

Report of External Auditor, Prof Gavin Burnell on the EMJMD ACES (appointed 14 March – August 31, 2019).

Background:

The activities covered by external quality assurance include evaluation, review, AUDIT assessment and accreditation. AUDIT, in the context of quality in higher education, is a process for checking that procedures are in place to assure quality, integrity and maintenance of standards. As a part of this auditing process I had the following communications with the course coordinator and team:

1. Email exchanges with course coordinator, Prof Liz Cook on 3, 5, 11th April; 8, 28 and 29th May; 13, 15, 25, 26 and 27th June; 5, 8 and 10th July.
2. A skype meeting with the consortium members on 8th May. The following participated in that meeting: Prof Elizabeth Cottier-Cook (SAMS), Dr Peter Beninger (University of Nantes) and Prof Michail Pavlidis (University of Crete).
3. Face to face meetings with the consortium members and 2 cohorts (2017 intake and 2018 intake of MSc students in Heraklion Crete, from 8 July to 11. The External Examiner, Dr David Penman, joined the student presentations by skype. The new partner in ACES +, University of Radboud, was also represented at the JPMC meeting (11th July), by Dr Marnix Gorissen.

Before travelling to Crete the following information was made available to me by the Coordinator, Prof Cook:

1. Standards and Guidelines for Quality Assurance in the European Higher Education Area – ESG (2015)
2. Annex V Model Technical Report – EMJMD (July 2015)
3. Interim Report 1 (Jan 2017)
4. Interim Report 2 (Nov 2017)
5. Tier 2 External Examiner's Report (August 2017)
6. Tier 2 External Examiner's Report (August 2018)
7. External Examiner report on University of Nantes Exam Board (March 2018)
8. Letter of Appointment of Prof Burnell as External Programme Auditor (March 2019)
9. ACES Minutes of Joint Programme Management Committee Meeting (May 2019)
10. Programme Review – Self Evaluation Report (June 2019)
11. Student Feedback from EMJMD ACES – Cohort 3 (2018 and 2019)

On my return from Crete I was sent:

12. A sample guest scholar report
13. Student Feedback from EMJMD ACES – Cohort 3

Actions:

Student Conference 2017 – 2019: Presentations from the THIRD cohort of the ACES students in Natural History Museum, Heraklion, Crete, 9 – 10th July, 2019.

I was able to attend the live presentations of 13 of the 15 students, one of which was carried out via a Skype connection. There were also 2 presentations which were in camera due to the sensitivity of the research and as requested by the institutions that hosted the students. The ACES marking team were the only participants in these presentations. The fact that 2 ACES students were given projects on these commercial research programmes is a measure of their quality and ability. The overall impression of the performance of all of the students was of confidence, maturity, professionalism, and an ability to think laterally when it came to answering questions.

Meeting between ACES External Auditor (Prof Burnell) and the third ACES cohort and 5 members of ACES+ first cohort 10TH July. The External Examiner, Dr Dave Penman attended the meeting via Skype.

There was strong praise from students for the Admin officers in each partner country.

There were a number of issues surrounding the project module: Project titles not available until mid-November – early September would be preferable; delays in approving the “ethical statement”, which I believe have since been addressed by the Module Leader.

Various issues regarding the grant: there is no stipend available for students in their own country i.e. a UK student will not get a stipend while in Oban, even although he/she will have the same outgoings as a “foreign student” unless by chance they happen to be living at home there. These are generic Erasmus rules which unfortunately do not make sense for EU Erasmus+ Masters students who, in most cases, do not live in the town hosting the session in their own country. In terms of ACES, this certainly resulted in the loss of potential students from UK, France and Greece. I believe though that the Programme Team have brought this to the attention of the EACEA in their interim reports.

Visas: UK only grants visas for 6 months, which covers their time in Oban for the taught modules but means they have to reapply if they want to go back and carry out a project there in the 4th semester. France grants a visa that lasts for the duration of their MSc so doing a project in Nantes is an easier option.

Communications: excellent flow of information from the main coordinator to students and from the coordinators and partner managers in each partner country; transfer logistics between partners for each semester were managed well; the management team had regular Skype meetings to oversee the MSc; Student reps were an efficient and important link between the cohorts and Management team.

Academic matters: students were taught and examined under the rules and regulations of each partner university which challenged the students from time to time. For example there were more contact hours per module in France. However this diversity should be considered a strength of the programme. However the major differences between pedagogies in each country should be clearly communicated to the students BEFORE they arrive. In particular the rules and regulations pertaining to exams need to be clearly explained. For example 2 students failed a module in Nantes and one failed the repeat exam. Such scenarios need to be anticipated and I believe that the Programme

Team have now put contingencies in place for this eventuality and are endeavouring to improve their communication of the assessment practices.

Course content: on the whole the students were happy with the topics and content of the modules. However they identified the need for more lectures on shrimp, HACCP and bio-statistics (to be delivered before the project). In addition there was concern among some students that the content of the Nantes modules was too theoretical (more hands on shellfish hatchery work wanted). I believe though that the Programme Team try each year to attract Guest Scholars to provide tuition on particular research fields, which the primary team are unable to cover in depth. For example, this year, Prof Hui from the Yellow Seas Research Institute, China provided the students with x5 2-hour lectures on shrimp aquaculture and Integrated-Multi-Trophic Aquaculture.

External auditor attended the Joint Project Management Committee meeting (JPMC) in University of Heraklion, 11 July, 2019.

The following points/issue were presented/discussed:

New external examiner – Prof Tom Nielsen (Norway) for ACES+

Greece has taken over coordination of ACES+

ACES+ has a Data Sharing Between All Partners agreement

JPMC meeting should be every 6 weeks

Ongoing discussion about the type of certification being offered. At the moment Nantes can only offer a French National Diploma whereas UHI and Crete can offer a Joint Degree.

Reaction of JPMC to External Auditor provisional feedback

Dissertation selection procedures will be tightened up for ACES+ cohorts

The expectations were that the External Auditor would:

Meet with each consortium institution (by videoconference or skype) to discuss the evaluation with the programme leaders. ***This was carried out over the 4 days that I met with the team in Crete***

Have access to student feedback. ***I not only met all of Cohort 3 and some of ACES+ Cohort 1 in Crete but I had access to written feedback from Cohort 3.***

Have access to Annual EACEA reports, External Examiner reports, JPMC minutes and actions. ***I not only read all the reports (see list of documents provided) but I discussed the programme with the External Examiner who attended the student presentations in Crete by Skype.***

Meet with the JPMC to discuss the draft outcomes of the evaluation by Skype. ***Carried out on July 11 in Crete.***

Submit a detailed report (circa 1,500 words) to the consortium. ***This report s:***

Evaluation of the External Auditor

I am satisfied that the legal framework, management and examining structures were in place to ensure that the ACES MSc programme was run in such a way as to offer a degree at Masters level that was of a sufficient standard to warrant the award of Erasmus Plus/Mundus. The unique content and format of the programme has produced 3 cohorts of student (total n = 44) with the skills and knowledge to find employment, particularly on the environmental management side of the industry. There is a good diversity of teaching practices throughout the consortium e.g. number of contact hours in Scotland much lower than in France. This diversity is a positive outcome of the programme. At the moment the final qualification is a joint degree from UHI and Crete and a single Master Diploma from Nantes. This is consolidated by a Consortium Agreement that provides a clear articulation of the roles and duties of the partners and constitutes a legally binding agreement. In the future there is an aspiration to have one joint degree but clearly there are huge national barriers which will have to be overcome in order to reach this goal.

Feedback from ACES cohort 3 revealed very high satisfaction with Erasmus+ mobility and its effect on their employability. Most have increased their key competences, have gained relevant practical skills relevant and, in general, have increased their employability.

The ACES driven mobility has helped foster cooperation between the 3 universities, highlighting differences in pedagogy and practice which in turn has led to either some degree of standardisation or if not, a pragmatic acceptance of different ways of doing things. Changes have been made in university curricula to facilitate student mobility, synchronising the semesters, study periods and the availability of courses across the 3 countries.

Although the students appreciate the introduction of lump sums, flat rates and unit costs which have brought about simplification in the financial management of the Erasmus programme there are some local discrepancies (such as the UK paying the grant in euros thus incurring bank fees) which need to be addressed. This will become even more critical in a post-Brexit landscape. In particular in order to enhance access to Erasmus+, the grants to support the mobility of individuals should be adjusted to the living and subsistence costs of the host country. The lump sums, flat rates and unit costs are set out in the Programme Guide and are divided into three groups: countries with similar, higher and lower living costs. Some of the students I met reported that Erasmus+ grants are insufficient to cover costs and that additional funding is needed from a student's own savings or parental support. This can discourage disadvantaged students from taking part. Apparently no adjustments to grant amounts are made to reflect the real costs for participants in the case where the receiving country provides specific subsidies, e.g. a student's rent is often paid by the State in France, which means that such participants are in an advantageous situation.

Long term sustainability of ACES

Clearly there was a steep learning curve in establishing ACES as a recognised and desirable Masters programme. The fact that ACES+ has been funded to follow on from ACES shows the confidence that the EU has in this consortium to continue to deliver a quality product. The addition of a new partner (University of Raboud) into ACES+ has strengthened and broadened the scope of the program and the change of coordinator (from UHI to Crete) helps to spread the various management skills throughout the network. Another innovation which should help to give longevity to this programme is the addition of industry scholarships for EU participants from Industry (e.g. new UK fees only scholarships being set up). Likewise the provision of Work Placements/Internships in Crete

will add value to the students' CVs and increase their employability. In some instances there have been problems for students to obtain visas in time and this needs to be addressed if the course is to continue to be attractive and compete with other International Master programmes. The project topics are wide ranging but in the future care should be taken to make sure they both offer a wide range of relevant skills and also address current issues like climate change and the need for holistic farming practices. In Crete some modules in English are made available to non ACES students on a *pro rata* fee basis and this gives a model for other partners to help the financial viability of running the programme.

Concluding remarks:

Finally it is interesting to note that The European Court of Auditors Special Report No 22 (2018) (<http://publications.europa.eu/webpub/eca/special-reports/erasmus-22-2018/en/>) which recently reviewed the Erasmus programme, stated the need to **develop indicators** that help to measure the extent to which the general and specific objectives of the Programme (including Erasmus Mundus) have been achieved, and to prioritise **performance** in the allocation of funds. It found that there was a need to **simplify the scheme** in order to reduce the administrative burden, make applications and reporting easier for beneficiaries and individual participants and maintain lump sums, flat rates and unit costs, but adjust the grant amounts when necessary. It should also improve IT tools and continue to computerise procedures. Clearly the ACES programme is operating well within these guidelines and is, in many cases, forging new best practice.

Erasmus Mundus Joint Master Degree in AquaCulture, Environment & Society (EMJMD ACES)

REFERENCE: 553648-EPP-1-2014-1-UK-EPPKA1-JMD-MOB_ACES

Programme Review - Self-Evaluation Report

Contributors: E.J Cottier-Cook (UHI-SAMS), M. Pavlidis (University of Crete),
L. Barille (University of Nantes)

Submitted 15 June 2019



Contents

Introduction	3
Scope of EMJMD ACES Programme	4
Collaboration with other Institutions	5
Student Applications	7
Student Enrolment.....	8
Age Equality	9
Gender Equality	9
Special Needs Provision	10
Student Retention.....	10
Student Grades	11
Programme Feedback	11
Student Employability.....	13
Key Challenges	15
Additional Information.....	15
Summary	16

Introduction

The Erasmus Mundus Joint Master Degree in AquaCulture, Environment and Society (EMJMD ACES) was funded by the Education, Audiovisual and Culture Executive Agency (EACEA) of the European Commission, through the Erasmus+ initiative in 2014. The Programme was awarded 2.067M Euros, which funded a preparatory year, followed by 41 fully funded scholarships over 3 student intakes.

The consortium was composed of three universities, all centres of excellence with international reputations in aquaculture-related research and teaching: Scotland (University of the Highlands and Islands; Co-ordinator), Greece (University of Crete) and France (University of Nantes), plus 2 international Associate Partners; the United Nations University and the Huinay Scientific Field Station in Chile. The 2 year, full time EMJMD ACES was aimed at students from all over the world. Candidates had to have a Bachelor's degree (or equivalent) in one of the fields of environmental or social sciences, as well as a good level of English (at least IELTS 6.5). Admission was granted on the basis of a competitive selection procedure. Classes were taught in English and the course was composed of 9 modules of approx. 250 hours each (=30 ECTS). The course ran over 4 semesters. The first semester providing the foundation courses, which were devoted to gaining an overview of the global aquaculture industry, the interactions of this industry with the environment, new technologies and systems and how it is governed, managed and knowledge is exchanged with industry etc. Whereas, the two following semesters were more advanced, enabling the students to acquiring more specialist knowledge in the finfish and shellfish industries, particularly looking at welfare, product quality and product refinement, etc. The fourth semester was targeted to an industry-based research project, resulting in the writing of a dissertation (=30 ECTS). Language classes in English, French and Greek were provided, when necessary to ensure that the students integrated, as well as possible in socio-cultural terms, in the host country. Each student had to spend at least one semester in each of the three host countries, depending on their choice of dissertation project. Students that obtained 120 ECTS automatically obtained a Joint Master Degree from the University of the Highlands and Islands, the University of Crete and the University of Nantes, plus a Diploma Supplement from each Partner.

This self-evaluation document (SED) is a key component of a wider External Programme Audit and provides an opportunity to critically reflect on the first five years' of education provision through the EMJMD ACES programme. Thus, the scope of the document is from 2014/15 (Preparatory Year) and from 2015 (1st Intake) until 2017 (3rd Intake).

The preparation of this SED has been a collaborative process as follows:

- Jan 2019 – Discussion with Joint Programme Management Committee, which includes all Programme Leaders (PLs) regarding the External Programme Audit process and remit for External Auditor.
- April – May 2019 – Discussions with PLs, Programme Administrator and External Auditor as to the topics to include in the SED and to identify specific contributions from each host partner.
- June 2019 – Draft SED prepared and shared with PLs for comment.
- June (15) 2019 – Final SED submitted to External Auditor for assessment.

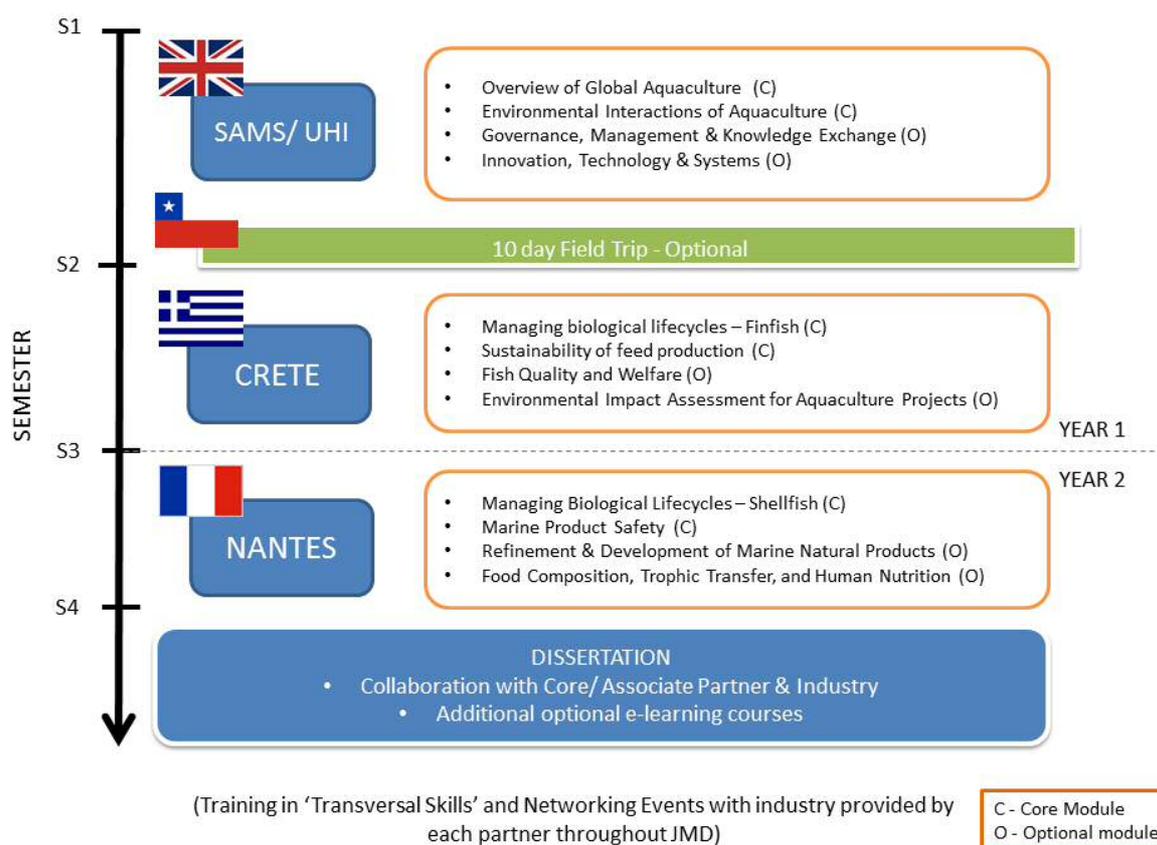
Scope of EMJMD ACES Programme

The EMJMD ACES programme had three specific objectives;

1. To promote the learning mobility for individuals throughout the EHEA and internationally, based on a 4 centre learning model including UK, Greece, France and Chile.
2. To increase the capacity and teaching excellence in the EHEA, based on cutting edge research directly applicable to the sustainability of the aquaculture industry.
3. To enhance the employability of students based on a high frequency of contact with potential employers, an employability skills award and a 6 month placement during the course.

The main structural features of this two year master course included; a curricular-based first year (60 ECTS) including an optional 10 day fieldtrip to Chile (students needed to cover the costs of this trip), followed by a second year, which offered 6 months of curricular-based study (30 ECTS) and a 6 months industry-based research project (30 ECTS). The course structure was designed to provide the technical and transversal skills to enhance employability and career prospects of the students.

The core teaching modules are included in the schematic below:



The programme provided opportunities for the students to develop and demonstrate knowledge and understanding, qualities, skills and other attributes in the following areas;

1. Knowledge that covers and integrates the main features, techniques and current research with the global aquaculture sector;
2. A critical understanding of the principal theories, principles and concepts applicable to this sector;
3. Extensive, detailed and critical knowledge and understanding of one or more aspects of the aquaculture industry; and
4. A critical awareness of the current issues facing the aquaculture industry.

In addition to the taught modules, transversal skills were incorporated as follows:

Transversal Skills	Delivered By
Compulsory Skills and Employability Award	Four compulsory employability skills sessions, including 35 hours work experience, creation of an e-portfolio and an interview with an employer panel with representatives from industry
Optional Monthly Skills Sessions	SAMS-UHI to deliver an annual calendar of employability courses including topics such as facilitation and negotiation skills, networking, interview skills, report/grant writing, social media skills, cultural diversity etc.

No deviations from the original proposal, regarding the scope of the Programme were made, with the exception of two aspects: (1) there was minimal interest by the students on the 'optional' fieldtrip to Chile. The main reason for this was cited as the additional cost of the fieldtrip, which students had to cover themselves. Students were encouraged to seek additional sponsorship, but due to time pressures, this was not pursued. (2) We introduced a highly successful internship programme in Semester 2 (University of Crete), where all the students were placed with an industry-based partner for 1 month (in addition to their industrial placement for their dissertation). This proved extremely popular with the students and the feedback was excellent.

Collaboration with other Institutions

In addition to our two Associate Partners, the EMJMD ACES programme has forged close ties with over 35 other institutions, both in the host Partner countries and overseas, through the Guest Scholar programme and through institutions hosting dissertation projects and providing site visits. These additional collaborators are shown in Table 1.

Table 1. Collaborating partners and the activities provided on the EMJMD ACES Programme (2015 – 2017)

Collaborating Partner	Guest Scholar
Overseas Development Institute	Louise Shaxson
United Nations University	Alex Bielak
National Institute of Oceanography, Israel	Prof Bella Galil
Swansea University	Prof Carlos Garcia de Leaniz
University of Tasmania and Kai Ho Sea Vegetables	Dr Craig Sanderson

University of Connecticut
 University Las Palmas de Gran Canaria, Spain
 University of Tasmania
 Hellenic Centre for Marine Research
 Scottish Institute for Enterprise
 University of South Brittany
 Xanthella Ltd., UK

Prof Sandy Shumway
 Dr S Kaushik
 Dr Karen Alexander
 Dr Kriton Gigorakis
 Anne Davidson
 Dr Gael Le Pennec
 Dr Douglas McKenzie

Site Visits

Marine Harvest Scotland

Stirling University

Scottish Sea Farms
 Caledonian Oysters

Biomar Ltd
 Xanthella Ltd
 Fusion Marine Ltd

L'huître de Vendée
 Benth'Ostrea
 Chellet-Berteau
 IFREMER Bouin
 ISMer
 Cretan Aquarium

Activity

Wrasse Hatchery, Machrihannish, Scotland,
 Dissertation Placement

Site visit to Research Facilities, Machrihannish,
 Scotland

Site visit to salmon processing plant, Argyll, Scotland
 Site visit to largest oyster farm in Scotland,
 Benderloch, Scotland (Fig. 1)

Site visit to Feed Mill, Edinburgh, Scotland
 Site visit to algal biomass facilities, Oban, Scotland
 Site visit to Fish Cage production facilities,
 Benderloch, Scotland

Site visit to oyster farm, France

Site visit to oyster hatchery, France

Site visit to cockle/ clam farm, France

Site visit to water processing facilities, France

Site visit to seafood processing company, France

Site visit, Greece

Dissertation/ Internship Placements

Federal University of Santa Catarina, Brazil

UK National Lobster Hatchery

Aberdeen University

Andromeda Group Fish Farms, Greece

Galaxidi Marine Farm S.A., Greece

Nireus Aquaculture, Greece

IFREMER, France

Technical University of Denmark

LISAQUA, France

Yellow Seas Fisheries Institute, China

FishVet Group Asia Ltd

University of Aveiro, Portugal

Swansea University, UK

Hellenic Centre for Marine Research

Nofima Norwegian Institute for Food, Fisheries and
 Aquaculture Research

Marine Harvest Scotland

AWI Germany



Figure 1. Fieldtrip by Cohort 2 students to largest oyster producer in Scotland – Caledonian Oysters

Student Applications

A total of **246 eligible applications** were received (Table 2) for the three student intakes. An additional ~50 applications were submitted, but were either not complete or did not fulfil the eligibility criteria for the Programme. The low number of applications for the first intake was attributed to the tight timescale available (12 weeks) for the consortium to advertise and promote the new Programme. The second intake, however, was significantly higher due to the considerable promotional work done by the Consortium, together with the promotion of the EMJMD ACES programme by the EACEA Erasmus Mundus Course Catalogue.

Table 2. Summary statistics for applications for the EMJMD ACES Programme (2015 – 2018)

Intake	No. applications received	No. applicants shortlisted for interview	No. applicant offered EM scholarship	No. applicants accepting EM scholarship
2015/16	37	14	8	3
2016/17	122	48	25	21
2017/18	87	35	17	17
Total	246	97	50	41

Applications were submitted from over **41 countries worldwide** (Table 3; See Annex 1 for full breakdown per country), with UK and Bangladesh residents submitted the greatest number of applications for Programme (14 applications) and Partner (18 applications) countries, respectively. A high number of applications were also received from a number of African countries, particularly Ethiopia, Ghana and Kenya. The grades and technical experience of these applicants, however, was generally well below the standard required and the majority did not make it through to the interview stage.

Table 3. Number of Programme and Partner countries represented by applicants for the EMJMD ACES Programme (2015 – 2018)

	2015	2016	2017
Programme Countries	5	8	6
Partner Countries (non-EU)	20	33	35
Total	25	41	41

Student Enrolment

A total of **46 students were enrolled** on the EMJMD ACES programme across the three intakes from 2015/16 to 2017/18 (Fig. 2). These students included 41 EM scholarship awardees, 1 Marine Harvest scholarship awardee and 4 self-funding students.

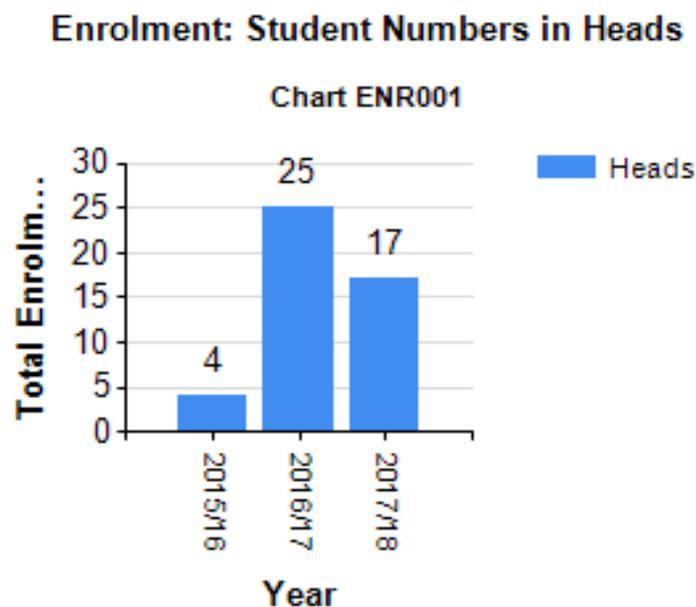


Figure 2. Student enrolment on the EMJMD ACES Programme 2015- 2017

The EMJMD ACES Programme provides the students with a truly international experience, both in terms of the academic content and the interaction with their peers and Guest Scholars from Europe, the US, Canada and Tasmania. For example, the students enrolled in 2016/17 and 2017/18 were from 22 and 12 different countries, respectively (Table 4). This international experience was actively promoted by the EACEA policy for EMJMDs, in that no more than two EM scholarship students must be from the same country in each cohort.

Table 4. Origin of enrolled students for the EMJMD ACES Programme (2015 – 2018)

Applicant Origin	2015	2016	2017
Programme Countries	1	7	1
Partner Countries (non-EU)	3	18	16
Total No. of Students	4	25	17
Total of Unique Countries represented on EMJMD ACES	3	22	12

Age Equality

The EMJMD ACES programme recruited students between the ages of 21 – 49 years. The majority of students in intakes 2 and 3 being in the age range of 21 – 24 years. The programme, however, was also seen to appeal to more mature students, who had gained previous experience in industry, but who now realised that to progress further, they would need to obtain a Masters’ degree (Fig. 3).

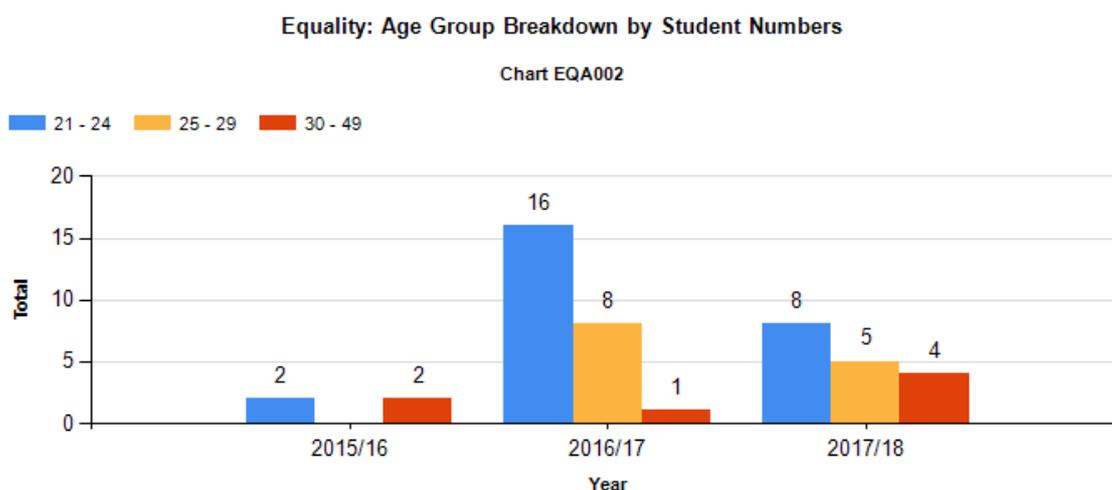


Figure 3. Age equality for each cohort on the EMJMD ACES Programme 2015- 2017

Gender Equality

In line with the European Commission’s commitment to gender equality (e.g. EU Responsible Research and Innovation Agenda), the EMJMD ACES programme actively promoted gender equality, from the application process through to completion of the degree, and the work/life balance, for students (and staff). For example, a female staff member was always involved in the selection of candidates for interview and the interview panel always included a female interviewer. In addition, course modules and meetings were always scheduled outside main school vacation times (where possible), lectures, practicals and fieldtrips were scheduled within normal working hours and nursery provision was made available, where possible. The success of the gender equality practices within the EMJMD ACES programme are reflected in the balance of male and female student recruitment (Fig. 4).

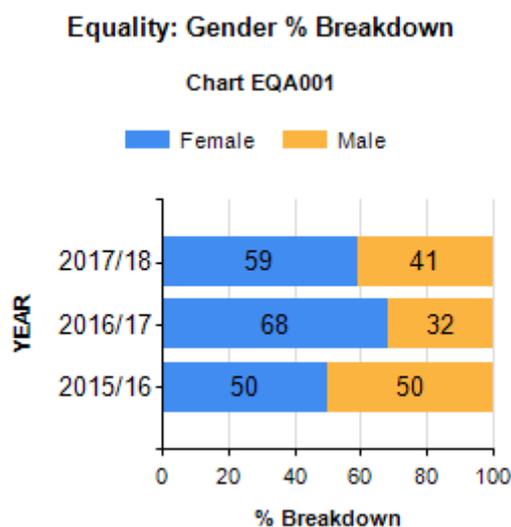


Figure 4. Gender equality for each cohort on the EMJMD ACES Programme 2015- 2017

Special Needs Provision

Provision was provided for a number of students with special needs, including those with physical and learning (e.g., dyslexia) disabilities. Students were assessed in Semester 1 for additional support needs and a Personal Learning and Support Plan was developed with the student to promote full engagement and access to the EMJMD. Additional support was provided in areas such as: General support, learning and teaching adjustments, additional support for exam /in class assessment, use of Sconocent© audio-note-taking software for the exams, coursework, assignment and presentation support, library provision, additional needs associated with field trips, practical sessions and laboratory work.

Student Retention

Student completion and retention rates have been extremely high for the EMJMD ACES programme, with over >87% of students passing and no students failing the Programme to date (Table 5). Only three students have withdrawn from the programme early due to a variety of personal reasons. Two of these students have since received a Post-Graduate certificate in Sustainable Aquaculture from the University of the Highlands and Islands, together with Diploma Supplements from the host partners, where they completed a semester.

Table 5. Student completion and retention rates for the EMJMD ACES Programme (2015 – 2017)

Year	Passed	%	Failed	%	Withdrawn	%	Total
2017/18	TBC*		TBC*		2	13%	15
2016/17	24	96%	0	0	1	4%	25
2015/16	4	100	0	0	0	0	4

*Cohort 3 (2017/19) – Still to complete their dissertations

Student Grades

Student grades have been generally high with $\geq 30\%$ gaining an A Grade ($>70\%$) across the 12 modules that had to be completed to obtain the Joint Master Degree. No students failed any modules, with the exception of two students in Cohort 3 (2017 intake), who have failed 1-2 modules at the University of Nantes (Fig. 5). Both students are currently in the process of revising for their resits in July.

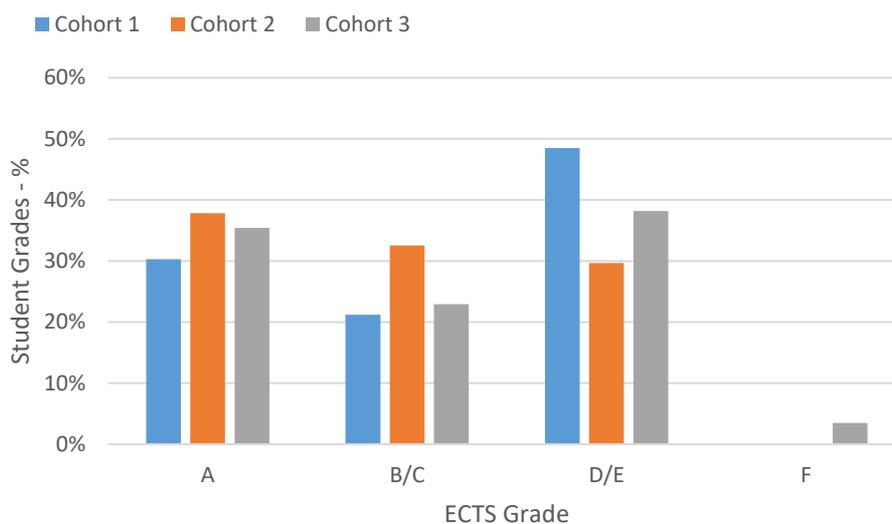


Figure 5. Student grades achieved per host institute (2015 – 2017)

Programme Feedback

Feedback is formally sort at a number of levels both formally (see Annex 2 for questionnaire) and informally throughout the Programme from the students (Table 6), Guest Scholars, industry representatives and the external examiner. Guest scholars and the external examiner are required to provide formal written feedback following their course or exam board meeting, respectively. The students are encouraged though to provide regular 6-weekly feedback to the Joint Programme Management Committee (JPMC), through the two student representatives per cohort, who are members of this Committee. The students are also encouraged to speak with their Personal Academic Tutors or to any members of the academic or administrative staff if they want to provide informal feedback.

Table 6. Procedures for obtaining formal student feedback for the EMJMD ACES Programme (2015 – 2017)

Formal Student Feedback	Method of Collection	Responsible	Action
Module (UHI only)	Online (UHI)	Module Leaders (MLs)	MLs to review feedback and complete module self-evaluation document, which is submitted to Programme Leader and JPMC.
Semester	Questionnaire completed at end of Semester meeting	Programme Leaders (PLs)	JPMC to review feedback and to update Programme at host Partner accordingly.
Programme	Questionnaire completed at final Student Conference	JPMC	JPMC to review feedback and to update aspects of the Programme accordingly.

The formal feedback mechanisms for the semester and overall programme are working well, with over 80% return rate of completed questionnaires. The online UHI method for module feedback, however, has far lower return rates (<20%), even though students are reminded regularly to complete the online form. In the formal questionnaire, the students are asked to rate on a scale of 1 – 5, where 1 is poor and 5 is excellent, eight key elements of the course, including; admission, general information and administrative support prior to starting the Programme and before each semester, academic support, induction at each host partner and quality of the services provided. In addition, the students are asked for any additional comments they may have and whether they would recommend the programme to others. The overall feedback for the programme, supplied by the first two cohorts has been extremely good (Fig. 6). In all categories, the Programme has scored over 84%, with 100% of the students stating that they would be happy to recommend the Programme to others.

More specifically, the students would like to see more 'economic and legal' aspects of the aquaculture industry included in the programme, which we have addressed in the Cohort 3 programme and the new EMJMD ACES+ Programme (2018 – 2023), by attracting a Guest Scholar with this area of expertise. They have also suggested that the academic level of the introductory module (Overview of Global Aquaculture) could be raised to take account of the fact that the majority of the students typically have an aquaculture background. The Consortium always tried to implement changes, where possible to module content. As soon as any feedback was received by a Programme Leader, this was shared with the JPMC and appropriate actions are taken. This is then followed up with the 'actors' who have provided feedback, to ensure that the changes have improved the situation.

Would you recommend this course?	100%
Admissions	91%
Pre-course Information	86%
Support	88%
Administration	89%
Academic Support	87%
Induction	91%
Services	84%
Internships	98%

Figure 6. Student feedback for EMJMD Cohorts 1 & 2 (21 respondents)

Feedback from the Guest Scholars has always been excellent, particularly regarding the attitude and the willingness of the students to engage with the courses being delivered. The feedback from the External Examiner, Dr David Penman (University of Stirling) has always been extremely positive and constructive. In his latest formal report, Dr Penman stated *“Given the complexity of delivering an MSc across three different EU countries, all of the staff involved are to be congratulated on the way that the ACES programme has been delivered.”*

Student Employability

One of the three key objectives of the EMJMD ACES Programme was to **enhance the employability of the students** based on a high frequency of contact with potential employers, an employability skills award and a 6 month placement during the course. The format of the course was structured from the outset to equip the students with skills that would enable them to eventually work in senior management roles in a wide range of settings, including fin and shell-fish farms, environmental and regulatory organisations, international trade organisations, and non-governmental organisations. Close links with the aquaculture industry and legislators were always central to this course. Course objectives explicitly promoted the interests of the industry and cooperation with other professionals. Expected career paths included; company manager tasks, policy and strategy, aquaculture-related project development, applied research and jobs related to stakeholder partnership creation and promotion.

In order to track the career paths post-EMJMD ACES, the Consortium has established an EMJMD ACES LinkedIN group, which EMJMD ACES students are encouraged to join. In addition, all the students have been asked to register with the Erasmus Mundus Association, which will be another route by which we can track their career paths. Regular contact with former EMJMD ACES graduates through various social media platforms (e.g., Twitter, Facebook - @AquaStudents) is also maintained they have been excellent in providing advice for new students embarking on the Programme.

To engage with industry, the Programme organised a number of industry-based site visits, which enhanced the students’ practical knowledge of the aquaculture industry and increased their network

of contacts. These site visits to date, have included; Scottish Seafarms Ltd, Caledonian Oyster Company Ltd, Fusion Marine (international supplier of fish farming equipment), the Marine Environmental Research Laboratory, Machrihanish, BIOMAR (international fish feed producer), Hellenic Centre for Marine Research, L'huître de Vendée, Benth'Ostrea, Chellet-Berteau, IFREMER Mollusk Pathology Lab Ronces-Les-Bains, IFREMER water processing facilities Bouin, ISMer etc. (Table 1). Organised and delivered weekly Professional Skills Development sessions by UHI-SAMS, in addition to the course curriculum were also provided.

The students have also been encouraged to attend International and European Conferences. These have included; Scottish Salmon Festival and Symposium (September 2015); Association of Scottish Shellfish Growers (October 2015/ 2016/ 2017); European Aquaculture Society Conference (July 2016; October 2017); Scottish Seaweed Industry Conference (2016/ 2017) and the World Aquaculture Society Conference (August 2018). All the conference afforded the students the opportunity to meet a range of international industry-based contacts, national businesses and academics. These events also allowed students to benefit from talks and lectures delivered by these stakeholders.

In addition, the students received 1 month training session for marine research at hatcheries (involving larvae rearing, monitoring of larvae quality, water quality monitoring, tagging of fry etc) in Semester 2, University of Crete; 3 x 5 day training sessions at the Hellenic Centre for Marine Research (HCMR) and the University of Crete covering major aspects of aquaculture rearing and fish biology (e.g., broodstock management, larvae rearing, phyto- and zooplankton culture, weaning practices, assessment of stress, quality issues and nutrition and feeding); 7 days of interactions with local shellfish industries (SARL Chellet-Berteau, SARL Benth'Ostrea and IFREMER), France and a 6 week internship with aquaculture companies in Crete/ Greece.

To date the majority of the graduates, that we know about, have gained employment in the aquaculture industry (10), although a number have found aquaculture-related PhDs in Europe (4), through which to continue their academic training (Table 7).

Table 7. Summary of employment for EMJMD ACES graduates

Cohort	Primary Employment Post-EMJMD ACES	No. Students
1	Aquaculture industry – small R&D business (Brazil/ Scotland)	2
	PhD (Europe based)	1
2	Worldfish	1
	Internship with United Nations University	3
	PhD (Europe based)	3
	Aquaculture Industry	8
	PhD Applications Pending	4
3	Still to complete – 2 students with PhD offers already	

Key Challenges

Two key challenges were identified throughout the programme including visa applications and recruitment of self-funded students.

- (i) The issue of visas, particularly for our Partner country students from Asia has been a major challenge throughout the Programme. This takes up considerable time for both the administration staff and students alike and although there is highly experienced assistance within the Host Partners, the delays in gaining responses from the various embassies can place unnecessary additional stress on the students.
- (ii) The issue of attracting self-funded students on the Programme has also been a challenge. Applicants are all typically interested in the Erasmus Mundus scholarships and very few indicate that they would be willing to self-fund. We have tried hard to promote other international and European scholarships on our website and through direct communication with applicants, but only one student managed to secure a Norwegian scholarship to attend. One reason for the lack of interest, has been cited as the 'high' tuition fees (4,500 Euros per year) in comparison to mainland Europe (~2,000 Euros per year), although these fees are low compared to Masters courses in the UK (12,000+ Euros per year). For this reason, the Consortium has now reduced the fees for the new EMJMD ACES+ programme to try to attract more self-funding students.

Additional Information

Key Positive Experiences

1. Excellent quality of students from all over the world providing a superb learning environment for students and staff alike, providing a highly stimulating experience for all involved.
2. Secured funding for a £6.2M research programme led by researchers based at UHI-SAMS and in collaboration with Guest Scholars Louise Shaxson (Overseas Development Institute) and Nidhi Nagabhatla (United Nations University, Institute for Water, Environment and Health). This was a direct result of the Guest Scholar programme run by EACEA through EMJMD ACES. The programme started 1st October 2017 and it will be offering training and dissertation projects to ACES students.
3. Direct access for students and staff to major EU funded programme - 'TAPAS'(Tools for Assessment and Planning of Aquaculture Sustainability -www.tapas-h2020.eu/); with student Dissertation projects at the University of Crete and Nantes contributing to this project.
4. Access to specialist knowledge/ teaching by our international Guest Scholars/ lecturers and their leadership experience has been exceptional for both the students and staff.
5. Access to international networks of academic institutions and businesses has significantly grown and strengthened through connections with the Guest Scholars and dissertation placements.
6. Student representation on the Joint Programme Management Board has been invaluable in programme planning and strategic decision making.
7. Excellent working relationship that has been built amongst the host institutions.

8. Willingness of students to assist with the promotion of the course, with two student representatives from each cohort now acting as 'Editors' on our Facebook page.

Lessons Learned

The importance of involving our Associate Institutes, Guest Scholars, External Examiner and students in promoting the course globally has been a lesson well learnt. Their approval of the course carries exceptional weight and we have worked hard to incorporate their testimonies in all our promotional material

Summary

Our evidence from our internal monitoring, including module evaluation, external examiners reports, student feedback, student retention, grades achieved and feedback from the EACEA, suggests that the student experience in the EMJMD ACES Programme overall is very good. There are always elements for improvement across all modules and Partners, however, the procedure for raising issues with the Joint Programme Management Committee and acting upon them to seek resolution appears to be working well. All the hard work of the Programme Leaders (Fig. 7) and their teams at each Host Partner has also been recognised by the EACEA, with them granting a second tranche of funding for 80 Erasmus Mundus scholarships (EMJMD ACES+) for 4 students intakes (2018 – 2021). This additional funding has allowed us to officially welcome a further 30+ Associate Institutes on to the Programme and expand our Guest Scholar network internationally to over 15 countries. The Scottish Aquaculture Innovation Centre (SAIC) has also recognised the significance of the Programme and has recently awarded EMJMD ACES+ with an additional five scholarships for the 2019 intake aimed at European students.

Producing this self-evaluation document and compiling the annexes, has provided the team with a time for reflection and together with the external auditors report, we hope that this Programme can continue to go from strength to strength.



Figure 7. The EMJMD ACES Programme Leaders and Administrators (from left to right) – Prof Laurent Barille (UoN), Prof Elizabeth Cottier-Cook (UHI-SAMS), Prof Michalis Pavlidis (UoC), Dr Helen Bury (UHI-SAMS – ACES Administrator), Prof Peter Beninger (UoN).

Annex 1. Breakdown of Applicants origin by Programme and Partner Countries (2015 – 2018)

Country of origin/residence	2015	2016	2017	Total per country
Programme Countries				
Cyprus	1			1
Denmark		1		1
Germany	1	3		4
Greece			1	1
France	1			1
Ireland		1	1	2
Italy	2		1	3
Norway		1		1
Portugal		3		3
Romania		1		1
Spain		3	1	4
Sweden			1	1
UK	3	5	5	13
TOTAL NO. PROGRAMME COUNTRIES	5	8	6	
Partner Countries				
Albania		1		1
Algeria			1	1
Argentina			1	1
Azerbaijan		1		1
Bahrain		1		1
Bangladesh	4	9	5	18
Belize		1	1	2
Brazil	1	5	3	9
Cambodia		2		2
Cameroon			1	1
China	1	3		4
Colombia		2	1	3
Democratic Republic of Congo	2			2
Egypt		3		3
Eritrea	1			1
Ethiopia	4	6	4	14
Ghana		6	4	10
India	1	2	4	7
Indonesia	1		1	2
Iran		2	3	5
Israel		1		1
Jamaica		2		2
Kenya	1	9	2	12
Malawi	2		1	3
Malaysia			1	1
Mexico		2		2
Mozambique		1		1
Nepal		1		1

New Zealand		3		3
Nigeria	1	7	5	13
Pakistan	2	5	3	10
Palestine	1			1
Peru		2	2	4
Philippines		4	4	8
Russian Federation			1	1
Rwanda			1	1
Singapore			1	1
Somalia		1		1
South Africa	1		1	2
Sri Lanka	1	2	3	6
St Lucia			1	1
Sudan	1			1
Syria			1	1
Tajikistan	1			1
Tanzania	1	4	1	6
Trinidad & Tobago			2	2
Tunisia			3	3
Turkey			1	1
Uganda	1	3	2	6
Ukraine		1	2	3
United States		3	4	7
Vietnam		3	3	6
Zimbabwe	1	5	2	8
TOTAL NO. PARTNER COUNTRIES	20	33	35	

ANNEX 2. EMJMD ACES Student Feedback Questionnaire – End of Semester and/or Programme



JOINT MASTERS | AQUACULTURE | ENVIRONMENT | SOCIETY



Erasmus Mundus

STUDENT FEEDBACK FORM FOR ERASMUS MUNDUS JOINT MASTER DEGREE IN AQUACULTURE, ENVIRONMENT AND SOCIETY

Year you started your EMJMD _____

What semester of study have you just completed _____

Which University have you just studied at _____

ADMISSIONS	1	2	3	4	5
On a scale of 1-5 (1 is poor and 5 is excellent) how would you rate the admissions procedure when you applied for the EMJMD ACES					
Any additional comments					
INFORMATION	1	2	3	4	5
On a scale of 1-5 (1 is poor and 5 is excellent) how would you rate the information you received from UHI-SAMS prior to starting your course					
Any additional comments					
PRE-COURSE INFORMATION	1	2	3	4	5
On a scale of 1-5 (1 is poor and 5 is excellent) how would you rate the information you received from the place you were due to study prior to starting your study					
Any additional comments					

ADMINISTRATION	1	2	3	4	5
On a scale of 1-5 (1 is poor and 5 is excellent) how would you rate the Consortium's administrative support provided to you during your study by UHI-SAMS					
Any additional comments					
ADMINISTRATION SUPPORT	1	2	3	4	5
On a scale of 1-5 (1 is poor and 5 is excellent) how would you rate the administrative support available to you at your place of study					
Any additional comments					
ACADEMIC SUPPORT	1	2	3	4	5
On a scale of 1-5 (1 is poor and 5 is excellent) how would you rate the academic support available to you at your node of study					
Any additional comments					
INDUCTION	1	2	3	4	5
On a scale of 1-5 (1 is poor and 5 is excellent) how would you rate the induction/welcome procedures at the place you were studying at on arrival					
Any additional comments					
SERVICES	1	2	3	4	5
On a scale of 1-5 (1 is poor and 5 is excellent) how would you rate the services provided to you at the place you were studying (e.g., computing, library, sports etc.)					
Any additional comments					

ANY ADDITIONAL COMMENTS

Any additional comments

Were you happy with the choice of taught modules available for you to take at your place of study? YES / NO

Did you enjoy the modules you studies? YES / NO

Were you given the opportunity to discuss your choice modules with a member of academic staff? YES / NO

Any additional comments

Did you enjoy your Research Project YES/NO/ Not Applicable

Any additional comments

Have you enjoyed your time on the EMJMD to date YES / NO

Would you recommend studying on this type of programme to others? YES / NO

Please let us know what your plans are for when you finish the EMJMD ACES

Do you have any additional comments you would like to add to this survey?

Privacy Statement

No data which personally identifies you is collected on the form. The data you provide is used for quality assurance purposes and mandatory reporting to the EACEA on the programme.

Thank you for completing this questionnaire.

