

ÅTGÄRDSPLAN FÖR UTBILDNINGSKLUSTER MARINA VETENSKAPER VID FAKULTETEN FÖR NATURVETENSKAP OCH TEKNIK

2026-09-03

2026 External Evaluation of the Marine Sciences Educational Programs: 1st and 2nd Cycle

The external evaluation provided an overall positive assessment of the Bachelor's and Master's Programs in Marine Science. The reviewers highlighted the strength of the interdisciplinary structure, the close connection between research and teaching, the importance of field and laboratory activities, strong educational administration, and high levels of student satisfaction.

The review resulted in 28 recommendations across all eight quality criteria: 8 "must", 16 "should" and 4 "could" measures. While this is a substantial number of recommendations, many address related issues and can be managed through a smaller number of coordinated development activities.

Main areas for development: A central theme is the need to strengthen program-level coherence and progression. Individual courses generally function well, but links between courses, progression of learning outcomes, prerequisites and responsibilities are not always sufficiently explicit. The Education Committee (GRUB) therefore sees curriculum mapping, stronger teacher coordination and regular program-level discussions as key first priorities.

A second important message from the evaluation is the need to protect and maintain field and laboratory experiences as a core part of the programs. The reviewers repeatedly identify fieldwork, laboratory work and practical learning as major strengths of the education and emphasize that continued access to field stations, research vessels and practical teaching must be ensured. GRUB strongly supports this and considers field- and lab-based learning essential for connecting theory with real marine systems, developing practical and analytical skills, critical to both career opportunities and maintaining the distinctive character of Marine Science education.

Several recommendations also concern formalizing and strengthening practices that already exist, rather than introducing entirely new systems. These include pedagogical training, course evaluation processes, student representation, alumni and career activities, PhD involvement in teaching, and introductory support for students.

The evaluation also identified a number of more specific areas requiring attention, including clearer guidance on the use of AI, the structure and terminology surrounding Physical Oceanography, stronger communication of student-feedback outcomes, and improved monitoring of external teaching.

Overall response: GRUB views the evaluation as an opportunity to strengthen and better coordinate the continued development of the programs, rather than to redesign them fundamentally. The initial and primary focus will therefore be on:

- strengthening curriculum mapping, progression and coordination across courses;
- formalizing responsibility and staff time for educational development;
- improving communication between teachers and with students;
- strengthening continuous quality-assurance processes; and
- protecting key strengths of the programs, particularly interdisciplinary and field-based education.

Extern utvärdering 2026 – marinvetenskap, grund- och avancerad nivå

Den externa utvärderingen gav en övergripande positiv bedömning av kandidat- och masterprogrammen i marinvetenskap. Utvärderarna lyfte fram styrkan i den tvärvetenskapliga strukturen, den nära kopplingen mellan forskning och undervisning, vikten av fält- och laboratorieverksamhet, en stark utbildningsadministration samt hög studentnöjdhet.

Granskningen resulterade i 28 rekommendationer fördelade på alla åtta kvalitetskriterier: 8 "måste", 16 "bör" och 4 "kan"-åtgärder. Även om detta är ett betydande antal rekommendationer, berör många av dem relaterade frågor och kan hanteras genom ett mindre antal samordnade utvecklingsinsatser.

Huvudsakliga utvecklingsområden: Ett centralt tema är behovet av att stärka sammanhanget och progression på programnivå. Enskilda kurser fungerar i allmänhet väl, men kopplingarna mellan kurserna, utvecklingen av lärandemålen, förkunskapskrav och ansvarsfördelning är inte alltid tillräckligt tydliga. Grundutbildningskommittén (GRUB) ser därför kartläggning av läroplanen, starkare samordning mellan lärare och regelbundna diskussioner på programnivå som de viktigaste prioriteringarna.

Ett andra viktigt budskap från utvärderingen är behovet av att värna om och bevara fält- och laboratorieerfarenheterna som en central del av utbildningarna. Granskarna lyfter upprepade gånger fram fältarbete, laboriearbete och praktiskt lärande som utbildningens främsta styrkor och betonar att fortsatt tillgång till fältstationer, forskningsfartyg och praktisk undervisning måste säkerställas. GRUB stöder detta helhjärtat och anser att fält- och laboriebaserat lärande är avgörande för att koppla samman teori med verkliga marina system samt för att utveckla praktiska och analytiska färdigheter, vilket är avgörande både för karriärmöjligheter och för att bevara den särskilda karaktären hos utbildningen i marinvetenskap.

Flera rekommendationer gäller också att formalisera och stärka redan befintliga rutiner, snarare än att införa helt nya system. Dessa omfattar pedagogisk fortbildning, kursutvärderingsprocesser, studentrepresentation, alumni- och karriärverksamhet, doktorandernas delaktighet i undervisningen samt introduktionsstöd för studenter.

Utvärderingen pekade också ut ett antal mer specifika områden som kräver uppmärksamhet, däribland tydligare riktlinjer för användningen av AI, strukturen och terminologin inom fysisk oceanografi, bättre kommunikation av resultaten från studenternas återkoppling samt förbättrad uppföljning av extern undervisning.

Övergripande svar: GRUB ser utvärderingen som en möjlighet att stärka och bättre samordna den fortsatta utvecklingen av programmen, snarare än att omforma dem i grunden. Det inledande och främsta fokuset kommer därför att ligga på att:

- stärka kartläggningen av läroplanen, progression och samordning mellan kurser;
- formalisera ansvar och personalens tidsinsats för utbildningsutveckling;
- förbättra kommunikationen mellan lärare och med studenter;
- stärka de fortlöpande kvalitetssäkringsprocesserna; och
- att bevara programmets viktigaste styrkor, särskilt den tvärvetenskapliga och fältbaserade utbildningen.

Can/Kan
Should/Bör
Must/Ska

	Criteria/Class	Kriterium/klass
C1	That actual study outcomes correspond to learning outcomes and degree objectives	Att faktiska studieresultat motsvarar lärandemål och examensmål
C2	That teaching places the students' learning at the centre	Att undervisningen sätter studenternas lärande i centrum
C3	That the content and form of teaching are based on scientific and/or artistic principles and proven experience	Att undervisningens innehåll och form vilar på vetenskaplig och/eller konstnärlig grund samt beprövad erfarenhet
C4	That the number of teachers is proportionate to the scope and content of the program, and that they possess up-to-date and adequate subject-specific, higher education pedagogical and subject-didactic competence	Att antalet lärare står i proportion till utbildningens omfattning och innehåll samt att de har aktuell och adekvat ämnesmässig, högskolepedagogisk och ämnesdidaktisk kompetens
C5	That the program is relevant to the needs of students and society	Att programmet är relevant för studenternas och samhällets behov
K6	That students have a say in the planning, delivery and evaluation of the program	Att studenterna har inflytande över planering, genomförande och uppföljning av utbildningen
K7	That a study and learning environment that is accessible and suitable for all students is provided	Att en studie- och lärmiljö som är tillgänglig och ändamålsenlig för alla studenter tillhandahålls
K8	That continuous monitoring and development of the program is carried out	Att kontinuerlig uppföljning och utveckling av programmet genomförs

<i>Compiled by Prof. Rhian Waller using:</i> Evaluation report Notes from an all-day meeting of the educational committee, Marine Sciences Department Comments from the Education Committee and Leadership Group, Marine Sciences Department Limited ChatGPT used to clean/reword some english language from notes Swedish Translation compiled by ChatGPT	<i>Sammanställt av prof. Rhian Waller med utgångspunkt i:</i> Utvärderingsrapport Anteckningar från ett heldagsmöte i utbildningskommittén vid institutionen för marina vetenskaper Kommentarer från utbildningskommittén och ledningsgruppen vid institutionen för marina vetenskaper ChatGPT har använts i begränsad utsträckning för att rensa upp och omformulera vissa delar av den engelska texten i anteckningarna Svensk översättning sammanställd av ChatGPT
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		C1	C2	C3	C4	C5	K6	K7	K8
Criteria/class		That actual study outcomes correspond to learning outcomes and degree objectives	That teaching places the students' learning at the centre	That the content and form of teaching are based on scientific and/or artistic principles and proven experience	That the number of teachers is proportionate to the scope and content of the program, and that they possess up-to-date and adequate subject-specific, higher education pedagogical and subject-didactic competence	That the program is relevant to the needs of students and society	That students have a say in the planning, delivery and evaluation of the program	That a study and learning environment that is accessible and suitable for all students is provided	That continuous monitoring and development of the program is carried out
		GOALS	LEARNING	QUALITY	PROPORTIONALITY & COMPETENCE	RELEVANCE	INFLUENCE	ACCESSIBILITY	FOLLOW-UP
		The department must review the structure and content of the Bachelor's program in Marine Science with the third-year specialisation in Oceanography to ensure that the specialisation courses are actually reflective of its profile. In this context, consideration should be given to adding one or more explicitly oceanography-focused courses during the third-year specialisation. Alternatively, a name change, such as 'Marine science with specialisation in quantitative methods' could be considered. Must/Should	Communication between teachers <u>must</u> be improved, and greater insight into one another's courses must be achieved. This is in order to facilitate students' transitions between courses and to avoid unnecessary repetition as well as undesirable gaps in knowledge. Must	The integration of courses and teachers from external departments should be reviewed on a continuous basis to ensure that learning content remains relevant to the program, and that actual learning outcomes reflect intended learning outcomes. If it breaks down, as it appears to do in the statistic teaching, then alternative solutions need to be sought. Should	The department <u>should</u> ensure that all teaching staff have the appropriate pedagogic training as required by the university for their position and role. If not, it should be justified, for example by virtue that the person being close to retirement or having equivalent qualifications or experience. Should	Alumni investigations seems to have been conducted continuously. However, the program has now been in place for a number of years, and a substantial number of students have graduated. A more thorough investigation could be performed, including students from all years, and results being communicated at the program web pages. Could	It <u>must</u> be ensured that course evaluations are systematically compiled into formal course reports and communicated back to students, in accordance with university regulations. In order to strengthen transparency and close the feedback loop within the quality assurance system, for example on course websites or Canvas. Must	There must be a review the communication between the department and SG Marin and the Faculty Board (Gota NATSEK student union), to ensure that students (Bachelors and Masters) receive relevant and timely information about student health services, Nattum and the surrounding buildings, including study spaces, dining facilities, and student representation. The department could invite representatives from the Faculty Board to present at the start of programs to help inform students about the building and nearby facilities, student representation, and student health services. Must	Measure 2.1 emphasise that regular program-level Teachers' meeting should be continued. These meetings should include continuous program assessment and development to strengthen coordination, ensure appropriate progression, reduce unnecessary overlap, and enhance consistency in teaching and assessment practices across the program. Measures should be taken to improve attendance at meetings and that the notes/results from the meetings are more efficiently communicated to all teachers. Should
RESPONSE		The Education Committee recognises the concern, particularly that the third year of the Physical Oceanography specialisation can be demanding and currently contains relatively little explicitly marine-focused content. However, the physics courses included in the specialisation are required and provide important foundational knowledge for further studies in physical oceanography. Given the small number of students, introducing an entirely new dedicated course is not considered feasible at present. The Education Committee considers 'Physical Oceanography' to be a more appropriate specialisation name than 'Quantitative Methods'.	The Education Committee agrees that communication and coordination between teachers can be strengthened, particularly with regard to subject-specific progression, knowledge transfer between courses, unnecessary repetition and gaps in students' prior knowledge.	The Education Committee notes that the specific issue concerning statistics teaching identified in the external evaluation has recently been addressed. Nevertheless, the Committee agrees that courses and teaching contributions from external departments require continuous review to ensure relevance, progression and alignment with program learning outcomes.	The Education Committee notes that teaching staff are already required to complete the relevant PIL courses, or demonstrate equivalent pedagogical qualifications, in accordance with University requirements. PhD students are also required to complete PIL 101.	The Education Committee agrees that a broader alumni follow up would be valuable. The Committee also recognises the practical difficulty of maintaining contact with Bachelor's graduates who do not continue into a Master's program.	The Education Committee notes that student administration already compiles course reports and distributes them to teachers, who make them available through Canvas. SG Marin also supports participation in course evaluations through end-of-course student meetings, although this is more difficult for courses that finish immediately before holiday periods.	The Education Committee notes that Bachelor's and Master's students already receive introductory information through their first courses, including a walking tour of Nattum and the surrounding campus, information on study spaces, study counselling, dining facilities and teaching rooms, as well as presentations from the library and SG Marin. Information on student health is also available through course Canvas pages.	The Education Committee agrees that regular program-level teacher meetings are important for continuous program development, coordination and progression.
ACTION PLAN		The Education Committee will review the structure and progression of the specialisation, with an emphasis on reorganising existing courses rather than adding or removing courses. This will include examining whether selected physics courses can be taken earlier and whether selected marine science courses can be moved later in the program, in order to maintain marine content and reduce the intensity of the third year. Mandatory prerequisites and course sequencing will also be mapped. Additional options, such as lectures explicitly linking the physics content to oceanographic applications and greater flexibility in the timing of courses or the degree project, will also be considered.	The Education Committee will strengthen subject-specific teacher meetings across the relevant disciplines and continue program-level course-leader meetings with representation from all courses. These meetings will be used to review progression, identify overlaps and gaps, and improve continuity between courses. Particular attention will also be given to continuity when teaching staff retire or leave the Department.	External courses and teaching contributions will be incorporated into the planned curriculum mapping and program-level teacher meetings. Students' evaluation feedback and GRUB discussions will also be used systematically to identify and address issues relating to externally delivered teaching, including within programs that rely extensively on external teachers such as Sea and Society.	The Education Committee will raise with Department leadership the introduction of a structured record in the annual employee-development dialogue (medarbetarsamtal) to document completion of required PIL courses and equivalent pedagogical qualifications. This will strengthen follow-up and emphasise the importance of continued pedagogical competence.	Study administration will work to improve alumni response rates and strengthen alumni follow-up. Additional alumni profiles and interviews will also be added to program webpages to make graduate outcomes and career pathways more visible.	The Education Committee will implement a three-step process: (1) course evaluations will be compiled in a shared location and made available to SG Marin; (2) SG Marin will review the evaluations twice yearly and compile broader student feedback, including issues not captured in the formal questionnaire; and (3) GRUB will review the evaluations and SG Marin feedback twice yearly and communicate relevant outcomes to teaching staff. Teachers responsible for 15+ credit courses will also be encouraged to conduct a mid-course evaluation.	The Education Committee will recommend that the Nattum house group improve the visibility of maps within the building and, where possible, update the Hitta På Campus application to include Nattum. Nattum maps will also be made available on program Canvas pages and highlighted explicitly during introductory courses. Collaboration with other departments on shared information sessions will continue.	Teacher meetings will be planned well in advance and will include recurring subject-specific meetings across the program disciplines as well as course-leader meetings with representation from all courses. Outcomes will be communicated more systematically, including through established Department communication channels. The Department will also consider appropriate time allocation and meeting formats to support participation.
		The department must review the use of the oceanography/ subject as specialisation in the Bachelors program and should consider changing the subject 'physical oceanography', which reflects more closely the course content and intended learning outcomes of the specialisation, and the 3rd years courses offer. The subject area can be created if it does not exist currently. Must/Should	The department <u>must</u> develop and share clear and coordinated artificial intelligence (AI) guidelines, outlining how students may and may not use AI tools in their studies. It must be ensured that all students are aware of these. Must		All teaching staff <u>should</u> maintain accessible and up-to-date professional information on their department profile pages, such as resumes and short research descriptions. Links to Google Scholar profiles would also be useful and improve the research and teaching profiles of the department. A consistent framework <u>could</u> be developed to ensure similar profile pages across the department. Should	A workshop could be organized with representatives from authorities, industry and other relevant sectors to discuss whether graduates possess the knowledge and skills required in the labour market. Such initiatives would provide structured feedback and support the continued development of the programs' relevance to society. Could	Ways to motivate more students to complete course evaluations <u>should</u> be explored. For example, at the beginning of each course, teachers could present the changes that have been made since the previous year to increase transparency and demonstrate that student feedback leads to concrete improvements. Should	Continued access to field stations and research vessels <u>could</u> be ensured. Must	Currently, teaching hours do not formally include time for course design and development. This allowance should be adjusted to allow staff to dedicate time to course improvement and broader program development to recommended. Steps in this direction are already underway, which is commendable and will further strengthen the program's continuous development efforts. The faculty management needs to clarify that funds are already allocated to departments for this purpose and that these funds are in fact used for the intended purpose. Should

Criteria/class		C1	C2	C3	C4	C5	C6	C7	C8			
		That actual study outcomes correspond to learning outcomes and degree objectives	That teaching places the students' learning at the centre	That the content and form of teaching are based on scientific and/or artistic principles and proven experience	That the number of teachers is proportionate to the scope and content of the program, and that they possess up-to-date and adequate subject-specific, higher education pedagogical and subject-didactic competence	That the program is relevant to the needs of students and society	That students have a say in the planning, delivery and evaluation of the program	That a study and learning environment that is accessible and suitable for all students is provided	That continuous monitoring and development of the program is carried out			
		GOALS	LEARNING	QUALITY	PROPORTIONALITY & COMPETENCE	RELEVANCE	INFLUENCE	ACCESSIBILITY	FOLLOW-UP			
RESPONSE		The Education Committee agrees with the recommendation. The current specialisation is specifically focused on physical oceanography, and the proposed change is therefore considered primarily a clarification of terminology.	The Education Committee agrees that the programs and individual courses require clear and coordinated guidance on the appropriate use of artificial intelligence in teaching, learning and assessment.		The Education Committee recognises the value of accessible and up-to-date professional information for students, for example when identifying teachers, areas of expertise and potential degree-project supervisors. At the same time, the extent of individual web presence is not solely an educational matter and should allow appropriate individual discretion.	The Education Committee considers structured dialogue with employers, authorities and other relevant sectors to be valuable and sees potential to correct this with the existing Career Day and related activities.	The Education Committee recognises that practices for encouraging participation in course evaluations currently vary between courses. SG Marin already contributes actively through end-of-course meetings, but additional measures are needed to improve response rates and demonstrate the value of student feedback.	The Education Committee considers continued access to field stations, research vessels and field-based teaching essential to the quality and professional relevance of the Marine Science programs. Field activities provide students with practical experience in data collection, data quality and uncertainty, scientific problem-solving, teamwork and the connection between theoretical concepts and real marine processes. These competencies are also valued by employers.	The Education Committee agrees with the recommendation and notes that measures to recognise time for course design and development have already been introduced.			
	ACTION PLAN	The Department will initiate the process of changing the name of the Bachelor's specialisation from 'Oceanography' to 'Physical Oceanography'.	A draft AI policy developed in June 2026 will be reviewed and implemented across the programs. The Education Committee will ensure that the resulting guidance is communicated clearly and consistently to both students and teaching staff.		The Education Committee will emphasise to teaching staff the importance of maintaining relevant and current information on Department profile pages, particularly information concerning teaching responsibilities, subject expertise and other information of direct value to students.	A working group will review relevant job advertisements to identify competencies and transferable skills currently requested in the labour market and compare these with program outcomes. The Department will also explore the organisation of a workshop, potentially linked to Career Day, involving labour market representatives to provide structured feedback on graduate knowledge and skills.	Course evaluations will be assessed by the Education Committee and Course Coordinators to include more course-specific questions, and dedicated time will be scheduled near the end of courses for students to complete them. Teachers will continue to be encouraged to explain previous evaluation outcomes and resulting changes to the next cohort. The three-step process described under Measure 6.1 will also be used to improve transparency. The effectiveness of these measures will be reviewed after one year.	The Education Committee, together with the Head of Department and relevant Department representatives, will continue to advocate for access to field stations and research vessels and will communicate the educational importance of these resources to the relevant decision-making bodies.	The new teaching-hour allocation model will be used to ensure that time for course design, course improvement and broader program development is formally included in workload planning and used for its intended purpose.			
	Mut	The department must review the structure and profile of the two master's programs in Physical Oceanography. To enhance transparency, coherence, and external comprehensibility, the department should consider whether the current structure remains pedagogically and strategically justified, including the possible consolidation or discontinuation of one of the program variants.	Should	Progression in independence, responsibility and analytical depth should be articulated more clearly in program documentation and course syllabi, particularly in the early stages of the programs, where such progression is currently more implicit than explicitly described. The department should therefore review program and course documentation to clarify how these competencies are introduced, developed and assessed across courses and program levels. The results of this review should be reflected in program-level curriculum mapping in order to strengthen transparency, progression and alignment within the programs.	Should	Time for professional pedagogic development should be embedded in teaching time allocation to allow teachers to stay up to date with the latest pedagogic developments, e.g., effective use of AI in teaching.	Should	Student representatives should always be informed at the start of their tenure of the importance of two-way communication and their central role in communicating back to students how their concerns have been addressed.	Should	Routines for student access to laboratories should be reviewed, with potential need to improve communication to students.	Should	The closely connected Sea and Society program should have a representative in GRUB to support coordination and ensure smooth program progression.
RESPONSE		The Education Committee wishes to clarify that there is one dedicated Master's program in Physical Oceanography at the University of Gothenburg. The apparent duplication arises because the Master's program in Marine Science also includes an oceanography specialisation. The dedicated Physical Oceanography program represents a nationally distinctive educational profile and provides advanced competence in ocean observations, numerical modelling and physical climate processes. The Education Committee therefore considers it important that this program is retained, while the relationship between the program and the Marine Science oceanography specialisation should be reviewed and communicated more clearly.		The Education Committee agrees that progression in independence, responsibility and analytical depth should be made more explicit in program and course documentation. The forthcoming revision of the program syllabi provides an appropriate opportunity to address this.		The Education Committee notes that a new teaching-hour allocation model has been developed and considers this recommendation closely linked to the wider need to recognise formally the time required for pedagogical development, course development and program coordination.		The Education Committee notes that student representatives already receive specific training covering their responsibilities, including the importance of two-way communication. Existing student representatives are considered active and effective in representing student perspectives and communicating information back to students.		The Education Committee notes that laboratory-access routines in Nattum are governed partly by safety requirements. Initial problems with student access to teaching laboratories were identified, but these are understood to have been resolved.		The Education Committee agrees that Sea and Society should have representation in GRUB, particularly given the program's size and its close relationship with the Department's other marine science education.
	ACTION PLAN	The Education Committee will review the Oceanography specialisation within the Master's program in Marine Science, including whether the specialisation should be retained, clarified or discontinued. The review will also consider any students pursue the double-degree route and any associated admission or course-access issues, including access to MAR440. The dedicated Master's program in Physical Oceanography will be preserved.		The program syllabus will be revised to clarify the intended progression in independence, responsibility and analytical depth. Relevant course syllabi will also be reviewed and updated where necessary to ensure that this progression is reflected consistently across the programs.		The Department will use the new teaching-hour allocation model to ensure that appropriate time for pedagogical and educational development is formally recognised within staff workload planning. This will be coordinated with the broader allocation of time for course and program development.		SG Marin representatives will be given access to the main program Canvas pages to strengthen communication with students. The Education Committee will also continue to ensure effective handover between student representatives serving on GRUB so that responsibilities and communication expectations remain clear.		The Education Committee will continue to monitor student access to laboratory spaces and will address any recurring access or communication problems to ensure that procedures remain safe, clear and practically workable for students.		Following discussion with Sea and Society, the program will be invited to participate in GRUB through an appropriate representative, thereby strengthening coordination, information exchange and program progression.
	Should	Allocation of responsibility for program learning outcomes should be established in order to strengthen traceability and reevaluability.	Should	Feedback practices and the transparency of assessment criteria should be reviewed to ensure greater consistency across courses and program levels. The department should examine how feedback is provided and how assessment criteria are communicated in different courses, with the aim of clarifying expectations and supporting student learning. The outcome of this review should be reflected in course documentation and discussed in program-level pedagogical coordination.	Could	PhD students could be used to a higher degree for helping out in teaching in, for example, exercises, lab work and seminars. This would be specifically useful for courses where content is challenging for students with a scholastic background that is less well aligned to the course content.						
RESPONSE		The Education Committee agrees that responsibility for program learning outcomes should be formally assigned. Coordination of these outcomes is already undertaken, but the responsibility is currently not sufficiently explicit and is not supported by formally allocated time.		The Education Committee agrees that feedback practices and the communication of assessment criteria should be reviewed systematically. Work to strengthen the use and communication of course evaluations has recently been expanded and will provide an important basis for this review.		The Education Committee notes that PhD students already contribute to teaching in most courses and that students value their involvement. Teaching is included within doctoral study plans and may constitute up to 20 per cent of a PhD student's time, although the extent varies between individuals and projects.						
	ACTION PLAN	The Department will formally assign responsibility for coordinating and monitoring program learning outcomes and will examine how a defined allocation of working hours can be attached to this responsibility. The appropriate organisational placement of the role, including whether it should sit within GRUB or another designated program function, will also be determined.		A decision was made in VT2026 that SG Marin and GRUB will review course-evaluation outcomes actively and communicate relevant conclusions and actions back to students, including through Canvas hours can be attached to this responsibility. Teachers will also be encouraged to present previous evaluation results and implemented changes at the start of each course, thereby improving transparency and closing the feedback loop.		Course leaders will be encouraged to involve PhD students, where feasible and pedagogically appropriate, in calculation exercises, laboratory work, mathematics support, seminars and other practical teaching. Relevant financial and workload implications will be raised with Department leadership where necessary.						

		Criteria/class	C1 That actual study outcomes correspond to learning outcomes and degree objectives	C2 That teaching places the students' learning at the centre	C3 That the content and form of teaching are based on scientific and/or artistic principles and proven experience	C4 That the number of teachers is proportionate to the scope and content of the program, and that they possess up-to-date and adequate subject-specific, higher education pedagogical and subject-didactic competence	C5 That the program is relevant to the needs of students and society	K6 That students have a say in the planning, delivery and evaluation of the program	K7 That a study and learning environment that is accessible and suitable for all students is provided	K8 That continuous monitoring and development of the program is carried out
			GOALS	LEARNING	QUALITY	PROPORTIONALITY & COMPETENCE	RELEVANCE	INFLUENCE	ACCESSIBILITY	FOLLOW-UP
		Should	Progression in knowledge, methodological competence, analytical ability and independence should be articulated more explicitly in course learning outcomes across the Bachelor's program, particularly in the early stages where progression is currently realised largely implicitly through the program structure. The department should therefore conduct a systematic review of course syllabi and learning outcomes in first-year core courses, second-year methodological courses and third-year specialisation courses. This review should clarify how each course contributes to program learning outcomes and how competencies develop progressively from earlier courses. The results should be documented in program-level curriculum mapping to strengthen transparency, alignment and program coherence.	Should	A coordinated program-wide pedagogical framework should be further developed to ensure that student-centred learning is systematically embedded across the programs and not primarily dependent on practices within individual courses. Such a framework could clarify shared pedagogical principles, expectations regarding teaching and assessment practices, and the intended progression of student independence and responsibility throughout the programs.					
RESPONSE			The Education Committee agrees that program-level curriculum mapping is an appropriate means of making progression in knowledge, methodological competence, analytical ability and independence more explicit. This work is timely in light of the forthcoming revision of the program syllabus.	The Education Committee agrees with the intention of developing greater program-wide pedagogical coherence. Rather than creating unnecessary parallel documentation, the Committee considers that existing University pedagogical frameworks should be used more systematically and communicated more clearly across the programs.						
ACTION PLAN			The Education Committee will use forthcoming discipline-specific and program-wide teacher meetings to map where key competencies are introduced, developed and assessed. Course syllabi will be reviewed systematically, including prerequisites, progression and alignment between courses, and the results will inform the upcoming revision of the program syllabus.	The Education Committee will support a more coordinated pedagogical framework through the new teaching-hour allocation model, relevant PIL courses and strengthened program-level teacher coordination. Shared pedagogical expectations will be incorporated into ongoing discussions of course development, assessment and progression.						
		Should	It should be ensured, at both Bachelor's and Master's level, that key program learning outcomes—particularly those relating to judgement, ethical considerations, systems perspective and scientific approach—are clearly anchored in specific courses prior to the degree project. At present, these competencies appear to be realised mainly cumulatively or through the final thesis. The department should therefore review program and course documentation to identify where these learning outcomes are introduced, developed and assessed throughout the programs. The results should be documented in program-level curriculum mapping in order to strengthen transparency, progression and alignment between courses and program objectives.							
RESPONSE			The Education Committee agrees that curriculum mapping should identify where key program learning outcomes, including judgement, ethical considerations, systems perspectives and scientific approaches, are introduced, developed and assessed before the degree project.							
ACTION PLAN			These learning outcomes will be incorporated explicitly into the planned curriculum-mapping exercise at both discipline and program level. The results will be used to review and, where necessary, revise course and program documentation to strengthen transparency and progression.							
		Could	The department could develop program-level mapping documents that visualise progression and alignment across courses, thereby supporting internal dialogue, external review and continuous quality enhancement.							
RESPONSE			The Education Committee agrees that program-level mapping documents would support internal coordination, transparency and continuous quality development.							
ACTION PLAN			The Education Committee will develop program-level mapping through the planned teacher meetings, combining discipline-specific and program-wide perspectives to visualise progression, relationships between courses and alignment with program learning outcomes.							

Marine Science Evaluation Response – Broad Implementation Timeline

Green indicates work that has already begun or an existing process that is being strengthened. Grey indicates not formally started as yet.

Workstream	Measures covered	Complete within 1 year	Complete within 2 years	Complete within 3 years	Status / broad focus
Teacher coordination and program-level meetings	2.1, 8.1		●		Strengthen subject-specific and course-leader meetings; improve attendance and communication.
AI guidance for students and teachers	2.2	●			Draft AI policy developed; finalise, implement and communicate to teachers, timeline should be within 6 months
Course evaluation and student feedback loop	2.4, 6.1–6.3	●			Formalise the SG Marin involvement alongside GRUB. Also strengthen the teacher/student feedback cycle and review effectiveness.
Staff time, pedagogical development and teaching capacity	4.1, 4.3, 4.4, 8.2	●			New teaching-hour model and existing PIL/PhD teaching structures provide the basis for implementation. First review of the hourly model is due end of Spring 2027
Student environment, information and representation	7.1, 7.3, 8.3	●			Build on collaborative Natrium introductions, Canvas information, laboratory-access improvements and student representation.
Program curriculum mapping, learning outcomes and progression	1.4–1.7, 2.3, 2.5, 3.1		●	●	Use planned teacher meetings and syllabus revision to map progression, prerequisites, outcomes and external teaching. Roll out of adapted Program courses will happen over a 2 year period.
Safeguard field, laboratory and research-vessel experiences	7.2; supports C3 and C7	●	●	●	Ongoing Process - field and laboratory teaching are established strengths; continued advocating for access and protect them in future resource decisions.
Physical Oceanography structure and program clarity	1.1–1.3		●		Review Bachelor's specialization structure/name and clarify the relationship between the Marine Science pathway and dedicated Master's Program.
Alumni, employability and external stakeholder review	5.1–5.2		●		Build on existing alumni work and Career Day with stronger alumni follow-up, labor-market analysis and stakeholder dialogue.
Evaluate impact and embed continuous quality improvement	Cross-cutting / 8.1–8.2			●	Review whether implemented measures have improved progression, feedback, coordination and student experience; update actions as needed.