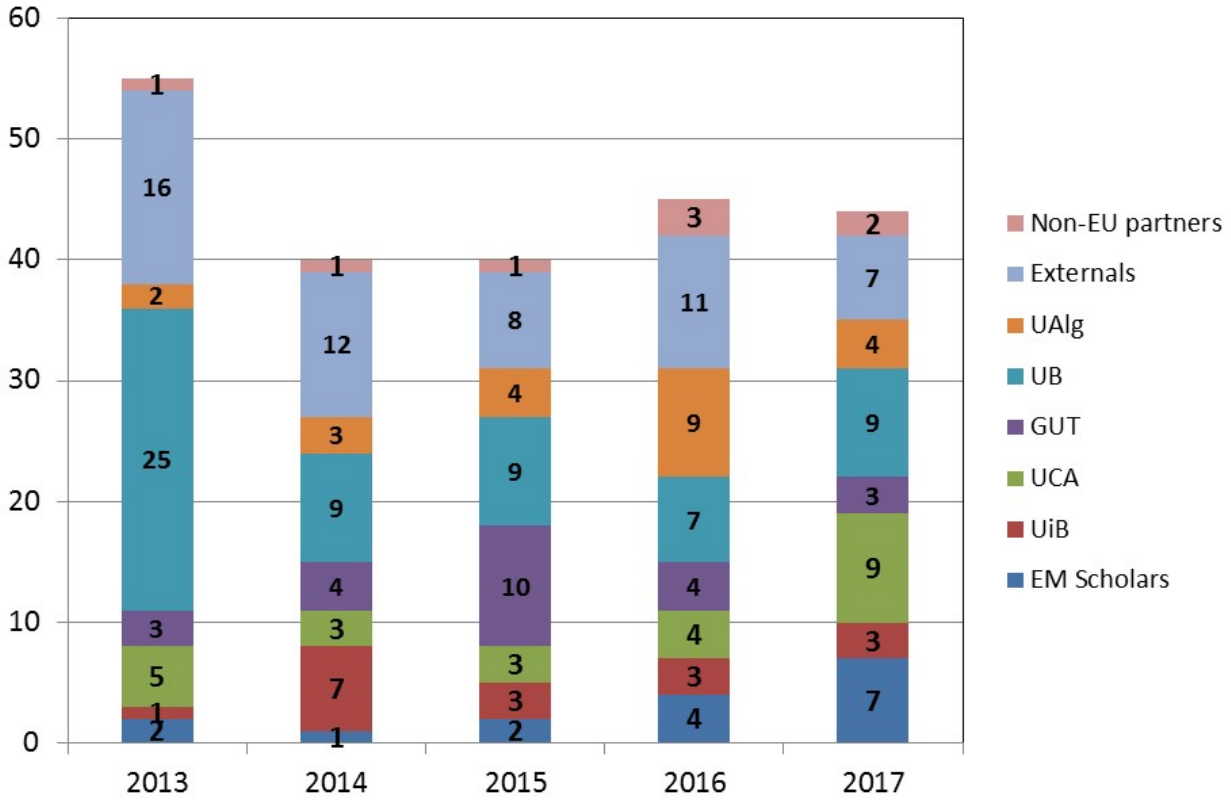


Figure 9. Number of lecturers by partner University

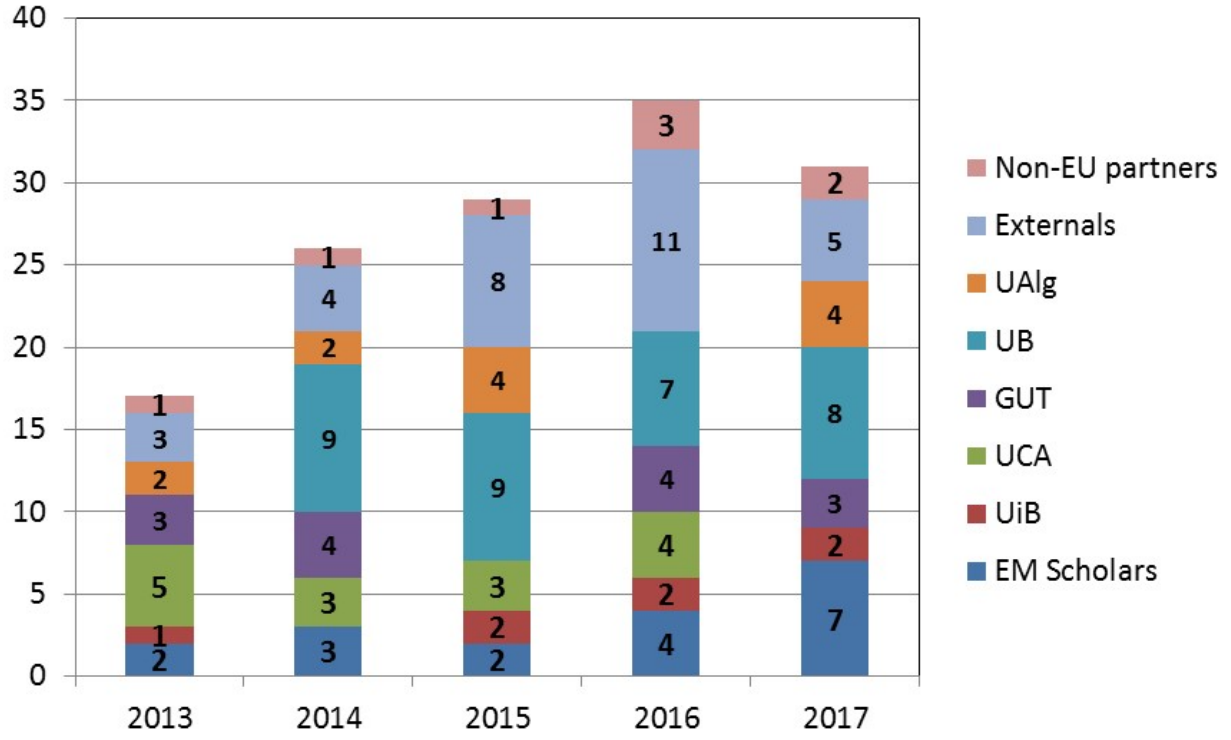


Figure 10. Number of staff mobilities.

Annual Report of the Examiners' Board

Annex 4 – Results of module evaluation for 10th EMQAL edition (academic year 2017-2018)

Table 1. Percentages of student's participation in modules evaluation (10th EMQAL).

List of modules 10th EMQAL edition	Total nº students	Nº students with module in SP	Nº students with module EC	Nº answers	% Participation
AM0101 Water Directive and CEN Standards	1	0	1		
AM0104 Water — Metal Analysis	7	7	0		
AM0105 Water - Analysis of Organic Components	6	3	3		
AM0106. Advances in pH Metrology and Oceanographic pH Measurements	3	3	0		
AM0205 Foods – Sample treatment	9	8	1		
AM0507 Environmental Samples Monitoring	6	2	4		
AM0509 Environmental Toxicology	7	3	4		
AM0510 Bioindicators and Biomonitoring for Environmental Quality	6	4	2		
AM0801 Design of Sample Strategies and Sampling techniques	12	12	0	12	100
AM0903 Introduction to Chromatographic Techniques	10	7	3	9	90
AM0907 Molecular Spectroscopy	10	9	1		
AM0908 Vibrational Spectroscopy	8	7	1		
AM0909 Quantitative IR Spectroscopy	5	5	0		
AM0910 Atomic Spectroscopy	9	8	1	9	100
AM0912 Fundamentals of Mass Spectrometry and Hyphenated Techniques	9	6	3		
AM0916 Sensors and Biosensors	7	7	0		
AM0918 Automated Methods of Analysis	6	5	1		
AM0919 Gas Chromatography	12	12	0	13	108
AM0920 Liquid Chromatography	11	10	1		
AM0923 Extraction Methods in Analytical Chemistry	7	7	0	7	100
AM0925 Quality Parameters and Optimization in Chromatography	7	3	4		
AM0927 The Practice of Capillary Electrophoresis: Optimization and Method Development	2	1	1		
AM0928 Green Analytical Chemistry	9	9	0		
AM0932 Fire Debris Analysis	3	1	2		
DA0101 Measuring Variability and Error Propagation	13	13	0		

DA0103 Regression Analysis	12	7	5	10	83
DA0104 Statistical Decision and Analysis of Variance	12	11	1		
DA0201 Introduction to Uncertainty Measurement	10	3	7	10	100
DA0301 Experimental Design and Optimization	14	11	3	14	100
DA0302 Pattern Recognition and Classification	14	12	2	14	100
DA0306 Fundamentals of Multivariate Data Analysis	13	12	1	13	100
DA0315 Sample and Variable Selection Methods for Classification Analysis in Analytical Chemistry	9	4	5		
DA0316 Introduction to Multivariate Calibration	10	10	0		
DA0317 Basic concepts in metrology applied to spectrometric measurements: practical examples on traceability and measurement uncertainty	10	2	8		
QM0101 European Quality Policy and Infrastructures	12	9	3	12	100
QM0102 Introduction to Quality Management	13	11	2		
QM0104 Laboratory Quality Systems: ISO/IEC 17025	14	14	0	14	100
QM0106 Good Laboratory Practice	14	13	1	14	100
QM0107 Laboratory Quality Systems: ISO 15189	7	5	2		
QM0109 How to convert an Analytical lab into an accredidated lab	12	12	0		
QM0203 Managing Instalations, Equipment and Consumables	9	9	0		
QM0204 Quality Systems Documentation	10	9	1		
QM0208 Risk Assessment in Analytical Laboratories	9	8	1		
QM0302 Calibration and Verification	14	14	0	14	100
QM0306 Proficiency Testing Schemes and Certified Reference Materials	14	14	0		
QM0307 Metrology in Chemical Analysis: A Practice course	11	7	4		
QM0502 Method Validation	14	14	0	14	100
QM0503 Technical Writing	10	7	3	9	90
QM0504 Internal Quality Control	14	12	2		
QM0601 Laboratory Audits (EN ISO 19011)	14	12	2		
QM0701 Chemical Safety and REACH regulations	9	8	1	8	89
QM0801 Language Course - Intensive "Survival"	2	0	2		

Spanish					
QM0802 IT Tools	11	6	5	11	100
QM0804 Fieldwork Skills: Practical Implementation of Quality Management Systems	6	2	4		
QM0805 Research Skills	5	1	4		
QM0808 Communication Skills	10	5	5	10	100

Surveys still pending of evaluation

Number of answers higher than number of EMQAL students. External students (up to 2) and attendants can also sent the surveys.

ERASMUS MUNDUS MASTER IN QUALITY IN ANALYTICAL LABORATORIES

10th EMQAL. Academic Year 2017/2018

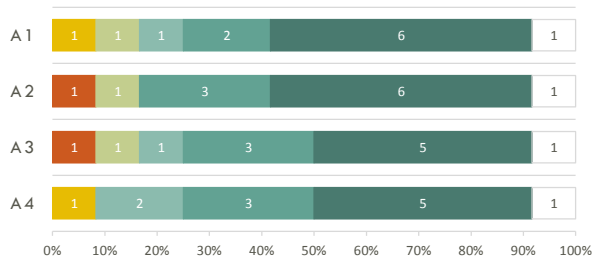
Design of Sample Strategies and Sampling techniques

Module name

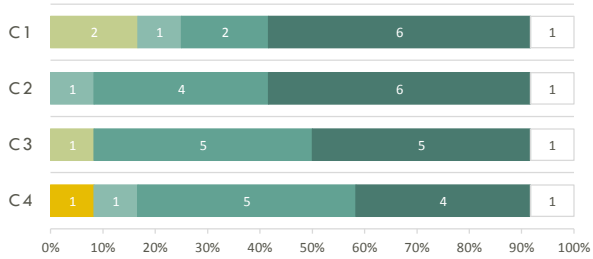
AM0801

Module code

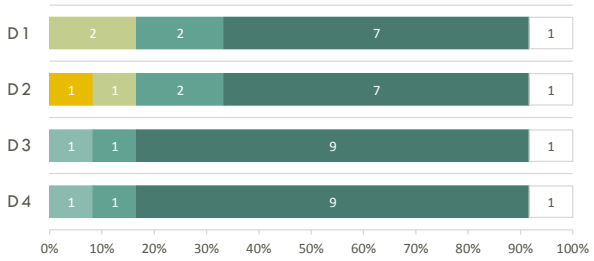
A. LEARNING



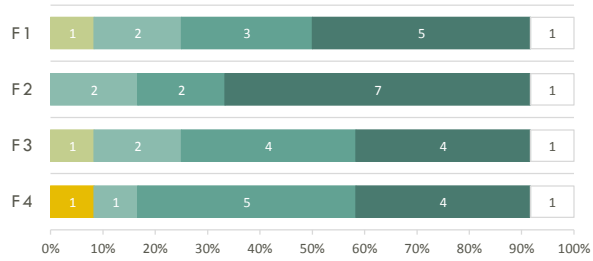
C. ORGANIZATION



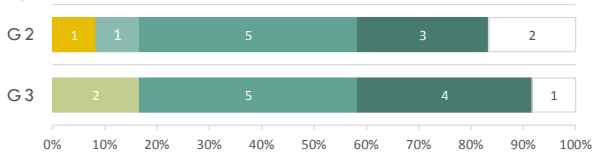
D. GROUP INTERACTION



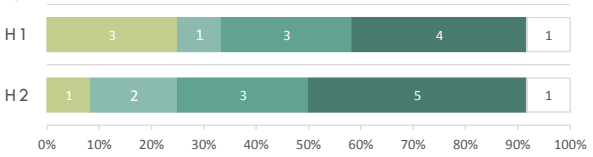
F. BREADTH



G. EXAMINATIONS



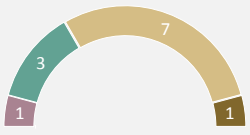
H. ASSIGNMENTS



Very poor / Completely disagree
Poor / Strongly disagree
Weak / Disagree
Fair / Neither
Reasonable / Agree
Good / Strongly agree
Very good / Completely agree
No opinion

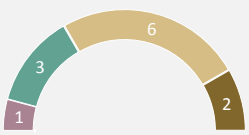
J. STUDENT AND MODULE CHARACTERISTICS

J1. MODULE DIFFICULTY



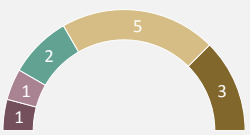
Very easy
Easy
Medium
Hard
Very hard

J2. MODULE WORKLOAD



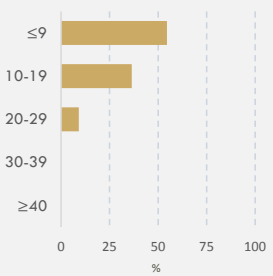
Very light
Light
Medium
Heavy
Very heavy

J3. MODULE PACE

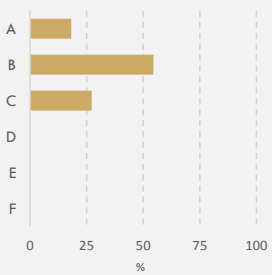


Too slow
Slow
About right
Fast
Too fast

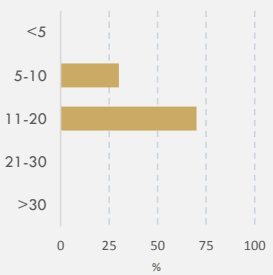
J4. HOURS PER WEEK



J5. EXPECTED GRADES



J6. PREVIOUS MODULES



STUDENT COMMENTS

The professor is really good and knows what she is teaching. Her delivery on the class makes us more interested and she encourages us to ask questions and give our own ideas.

The module was very interesting and the professor one of the best in this master. Most of the professors should be like her.

ERASMUS MUNDUS MASTER IN QUALITY IN ANALYTICAL LABORATORIES

10th EMQAL. Academic Year 2017/2018

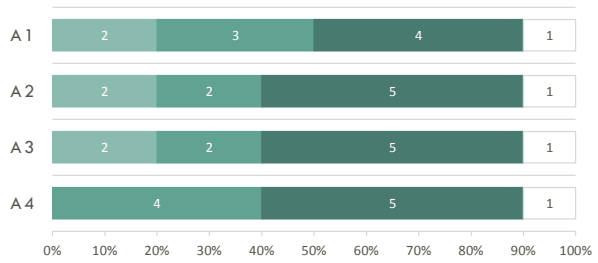
Introduction to chromatographic tecniques

Module name

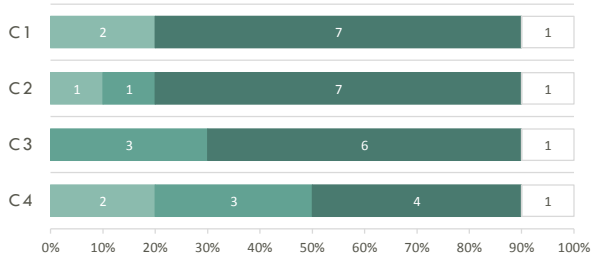
AM0903

Module code

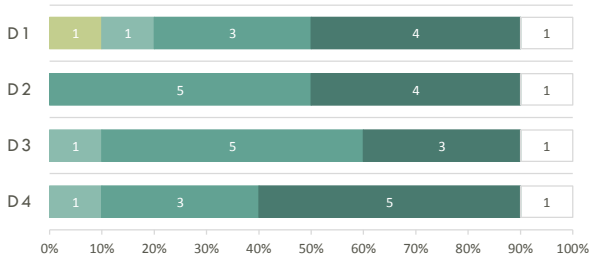
A. LEARNING



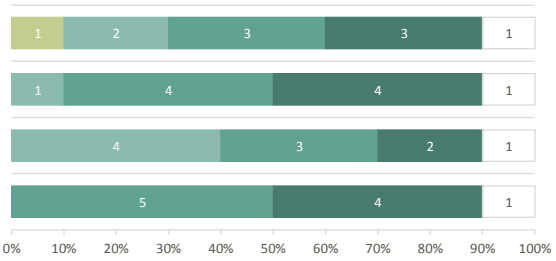
C. ORGANIZATION



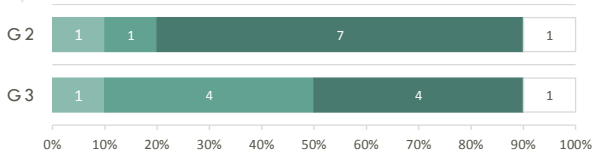
D. GROUP INTERACTION



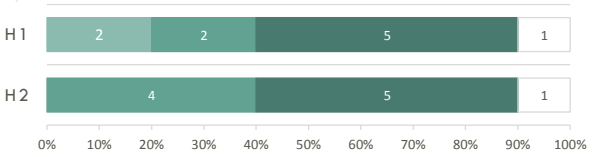
F. BREADTH



G. EXAMINATIONS



H. ASSIGNMENTS

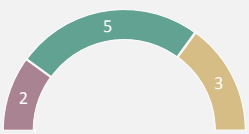


J. STUDENT AND MODULE CHARACTERISTICS

J1. MODULE DIFFICULTY

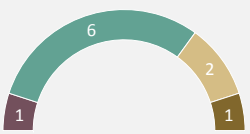
Very easy
Easy
Medium
Hard
Very hard

J2. MODULE WORKLOAD



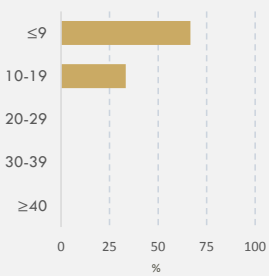
Very light
Light
Medium
Heavy
Very heavy

J3. MODULE PACE

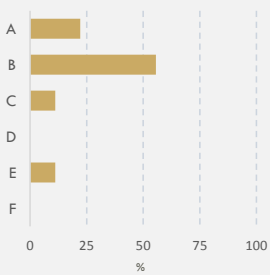


Too slow
Slow
About right
Fast
Too fast

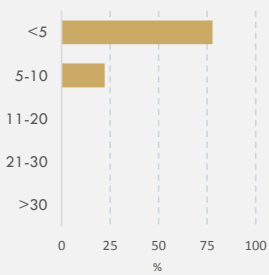
J4. HOURS PER WEEK



J5. EXPECTED GRADES



J6. PREVIOUS MODULES



STUDENT COMMENTS

very good introducction to the topic

I will highly recommend the Prof Enrique for the next EMQAL program. He is a young enegertic lecturer with very high interest of teaching.

the instructor is good in elaborating the topics

ERASMUS MUNDUS MASTER IN QUALITY IN ANALYTICAL LABORATORIES

10th EMQAL. Academic Year 2017/2018

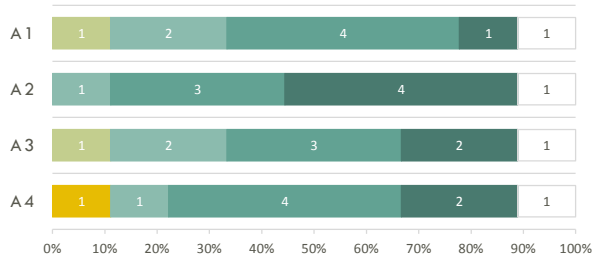
Atomic Spectroscopy

Module name

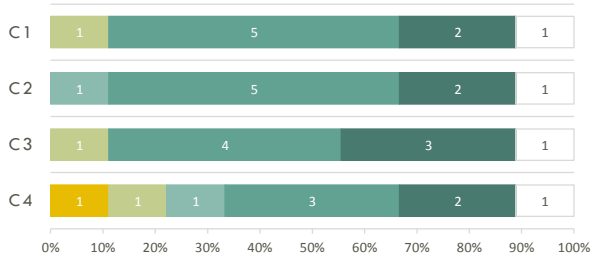
AM0910

Module code

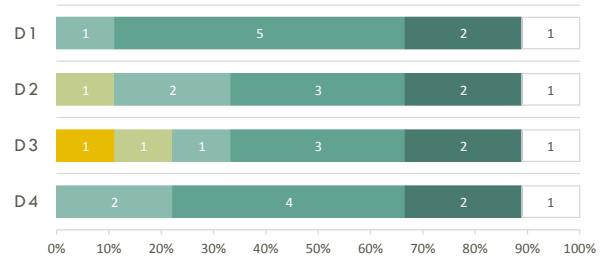
A. LEARNING



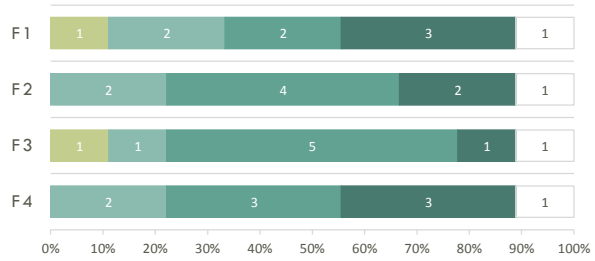
C. ORGANIZATION



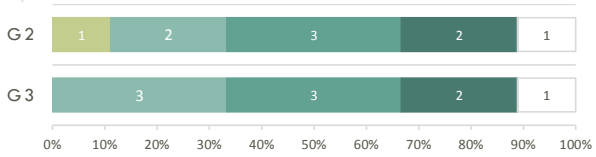
D. GROUP INTERACTION



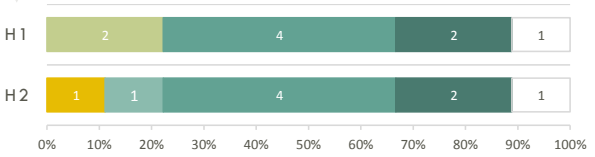
F. BREADTH



G. EXAMINATIONS

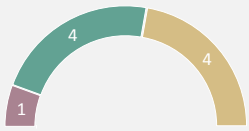


H. ASSIGNMENTS



J. STUDENT AND MODULE CHARACTERISTICS

J1. MODULE DIFFICULTY

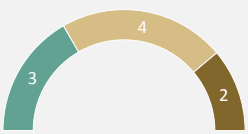


- Very easy
- Easy
- Medium
- Hard
- Very hard

J2. MODULE WORKLOAD

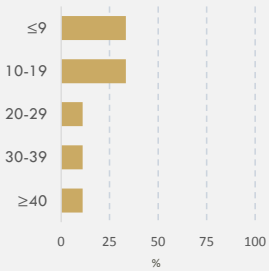
- Very light
- Light
- Medium
- Heavy
- Very heavy

J3. MODULE PACE

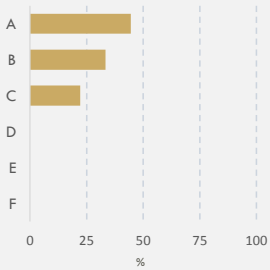


- Too slow
- Slow
- About right
- Fast
- Too fast

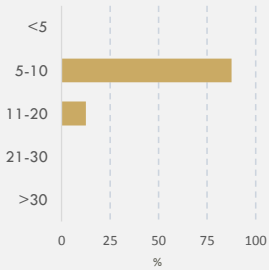
J4. HOURS PER WEEK



J5. EXPECTED GRADES



J6. PREVIOUS MODULES



STUDENT COMMENTS

Prof Maria Casanova is a great teacher with outstanding teaching skills.

The professors gave an adequate and clear discussion of the topic. The assessments were a lot but manageable in the end.

Interesting

ERASMUS MUNDUS MASTER IN QUALITY IN ANALYTICAL LABORATORIES

10th EMQAL. Academic Year 2017/2018

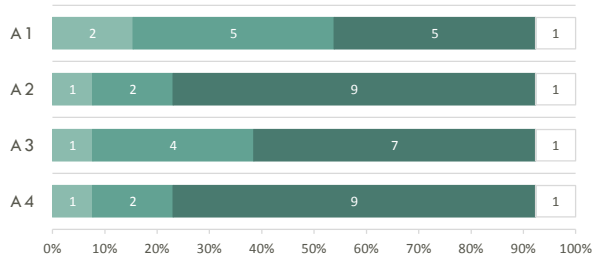
Gas Chromatography

Module name

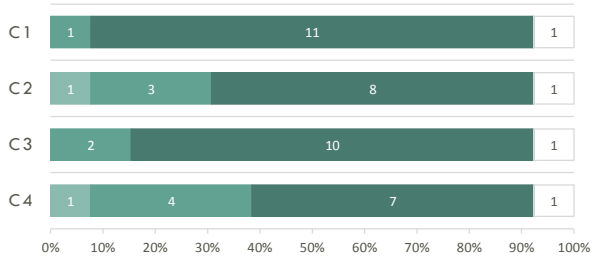
AM0919

Module code

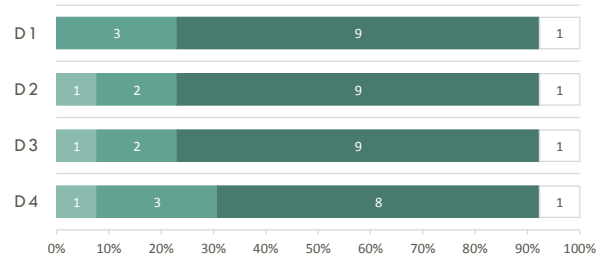
A. LEARNING



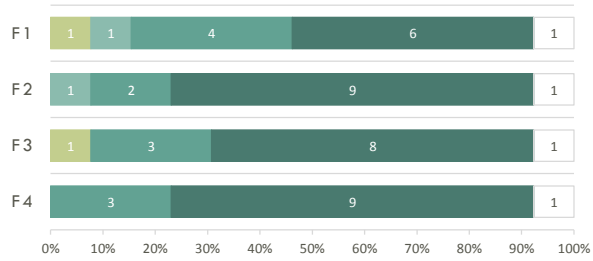
C. ORGANIZATION



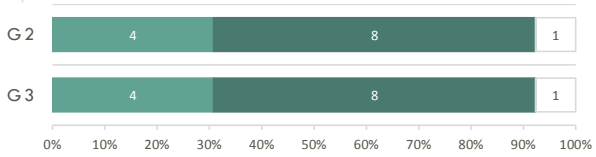
D. GROUP INTERACTION



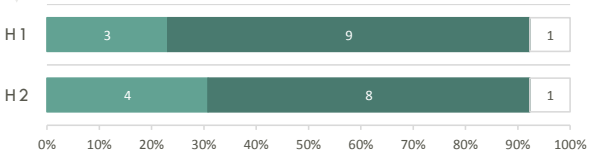
F. BREADTH



G. EXAMINATIONS



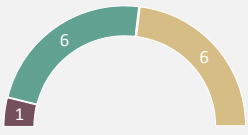
H. ASSIGNMENTS



Very poor — Completely disagree
Poor — Strongly disagree
Weak — Disagree
Fair — Neither
Reasonable — Agree
Good — Strongly agree
Very good — Completely agree
No opinion

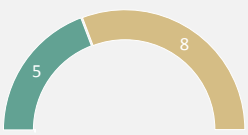
J. STUDENT AND MODULE CHARACTERISTICS

J1. MODULE DIFFICULTY



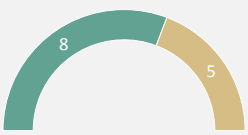
Very easy
Easy
Medium
Hard
Very hard

J2. MODULE WORKLOAD



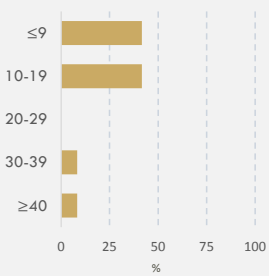
Very light
Light
Medium
Heavy
Very heavy

J3. MODULE PACE

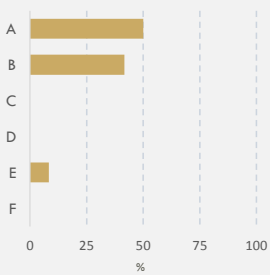


Too slow
Slow
About right
Fast
Too fast

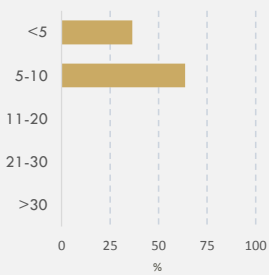
J4. HOURS PER WEEK



J5. EXPECTED GRADES



J6. PREVIOUS MODULES



STUDENT COMMENTS

The way the professor delivered his class was interactive which made the learning process much easier

The lecturer has creative way of teaching. We were given clear instruction, a super good assistancy as well as freedome of choosing the application of the GC in the field of our interest for the assignment. Kept everyone busy during the module week by asking power point presentation for the last day of the class. In fact, our assignment papers were screened through by the lecturer personally and commented before start writing. Trained us to scan literature paper for detailing and intricate facts of the insumentation. The positive side of this module was the lecturer response < 2 hours upon emailing him. Highly recommended for the future EMQAL program.

Very dinamic and interesting

Very good professor

Great lecturer, provided us with meaningful and useful information.Very clear explanations.

ERASMUS MUNDUS MASTER IN QUALITY IN ANALYTICAL LABORATORIES

10th EMQAL. Academic Year 2017/2018

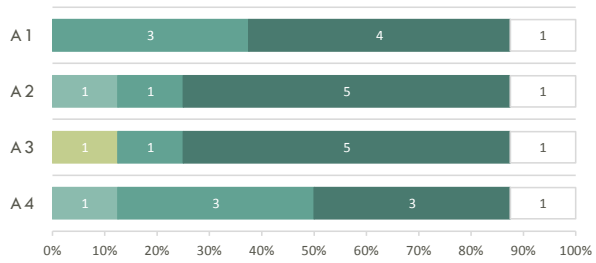
Extraction methods in analytical chemistry

Module name

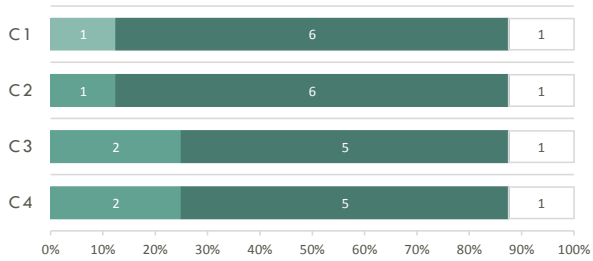
AM0923

Module code

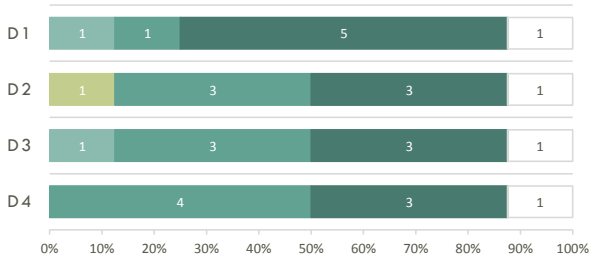
A. LEARNING



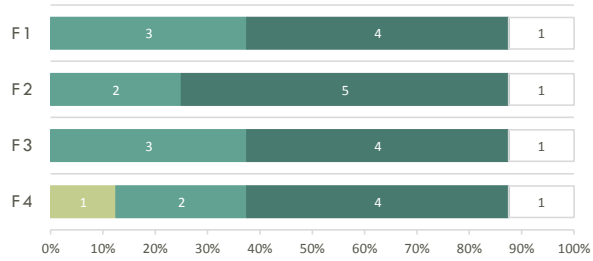
C. ORGANIZATION



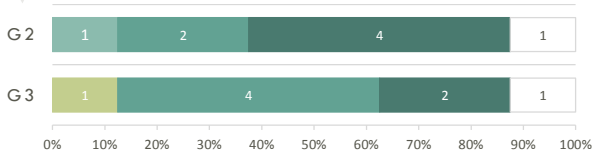
D. GROUP INTERACTION



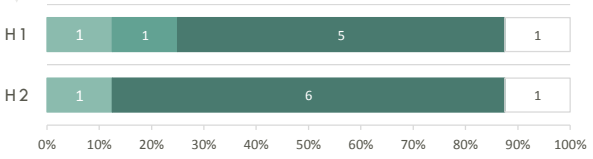
F. BREADTH



G. EXAMINATIONS



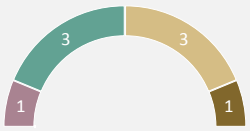
H. ASSIGNMENTS



Very poor — Completely disagree
Poor — Strongly disagree
Weak — Disagree
Fair — Neither
Reasonable — Agree
Good — Strongly agree
Very good — Completely agree
No opinion

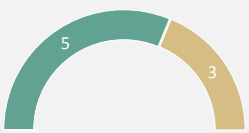
J. STUDENT AND MODULE CHARACTERISTICS

J1. MODULE DIFFICULTY



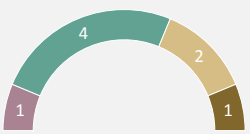
Very easy
Easy
Medium
Hard
Very hard

J2. MODULE WORKLOAD



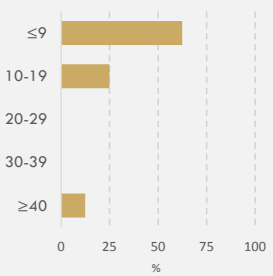
Very light
Light
Medium
Heavy
Very heavy

J3. MODULE PACE

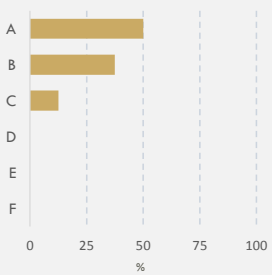


Too slow
Slow
About right
Fast
Too fast

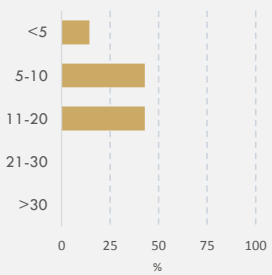
J4. HOURS PER WEEK



J5. EXPECTED GRADES



J6. PREVIOUS MODULES



STUDENT COMMENTS

I liked the way laboratory practice complemented classes

Useful

Excellent module

Professor Enrique is a quite good professor, there should be more like him.

ERASMUS MUNDUS MASTER IN QUALITY IN ANALYTICAL LABORATORIES

10th EMQAL. Academic Year 2017/2018

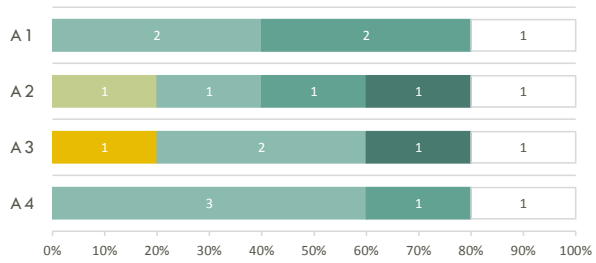
Introduction to Uncertainty Measurement

Module name

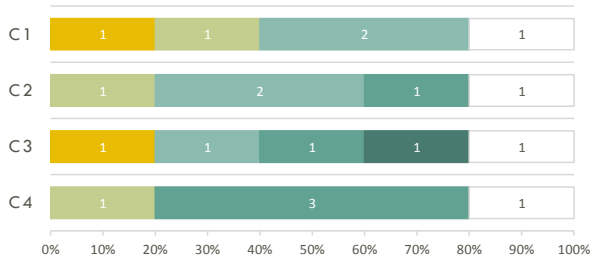
DA0201

Module code

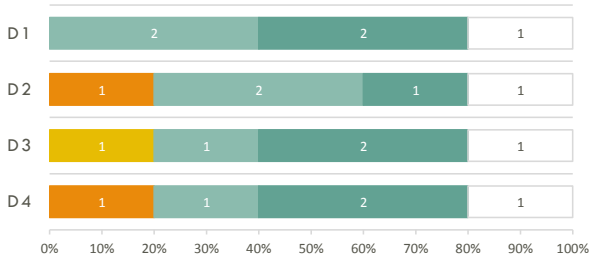
A. LEARNING



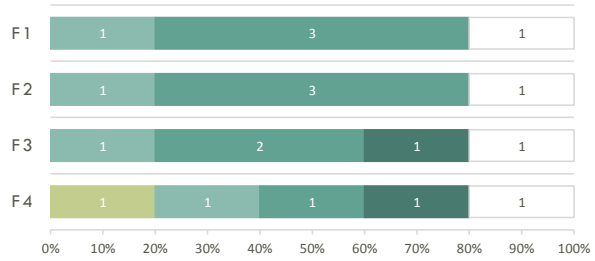
C. ORGANIZATION



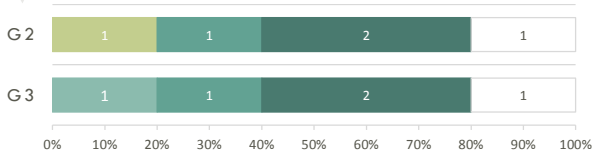
D. GROUP INTERACTION



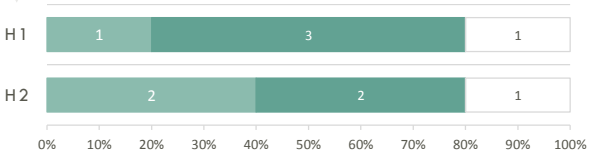
F. BREADTH



G. EXAMINATIONS

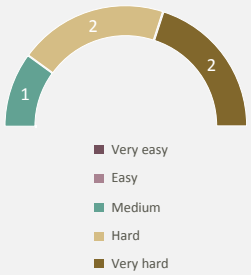


H. ASSIGNMENTS

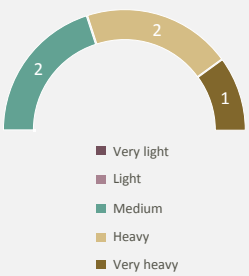


J. STUDENT AND MODULE CHARACTERISTICS

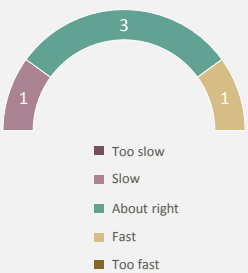
J1. MODULE DIFFICULTY



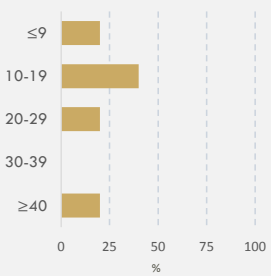
J2. MODULE WORKLOAD



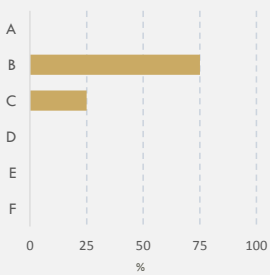
J3. MODULE PACE



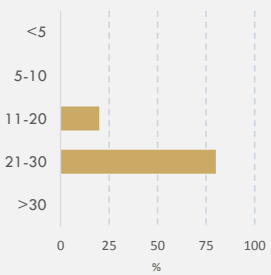
J4. HOURS PER WEEK



J5. EXPECTED GRADES



J6. PREVIOUS MODULES



STUDENT COMMENTS

The final examination was fair enough however I learned more by self study than in lectures. The professor's material is complete and very helpful

ERASMUS MUNDUS MASTER IN QUALITY IN ANALYTICAL LABORATORIES

10th EMQAL. Academic Year 2017/2018

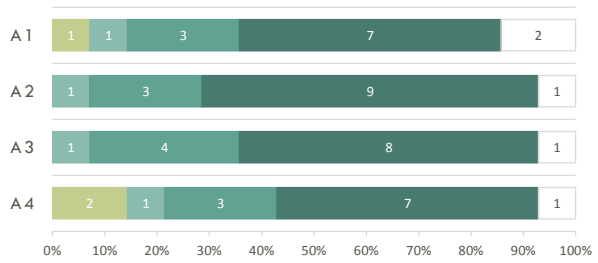
Experimental Design and Optimization

Module name

DA0301

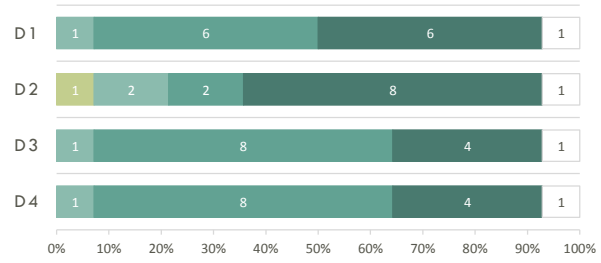
Module code

A. LEARNING

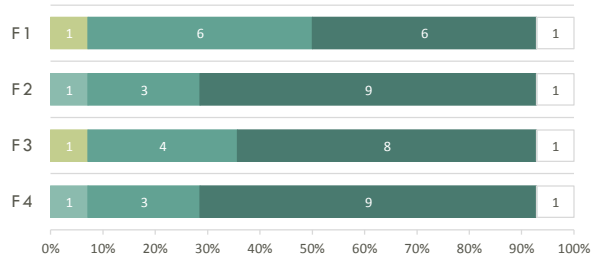


C. ORGANIZATION

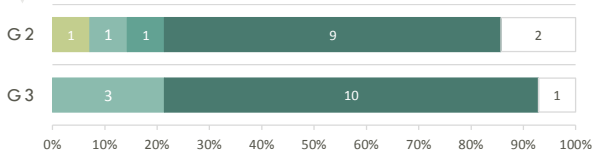
D. GROUP INTERACTION



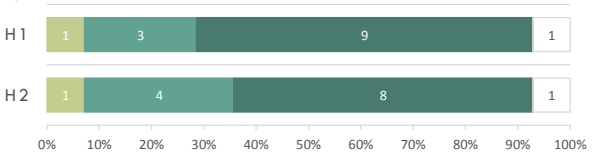
F. BREADTH



G. EXAMINATIONS



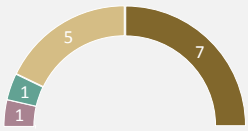
H. ASSIGNMENTS



Very poor — Completely disagree
Poor — Strongly disagree
Weak — Disagree
Fair — Neither
Reasonable — Agree
Good — Strongly agree
Very good — Completely agree
No opinion

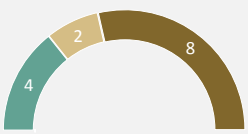
J. STUDENT AND MODULE CHARACTERISTICS

J1. MODULE DIFFICULTY



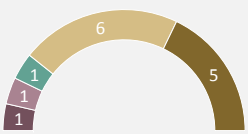
Very easy
Easy
Medium
Hard
Very hard

J2. MODULE WORKLOAD



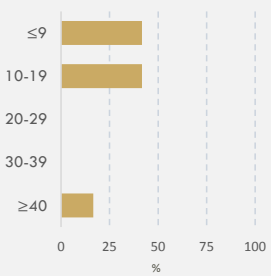
Very light
Light
Medium
Heavy
Very heavy

J3. MODULE PACE

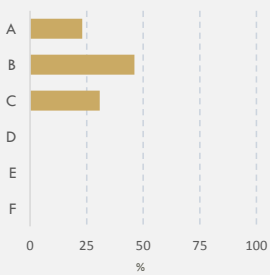


Too slow
Slow
About right
Fast
Too fast

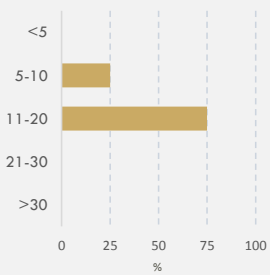
J4. HOURS PER WEEK



J5. EXPECTED GRADES



J6. PREVIOUS MODULES



STUDENT COMMENTS

The teacher is very generous. He gave his "NOT-FREE" software ver 10 and ver 11. He also available for 24 hours, 7 days for technical support. He has high sense of responsibility on each of us after providing the software. He shared his SIMCA teaching material when we requested for it to be used in other modules. He never says "NO" nor shut us down and always share information whenever asked. Practical session was done with his software step by step according to teaching topic. Overall, very organised with a lot of serious jokes during our lessons. Highly recommended teacher.

Very useful module

This was a very good and interesting module, the explanations were very good and clear.One of the best professors I had

The professor knows the subject matter very well and he is really good in explaining to us

ERASMUS MUNDUS MASTER IN QUALITY IN ANALYTICAL LABORATORIES

10th EMQAL. Academic Year 2017/2018

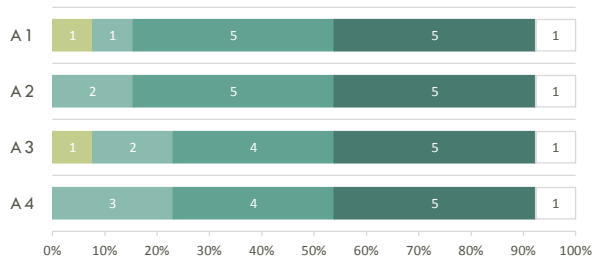
Pattern Recognition and Classification

Module name

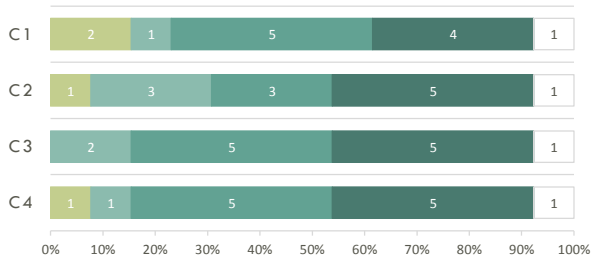
DA0302

Module code

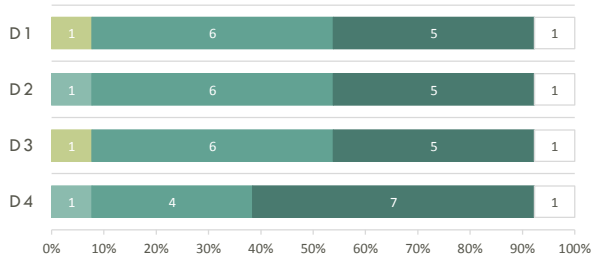
A. LEARNING



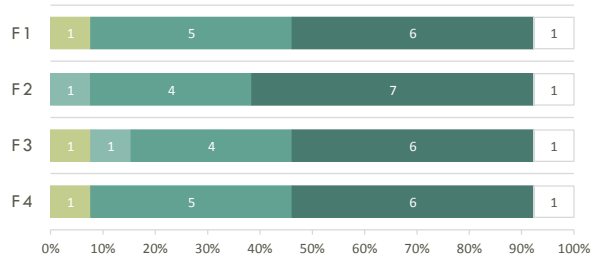
C. ORGANIZATION



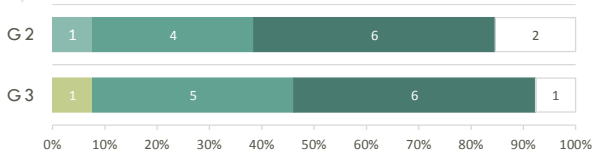
D. GROUP INTERACTION



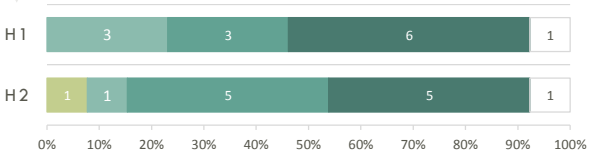
F. BREADTH



G. EXAMINATIONS



H. ASSIGNMENTS



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Very good — Completely agree
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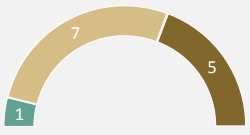
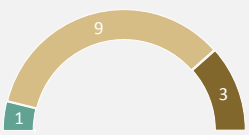
J. STUDENT AND MODULE CHARACTERISTICS

J1. MODULE DIFFICULTY



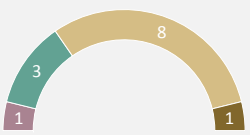
- Very easy
- Easy
- Medium
- Hard
- Very hard

J2. MODULE WORKLOAD



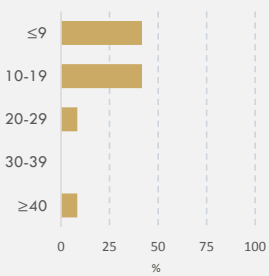
- Very light
- Light
- Medium
- Heavy
- Very heavy

J3. MODULE PACE

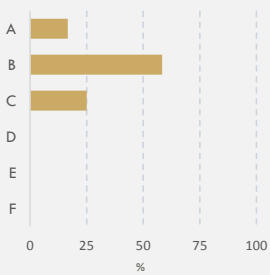


- Too slow
- Slow
- About right
- Fast
- Too fast

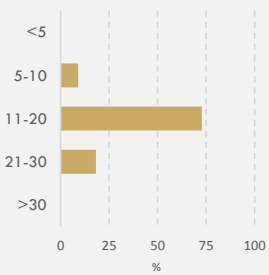
J4. HOURS PER WEEK



J5. EXPECTED GRADES



J6. PREVIOUS MODULES



STUDENT COMMENTS

The professor teaches very well and he is very experienced with the module nd subject matter

It was an interesting module, the professor´s explanations were clear and good.

the professor respects the concept that not all the students have chemometrics background so he started from scratch which was really good

Very good lecturer, gives clear explanations and usefull information. Very well organized lectures.

His slides were simple, the method of evaluation was very objective. He prepared the reference for the homework which was good. For a beginner like me, I am able to focus and spend more time on understanding the concept and ideology on the subject with less worry. Patiently listen to us and always correct us if it is not right. He literally copy and paste his knowledge into my head. I had better understanding on chemometrics after attending his class. Highly recommeded for him for this subject for next EMQAL.

ERASMUS MUNDUS MASTER IN QUALITY IN ANALYTICAL LABORATORIES

10th EMQAL. Academic Year 2017/2018

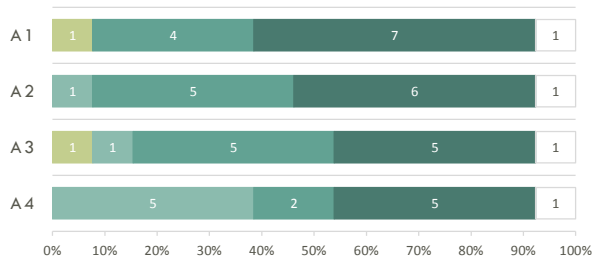
Fundamentals of Multivariate data analysis

Module name

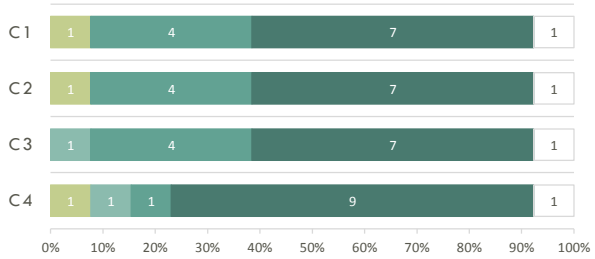
DA0306

Module code

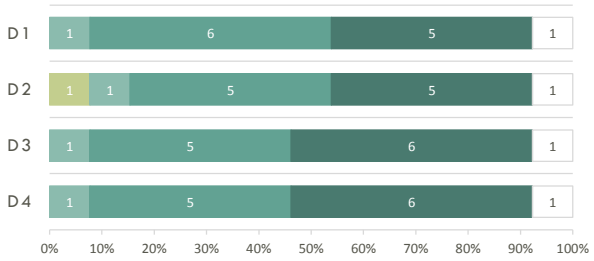
A. LEARNING



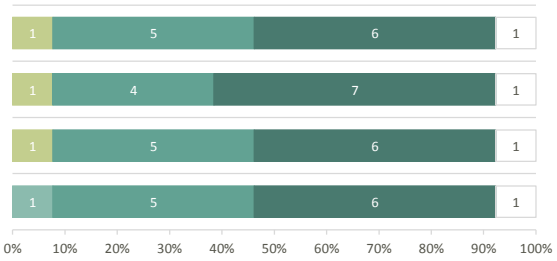
C. ORGANIZATION



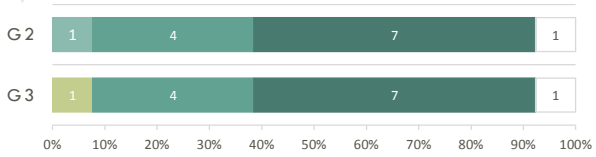
D. GROUP INTERACTION



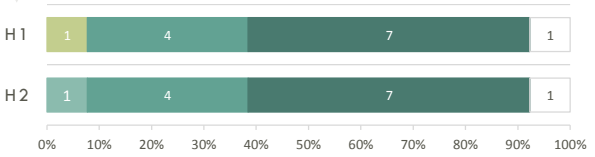
F. BREADTH



G. EXAMINATIONS

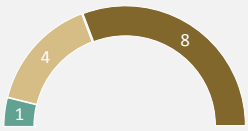


H. ASSIGNMENTS



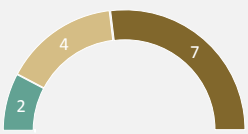
J. STUDENT AND MODULE CHARACTERISTICS

J1. MODULE DIFFICULTY



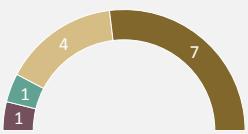
- Very easy
- Easy
- Medium
- Hard
- Very hard

J2. MODULE WORKLOAD



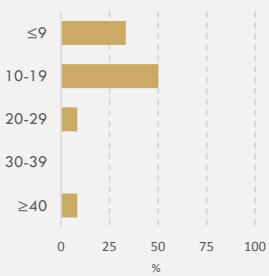
- Very light
- Light
- Medium
- Heavy
- Very heavy

J3. MODULE PACE

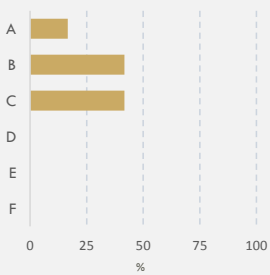


- Too slow
- Slow
- About right
- Fast
- Too fast

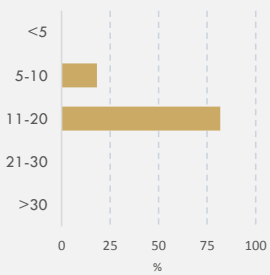
J4. HOURS PER WEEK



J5. EXPECTED GRADES



J6. PREVIOUS MODULES



STUDENT COMMENTS

Very good and interesting module. Very good professor.

Having no knowledge about multivariate, the professor explained very well the subject matter and I understood it.

Please refer to the comment of DA0301.

ERASMUS MUNDUS MASTER IN QUALITY IN ANALYTICAL LABORATORIES

10th EMQAL. Academic Year 2017/2018

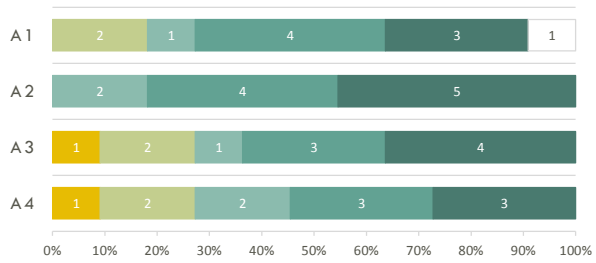
European Quality Policy and Infrastructures

Module name

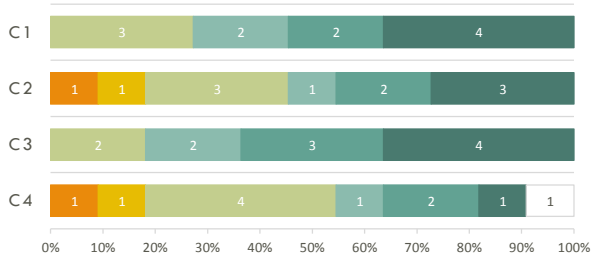
QM0101

Module code

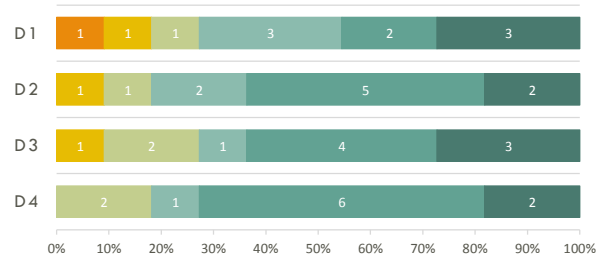
A. LEARNING



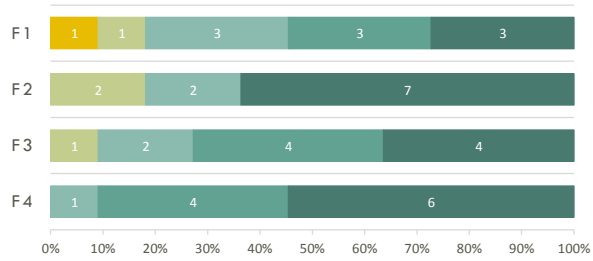
C. ORGANIZATION



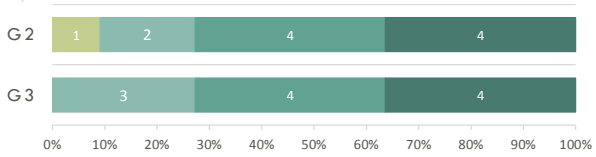
D. GROUP INTERACTION



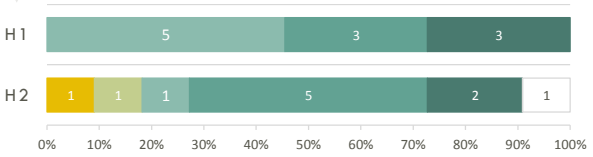
F. BREADTH



G. EXAMINATIONS



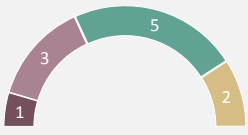
H. ASSIGNMENTS



Very poor — Completely disagree
Poor — Strongly disagree
Weak — Disagree
Fair — Neither
Reasonable — Agree
Good — Strongly agree
Very good — Completely agree
No opinion

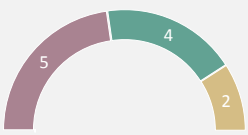
J. STUDENT AND MODULE CHARACTERISTICS

J1. MODULE DIFFICULTY



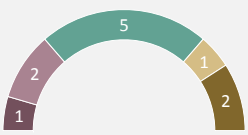
- Very easy
- Easy
- Medium
- Hard
- Very hard

J2. MODULE WORKLOAD



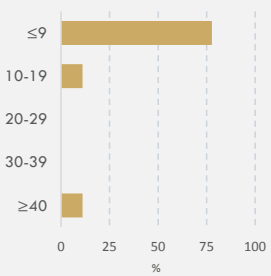
- Very light
- Light
- Medium
- Heavy
- Very heavy

J3. MODULE PACE

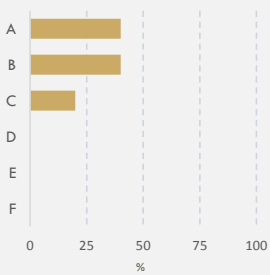


- Too slow
- Slow
- About right
- Fast
- Too fast

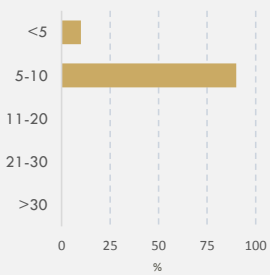
J4. HOURS PER WEEK



J5. EXPECTED GRADES



J6. PREVIOUS MODULES



STUDENT COMMENTS

she has to prepare herself before coming to class. Avoid reading everything from the slide

It was interesting

The lecturer was exceptionally good and very experience. However, the subject was too dry and everything seems like reading from the slide, maybe because after lunch hour. Could have conducted class activities in between as wake up alarm for the evening class after the lunch.

Long classes for the content

Slides few didactic.

ERASMUS MUNDUS MASTER IN QUALITY IN ANALYTICAL LABORATORIES

10th EMQAL. Academic Year 2017/2018

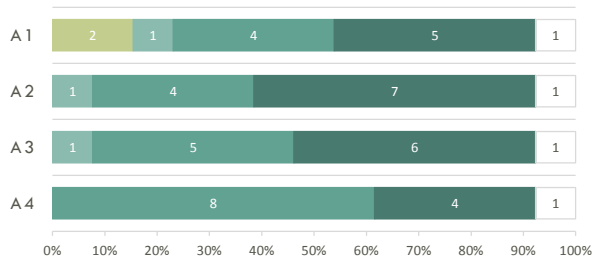
Laboratory Quality Systems: ISO/IEC 17025

Module name

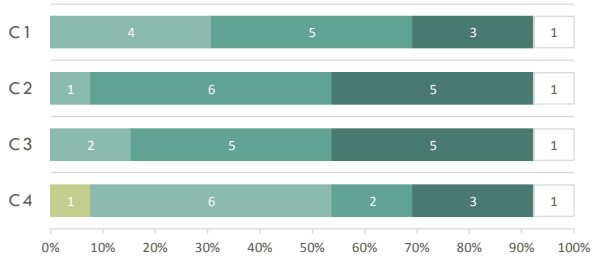
QM0104

Module code

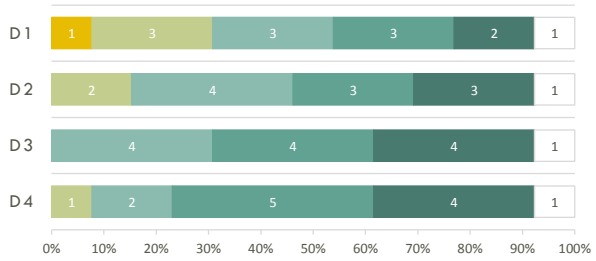
A. LEARNING



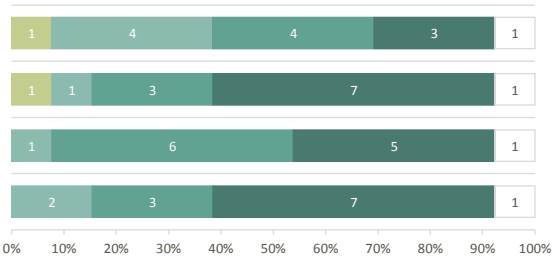
C. ORGANIZATION



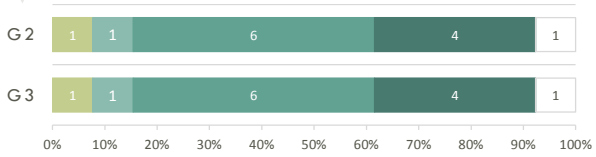
D. GROUP INTERACTION



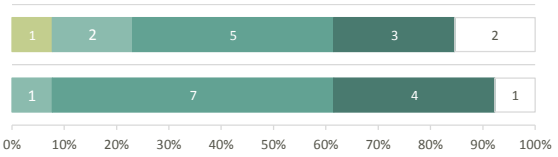
F. BREADTH



G. EXAMINATIONS



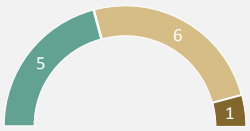
H. ASSIGNMENTS



Very poor — Completely disagree
Poor — Strongly disagree
Weak — Disagree
Fair — Neither
Reasonable — Agree
Good — Strongly agree
Very good — Completely agree
No opinion

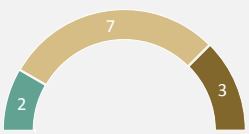
J. STUDENT AND MODULE CHARACTERISTICS

J1. MODULE DIFFICULTY



Very easy
Easy
Medium
Hard
Very hard

J2. MODULE WORKLOAD

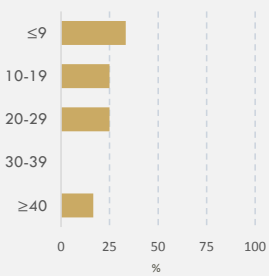


Very light
Light
Medium
Heavy
Very heavy

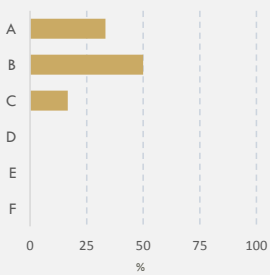
J3. MODULE PACE

Too slow
Slow
About right
Fast
Too fast

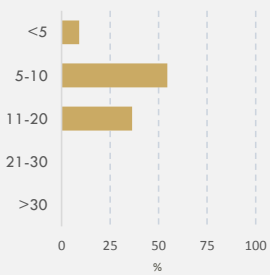
J4. HOURS PER WEEK



J5. EXPECTED GRADES



J6. PREVIOUS MODULES



STUDENT COMMENTS

Would have been better if we had this module after having the module of QM0102

Professor Carmen Navarro is a good professor, she has a lot of experience in this field, but i believe that she can improve the way of giving classes, by doing them more interactive instead of just theory, e.g asking us for the next day a format that she taught us the day before, and not only asking for the whole thing in the final assignment, for me it was quite easy to understand what she wanted because of my previous experience but there was some classmates who were really confused. Nevertheless i Found the module very interesting and usefull for my future.

The lecturer is very supporting (trusted me and allowing me to attempt the assignment on my own) and I really enjoy working with her. She is very flexible, guided me for the assessment very well and I learned a lot from an expert like her. I wish I could speak Spanish/ Catalan fluently to do attachment with her after the master course. I am highly recommending her for the future EMQAL program.

the teacher gave us several examples what made it more understandable

Good module

Great module and great lecturer! Very useful.

ERASMUS MUNDUS MASTER IN QUALITY IN ANALYTICAL LABORATORIES

10th EMQAL. Academic Year 2017/2018

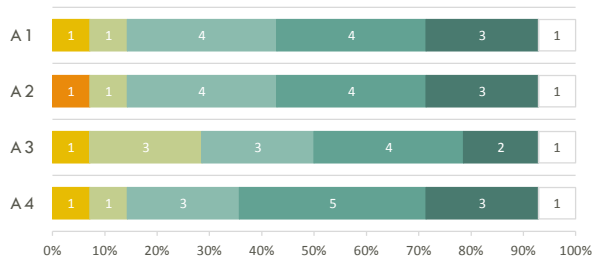
Good Laboratory Practice

Module name

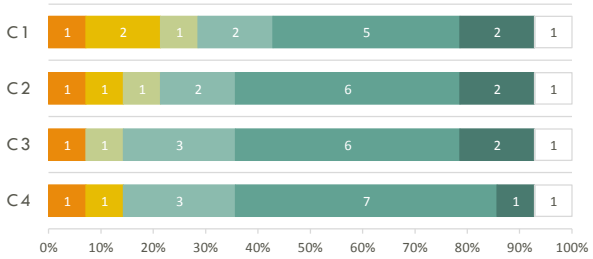
QM0106

Module code

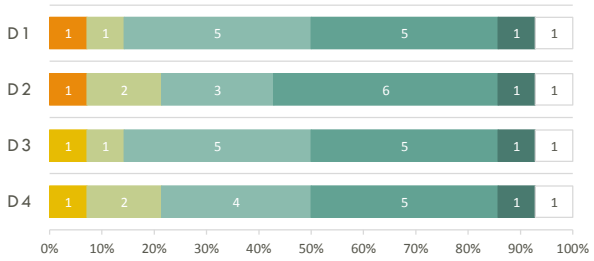
A. LEARNING



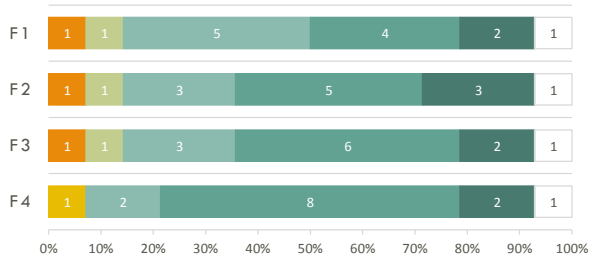
C. ORGANIZATION



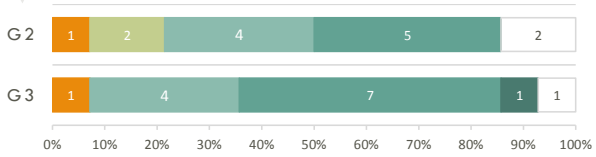
D. GROUP INTERACTION



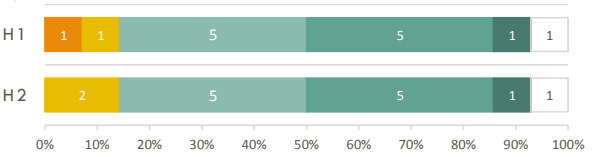
F. BREADTH



G. EXAMINATIONS



H. ASSIGNMENTS



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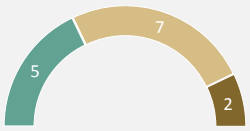
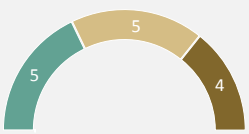
J. STUDENT AND MODULE CHARACTERISTICS

J1. MODULE DIFFICULTY



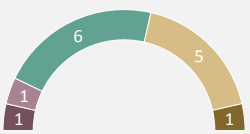
Very easy
Easy
Medium
Hard
Very hard

J2. MODULE WORKLOAD



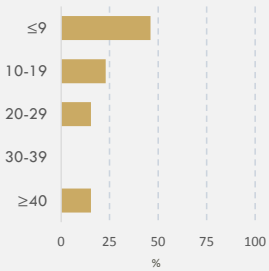
Very light
Light
Medium
Heavy
Very heavy

J3. MODULE PACE

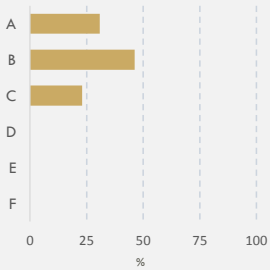


Too slow
Slow
About right
Fast
Too fast

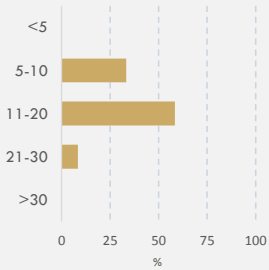
J4. HOURS PER WEEK



J5. EXPECTED GRADES



J6. PREVIOUS MODULES



STUDENT COMMENTS

Good content but poor explanations.

The assignment was tough. It should have been guided from the first day itself. Part by part from the day one according to the teaching material. I don't know what is fish accute toxicity test. None of my group member does. I am afraid the concept of the

it would have been better having this module only after the modules of introduction to quality management and quality system documentation

ERASMUS MUNDUS MASTER IN QUALITY IN ANALYTICAL LABORATORIES

10th EMQAL. Academic Year 2017/2018

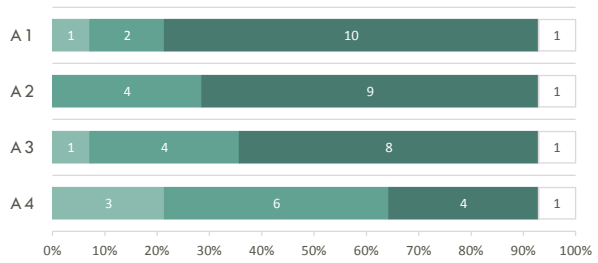
Calibration and Verification

Module name

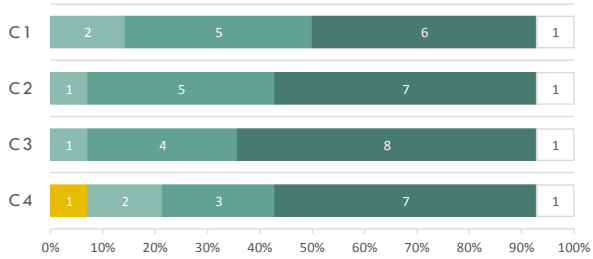
QM0302

Module code

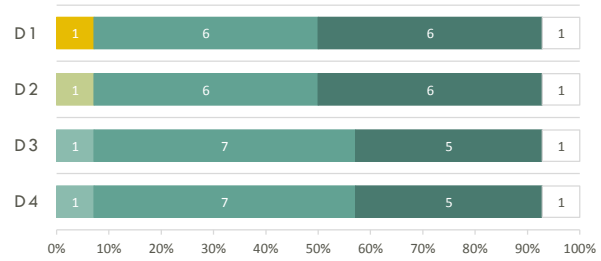
A. LEARNING



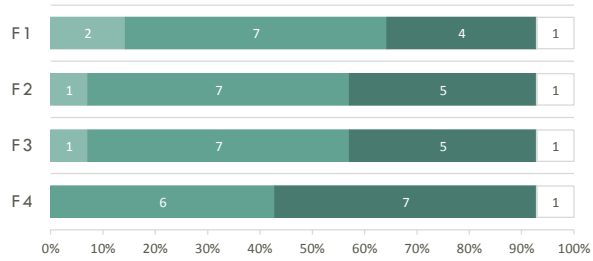
C. ORGANIZATION



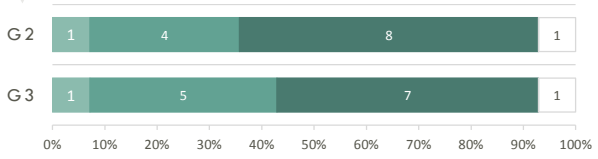
D. GROUP INTERACTION



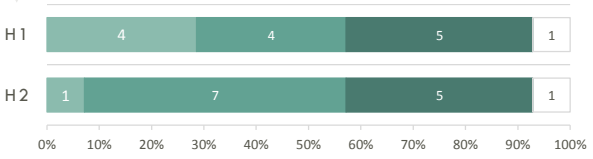
F. BREADTH



G. EXAMINATIONS

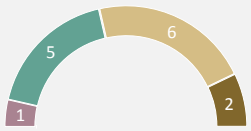


H. ASSIGNMENTS



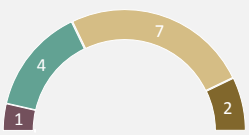
J. STUDENT AND MODULE CHARACTERISTICS

J1. MODULE DIFFICULTY



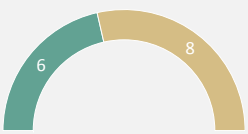
- Very easy
- Easy
- Medium
- Hard
- Very hard

J2. MODULE WORKLOAD



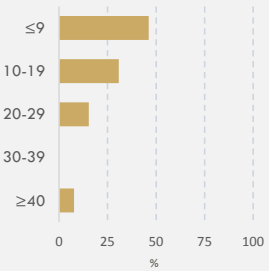
- Very light
- Light
- Medium
- Heavy
- Very heavy

J3. MODULE PACE

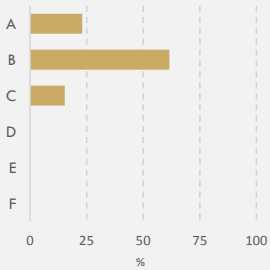


- Too slow
- Slow
- About right
- Fast
- Too fast

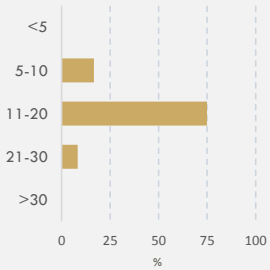
J4. HOURS PER WEEK



J5. EXPECTED GRADES



J6. PREVIOUS MODULES



STUDENT COMMENTS

lit was a ery good module with a very good professor who gave clear explanations.

The teacher is super good. He taugth us offline through instruction on papers on problem solving after I contacted him on the toughness of assignment, he shared with everyone. He is beyond my expectation on teaching. He pointed a lot of real analytical lab problem which was really interesting. This is what I was looking forward as a working adult. He planned the assignment very well. Group work for the class activity which was simple and short in 2 pages, while, individual assignment for final assessment. Maybe for the next EMQAL, a real case study should have been included for assignment. Highly recommended the teacher for the next EMQAL.

ERASMUS MUNDUS MASTER IN QUALITY IN ANALYTICAL LABORATORIES

10th EMQAL. Academic Year 2017/2018

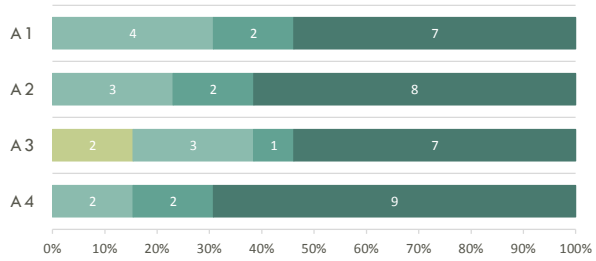
Method validation

Module name

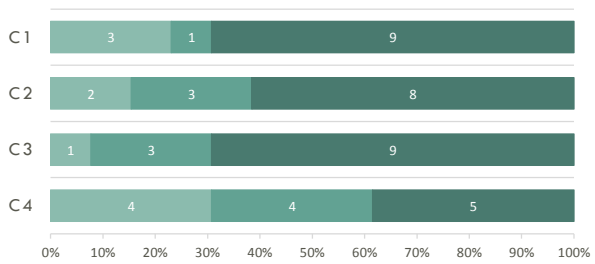
QM0502

Module code

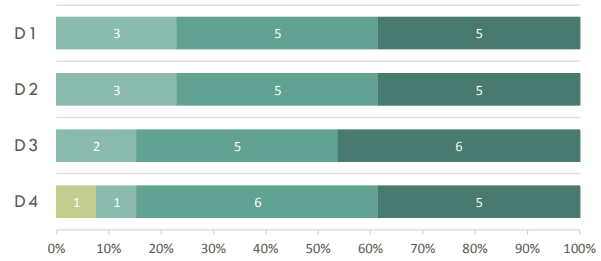
A. LEARNING



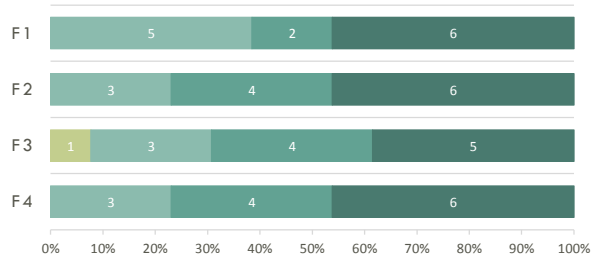
C. ORGANIZATION



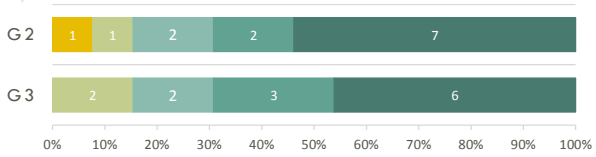
D. GROUP INTERACTION



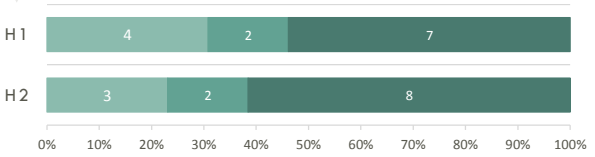
F. BREADTH



G. EXAMINATIONS

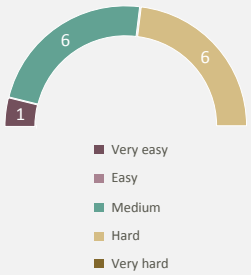


H. ASSIGNMENTS

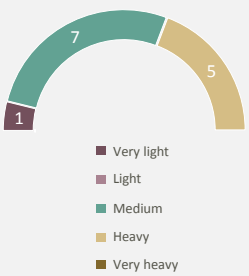


J. STUDENT AND MODULE CHARACTERISTICS

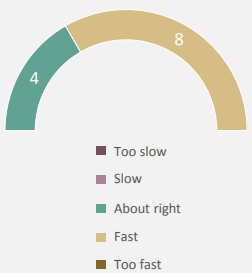
J1. MODULE DIFFICULTY



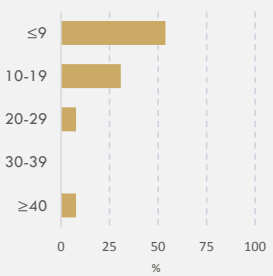
J2. MODULE WORKLOAD



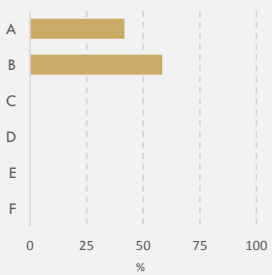
J3. MODULE PACE



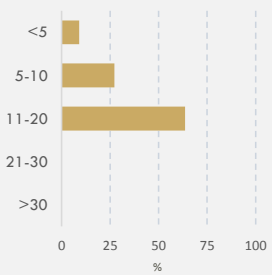
J4. HOURS PER WEEK



J5. EXPECTED GRADES



J6. PREVIOUS MODULES



STUDENT COMMENTS

Practical examples made the module easier

Could have improve the assessment method, include class activities, or giving daily homework for attempt at home or practical session computing method validation in the class and anything that allowing us to see the problem while the lecturer around for us to ask. It will be more objective if the lecturer INCLUDED EXAM as a part of assessment besides a super simple group work in order ensure his student understand something out of his teaching. I wish to evaluate myself to know my weak part in this module for me to improve or further reading.

Very useful

Very good professor

Professor Priot is a really good professor.

very useful

ERASMUS MUNDUS MASTER IN QUALITY IN ANALYTICAL LABORATORIES

10th EMQAL. Academic Year 2017/2018

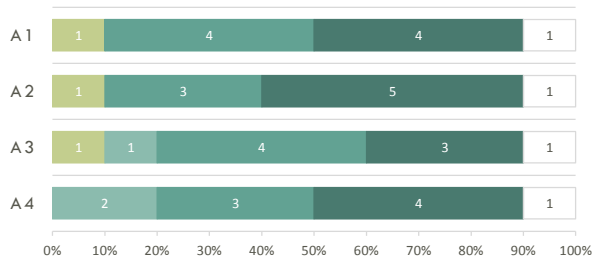
Technical Writing

Module name

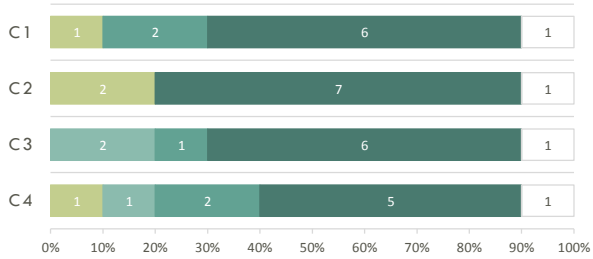
QM0503

Module code

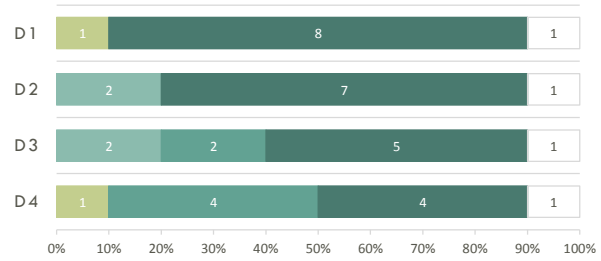
A. LEARNING



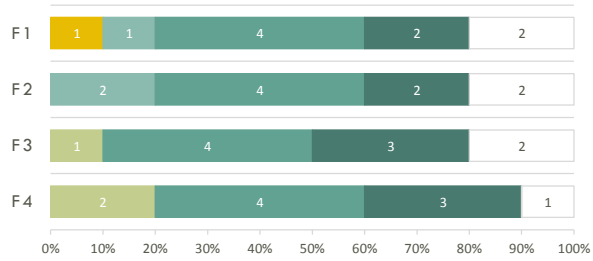
C. ORGANIZATION



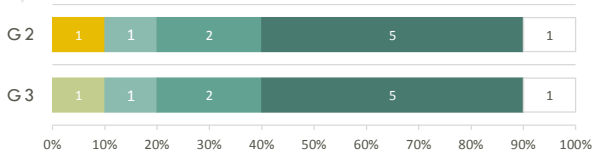
D. GROUP INTERACTION



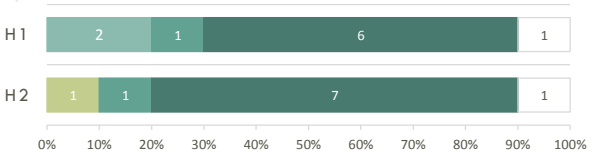
F. BREADTH



G. EXAMINATIONS



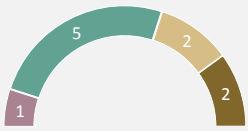
H. ASSIGNMENTS



Very poor — Completely disagree
Poor — Strongly disagree
Weak — Disagree
Fair — Neither
Reasonable — Agree
Good — Strongly agree
Very good — Completely agree
No opinion

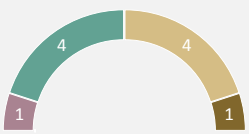
J. STUDENT AND MODULE CHARACTERISTICS

J1. MODULE DIFFICULTY



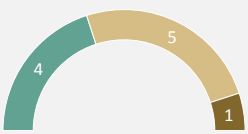
Very easy
Easy
Medium
Hard
Very hard

J2. MODULE WORKLOAD



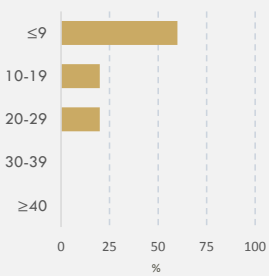
Very light
Light
Medium
Heavy
Very heavy

J3. MODULE PACE

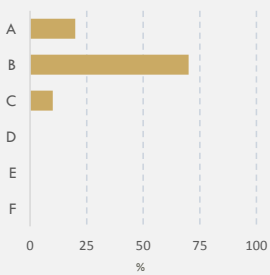


Too slow
Slow
About right
Fast
Too fast

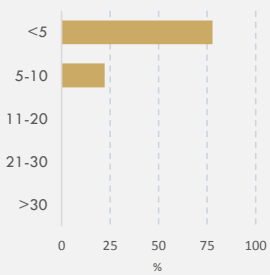
J4. HOURS PER WEEK



J5. EXPECTED GRADES



J6. PREVIOUS MODULES



STUDENT COMMENTS

The Lecturer really made me wanted to change the way I write a text and made me realize common mistakes I had before.

the professor is very good and explained the module clearly with all the teaching materials he gave to us. He knows what he is teaching and gave us good points to remember in doing a technical scientific paper.

very good professor

Very useful module

The teaching method was very effective. A lot of disccusion done prior to the final assignment which was very useful during my writing. The teacher checked the homework one by one during practice session in the class,which, impressed me a lot. This was the subject that I have been looking forward to be couched. Unfortunately, it ends too fast when I was really into it. Two weeks of classes will be more ideal for language, technical writting and literature as the topic is very subjective and wide. Good choice of subject as well as teacher with my favourite British accent. Highly recommented the teacher for next edition.

ERASMUS MUNDUS MASTER IN QUALITY IN ANALYTICAL LABORATORIES

10th EMQAL. Academic Year 2017/2018

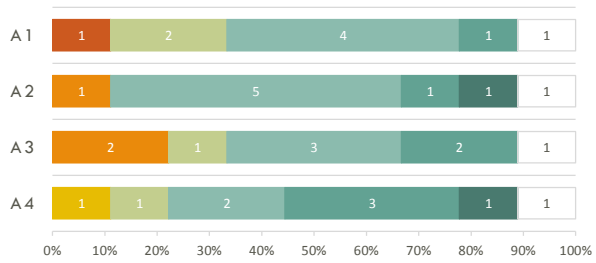
Chemical Safety and REACH regulations

Module name

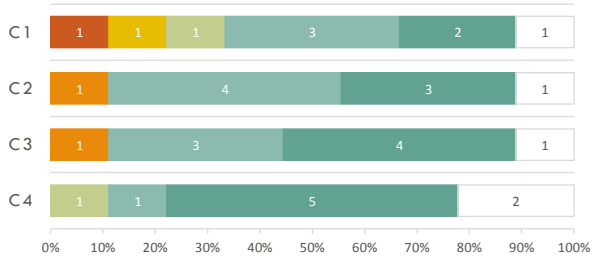
QM0701

Module code

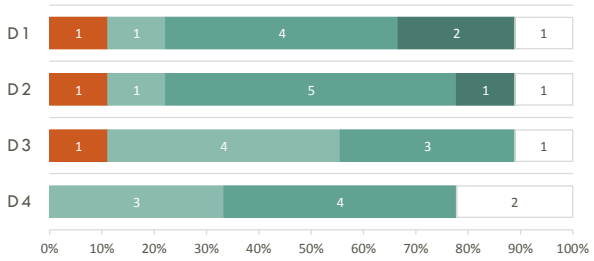
A. LEARNING



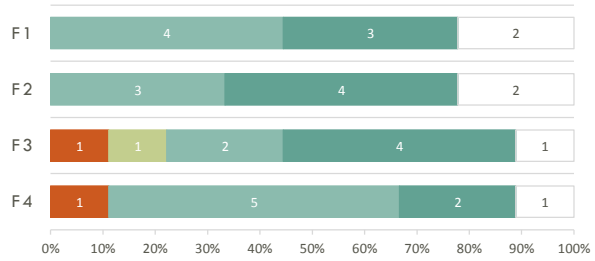
C. ORGANIZATION



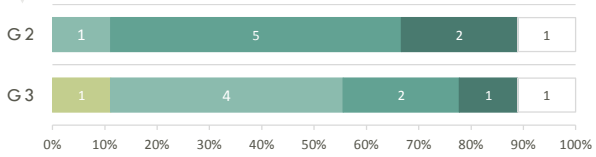
D. GROUP INTERACTION



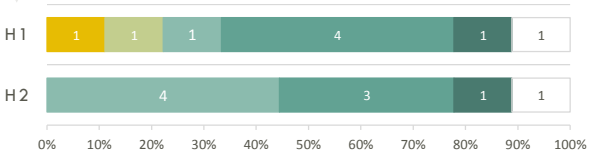
F. BREADTH



G. EXAMINATIONS



H. ASSIGNMENTS



Very poor — Completely disagree
Poor — Strongly disagree
Weak — Disagree
Fair — Neither
Reasonable — Agree
Good — Strongly agree
Very good — Completely agree
No opinion

J. STUDENT AND MODULE CHARACTERISTICS

J1. MODULE DIFFICULTY

Very easy
Easy
Medium
Hard
Very hard

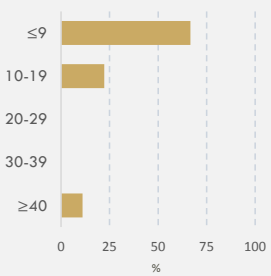
J2. MODULE WORKLOAD

Very light
Light
Medium
Heavy
Very heavy

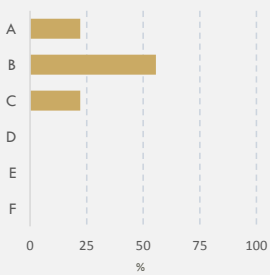
J3. MODULE PACE

Too slow
Slow
About right
Fast
Too fast

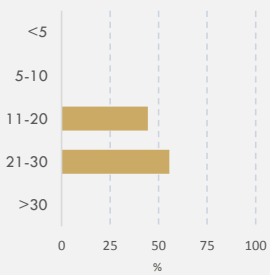
J4. HOURS PER WEEK



J5. EXPECTED GRADES



J6. PREVIOUS MODULES



STUDENT COMMENTS

The information of this module was very interesting for me, I got valuable knowledge but I think professor should improve a bit the way of transmiting his knowldege. However, it was a very good module.

All I wish was if only I could speak, read and understand Spanish well so that the course could be efficiently delivered in Sapnish. I had some of confusion and even more confusion after asking because I really cannot understand. I had problem in doing assignment. Waiting for feedback.

The module content was rather interesting, unfortunately, lecture's way to deliver it was poor and up to a point, it became tedious and disappointing. He spent the entire week reading his slides without giving any feedback to them and he did not encourage us to discuss a topic.

ERASMUS MUNDUS MASTER IN QUALITY IN ANALYTICAL LABORATORIES

10th EMQAL. Academic Year 2017/2018

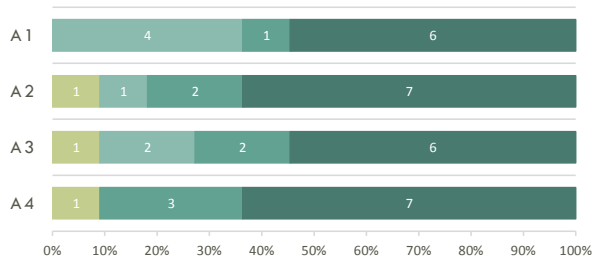
IT Tools

Module name

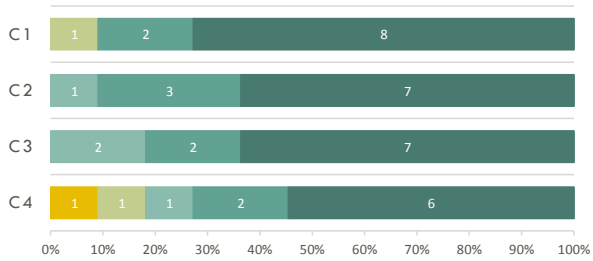
QM0802

Module code

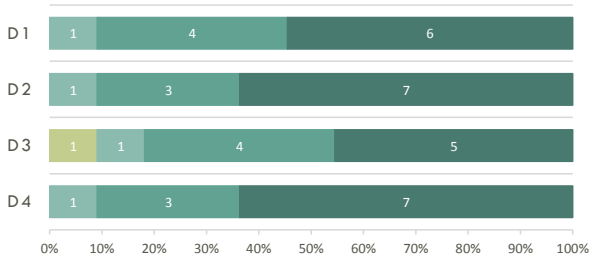
A. LEARNING



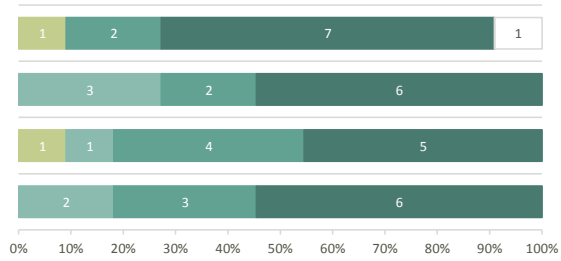
C. ORGANIZATION



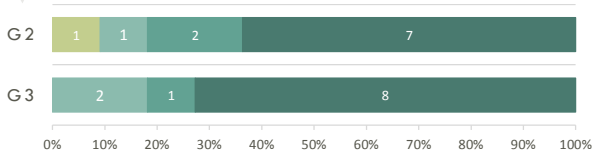
D. GROUP INTERACTION



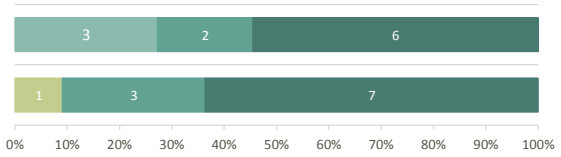
F. BREADTH



G. EXAMINATIONS



H. ASSIGNMENTS



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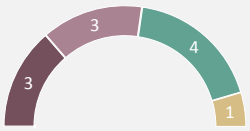
No opinion

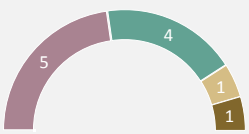
J. STUDENT AND MODULE CHARACTERISTICS

J1. MODULE DIFFICULTY



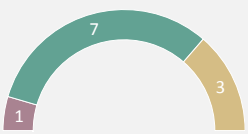
Very easy
Easy
Medium
Hard
Very hard

J2. MODULE WORKLOAD



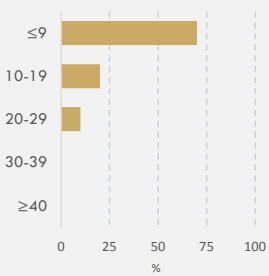
Very light
Light
Medium
Heavy
Very heavy

J3. MODULE PACE

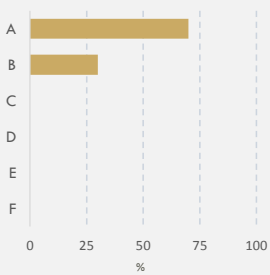


Too slow
Slow
About right
Fast
Too fast

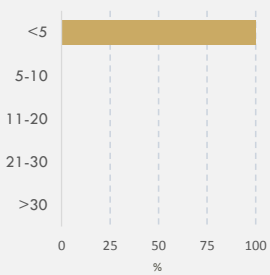
J4. HOURS PER WEEK



J5. EXPECTED GRADES



J6. PREVIOUS MODULES



STUDENT COMMENTS

Prof Martha is a very good instructor, I wanted to see her teaching a more challenging subject

Marta is a great lecturer, very well organized, knows how to communicate with students, gives challenging tasks and excellent explanations. Very good and useful Module.

The same comment as comunication skill. The techer shared a lot of IT tools with us and I am using them now.

Practical, applicable and made ensuing modules easier

The materials given so clear and usefull in our master

very useful module

ERASMUS MUNDUS MASTER IN QUALITY IN ANALYTICAL LABORATORIES

10th EMQAL. Academic Year 2017/2018

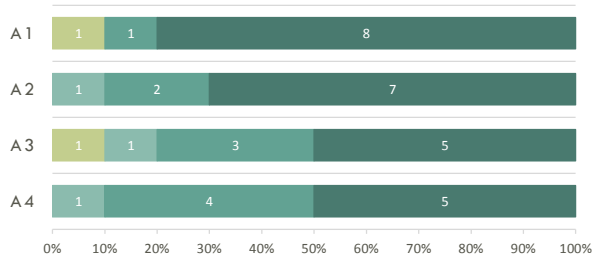
Communication skills

Module name

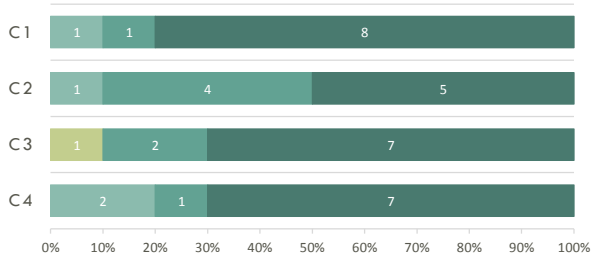
QM0808

Module code

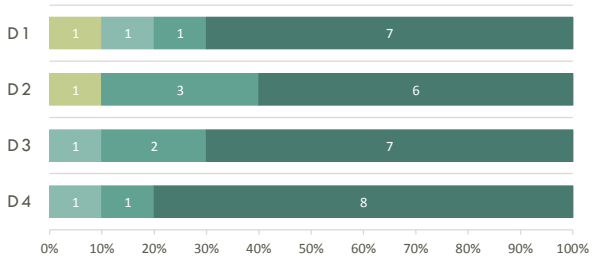
A. LEARNING



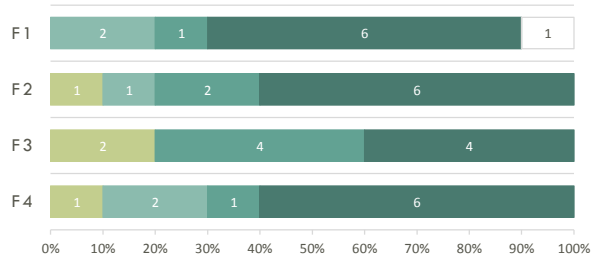
C. ORGANIZATION



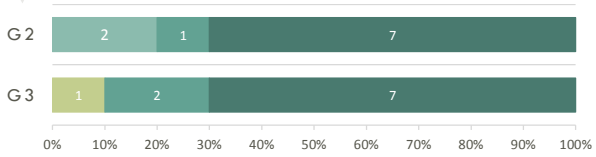
D. GROUP INTERACTION



F. BREADTH



G. EXAMINATIONS



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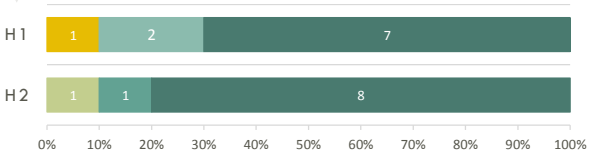

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J. STUDENT AND MODULE CHARACTERISTICS

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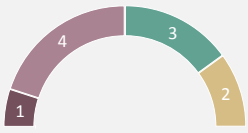
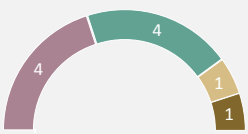


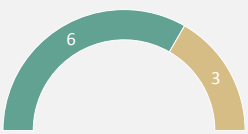
- Very easy
- Easy
- Medium
- Hard
- Very hard

J2. MODULE WORKLOAD



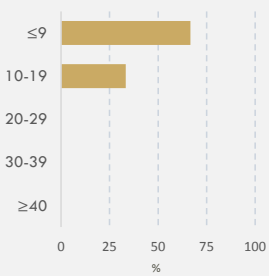
- Very light
- Light
- Medium
- Heavy
- Very heavy

J3. MODULE PACE

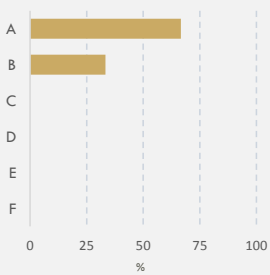


- Too slow
- Slow
- About right
- Fast
- Too fast

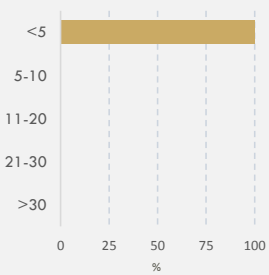
J4. HOURS PER WEEK



J5. EXPECTED GRADES



J6. PREVIOUS MODULES



STUDENT COMMENTS

The teacher manage the 'dry subject' super creatively. She balanced the teaching time with our presentation very well. It turns out to be a real two way communication in the class, makes the entire module lively. Very good English and never stop smilling. Highly recommedated for next EMQAL!!!

Very practical

very useful module