



UNIVERSITY OF ICELAND

Faculty of Physical Sciences

SCHOOL OF ENGINEERING AND NATURAL
SCIENCES

SELF-REVIEW REPORT



December 2020





UNIVERSITY OF ICELAND

Introduction

In accordance with the Icelandic Quality Enhancement Framework at the University level in Iceland and the University of Iceland's Guidelines for the organization, schedule and process of institution-led review of faculties and interdisciplinary programs, the Faculty of Physical Sciences (the Faculty) at the School of Engineering and Natural Sciences (the School) at the University of Iceland (the University), carried out self-evaluation during the spring and fall semester of 2020. The results are presented in this report.

A self-evaluation committee was established in January 2020:

1. Prof. Dr. Oddur Ingólfsson, Head of the Faculty of Physical Sciences
2. Prof. Dr. Zophonías Oddur Jónsson, Chair of the Department of Biochemistry and Molecular Biology
3. Prof. Dr. Krishna Kumar Damodaran, Chair of the Department of Chemistry
4. Prof. Dr. Páll Jakobsson, Chair of the Department of Physics
5. Prof. Dr. Sigurður Freyr Hafstein, Chair of the Department of Mathematics
6. Dr. Sigríður Jónsdóttir, Chair of the Division of Chemistry at the Institute of Physical Sciences
7. Prof. Dr. Gunnar Stefánsson, Chair of the Division of Mathematics at the Institute of Physical Sciences
8. Prof. Dr. Snorri Þorgeir Ingvarsson, Chair of the Division of Physics at the Institute of Physical Sciences
9. Hjördís Lára Baldvinsdóttir, Bachelor Student in Applied Mathematics
10. Elías Snorrason, Masters Student in Physics
11. Dr. Helga Dögg Flosadóttir, Chief Research Officer at Atmonia
12. Íris Davíðsdóttir, Managing director of the Institute of Physical Sciences

Further input was provided by the faculties working group for promotion of master's degree study programmes within the faculty: Prof. Dr. Jesus Zavala Franco, Department of Physics; Prof. Dr. Krishna Kumar Damodaran, Department of Chemistry; Prof. Dr. Valentina Giangreco M Puletti, Department of Mathematics

Input was further provided by two (Student Focus Groups, one at the undergraduate level and one at the graduate level. These were led by the respective student representatives on the self-review committee. The feedback from these groups was given directly through the student's representatives in the review committee and through a questionnaire-based assessment conducted by the Universities Social Science Research Institute. Outcome of student and employees' satisfactory surveys was also provided by the Social Science Research Institute. Core statistics and documented measurable on the performance of the faculty were provided by the University's Division for Quality Management with the template for this report. These were reviewed by the Support Services of the School of Engineering and Natural Sciences and corrected as needed.

Further information and assessments were sourced as needed, mainly from the Support Services of the School of Engineering and Natural Sciences.

The focus of this report is on the teaching aspects of the faculty, and it composes available numbers and statistics on the main performance measurables and on the Faculties characteristics and composition. We further provide in this report students views on the faculty, through the focus groups, the surveys and from the student organizations. The committee, including the external representative, met weekly or as deemed necessary. In these meetings committee members provided further input and reviewed individual parts of the report. Several meetings were also held with the working group for promotion of master's degree study programmes, which participated actively in writing the masters programme section. Individuals from the Support Services of the Schools joined the committee meetings as deemed beneficiary.

This material was remotely reviewed by the international experts on October 20 – 24, 2020 and met on-line with the Committee members. These were:

1. David Pyle, Professor of Earth Sciences at the University of Oxford (UK)
2. Nigel Mason, Professor of Molecular Physics at the University of Kent (UK)
3. Outi Savolainen, Professor Emerita of Ecology and Genetics at Oulu University (Finland)

Faculty Characteristics

The Faculty of Physical Sciences is the only educational institution in Iceland that offers higher education in the fields of Physics, Chemistry and Biochemistry, and Mathematics, where it offers programs at the bachelor, masters and doctoral level.

The Faculty is composed of four departments: The Department of Chemistry, the Department of Mathematics, the Department of Physics and the Department of Biochemistry and Molecular Biology. Each Department offers several study programs at the bachelor, masters and PhD level (Appendix 1, Table 1). The Faculty also participates in a master's level study program jointly run by the School of Health Science, with shared contributions from the Department of Chemistry, the Department of Biology and the Department of Pharmaceutical Sciences and in collaboration with the biopharmaceutical company Alvotech.

There are four main characteristics that set the Faculty of Physical Sciences apart from other faculties within the School of Engineering and Natural Sciences, and in general from other faculties within the University of Iceland. One is the proportionally large amount of service teaching (teaching students from other faculties) as compared to teaching of own students. Another is a strong history of research activities within the Faculty that are at large conducted within the Science Institute of the University of Iceland, which is an autonomous research institute with a separate financial number in the state's budget. The third is that it houses the Department of Biochemistry and Molecular Biology, which teachers, finances and students are split between the Faculty of Physical Sciences and the Faculty of Life and Environmental Sciences. Further, practical laboratory courses build a significant fraction of the teaching load requiring many sessional teachers to be recruited each semester (see Appendix 1, Table 2).

These characteristics broadly define the Faculty's management structure and its finances, which in turn set the framework for the study programs, teaching approaches and student services.

Research within the Faculty is under the umbrella of the Institute for Physical Sciences, which is one of two institutes within the Science Institute, the other one being the Institute of Earth Sciences. The Institute of Physical Sciences has three divisions, the Division of Chemistry, the Division of Mathematics and the Division of Physics. The Head of the Faculty of Physical Sciences is also by default the Chair of the Board of the Institute of Physical Sciences. Faculty meetings have the governing mandate in all major decisions regarding policies, management and execution as set out in, and agreed upon, on a Faculty meeting on the 19th of September 2017. Faculty Meetings are run in accordance with articles 17 and 18 of Regulation 569/2009.

In October 2020 the Faculty of Physical Sciences counted 39 academic staff members (37.38 full time equivalent, FTE) and three technicians, dedicated to organization and maintenance of schedules, facilities and instrumentation for laboratory courses (Appendix 1, Table 2). From the 39 academic staff members only four are female, two full professor, one associate professor and one adjunct. Two belong to the Department of Mathematics and two to the Department of Chemistry. No female academic staff is employed in the Department of Physics. From the permanent staff, 31 are at the full professor level and six at the associate professor level. In 2018 the number of sessional teachers was 144 (18.4 FTE), of which 110 were male and 34 female.

The number of students and their progress is summarized in Appendix 1, Table 3. There is in general a significant drop out rate (20-50%) during the first year of undergraduate study while most of the students entering the second year do complete their BS degree.. On 20 October 2020 the total number of students registered in the Faculty was 396, thereof 334 undergraduate students, 14 master students, and 48 PhD students.

Summary and Main Conclusions for the Faculty

Lessons learned from QEF1

The first self-review of the Faculty within the Quality Enhancement Framework (QEF1) was conducted in spring 2014 and the results were published in the respective self-review report in June 2014. In the Report fifty-two (52) points, suited to improve the performance of the Faculty were explicitly identified and means to address them were discussed.

As of May 2017, no progress was recognized with respect to eleven of the fifty-two recommendations set forth in the self-evaluation report. From these, six were recommendations that can only be addressed at the University level; three these required changes to the Universities model for revenues and expenses or its presentation to the public (transparency) and three required significant input at University level to improve or renew the faculty's housing, lecture halls and research infrastructure. Four of the eleven recommendations, where no progress was recognized, directly addressed the teaching approach in large classes. Specifically, these aimed at better services for the students, both from the Faculty of Physical Sciences and those from other faculties. The execution of these recommendations in all cases required the allocation of additional resources to the Faculty.

These were not provided, and moreover, the Faculty faced significant budget restrictions in 2017 forcing it to pull back from steps that had been taken to address these recommendations. Finally, one of these eleven recommendations is Faculty internal and does not require additional funding. The status of this recommendation will be reviewed in the current self-evaluation process and carried on if deemed necessary.

In the meantime, however, steps have been taken at the University level that partly address the concerns brought forward in the recommendations regarding the Universities model for revenues and expenses. These are small steps, but in the right direction. Steps are also being taken at the level of the University, the Science Institute and the School with respect to the faculty's housing, lecture halls and research infrastructure. Finally, additional resources have been put into addressing the Faculties concerns with regards to teaching approaches in large first year classes. This is a concerted effort with participation of all faculties that have students in these courses and first results of the measures taken are very promising.

As of May 2017, twenty of the fifty-two engagements recommended in the 2014 self-review report were reported to be in progress. A large fraction of these is "on-going" by nature, that is, they require continuous awareness and response to changes rather than completion. The remaining nineteen of the fifty-two actions recommended in the 2014 self-review report were reported to be completed.

Teaching and Learning

The quality of teaching is monitored on-going through the mid-term student surveys and the respective surveys at the end of each semester. Individual teachers are obliged to discuss the results of the midterm evaluations with the students and try to address problems if appropriate. The Head of Faculty and the chairs of the departments review these. If a course's or teacher's outcome compares badly with the average over the University or the Faculty the Chair of the department together with the respective teacher analyse the surveys outcome together and try to identify and address the problems at hand. The experience within the Faculty is however that direct reviewing of programmes and courses in dialogue with the students and curriculum mapping with active participation of the students are much better tools to assure high quality of courses and programmes.

Accordingly, a scheduled dialogue with student's representatives from each department has been put on the Action Plan. Curriculum mapping is a larger and more resource demanding undertaking, but we have put on the Action Plan to formulate a curriculum-mapping plan for all departments and follow that through. Also, there are flaws here and there in the presentation of courses in the University's course catalogue and learning outcomes are not always presented in accordance with the current University's format. This will be addressed in collaboration with the Schools student services. Further, a complete revision of the presentation of the MS programmes must be undertaken and a focused effort must be given to establish support at the Schools and University level to enable the Faculty to establish MS programmes of acceptable standards. Possible paths to do this are discussed in the section about the MS programmes. Finally, several Actions that have emerged from the student's input to this report are also planned.

Management of Research

The Faculty of Physical Sciences is research oriented and is strongly intertwined with the Institute for Physical Sciences, one of the two sub-Institutes of the Science Institute. The Science Institute carries out the management of research within the Faculty and of study programmes that are purely research based. An account on the research activities within the Science Institute, its organizational structure and finances are published annually in its Annual report. There is also significant synergy between the management structure of the Science Institute and the School and it is in the interest of the Faculty to strengthen this synergy: Already significant steps have been taken in mutual use of resources and it is on the Action Plan resulting from this review that the Faculty steps in to be instrumental in the establishment of a contractual agreement between both parties on the arrangement of the current collaboration.

Though excellence in research is one of the two main criteria considered when new staff is recruited, the fulfilment of the teaching obligations of the Faculty is the most important criteria. This is not mutually exclusive, on the contrary, it naturally dictates to a certain extent the research areas where the current academic staff of the Faculty is active. The Faculty does not intervene with the field of research its staff chooses to pursue, but there are naturally wishes within the faculty to expand its capacities to certain fields and to strengthen its stand in others. A formal research strategy has not been published by the Faculty but is being prepared for publication and the completion of that document is on the list of Actions Planned in conjunction with this review.

External research support to the Faculty is predominantly through grants acquired by individual researchers. Though research output and success in grant attainment builds a significant part of the Universities financial distribution model no significant, direct support for research comes from the University, except for matching funds provided for successful applications for expensive research instruments to the Icelandic Infrastructure Fund. However, the Science Institute provides the Faculty with most of its research infrastructure and secures a certain consistency in resources.

In general, the research within the Faculty is of high standard and does not lag behind what is considered international standards in the respective fields. This is evident from the large extent of long-standing international collaborations, comparatively high success rates with grant applications, highly cited individuals within the Faculty and significant output of publications in highly cited international journals and significant number in top ranking journals in the respective fields (Appendix 1, Table 4). This is also reflected in the ranking of the University of Iceland in 400-500 according to Times Higher Education list. And the ranking of the Faculty among the 201-250 highest ranking universities in the world in the field of physical sciences according to Times higher University ranking by subject.

Main conclusions

The Bachelor level programmes within the Faculty of Physical Sciences are at large of good quality, adequately preparing the respective students for further education or employment in the respective fields. However, currently the number of faculty staff is at the absolute minimum required to maintain quality, and most bachelor level programmes within the

faculty would benefit from being able to offer more separate courses for their own students and more elective courses at the BS level.

The Master's level programmes within the Faculty of Physical Sciences are largely of poor quality with respect to available, scheduled courses offered. The research projects within the master's level programmes, on the other hand, are generally of good quality. The lack of available master's level courses is currently mainly solved by ad hoc, individual reading courses, including scheduled 15 ECTS master's courses on a topic decided by the thesis supervisor. Courses taken at other Departments, Faculties or Schools within the University are also often used to fill up to the required ECTS units. A part of these courses is often on the bachelor's level. Finally, students may also take one semester or a year at a university abroad to fulfil the requirements for absolved ECTS units from courses.

The PhD programmes within the Faculty of Physical Sciences are generally of good quality, providing research projects meeting international standards. The graduation numbers in Chemistry and Physics are high in comparison to other departments within the University and the duration of PhD projects within the Faculty are generally not longer than 4 years.

The management of the Faculty was found to be, to the largest extent, functional and the management structure was found to be adequate. Reorganizations within the Science Institute aiming at better synergy with the School at the administrative level have proven their value. None the less, points for potential improvements were identified and recommendations were formulated to address these, some of which are already ongoing.

The main recommendations resulting from this self-review process are listed here below and a complete list and a detailed action plan is presented in Appendix 2.

- All learning outcomes as presented for individual study programmes and courses published in the Faculty's course catalogue must be reviewed and re-defined and revised as necessary.
- A curricular mapping (hríslista) should be carried out for all study programmes, with the focus on coordination of learning outcomes across courses and study programmes.
- A system must be put in place to assure for regular revision of learning outcomes for individual study programmes and courses, the reflection of these revisions in the respective curricular maps and review of these at the Faculty level.
- A work group should be established to analyse the master's programs within the faculty, outline an ideal structure for such programs and identify possible routes to stepwise establish these. Specifically, such a work group should analyse the resources needed and propose viable routes to stepwise secure these. Further, such work group should prepare material to be presented at the University or governmental level. An informal working group has been in place for about a year. The mandate must be strengthened and the scope, the timeline and dissemination plan must be put in place.
- Teaching approaches and the general management of large first year courses that gather students from other Faculties should be reviewed together with

representatives from the respective Faculties. This should be done to better serve the different needs and to better suit the preparation level of first year students. In this context it is important that the responsibility is shared, and routes should be sought to actively involve teachers from other Faculties in such courses where that is deemed beneficiary. This has already been done within the school for the first-year physics course with good results and is currently being expanded to Mathematical Analysis I. The recommendation is to establish a similar dialog for other courses and with other Schools that have students taking first year courses within the Faculty of Physical Sciences.

- With respect to the management of the Faculty, the review group recommends that instruments are put in place to assure for more effective dissemination of information to all Faculty members.

Follow-up Processes

The implementation of the Action Plan will be a standing item at Faculty Meetings. It will be reviewed formally every year at a Faculty Meeting and the upcoming year's actions prioritized and adjusted based on experience.

The Faculty Head reports formally to the School Dean on the status of the implementation and plans for the next year, together with other relevant QA matters no later than 1 December and this will be followed up by the School Board. The School Dean will subsequently make use of this report in a status report for all Faculties in the School, which will be submitted to the Quality Committee no later than 15 January. The Quality Committee writes a short report to the Rector no later than 1 February, which will subsequently be discussed in a meeting between the Chair of the Quality Committee, the Director of Quality Management and Rector, Vice-Rectors, Deans of Schools and the Managing Director of the Central Administration.

Appendix 1. Key Figures.

Table 1. Overview of present Study Programmes within the Faculty

Name of Study Programme	Cycle ¹	Degree	Credits (ECTS)
Department of Chemistry			
EFN231 Chemistry	1.2	BS	180
EFN442 Chemistry	2.2	MS	120
EFN561 Chemistry	3	PhD	180
LEF262 Biochemistry and Molecular Biology	1.2	BS	120
LEF441 Biochemistry	2.2	MS	120
LEF561 Biochemistry	3	PhD	180
Department of Mathematics			
STÆ262 Mathematics	1.2	BS	180
STÆ263 Applied Mathematics	1.2	BS	180
STÆ264 Mathematics and Mathematical Education	1.2	BS	180
STÆ441 Mathematics	2.2	MS	120
STÆ561 Mathematics	3	PhD	180
MAS331 Applied Statistics	2.1	MAS	90
STÆ442 Statistics	2.2	MS	120
STÆ562 Statistics	3	PhD	180
Department of Physics			
EDL261 Physics	1.2	BS	180
EDL441 Physics	2.2	MS	120
EDL561 Physics	3	PhD	180
EDL262 Engineering Physics	1.2	BS	180
EDL442 Engineering Physics	2.2	MS	120

¹ See National Qualification Framework for Higher Education No. 530/2011.

Table 2. Faculty members as of 1 October 2019 and sessional teachers 2018, number (No.) and full time-equivalent (FTE).

	Male		Female		Total	
	No.	FTE	No.	FTE	No.	FTE
Professors	27	26.49	1	1.00	28	27.49
Associate Professors	2	2.00	2	2.00	4	4.00
Assistant Professors	4	3.50	0	0.00	4	3.50
Adjunct Lectures	1	0.39	1	1.00	2	1.39
Total	34	32.38	4	4.00	38	36.38
Sessional teachers	110	13.73	34	4.67	144	18.40

Table 3. Total number of students, number of entrants, retention rate for first year, and completion rate (4 year mean 2015-2018) for the different programmes, see Table 1.

Programme	No. of students			No. of entrants ³	Retention rate	No. of graduates	Completion rate ⁴
	Total no.	Full time ¹	Part time ²				
EFN231	36	18	13	10	60	8	76
EFN442	8	5	3	2	89	3.5	67
LEF262	105	64	26	41	45	16	91
LEF441	1.5	1	0.5	1	100	1	100
STÆ262	57	29	17	14	76	12	79
STÆ263	35	24	10	14	80	4	100
STÆ265	6	2	2	1.5	83	0.25	-
STÆ441	5	2	2	1	-	0.5	100
MAS331	28	5	15	10	37	2	78
STÆ442	4	2	1.5	2	83	1	-
EØL261	40	21	14	11	43	8	82
EØL441	4	1	1	1	25	1	75
EØL262	27	17	8	9	64	5	96
EØL442	-	-	-	-	-	-	-
EFN561	22	22	-	5	-	3.5	65
LEF561	2	1.5	-	0.25	-	0.25	-
STÆ561	1	1	-	0.5	-	0	-
STÆ562	2	2	-	0.5	-	1	25
EØL561	11	11	-	4	-	2	92

¹ > 22.5 ECTS completed. For Ph.D. students > 1 ECTS completed.

² 1-22 ECTS completed.

³ For all programmes except Ph.D., no. of students completing at least one examination in first term.

⁴ 2-year rate for diploma, 4-year rate for B.A./B.S., 3-year rate for M.A./M.S., 5-year rate for Ph.D.

Table 4. Research output of Faculty members, based on the Evaluation System for the Public Universities in Iceland, expressed by mean total research points (A) and mean research points from peer-reviewed publications only (B) per FTE.

	2014		2015		2016		2017		Mean	
	A	B	A	B	A	B	A	B	A	B
Faculty	37.6	27.0	34.6	26.9	39.0	28.4	35.3	27.4	36.6	27.4
School	43.4	32.4	39.0	29.7	39.1	27.5	39.2	30.9	40.2	30.1
University	37.8	24.7	37.1	25.1	34.8	22.8	37.8	26.4	36.9	24.8

Appendix 2. Action Plan for Teaching and Learning and Management of Research in QEF2.

	Actions	Deliverable	Deadlines	Responsible party
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1. FACULTY LEVEL

Ch. 1.2	Faculty Characteristics			
1	Seek to have the administrative support to the Faculty from the Institute vs School formalized in a more rigid way.	Contractual agreement between the Institute and the School.	Mid 2021	Head of Faculty
2	Put a formal frame around the information flow from the board of the School and the Board of the Faculty	A published document on how and to what extend the Board of the Faculty communicates its decisions and reasoning to the faculty assembly including the procedure for the Head of faculty to report discussions and reasoning from the Board of the School.	Mid 2021	Head of Faculty
3	Analyse the roots of the gender imbalance of the academic staff of the Faculty	A report summarising the findings of the analysis and preferably a clear Faculty policy to address the current gender imbalance.	End of 2021	Head of Faculty together with the HR department of SENS
Ch. 1.4	Student Support			
1	Availability of course material on-line should be reviewed and reasoning for why or why not should be communicated to the respective students	Improved access to learning material and or better communication of information to students.	On-going	Department Chairs and individual teachers
2	A work group should be established to analyse possibilities to lessen the workload in the practical	Report with proposals for possible paths.	End of 2021	Chairs of the departments of Chemistry and Physics, appointed

	classes without reducing their didactic value.			teachers and students.
3	A critical review of the curriculum in Engineering Physics should be carried out.	A critical review and a revised curriculum if deemed beneficiary.	Mid 2021	Chair of the department of Physics, appointed teachers and students.
4	All possibilities should be explored for the Faculty to be able to provide their students with more appropriate reading facilities.	Allocation of appropriate reading facilities to the Faculty's students.	End 2021	Head of Faculty and an appointed work group of teachers and students.
5	Seek to establish scheduled support classes in mathematics.	Scheduled support classes in mathematics.	End 2021	Chair of the Department of Mathematics.
6	Establish weekly scheduled interview hours where teachers are available to students.	Weekly scheduled interview hours where teachers are available to students.	End 2021	Head of Faculty with the Chairs of individual Faculties.
7	A critical review of the curriculum in Financial mathematics should be carried out.	A critical review and a revised curriculum if deemed beneficiary	End 2021	Chair of the Department of Mathematics, appointed teachers and students

2. DEPARTMENTS AND STUDY PROGRAMMES

DEPARTMENT OF CHEMISTRY

2.1 EFN231 Chemistry (BS 180 ECTS)

Ch. 2.1.2	Teaching and Learning			
1	All learning outcomes as presented for individual study programmes and courses published in the Faculty's course catalogue must be reviewed and re-defined and revised as necessary.	Updated Learning outcomes.	On-going, First round end of 2021	Chair of the Chemistry Departments, Individual teachers and the student service unit at SENS
2	A curricular mapping (hrísitafli) should be carried out for all study programmes, with the focus on coordination of learning outcomes across courses and study programmes.	Better overall consistency for all programmes. Document describing the result of the curricular mapping and how different courses contribute to the Learning outcomes.	On-going, First round end of 2022	Chair of the Chemistry Individual teachers, students from the respective study programmes and the student service unit at SENS

3	A system must be put in place to assure for regular revision of learning outcomes for individual study programmes and courses, the reflection of these revisions in the respective curricular maps and review of these at the Faculty level.	Better overall consistency for all programmes	On-going, First round end of 2021	Chair of the Chemistry.
4	Teaching approaches and the general management of large first year courses that gather students from other Faculties should be reviewed together with representatives from the respective Faculties.	Document describing how different courses contribute to the Learning outcomes in study programs at other faculties.	End of 2022	Chairs of the Chemistry Department and teachers responsible for the respective courses

2.2 LEF262 Biochemistry and Molecular Biology (BS 120 ECTS)

Ch. 2.2.2	Teaching and Learning			
1	All learning outcomes as presented for individual study programmes and courses published in the Faculty's course catalogue must be reviewed and re-defined and revised as necessary.	Updated Learning outcomes.	On-going, First round end of 2021	Chair of the BMB Departments, Individual teachers and the student service unit at SENS
2	A curricular mapping (hrishtafla) should be carried out for all study programmes, with the focus on coordination of learning outcomes across courses and study programmes.	Better overall consistency for all programmes. Document describing the result of the curricular mapping and how different courses contribute to the Learning outcomes.	On-going, First round end of 2022	Chair of the BMB Individual teachers, students from the respective study programmes and the student service unit at SENS.
3	A system must be put in place to assure for regular revision of learning outcomes for individual study programmes and courses, the reflection of these revisions in the	Better overall consistency for all programmes.	On-going, First round end of 2021.	Chair of the Chemistry.

	respective curricular maps and review of these at the Faculty level.			
4	Teaching approaches and the general management of large first year courses that involve students from other Faculties should be reviewed together with representatives from the respective Faculties.	Document describing how different courses contribute to the Learning outcomes in study programs at other faculties.	End of 2022.	Chairs of the BMB Department and teachers responsible for the respective courses

DEPARTMENT OF MATHEMATICS

2.3 STÆ262 Mathematics (BS 180 ECTS), STÆ263, Applied Mathematics (BS 180 ECTS) and STÆ264, Mathematics and Mathematical Education (BS 180 ECTS)

Ch. 2.3.2	Teaching and Learning			
1	All learning outcomes as presented for individual study programmes and courses published in the Faculty's course catalogue must be reviewed and re-defined and revised as necessary.	Updated Learning outcomes.	On-going, First round end of 2021	Chair of the Mathematics Departments, Individual teachers and the student service unit at SENS
2	A curricular mapping (hrísstafla) should be carried out for all study programmes, with the focus on coordination of learning outcomes across courses and study programmes.	Better overall consistency for all programmes. Document describing the result of the curricular mapping and how different courses contribute to the Learning outcomes.	On-going, First round end of 2022	Chair of the Mathematics Department Individual teachers, students from the respective study programmes and the student service unit at SENS
3	A system must be put in place to assure for regular revision of learning outcomes for individual study programmes and courses, the reflection of these revisions in the respective curricular maps and review of these at the Faculty level.	Better overall consistency for all programmes	On-going, First round end of 2021	Chair of the Mathematics Department.
4	Teaching approaches and the general management of large first year courses that involve students from other Faculties	Document describing how different courses contribute to the Learning outcomes in study	End of 2022.	Chair of the Mathematics Department and teachers responsible

	should be reviewed together with representatives from the respective Faculties.	programs at other faculties.		for the respective courses
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DEPARTMENT OF PHYSICS**2.4 EDL261 Physics (BS 180 ECTS)**

Ch. 2.4.2	Teaching and Learning			
1	All learning outcomes as presented for individual study programmes and courses published in the Faculty's course catalogue must be reviewed and re-defined and revised as necessary.	Updated Learning outcomes.	On-going, First round end of 2021	Chair of the Physics Department, Individual teachers and the student service unit at SENS
2	A curricular mapping (hrislafla) should be carried out for all study programmes, with the focus on coordination of learning outcomes across courses and study programmes.	Better overall consistency for all programmes. Document describing the result of the curricular mapping and how different courses contribute to the Learning outcomes.	On-going, First round end of 2022	Chair of the Physics Department, Individual teachers, students from the respective study programmes and the student service unit at SENS
3	A system must be put in place to assure for regular revision of learning outcomes for individual study programmes and courses, the reflection of these revisions in the respective curricular maps and review of these at the Faculty level.	Better overall consistency for all programmes	On-going, First round end of 2021	Chair of the Physics Department
4	Teaching approaches and the general management of large first year courses that involve students from other Faculties should be reviewed together with representatives from the respective Faculties.	Document describing how different courses contribute to the Learning outcomes in study programs at other faculties.	End of 2022.	Chairs of the Physics Department and teachers responsible for the respective courses

2.5 EDL262 Engineering Physics (BS 180 ECTS)

Ch. 2.5.2	Teaching and Learning			
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1	All learning outcomes as presented for individual study programmes and courses published in the Faculty's course catalogue must be reviewed and re-defined and revised as necessary.	Updated Learning outcomes.	On-going, First round end of 2021	Chair of the Physics Departments, Individual teachers and the student service unit at SENS
2	A curricular mapping (hrishtafla) should be carried out for all study programmes, with the focus on coordination of learning outcomes across courses and study programmes.	Better overall consistency of all programmes. Document describing the result of the curricular mapping and how different courses contribute to the Learning outcomes.	On-going, First round end of 2022	Chair of the Physics Department Individual teachers, students from the respective study programmes and the student service unit at SENS
3	A system must be put in place to assure for regular revision of learning outcomes for individual study programmes and courses, the reflection of these revisions in the respective curricular maps and review of these at the Faculty level.	Better overall consistency for all programmes	On-going, First round end of 2021	Chair of the Physics Department.
4	Teaching approaches and the general management of large first year courses that involve students from other Faculties should be reviewed together with representatives from the respective Faculties.	Document describing how different courses contribute to the Learning outcomes in study programs at other faculties.	End of 2022.	Chair of the Physics Department and teachers responsible for the respective courses

2.7 The PhD programmes

Ch. 2.7.2	Teaching and Learning			
1	Enter Learning Outcomes into the course catalogue.	Learning Outcomes in to the course catalogue	Jan. 2021	Head of Faculty
2	Improve the status of PhD progression milestones within the Faculty	Better statistics on the milestone completion.	On-going	Head of Faculty with the Graduate study office of SENS

3. Management of Research

Ch. 3.3				
1	Active participation in completion of a collaborative contract on mutual use of administrative resources between the Science Institute and SENS	Contract on mutual use of administrative resources between the Science Institute and SENS	Mid 2021	Head of Faculty. This is a contract between the School and the Institute, but in the interest of the Faculty and the Head of Faculty should work in this direction.
2	Complete and publish the research strategy of the Faculty.	Published research strategy of the Faculty.	End 2021	Head of Faculty