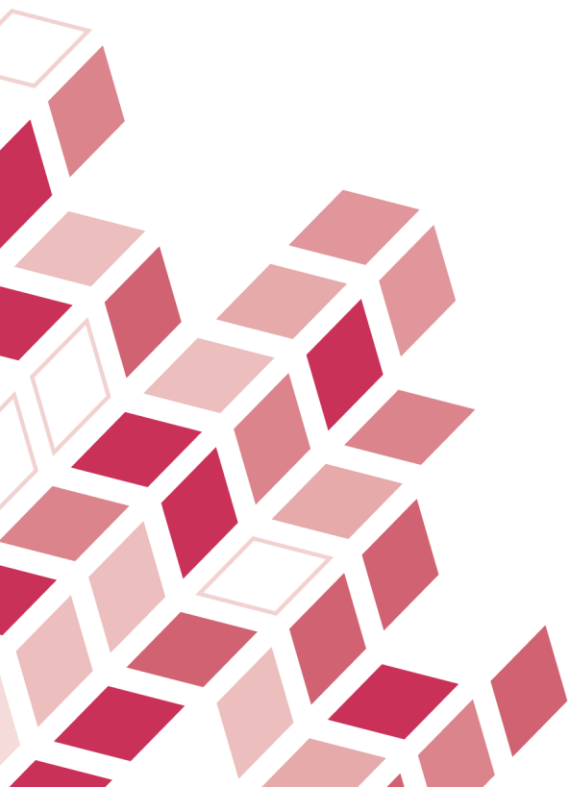


NOKUTS tilsynsrapporter

Management of Demanding Marine Operations

Experience based master degree at Aalesund University College

February 2013



Institution:	Aalesund University College
Name of educational provision:	Management of Demanding Marine Operations
Degree/Studiepoeng (ECTS):	Master degree, 90 ECTS (experience based)
Date of decision:	February 15th 2013
Expert Committee:	Stein Haugen, Professor at Norwegian University of Science and Technology (NTNU)
	Margareta Lutzhoft, Associate Professor at Chalmers University of Technology, Sweden
Archive Number:	12/435

Introduction

The external quality assurance performed by NOKUT consists of evaluating the institution's quality assurance systems, accreditation of new provisions and revision of accredited provisions. Universities and university colleges have different self-accrediting powers. For an institution without self-accrediting powers to establish a provision in a certain cycle an application must be made to NOKUT.

Hereby NOKUT presents the accreditation report of a Master degree in Management of Demanding Marine Operations. The expert evaluation in this report is part of the accreditation process following Aalesund University College's application for accreditation of submitted before the application deadline on September 1st 2012. This report clearly indicates the extensive evaluation performed to ensure the educational quality of the planned educational provision.

Master degree study of Management of Demanding Marine Operations fulfils NOKUT's conditions for accreditation and is accredited by resolution of 15th February 2013.

This decision does not have limited validity in time. NOKUT will however make a subsequent supervision of the educational provision within three years.

Oslo, 15th of February 2013



Terje Mørland
Director general

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1 Information regarding the applicant institution

Aalesund University College has about 2000 students and 200 staff. The University College is located 4 km from the centre of Aalesund.

Aalesund University College consists of five faculties with a wide range of educational provisions at bachelor`s and master`s levels, in addition to courses.

The academic profile for the educational at Aalesund University College is in business management, engineering, health care, fisheries and maritime trade. The University College has an important role as a provider of expertise to the region, and many study programmes have a close cooperation with industry.

The academic activities at Aalesund University College are organized in five faculties: Faculty of Health Sciences, Faculty of International Marketing, Faculty of Life Sciences, Faculty of Engineering and Natural Sciences, Faculty of Maritime Technology and Operations.

Aalesund University College does not have power of self-accreditation for educational provisions in the second (master) and third cycle (ph.d). The institution`s quality assurance system was evaluated and approved in 2011. The following educational provisions at the institution have obtained accreditation from NOKUT:

- Master degree in «Ingeniørfag - simulering og visualisering», 120 ECTS, 2012¹
- Master degree in «Avansert klinisk sykepleie- den kritisk syke», 120 ECTS, 2012
- Master degree in International Business and Marketing (discipline and experience based), 120 and 90 ECTS , 2011
- Master degree in «Ingeniørfag og skipsdesign» (discipline and experience based), 120 and 90 ECTS, 2009
- Maser degree in «Produkt og systemdesign» (discipline and experience based), 120 studiepoeng, 2007.

Aalesund University College applied to NOKUT for accreditation of an experience based master degree of Management of Demanding Marine Operations– 90 ECTS by the application deadline of September 1th 2012.

2 Description of procedure

NOKUT makes an administrative assessment to ensure that all basic conditions for accreditation are fulfilled as expressed in the Regulation concerning NOKUT`s supervision and control of the quality in Norwegian higher education.² (Hereafter referred to as the Quality Assurance Regulation on Higher Education.) For applications that have been approved administratively, NOKUT appoints external

¹ The names of the educational provisions in norwegian are not translated into english.

² <http://www.lovddata.no/cgi-wift/ldles?doc=/sf/sf/sf-20110127-0297.html>

experts for the evaluation of the application. The external experts have declared that they are legally competent to perform an independent evaluation, and carry out their assignment in accordance with the mandate for expert assessment passed by NOKUT's board, and in accordance with the requirements for educational quality as determined by the Quality Assurance Regulation on Higher Education.

Following their assessment, the expert committee shall conclude either with a yes or no as to whether the quality of the educational provision complies with the requirements in the Quality Assurance Regulation on Higher Education. NOKUT also requests that the expert committee advise on further improvements of the educational provision. All criteria must be satisfactorily met before NOKUT accredits an educational provision.

If the conclusion reached by the expert committee is negative, the report is sent to the applicant institution, which is then given three weeks to comment. Thereafter NOKUT decides whether the comments should be sent to the committee for additional consideration. The committee is given two weeks to submit the revised assessment. The director general then reaches a final decision about accreditation.

The current report presents the accreditation process chronologically. As described above, the committee is free to change its conclusion on accreditation in the course of the process, and has in fact done so in this report. The final conclusion is found in part 7.

3 Administrative assessment

Quality Assurance Regulation on Higher Education § 4-1: Basic conditions for accreditation

1. Demands expressed in the Universities and Colleges Act concerning the following arrangements will be assessed:
 - a. Internal regulations and governance
 - b. Appeals Committee
 - c. Learning Environment Committee
 - d. Educational Plan
 - e. Diplomas and Diploma Supplement
 - f. Quality assurance system

NOKUT's assessment

The intention of this article is to make it clear and predictable what regulations in the University and Colleges Act (2002) that NOKUT supervises. Aalesund University College offers accredited educational provisions. Hence, it is presupposed that the demands expressed in the Universities and Colleges Act are fulfilled. Diploma supplement is evaluated as satisfactory.

4 Expert Assessment

This chapter is the expert committee's assessment. The term "we" refers to the expert committee as such. The number preceding each heading refers to the corresponding provision in the Quality Assurance Regulation on Higher Education.

Summary of the report

We consider the proposed educational provision timely and relevant. It should be of great interest to the business community and it is offered at a highly relevant institution. Hence, we view this as a very positive initiative. Unfortunately, it is also our impression that some of the descriptions and explanations seem to have been prepared too hastily, leading to an insufficiently worked through and consistent, uniform description of the provision. It is therefore our assessment that the application, as it stands today, does not give a good enough basis to recommend accreditation.

We do however believe that the basis for establishing a good educational provision exists, and we therefore recommend that the applicant be given the opportunity to revise the application.

4.1 Basic conditions for accreditation

4.1.1 Demands expressed in the Universities and Colleges Act.

Assessment

Through its administrative assessment, NOKUT has ensured that the Diploma Supplement has been submitted. The external experts have assessed the content of the Diploma Supplement. It is stated in the Diploma Supplement that the provision qualifies the candidate for further studies at the PhD level. This is an experience-based master's degree, cf. § 5 in the Regulation on Master Degrees, which is not intended to qualify a candidate for further studies. Ålesund University College is required to correct the Diploma Supplement, so that it does not state that the provision qualifies for further studies at the PhD level when it does not in fact do so. The institution has not included an English translation of the learning outcome descriptors in the Diploma Supplement and this must be included.

Conclusion

No, the condition is not fulfilled.

- The institution is required to correct the Diploma Supplement, so that it does not state that the provision qualifies for further studies at the PhD level when it does not in fact do so.
- The institution must include an English translation of the learning outcome descriptors in the Diploma Supplement.

4.1.2 Demands expressed in national curriculum frameworks, where such apply, and in relevant Regulations issued by the Ministry of Education and Research must be met.

Assessment

The master's program is experience-based, i.e. § 5 in the Regulation on Master Degrees, and comprises 90 ECTS (studiepoeng). Of this, the master project is 30 ECTS. In order to qualify for admission candidates must have a relevant bachelor's degree or minimum 180 ECTS of relevant subjects. In addition, candidates must have minimum two years of relevant work experience. This is in accordance with the relevant requirements in the Regulation of Master Degrees.

Conclusion

Yes, the condition is fulfilled.

4.1.3 Estimates of student recruitment, as relevant in relation to the establishing of a satisfactory learning environment and stable provision, must be presented.

Assessment

Aalesund University College expects to admit more than 50 students per year, combining part-time and full-time students. In the first year, the expected number is 30. Initially, it is expected that most of the students will be recruited locally, but it is expected that there will be applications also from other parts of the country. It is also likely that the program will attract students from abroad.

The main basis for this is the maritime cluster located in this region. With 20,000 employees and a turnover of 50 billion NOK in 2011, this is considered to be one of the largest clusters in Norway. The cluster has been/is involved in more than half of the world's advanced offshore vessels. This should be a very good basis for attracting students to the program.

In our view, the institution's own assessment of the future number of students seems to be optimistic, especially since this is an experience-based master program. However, there appears to be a clear demand for a master's program like this and the location would also be good. Even if the number of students is less than what is expected, it is still highly likely that the number of students will be high enough to create a good learning environment and provide stability for the students who have been admitted.

We also note that there are plans to establish activities aimed at integrating students with diverse backgrounds and coming from different parts of the country. This will be a positive contribution to the learning environment.

Conclusion

Yes, the institution's estimates are satisfactory.

4.1.4 A plan of the students' expected workload must be presented.

Assessment

The expected workload for full-time students is 1,700 hours per year. This is within the ECTS norm of 1,500-1,800 hours. In the first year, this is divided in 250 hours of lectures (including preparation and follow up work 100 hours of simulation, 100 hours of group work, 200 hours of working with study questions and finally 1,050 hours of self-study, supervision and exam preparations.

In the first year, the students are to complete eight courses (or more). This implies on average about 30 hours of lectures per course (corresponding to 15 hours per course week). For a 7.5 ECTS course this appears to be on the low side (typical at similar institutions is 40-45 hours of lectures, not including preparations and follow up work). Since the exam for all courses consists of a project report, it is also somewhat difficult to understand what is group work and what is individual exam preparations.

The students will be admitted as full-time students or part-time students. The expectation from Ålesund University College seems to be that all part-time students will work half-time with their studies, thus completing the program in three years rather than one and a half years. Experience from similar programs is that there will be a wide range of choices with regard to study progress. Some students may choose to take one course per semester, others may choose two courses per semester but then take a break for a semester. This means that one must be prepared for a large variation in when individual students choose to take their courses. Another option may be to require that students follow a specific progress, but this is likely to make it less attractive because flexibility is decreased. Aalesund University College should take this into account in the planning of the courses, and consider if this may have an impact on resource requirements with regard to administration, teaching and supervision.

Conclusion

Yes, the institution's presented documentation is satisfactory.

- The University College should consider if the proposed division of the workload is suitable.
- The University College should take into account that the students may progress their studies very differently and that this may have an impact on resource requirements.

4.1.5 When part(s) of the provision is taught outside the degree awarding institution formally agreed documents must be in place to regulate issues of importance for the students.

Assessment

The education will take place at Aalesund University College with the exception of the simulator training which will take place at the Offshore Simulator Centre. The training at OSC is covered by an agreement between the parties. Further, it is the intention that the master theses can be conducted at a company or other colleges/universities. It is the institution which is responsible for the quality of the master thesis and details concerning how this will be organized are not provided.

This is also commented under § 4.3.5.

Conclusion

No, the institution's presented documentation is not satisfactory.

- The University College must provide more details about how the master thesis supervision will be organized, provide agreements with the companies/institutions that will supervise students (or a standard agreement that will be used) and describe how the quality of the master theses written outside the University College will be ensured.

4.2 Study plan

1. The educational provision must have an adequate title
2. The provision must be described with reference to learning outcomes
 - a) Learning outcomes must be expressed in terms of a candidate's intended achievements in knowledge, skills and general competence, as related to the National Qualifications Frameworks.
 - b) The provision's relevance for working life and/or continued studies must be clearly expressed.
 - c) Content and design of the provision must be satisfactorily related to the description of learning outcomes.
 - d) Teaching and student work must be suited for the achievement of intended learning outcomes, as expressed in the plan.
 - e) Exams and other means of evaluation must be suited for the
 - f) Assessment of the students' attainment of intended learning outcomes, as expressed in the plan.
3. The provision must have satisfactory links to research and academic and/or artistic development work, adapted to its level, volume and other characteristics.
4. The provision must be attached to student exchange and internationalisation arrangements adapted to its level, volume and other characteristics.

4.2.1 The educational provision must have an adequate title

Assessment

The name of the program is "Management of Demanding Marine Operations". This is a fairly specific name, but gives an adequate description of the content of the course. From the description of the courses, it would appear that focus is mainly on execution and not planning of operations, but the name should still be sufficiently descriptive.

It is noted that Course 1 has the same name as the program (in fact, both "Management of Demanding Operations" and "Management of Demanding Marine Operations" is used as the name of the course). Aalesund University College should consider changing the name of this course to avoid the impression that this course covers the whole range of topics in the program.

Conclusion

Yes, the title of the provision is adequate.

- The institution should consider changing the name of Course 1 so that it does not have the same name as the educational provision.

4.2.2 The provision must be described with reference to learning outcomes

a. Learning outcomes must be expressed in terms of a candidate's intended achievements in knowledge, skills and general competence, as related to the National Qualifications Frameworks.

Learning outcomes as it is reproduced in the application from Aalesund University College

Learning outcome

Having passed the exam it is expected that the candidate:

Knowledge

- has advanced knowledge regarding management of demanding operations
- has thorough knowledge regarding risk, issues and crisis management
- has thorough knowledge regarding operational psychology and human resources management
- has thorough knowledge regarding human factors with respect to safety and efficiency of demanding operations
- has thorough knowledge regarding how cultural differences and understanding may influence integrated operations
- has thorough knowledge of scientific theory and methods
- can analyze academic problems on the basis of the history, traditions, distinctive character and place in society with respect to demanding operations..

Skills

- can plan and lead a demanding operation
- can execute a risk, issues, and crisis management process with respect to a demanding operation, and lead the implementation of the suggested measures
- can plan, analyse, evaluate, lead and present information regarding a demanding operation
- can prevent and clarify misunderstandings during execution of demanding operations
- can present and communicate different forms of research and development with respect to a demanding operation
- can analyze and deal critically with various sources of information and use them to structure and formulate scholarly arguments
- can analyze existing theories, methods and interpretations regarding demanding operations independently on practical and theoretical problems
- can use relevant methods for research and scholarly development work in an independent matter

- can carry out an independent, limited research or development project under supervision and in accordance with applicable norms for research ethics.

General competence

- can integrate different forms of knowledge to be able to execute a demanding operation within safety and efficiency constraints
- can assess, integrate and utilise research and research methods in his/her own professional practise
- can plan, execute and asses research and advanced development results under qualified supervision
- can analyze relevant academic, professional and research ethical problems
- can apply his/her knowledge and skills in new research areas in order to carry out advanced assignments and projects
- can communicate extensive independent work and terminology of the academic field
- can communicate about academic issues, analyses and conclusions regarding demanding operations, both with specialists and the general public
- can contribute to new thinking and innovation processes.

Assessment

The learning outcomes are described in accordance with the Norwegian Qualifications Framework. Some comments on the main items:

Knowledge: Most of the points listed are related to the first item under “knowledge” in the National Qualifications Framework. There is very little related to scientific methods and theory and how this is used in practice. Even if this master program does not qualify for PhD studies, the students should still have some knowledge related to this after completing the program. A point on this should therefore be included.

Skills: The description is quite weak on professional development and must be improved. Most of these points describe abilities related to conducting an operation. F1, F2, F3 and F5 are fairly general while F4 is highly specific.

General competence (comments to the individual outcomes):

G1: This would appear to be part of abilities, e.g. F4?

G2: It is unclear what is meant by «has competence in integrating different forms of knowledge³»?

G3: The courses would not appear to support this outcome?

One additional comment we have is that it should be considered to include sustainability/”green operations” in the program. In particular in relation to planning of operations, this is considered to be a useful addition.

Conclusion

No, learning outcomes are not satisfactorily described.

³ This is NOKUT’s translation.

- The College must ensure that the links between the courses and the learning outcomes are strengthened.

Advice for further development:

- The learning outcomes should include a point about scientific methods and theory.
- It should be considered to include sustainability/”green operations” in the program.

b. The provision’s relevance for working life and/or continued studies must be clearly expressed.

Assessment

The application gives a good description of the status in the maritime and offshore industry today and provides convincing arguments for why this is a study program of relevance for the industry. The study seems to be highly relevant and is introduced at a time when the demand for this type of competence is high.

The relevance for further studies is less clear. It would appear that this is a study program that is mainly directed at educating good practitioners, rather than acting as a starting point for a PhD. The program is also a § 5 master’s program which has relevance for working life as its main purpose. It is therefore not necessary for this program to be relevant for further studies. There is no mention of possible continuation to a PhD education in the application, with the exception that this is included in the Diploma Supplement. See criteria 4.1.1 about Diploma Supplement.

Conclusion

Yes, the provision’s relevance for working life and/or continued studies is clearly expressed.

c. Content and design of the provision must be satisfactorily related to the description of learning outcomes.

Assessment

There are a number of documents describing the program. The Diploma Supplement on page 99, the study plan and the introduction to the report are similar but not identical. We recommend that these descriptions be better coordinated. For example, the study aims on page 99 are very broad – will operators and regulators really be able to attend the same program? The planning of operations is mentioned often, but it is not entirely clear whether the students get enough training in planning (e.g. project management)? We would also like it clarified on which level of operations the planning is relevant. For instance, in the Diploma Supplement (and only there) there is mention of «executing operations» and «subsea operation».

The program aims to provide knowledge for leadership and management. We also recommend, considering the domain and state of research, that it provide insight about the complexity of a distributed operation with local leaders and coordination issues.

The separate courses

Course 1: Integrated operations 1 and the study program have the same name. Formal competence in leadership of subject responsible person is not entirely clear. Clarify role, content and aim of simulations.

AL101808 Industrial psychology and HRM: The topic list is very good but the learning outcomes are too abstract. The project report seems to be intended to cover too many topics.

Integrated operations II: The first learning outcome is specific and reasonable, but the two others are too generic to provide much meaning. The topic list is very brief and not very well connected to the learning outcomes. The first topic is “Risk Management” (which is the same as the name of the course). This is relevant but should be expanded. The rest of the topics are in our opinion only marginally relevant.

Human factors: The HF course description is quite shallow and partly irrelevant (why teach usability assessment and not how to solve issues?). We also miss a connection to risk and accident analysis, basic HF methods e.g. task analysis and UCD. We would like a clarification of the term “cognitive property”.

Integrated operations III, Cultural understanding and communication: The course description is very good. A suggestion is that the evaluation might be based on practical problems and discussions of solutions (not just dilemmas).

IP 501809: Science theory and methods is heavy on theory and too light on methods and practical work. It is not clear that students will learn to gather evidence, plan a study etc. We suggest providing more of these areas to support the writing of the thesis work. Names of who is responsible and teaching staff are not provided.

Integrated operations IV: Management of the unpredictable: The plan looks good and complete. A suggestion is to include new research directions such as resilience engineering.

Advanced marine operations 3.75: The learning outcomes are a mix between specific outcomes (which is good) and two very general ones. The evaluation report format seems inappropriate and too large in comparison to other courses with more study points. Highly relevant teacher.

Ships and systems for cold and harsh environments: The evaluation report seems too large compared to e.g. 10 point courses. A suggestion is to include some aspects of both human factors and safety.

Master thesis: Learning outcomes; the first three are good, the last two may be too generally formulated, while being too specific on human element issues. No technical or operational competence is mentioned, for instance. There is no mention of planning a study or gathering evidence, or critically judging your own work, which is highly recommended to include in thesis work. The evaluation process is excellent.

Suggestions on integration of program:

Risk management and Management of the unpredictable could be better connected to each other.

HF and HR should connect to each other. Clarify the overlap/redundancy in e.g. teaching about cognition and decision making.

Page 15 mentions elective courses in subject 8 and 9, what is available and where?

A concern for the reviewers is the large amount of supervision work for the thesis, in comparison to available faculty. Are there enough teachers for qualified supervision, for 40 hours and 50 students?

All courses have the same amount of teaching (two weeks), for different number of points 10, 7.5 and 5 points. One might consider adapting the amount of teaching to the number of study points, or describe how the teaching for different size courses can be performed during this time.

Conclusion

No, the provision's content and design is not satisfactorily related to the description of learning outcomes.

- The University college must review the topic descriptions and other descriptions in the application, to ensure identical descriptions, to ensure that the overall learning outcomes are clear and clearly linked to the topics and that there is consistency in the descriptions of topics and the learning outcomes for the study program and the learning outcomes for each topic

Advice for further development:

- The institution should consider the suggestions on integration of the program.

d. Teaching and student work must be suited for the achievement of intended learning outcomes, as expressed in the plan.

Assessment

The courses in this program will be conducted over two week periods, with lectures, working with project assignments and simulations. In addition, a significant proportion of the workload is related to self-study and exam preparations. The lectures will be conducted by personnel with practical experience, being able to combine theoretical knowledge and practical examples in their teaching.

A mixture of different activities is considered beneficial in a study program like this, where an important aim is to gain knowledge and abilities for managing demanding operations in practice. In particular, simulation is important as a tool to develop the abilities specified in the learning outcomes. The application is however not very clear on how simulation specifically will be used to develop relevant abilities. This must be described more clearly and the simulations connected more explicitly to the learning outcomes.

In general, the courses seem to be very similar in the learning methods that are applied. The courses are conducted over two week periods, in all courses a project report is to be prepared in groups of three and the only way that some courses differ from the others is that simulation is being used. The use of project reports as a means of meeting the learning outcomes is positive. This requires that the students gain knowledge about the course topics, that they learn how to use this knowledge on specific applications and also that they learn basic scientific methodology. However, this does not necessarily imply that this is the best approach in all courses.

It should be considered if all courses fit equally well into this “standard format” or if variations can help to meet the learning outcomes. One example is that use of ICT and software tools is not mentioned in any of the courses. This may not be appropriate, but it is still highly unusual in an industry which is highly technological.

Conclusion

No, the teaching and student work is not suited for the achievement of intended learning outcomes, as expressed in the plan.

- The University College must consider if there is a need for more variation in teaching and student work between the different courses.
- The University College must describe more specifically how use of simulators will contribute to the learning outcomes.

e. Exams and other means of evaluation must be suited for the assessment of the students’ attainment of intended learning outcomes, as expressed in the plan.

Assessment

For all courses except the master’s thesis, the examination will be a project report of 15-20 pages, written by a group of three students. For the master’s thesis, the requirements are that the candidates prepare a report of at least 30 pages and that a trial lecture of 45 minutes is held, followed by a question-and-answer session.

Project reports may be a good way of evaluating the students, but it would appear that too little thought has been given to the need for variation in of examination methods in this case. There is no discussion of the learning aims and how the evaluation methods will serve to test if the students have achieved their expected competence. It is questionable if a project report will provide adequate testing of the students in all topics. Further, there is no individual judgement of the students, except in the master’s thesis. It would be possible for a group of students to prepare all the project reports together (this may in fact be natural if there are several students from the same company) and Ålesund University College will only be able to judge the combined competence of the group. This is not considered adequate.

One suggestion would be that the students select/are given an operation or a topic that they can work on throughout the courses. In that way, the project reports in the different courses can build on each other and help the students see how the knowledge that they are acquiring is used on different aspects of the same problem.

Conclusion

No, exams and other means of evaluation are not suited for the assessment of the students’ attainment of intended learning outcomes, as expressed in the plan.

The institution is required to:

- Employ means of evaluation that permit an individual evaluation of the student before the master’s thesis.
- Consider whether it is appropriate to have the same means of evaluation for all the courses.

4.2.3 The provision must have satisfactory links to research and academic and/or artistic development work, adapted to its level, volume and other characteristics.

Assessment

The application describes a number of research projects that have been performed or are ongoing within areas relevant for the master's program. Among these are several large projects that are ongoing, like "Integrated Marine Operations" (started 2010, budget 29.6 MNOK), "Safe Operation of Subsea Systems" (started 2010, budget 16.6 MNOK) and "Increasing Safety of Demanding Operations through Usability" (started 2010, budget 10 MNOK). At the time of writing the application, work was also underway to apply for further projects. However, the link between the research activities and the education in the master program is not very clearly described, except in fairly general terms.

Conclusion

No, the provision does not have satisfactory links to research and academic and/or artistic development work, adapted to its level, volume and other characteristics.

- The institution must describe more specifically how ongoing research will be integrated into the education in the master program.

4.2.4 The provision must be attached to student exchange and internationalisation arrangements adapted to its level, volume and other characteristics.

Assessment

Agreements for student exchange have been documented for two institutions, Novancia Business School in Paris and Universidade de Rio de Janeiro (UFRJ) in Brazil. This is considered to be satisfactory. From the description of the two institutions, it would appear that Novancia primarily has a theoretical emphasis while UFRJ would be more suitable for those wanting to have a more practical specialization. If the impression is correct, it is also important that the students are made aware of this when they are considering a period of exchange.

Conclusion

Yes, the provision has systems for student exchange and internationalisation arrangements adapted to its level, volume and other characteristics.

- The institution is advised to make it clear to the students that their choice of exchange institution will have consequences for what they can expect to learn, assuming that one of the institutions is more theoretically oriented and the other more practical.

4.3 Discipline community/-ies attached to the provision

4.3.1 The composition, size and collective competence of the relevant discipline community/-ies must be adapted to the provision as the plan describes it and adequate for the conduct of relevant research and development work.

Assessment

The faculty associated with the program comprises of nine staff members, contributing from 20 to 80 per cent of their working time in the program. Of these, eight have their main position at the institution while the last has her main position at Stord- Haugesund University College, which Aalesund University College has a formal cooperation agreement with. Three persons contribute 70 per cent or more. We are pleased to note that several persons have this program as their main activity, as this will contribute to stability for the students. It is noted however that one of the staff members who has allocated 70 per cent of his time to the program, is also heading the HF lab at Aalesund University College. This is currently being built up and it would appear that it is optimistic to expect that 70 per cent of his time can be allocated to the program in question here.

The total resources allocated to the program are 4.3 full time equivalents of which 4.0 are persons with their main position at Aalesund University College. This is also positive and a contributor to stability.

The total resources are divided on 2.6 full time equivalents or education and supervision while 1.7 full time equivalents is research. This confirms the close link between education and research, which is a positive aspect. However, we find it necessary to express some concerns regarding the resources allocated to education and supervision. According to the application, 50 students are expected and each is to be given 40 hours of supervision for their master's thesis work. This will amount to 2,000 hours per year, or about 1.2 person years. This means that only 1.4 person years are left for teaching eight courses, managing simulations, providing supervision for projects, preparing exams etc. As part of this, one should also consider the possibility that the students may progress through their studies at a widely varying pace. This is likely to add to the burden for the lecturers.

As far as the qualifications of the faculty, they are competent and have broad experience and education. Some comments are attached to this however. First of all, some of the faculty appear to have competence of limited relevance (e.g. in robotics). Further, we also note that the faculty primarily has a quantitative or engineering background, while the program primarily focuses on the "softer" issues of management. It would have strengthened the program if faculty with background from psychology, sociology or similar had been added, to give more depth to topics like communication and leadership. There is also some uncertainty regarding who is actually teaching some of the subjects (ref evaluation of § 4.2.2. e).

Conclusion

No, the composition, size and collective competence of the discipline community/-ies is not adapted to the provision as described in the plan, and is not adequate for the conduct of relevant research and development work.

- The institution is required to consider whether it has the resources required to carry through the program if the number of students admitted is as high as expected

Advice for further development

- The institution is advised to consider whether it has sufficient competence within the social scientific topics that are part of the program.

4.3.2 At least 50 per cent of the academic FTEs allotted to the provision must be members of the institution's own academic staff. Of these, professors (full or associate) must be represented among those who teach the core elements of the provision.

For the different cycles, specific demands apply:

- a. For first cycle provisions at least 20 per cent of the relevant discipline community/-ies must have competence as professors (full or associate).
- b. For second cycle provisions, at least 10 per cent of the relevant discipline community/-ies must be full professors, and an additional 40 per cent associate professors.
- c. For third cycle provisions, PhD or stipend programme for artistic development work, at least 50 per cent of the relevant discipline community/-ies must be full professors, and the rest associate professors.

Assessment

The academic personnel allocated to the study represents a total of 4.3 FTEs. Of this, 1 FTEs is full professors (23%) and an additional 1.9 FTEs (67 per cent) is associate professors. This means that the faculty complies with the requirements for the second cycle.

Conclusion

Yes, the criteria and the demands specific to the cycle of the present educational provision are fulfilled.

4.3.3 The discipline community/-ies must be active in research and/or development work.

For the different cycles specific demands apply:

- a. For first cycle provisions, documented results at a level that is satisfactory in relation to the content and level of the provision.
- b. For the second cycle, documented results at a high level of quality.
- c. For the third cycle, documented results at a high international level of quality, with satisfactory disciplinary breadth.

Assessment

The faculty is performing relevant research and is clearly developing the agenda and working to increase publications. The research includes:

- Integrated marine operations and machinery systems
- Safe operations
- Several design projects
- Development of cranes and underwater working equipment
- Leadership and human-machine interaction

Many of the faculty have published in journals and most have had papers at conferences on appropriate subjects to the education. In addition, many textbooks and teaching aids have been produced which shows an adaption of research and current knowledge into the teaching.

Conclusion

Yes, the criteria and the demands specific to the cycle of the present educational provision are fulfilled.

4.3.4 The discipline community/-ies must participate actively in relevant national and international networks and collaborative arrangements/projects.

Assessment

The list of cooperating partners is extensive and relevant. A large network is in place both nationally and internationally which should be beneficial to the students and the research. Among the national partners where cooperation agreements are in place are NTNU/SINTEF, DNV, Senter for Risikoforskning (Handelshøyskolen/BI), Stord/Haugesund University College, Sjøkrigsskolen, NCE Maritime and several offshore shipping companies. The international network includes Universidade Federal de Rio de Janeiro, Universidade de Sao Paulo, Constanta Maritime University and University of California, San Diego. These partners are considered to be relevant and useful for the research and education activities at the institution.

Conclusion

Yes, the discipline community/-ies participates actively in relevant national and international networks and collaborative arrangements/projects.

4.3.5 For provision with vocational practice/internship arrangements, the discipline community/-ies and the practice supervisors must have relevant experience from the practice field.

Assessment

It is the intention that students can write their master theses within a company or in another college/university. This is positive as it may give a close connection to practical applications and “real life” problems. However, the college is still responsible for the quality of the education and must ensure that the supervisors provided have relevant and sufficient experience and knowledge. How this will be ensured is not sufficiently described in the application.

Conclusion

No, the discipline community/-ies and the practice supervisors must have relevant experience from the practice field.

- The institution must provide satisfactory documentation that supervision under internship arrangements will be of satisfactory quality. This can be ensured through agreements with the companies/institutions and approval of external supervisors by the institution or joint supervision between the college and the companies.

4.4 Support functions and infrastructure

4.4.1 The institution must have rooms, library services, administrative and technical services, ICT resources and working conditions for their students that are satisfactory and adapted to the provision as described in the study plan and the number of enrolled students.

Assessment

Most of the education takes place in the main building of Aalesund University College. Furthermore, this building contains offices for lecturers, administrative staff and support staff. The Offshore Simulator Centre (which the college has a formal agreement with) are also located nearby. It is not explicitly specified how many work places are available for students and whether adding 50 students per year will be problematic to accommodate.

There is an existing library which contains a lot of relevant literature for the master's program. Further, there are plans to add subscriptions on relevant scientific journals and relevant databases.

Aalesund University College has about 2,000 students at present and the additional master program therefore represents a relatively small increase. Adequate support functions appear to be available. ICT services also appear to be adequate.

One minor comment may be that the application does not mention any HR resources which can provide support to students with special needs or requirements.

Conclusion

No, the institution does not have adequate support functions and infrastructure.

- The University College is required to show that it has sufficient amount of student work spaces to accommodate another 50 students (100 during the autumn semester).

Advice for further development:

- The College should consider HR resources which can provide support to students with special needs or requirements.

5 Conclusions

On the basis of the written application with attached documentation, the expert committee concludes:

The committee does not recommend accreditation of the master degree Management of Demanding Marine Operations at Aalesund University College.

The following requirements are not fulfilled:

4.1.1 Demands expressed in the Universities and Colleges Act.

4.1.5 When part(s) of the provision is taught outside the degree awarding institution formally agreed documents must be in place to regulate issues of importance for the students.

4.2.2 a. Learning outcomes must be expressed in terms of a candidate's intended achievements in knowledge, skills and general competence, as related to the National Qualifications Frameworks.

4.2.2 c. Content and design of the provision must be satisfactorily related to the description of learning outcomes.

4.2.2 d. Teaching and student work must be suited for the achievement of intended learning outcomes, as expressed in the plan.

4.2.3 The provision must have satisfactory links to research and academic and/or artistic development work, adapted to its level, volume and other characteristics.

4.3.1 The composition, size and collective competence of the relevant discipline community/-ies must be adapted to the provision as the plan describes it and adequate for the conduct of relevant research and development work.

4.3.5 For provision with vocational practice/internship arrangements, the discipline community/-ies and the practice supervisors must have relevant experience from the practice field.

4.4.1 The institution must have rooms, library services, administrative and technical services, ICT resources and working conditions for their students that are satisfactory and adapted to the provision as described in the study plan and the number of enrolled students.

The following requirements must be met before accreditation:

§ 4-1 Basic conditions for accreditation

- The institution is required to correct the Diploma Supplement, so that it does not state that the provision qualifies for further studies at the PhD level when it does not in fact do so.
- The institution must include an English translation of the learning outcome descriptors in the Diploma Supplement.
- The College must provide more details about how the master thesis supervision will be organized, provide agreements with the companies/institutions that will supervise students (or a standard agreement that will be used) and describe how the quality of the master theses written outside the College will be ensured.

§ 4-2 Study plan

- The institution must ensure that the links between the courses and the learning outcomes are strengthened.
- The institution must review the topic descriptions and other descriptions in the application, to ensure identical descriptions, to ensure that the overall learning outcomes are clear and clearly linked to the topics and that there is consistency in the descriptions of topics and the learning outcomes for the study program and the learning outcomes for each topic.
- The institution must consider if there is a need for more variation in teaching and student work between the different courses.
- The institution must describe more specifically how use of simulators will contribute to the learning outcomes.
- The institution is required to employ means of evaluation that permit an individual evaluation of the student before the master's thesis.
- The institution is required to consider whether it is appropriate to have the same means of evaluation for all the courses.
- The institution must describe more specifically how ongoing research will be integrated into the education in the master program.

§ 4-3 Discipline community/-ies attached to the provision

- The institution is required to consider whether it has the resources required to carry through the program if the number of students admitted is as high as expected.
- The institution must provide satisfactory documentation that supervision under internship arrangements will be of satisfactory quality. This can be ensured through agreements with the companies/institutions and approval of external supervisors by the institution or joint supervision between the college and the companies.

§ 4-4 Support functions and infrastructure

The institution is required to show that it has sufficient amount of student work spaces to accommodate another 50 students (100 during the autumn semester).

The committee also offers the following advice for further development:

§ 4-1 Basic conditions for accreditation

- The institution should consider if the proposed division of the workload is suitable.
- The institution should take into account that the students may progress their studies very differently and that this may have an impact on resource requirements.

§ 4-2 Study plan

- The institution should consider changing the name of Course 1 so that it does not have the same name as the educational provision.
- The learning outcomes should include a point about scientific methods and theory.
- It should be considered to include sustainability/"green operations" in the program.

- The institution should consider the suggestions on integration of the program (See §4.2.2. c).

§ 4-3 Discipline community/-ies attached to the provision

- The institution is advised to consider whether it has sufficient competence within the social scientific topics that are part of the program.

§ 4-4 Support functions and infrastructure

- The institution should consider HR resources which can provide support to students with special needs or requirements.

6 Commentary from the institution

Ålesund University College is grateful for the many and detailed comments in the expert assessment of 2 January. Even though we are naturally aware of some of the conditions remarked upon in the assessment, but that we have not described in detail in the application, it strengthens our awareness when such conditions are also remarked upon in the expert assessment.

We are also grateful for the opportunity to revise our application.

Since the expert assessment is written in English, our comments refer to the English headings in the expert assessment.⁴

4.1.1 Demands expressed in the Universities and Colleges Act

A new version of the Diploma Supplement, in which the comments in the expert assessment have been taken into consideration, is attached to this document (attachment 4-1 1 e.).

4.1.5 When part(s) of the provision is taught outside the degree awarding institution formally agreed documents must be in place to regulate issues of importance for the students

Ålesund University College has, as mentioned in our application, a close and long-standing cooperation with organisations within the private and the academic sectors. This includes cooperation for supervision purposes. Any student with an external supervisor also has an internal supervisor at Ålesund University College. (This also includes those supervisors who are competent to supervise on their own.) We believe this arrangement ensures the quality and the quality assurance of the education.

A standard agreement between Ålesund University College and external supervisors/companies/university colleges/universities can be found in the Quality Assurance Handbook at Ålesund University College (attachment 4-1 5).

4.2.2 The provision must be described with reference to learning outcomes

a. Learning outcomes must be expressed in terms of a candidate's intended achievements in knowledge, skills and general competence, as related to the National Qualification Frameworks

The comments of the expert assessment have been taken into consideration both in our description of the provision as a whole and the individual courses (attachment 4-2 1).

c. Content and design of the provision must be satisfactorily related to the description of learning outcomes

Where there are comments in the expert assessment, the description of the provision and the individual courses has been revised and implemented (attachment 4-2 1).

The planning of operations based on realistic scenarios, developed in cooperation with captains employed at the University College, among others, will be introduced and illustrated with the aid of SADT-diagrams. These will form the basis for "tabletop"-simulations with discussions and clarifications. Some of these scenarios will be developed further in the simulators of the University

⁴ The commentary has been translated from the Norwegian by NOKUT. The original Norwegian document can be found in NOKUT's archives, WebSak ref. 12/435-10.

College (or simulators at OSE or in cooperation). These simulations will to a large extent be integrated operations where the students will receive different tasks based on their experience and background. This also makes it possible for students with less maritime experience to follow the course of studies. These students will also make the simulations – and thus the provision – more relevant for the students with extensive maritime experience.

4.3.1 The composition, size and collective competence of the relevant discipline community/-ies must be adapted to the provision as the plan describes it and adequate for the conduct of relevant research and development work

The expert assessment expressed concern about whether the director of the Human Factors Lab will have enough work capacity to contribute as intended to this provision. This particular employee will be the academic director of the Human Factors Lab, and the Human Factors Lab has already employed a manager who will take care of practical matters (under the supervision of the academic director).

Related to the topic of too great a work load on some of the faculty, the University College has employed, after our application was sent to NOKUT, three new people in Professor II (adjunct) positions in order to assist the responsible faculty with their supervision among other things (attachment 4-3 1).

It is true that several of the faculty associated with the master program have their original background within natural scientific fields. Many of these have, however, steered their research towards practical applications, where the theoretical basis lies between several different subject areas. The University College therefore considers that we have sufficient competence within the social sciences. The University College works continually to expand its faculty with full or adjunct positions in relation to this master program.

4.3.5 For provisions with vocational practice/internship arrangements, the discipline community/-ies and the practice supervisors must have relevant experience from the practice field

The comments in the expert assessment have been answered under 4.2.2 e above. (See also attachment 4-3 1.)

4.4.1 The institution must have rooms, library services, administrative and technical services, ICT resources and working conditions for their students that are satisfactory and adapted to the provision as described in the study plan and the number of enrolled students

Several employees at the University College have recently moved out of their offices and into the building “Ålesund Kunnskapsark” (“Ålesund Business Incubator”), which is now also located on Campus Ålesund. In addition, Norsk Maritimt Kompetansesenter (NMK) has just opened on Campus Ålesund. This gives the University College further access to lecture and work rooms. The University College is convinced that we have the room to welcome new students to this master program, and that this will not be detrimental to the working conditions of the 2000 students who are already enrolled at Ålesund University College.

The University College has the necessary HR for students with special needs and demands. (See attachment 4-4.)

7 Expert committee's additional evaluation

4.1.1 Demands expressed in the Universities and Colleges Act.

In the original assessment, the following requirements were stated:

- The institution is required to correct the Diploma Supplement, so that it does not state that the provision qualifies for further studies at the PhD level when it does not in fact do so.
- The institution must include an English translation of the learning outcome descriptors in the Diploma Supplement.

The institution has corrected the Diploma Supplement and an English translation of the learning outcomes has been provided.

The response from the institution is satisfactory and the requirement is considered to be met.

4.1.5 When part(s) of the provision is taught outside the degree awarding institution formally agreed documents must be in place to regulate issues of importance for the students.

In the original assessment, the following requirement was stated:

- The University College must provide more details about how the master thesis supervision will be organized, provide agreements with the companies/institutions that will supervise students (or a standard agreement that will be used) and describe how the quality of the master theses written outside the College will be ensured.

The institution has described the master thesis supervision in more detail and has provided a standard agreement that will be used for students being supervised externally.

The response from the institution is satisfactory and the requirement is considered to be met.

4.2.2 a. Learning outcomes must be expressed in terms of a candidate's intended achievements in knowledge, skills and general competence, as related to the National Qualifications Frameworks.

In the original assessment, the following requirement was stated:

- The University College must ensure that the links between the courses and the learning outcomes are strengthened.

The institution has reworded and refined the learning outcomes in more detail, and with high relevance to the program of studies.

The response from the institution is satisfactory and the requirement is considered to be met.

4.2.2 c. Content and design of the provision must be satisfactorily related to the description of learning outcomes.

In the original assessment, the following requirement was stated:

- The University College must review the topic descriptions and other descriptions in the application, to ensure identical descriptions, to ensure that the overall learning outcomes are clear and clearly linked to the topics and that there is consistency in the descriptions of topics and the learning outcomes for the study program and the learning outcomes for each topic.

The institution has provided a clarifying matrix showing the links between topics and learning outcomes. They also provide a more detailed description of the use of scenarios.

The response from the institution is satisfactory and the requirement is considered to be met.

4.2.2 d. Teaching and student work must be suited for the achievement of intended learning outcomes, as expressed in the plan.

In the original assessment, the following requirements were stated:

- The University College must consider if there is a need for more variation in teaching and student work between the different courses.
- The University College must describe more specifically how use of simulators will contribute to the learning outcomes.

The institution has provided a description of the variation of working methods as well as descriptions (here and in 4.2.2 c) of the role of simulations in the program.

The response from the institution is satisfactory and the requirement is considered to be met.

4.2.2 e. Exams and other means of evaluation must be suited for the assessment of the students' attainment of intended learning outcomes, as expressed in the plan.

In the original assessment, the following requirements were stated:

The institution is required to

- employ means of evaluation that permit an individual evaluation of the student before the master's thesis
- consider whether it is appropriate to have the same means of evaluation for all the courses

The institution has provided more details regarding the means of evaluation, showing that they are more varied than before.

The response from the institution is satisfactory and the requirement is considered to be met.

4.2.3 The provision must have satisfactory links to research and academic and/or artistic development work, adapted to its level, volume and other characteristics.

In the original assessment, the following requirement was stated:

- The institution must describe more specifically how ongoing research will be integrated into the education in the master program.

The institution has provided a description of how research will be integrated into the program through ongoing research and participation.

The response from the institution is satisfactory and the requirement is considered to be met.

4.3.1 The composition, size and collective competence of the relevant discipline community/-ies must be adapted to the provision as the plan describes it and adequate for the conduct of relevant research and development work.

In the original assessment, the following requirement was stated:

- The institution is required to consider whether it has the resources required to carry through the program if the number of students admitted is as high as expected

In their response, the institution describes several changes that have been made to increase available resources. An administrative leader has been employed for the Human Factors Lab and three additional Professor II have been employed to support the master program. This should give a considerable increase in resources.

The response from the institution is satisfactory and the requirement is considered to be met.

4.3.5 For provision with vocational practice/internship arrangements, the discipline community/-ies and the practice supervisors must have relevant experience from the practice field.

In the original assessment, the following requirement was stated:

- The institution must provide satisfactory documentation that supervision under internship arrangements will be of satisfactory quality. This can be ensured through agreements with the companies/institutions and approval of external supervisors by the institution or joint supervision between the college and the companies.

As mentioned under 4.1.5 above, a standard agreement and further description of how the quality of external supervision will be ensured has been provided.

The response from the institution is satisfactory and the requirement is considered to be met.

4.4.1 The institution must have rooms, library services, administrative and technical services, ICT resources and working conditions for their students that are satisfactory and adapted to the provision as described in the study plan and the number of enrolled students.

In the original assessment, the following requirement was stated:

- The University College is required to show that it has sufficient amount of student work spaces to accommodate another 50 students (100 during the autumn semester).

Further information has been provided, indicating that more space has been made available both for offices and for education/work spaces for students.

The response from the institution is satisfactory and the requirement is considered to be met.

Final conclusions

All of the requirements are now considered to be met. The committee does recommend accreditation of the master degree Management of Demanding Marine Operations at Aalesund University College.

8 Decision⁵

Høgskolen i Ålesund søkte til søknadsfristen 1. september 2012 NOKUT om akkreditering av et mastergradsstudium i Management of Demanding Marine Operations (erfaringsbasert mastergradsstudium etter § 5, 90 studiepoeng). De sakkyndige avga sin uttalelse i rapport datert 2. januar 2013, med tilleggsvurdering av 1. februar 2012⁶.

NOKUT vurderer at vilkårene i NOKUTs forskrift om tilsyn med utdanningskvaliteten i høyere utdanning av 27.01.2011 nå er fylt, og mastergradsstudium i Management of Demanding Marine Operations (90 studiepoeng) ved Høgskolen i Ålesund, akkrediteres. Akkrediteringen er gyldig fra vedtaksdato.

NOKUT forutsetter at Høgskolen i Ålesund fyller de til enhver tid gjeldende krav for akkreditering. I tillegg forventes at Høgskolen i Ålesund vurderer de sakkyndiges merknader og anbefalinger i det videre arbeidet med utvikling av studiet.

For mastergradsstudier som NOKUT akkrediterer, må institusjonen selv søke Kunnskapsdepartementet om rett til å etablere studiet.

5

The decision is not translated into Norwegian, but in the letter informing the applicant of the decision, we write the following: "It is NOKUT's assessment that the conditions in NOKUT's Regulations concerning NOKUT's supervision and control of the quality of Norwegian higher education of 27.01.2011 now are met, and the master degree program in Management of Demanding Marine Operations (90 credits/ECTS experience-based) at Aalesund University College is accredited. The accreditation is valid from the date of the decision."

9 Documentation

Høgskolen i Ålesund - søknad om akkreditering av masterstudium - Management of Demanding Marine Operations - erfaringsbasert (90 studiepoeng). Archive number: 12/435-1.

Kommentarer til sakkyndig vurdering - Høgskolen i Ålesund - søknad om akkreditering av masterstudium - Management of Demanding Marine Operations - erfaringsbasert (90 studiepoeng). Archive number: 12/435-10.