

**To: UU**

**From: Working group**

**Meeting: 25. March 2021**

## Background

Breadth in the study programs at UiB has been a topic in the Education Committee several times. The relationship between academic breadth and specialization in the study programs at UiB was discussed at the meetings of the Education Committee on 14 November and 5 December 2019. A topical question in the discussions was whether the bachelor programs should be covered by requirements for breadth, in addition to specialization requirements. The committee wanted a working group to look at current issues related to the topic and propose institutional recommendations.

UiB's strategy states that "knowledge, critical reflection, and personal development shall form the foundation of our education programs." The statement is in alignment with the growing body of international literature on generic and graduate attributes in higher education (see for instance Barrie 2012, [Kensington-Miller et al 2018](#)). In the Education Committee discussion, several have drawn similar perspectives, and emphasized that the relationship between breadth and specialization should be highlighted on the basis of what qualifications we want candidates from UiB to have. This is about academic, intellectual and personal development, at its best intertwined and integrated, with a complexity that is one of the strengths of the university to facilitate. According to Bowden J. et al (2000), graduate attributes are the "qualities, skills and understandings a university community agrees its students should develop during their time with the institution. These attributes include, but go beyond, the disciplinary expertise or technical knowledge that has traditionally formed the core of most university courses. They are qualities that also prepare graduates as agents for social good in an unknown future." .

The discussion shows that we are facing complex issues, choices and considerations that should be more closely highlighted across faculties. The background is complex, and ranges from how the focus areas of UiB's revised strategy should be reflected in study programs to how cooperation across faculties challenges incorporated principles for the distribution of resources.

It is widely recognized that changes in the job market and workplace will require more conspicuous attention to developing students' skills beyond their disciplinary knowledge, which might mean increased demand for qualifications such as "analytical thinking and innovation," "creativity, originality and initiative," and "active learning and learning strategies." Many

universities around the globe have developed policy statements of higher education graduate attributes, and many higher education institutions claim that their graduates will gain aspirational qualities such as “self-awareness & lifelong learning, employability & professional development, global citizenship & engagement and academic & research literacy” (Wong, et al., 2021<sup>1</sup>). And while it might be argued that this is not necessarily an issue of breadth vs. depth per se, it does suggest that achieving this goal will require a devoted effort to address these concerns specifically in the curriculum. For instance, in a recent UPED course, Robert Gray asked a group of UiB teaching staff about how they see their primary role as teacher, giving them a choice of 6 options where they could select up to 3. These options (Angelo & Cross, 1988) covered things like helping students develop thinking skills or learning skills, fostering personal growth, serving as an academic or intellectual role model, preparing students for jobs/careers, and teaching facts and principles of their discipline. Not a single person chose teaching and facts and principles. This is not to suggest, of course, that disciplinary facts and principles are not important, but rather that they are a basic first step, not an end in themselves.

If a primary mission of the university is to prepare its students to be better citizens (and workers) in a world (and job) that doesn't exist yet, then it stands to reason that a considerable part of the curriculum, regardless of the degree program, should be geared at making students better learners, thinkers, problem solvers, communicators, and collaborators. For a broad university, which unites different forms of knowledge and working methods, this situation is an opportunity to redefine and clarify what characterizes the working relevance of the education.

At the same time, as has been pointed out in the Education Committee's (UU's) initial discussion, we shall take into account that opportunities for and the benefits of breadth requirements will be subject to research and that there may be major differences between the faculties. For example, flexibility can vary between professional education and discipline education, but if broadening the curriculum is seen as an important move for the university, more efforts should be made to realize this goal in all programs, especially at the bachelor level. Some faculties have more flexibility in master's degree programs than in bachelor's degree programs. An important question is, therefore, whether UiB needs a formal agreement (i.e., a letter of intent) for cooperation across faculties, and whether the University should require a specific number of “breadth” points in the three-year bachelor's programs.

As a follow-up of the cases discussed in the Education Committee, a proposal for a mandate and composition of a working group was sent on email circulation to the members of the Education Committee. The proposals were approved on 10.01.2020.

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<sup>1</sup> Billy Wong , Yuan-Li Tiffany Chiu , Meggie Copsey-Blake & Myrto Nikolopoulou (2021): A mapping of graduate attributes: what can we expect from UK university students?, *Higher Education Research & Development*, DOI: 10.1080/07294360.2021.1882405

### *Working group:*

- Robert Gray, University Pedagogy at the Department of Education, Faculty of Psychology, head of the group
- Steinar Bøyum, Department of Philosophy and First Semester Studies, Faculty of Humanities
- Astrid Gynnild, Department of Information Science and Media Studies, Faculty of Social Sciences
- Kjetil Rommetveit, Centre for the study of the Sciences and the Humanities, Faculty of the Humanities
- Hans Knut Sveen, Faculty of Fine Art, Music and Design
- Ranveig Lote, Studiesjef, Faculty of Humanities
- Berit Hjelstuen, Department of Earth Science, Faculty of Mathematics and Natural Sciences
- Michael P. Riisøen, Learning Lab, Secretary of the Group
- Iren Igesund, Learning Lab, co secretary
- Student representative: Iben Alexander Nasset (until 20.06.20)

### *Mandate:*

The Education Committee appoints a working group with a mandate to propose institutional recommendations on requirements for breadth and specialization in education at UiB, with an emphasis on the following issues:

- Should UiB's regulations be changed in terms of requirements for / expectation or call for / possibility of breadth in the bachelor's programs and requirements for specialization for admission to the master? What changes are necessary in the regulations?
- Should one change the design of the study plans when it comes to enrolling courses?
- What impact does the relationship between breadth and depth have in terms of the relevance of education, in a society with an increased rate of change and increased digitalization?
- Assess whether claims/expectations for formation topics are a good idea. Consider how these should be considered? Passed/not passed or grade scale.
- How to build on established practices and existing arrangements for optional courses and free credits? Including requirements/call for breadth, exchange, sustainability etc.
- How to develop complementary qualifications across UiB? Identifies areas where faculties and academic communities can benefit from each other's perspectives and forms of work.

### *Process and data collection*

In the first meeting of the working group on 20.01.20, the mandate was discussed. The issues were perceived as wide and a little vague. It was therefore recommended to have a clarification with the chair of the Education Committee, Vice Rector of Education Oddrun Samdal, about what the working group should concentrate on. Robert Gray then had a conversation with Oddrun Samdal, in which she stated the following motivations behind this initiative:

Many students aren't exposed to anything outside of their major subject. We want students to have a broader competence with more subject areas, something that is relevant but outside of their home department. We want more perspectives, broader competence development and more movement of students between departments and faculties.

The working group has had six meetings: 20.01.20, 11.02.20, 19.08.20, 02.10.20, 13.11.20 and 15.01.21. Since the corona situation occurred, the meetings, but the two first, have been arranged digitally.

The working group has discussed opportunities for increasing the breadth of students' study programs, with breadth, primarily, meaning that students gain experience of multiple disciplinary perspectives or lenses, beyond that of their primary discipline. The discussions have also addressed the purpose of greater breadth, challenges with increasing such breadth, the implications of introducing broad topics, as well as how much UiB might gain by releasing 10 study points of specialization from study programs (i.e., lowering the requirement of bachelor programs from 90 study points to 80). In order to answer current questions about breadth, the working group selected four programs of study at each faculty to look at how students use free credits. In addition, we got the FS group to extract data from FS on mandatory and optional topics.

This initiative originated due to the fact that bachelor programs at UiB require at least 90 study points of specialization, while the other major universities in Norway require only 80 study points. There is concern that this requirement might put candidates from other universities at a disadvantage for admission into UiB master's programs. The Education Committee received conflicting information about this issue as to whether this indeed caused many master's study places unfilled. In any case, whether UiB requires 90 study points of specialization for a bachelor's degree, the working group recommends that the regulation for admission to a master's program should not require more than 80 study points in the discipline so that candidates from other Norwegian or European universities won't be put at a competitive disadvantage. Several members of the working group mentioned that they are aware of certain master's programs that are essentially "rigged" so that only graduates from particular UiB bachelor programs are qualified for the program, and we feel that is a situation that should be avoided.

That being said, the working group is ambivalent about whether UiB should lower the requirement of 90 study points for a bachelor degree, as students are, on average, taking far more than 90 study points in their major subject (see Table 2). As Oddrun Samdal stated in her

previously mentioned conversation with Robert Gray, “it is not that students are taking 90 study points of specialization; it is that they are taking 180.” Furthermore, lowering the requirement would 1) require a lot of resources to fully redesign all of the existing programs and 2) likely not change the total number of study points that students end up taking in their discipline. A bachelor’s degree requires 180 study points, which means that 90 study points of specialization is only half of that total. Broadening the curriculum, therefore, should be achievable in those remaining 90 study points. Changing current practices, however, will require innovative thinking and broad cultural and institutional shifts. Most bachelor programs have between 30 and 60 elective study points (see appendix), and these courses would appear to be the most fertile ground for where to achieve the breadth being sought by this initiative.

## Findings

Before the working group could make, or even consider, recommendations on what students should do to get more breadth in their studies, we needed to find out what students are actually doing. Therefore, we gathered data on how the various study programs are structured, how students are using their elective credits, and how many credits the average student in a particular study program takes in their primary subject area.

Therefore, the group members picked out a total of 21 bachelor programs, with various profiles, from five different faculties, (for the complete list, see appendix). Most were based in a specific discipline, while others were interdisciplinary. The task was to find out how many elective credits each program had, and how they were used by the students and programs. Did the programs leave it entirely up to the students to choose their electives, and if so, what did the students tend to choose? Or did the programs have rules about what courses could be chosen for electives or, for instance, advise students into choosing certain courses as their electives?

In general, programs across all of the examined faculties tended to range between 90 and 110 study points in the primary discipline and 30 and 65 elective study points, but there were some notable exceptions. For example, bachelor programs in art and music required 180 study points in the primary subject area and had room for 0 electives, and philosophy had 70 elective study points. In addition, TV-production requires 140 study points in the primary disciplines and, starting this coming fall, will have 30 elective study points but has had none until then. Also, programs in Mat-Nat tended to offer only 30 elective study points. Indeed, numerous programs in several faculties have a lower-than-average number of elective courses because they require supplemental courses in other disciplines (e.g., geology requiring courses in mathematics, physics, informatics, etc., or sociology requiring 2 social sciences research methods courses). These courses don’t count in the number of study points for disciplinary specialization, but they explicitly serve the purpose of specialization by providing students with the tools to “do” their primary discipline. Most programs require 20 study points for Ex.phil and Ex.fac (See Table 1).

Table 1: Example study program requirements\*

Program	Required stp in main discipline	Required stp in other disciplines	Elective study points
<b>Det humanistiske fakultet</b>			
Bachelorprogram i digital kultur	100	20	60
Bachelorprogram i litteraturvitenskap	100	20	60
<b>Det matematisk-naturvitenskapelige fakultet</b>			
Bachelorprogram i geovitenskap	110	40	30 <sup>2</sup>
Bachelorprogram i matematikk	120	30	30 <sup>3</sup>
<b>Det psykologiske fakultet</b>			
Bachelorprogram i generell psykologi	110	10	60 <sup>4</sup>
<b>Det samfunnsvitenskapelige fakultet</b>			
Bachelorprogram i geografi	110	10	60 <sup>5</sup>
Bachelorprogram i sosiologi	80	40	60

\*See appendix for full list of programs

The group also wanted to investigate the assumption that students tend to end up with degrees mainly consisting of courses within their major subject. This varies considerably across programs, but according to the data we could pull together, most students take most of their elective courses in their primary field of study or in a closely related field that necessarily informs their field (e.g., a literature student taking a history course or a chemistry student taking a mathematics course). Indeed, students in the bachelor programs we analyzed average 121 study points in their major discipline (see Table 2), which is 50% more than the 80 study points we were asked to consider whether that would be an appropriate level of specialization.

<sup>2</sup> It is recommended that students take their electives in science disciplines.

<sup>3</sup> There are 3 places for elective courses in the program. Courses are recommended here based on the student's plans. For the place in the second semester, specific courses are recommended. For the other two, there is a link to a page that lists all of the courses offered in MAT-NAT.

<sup>4</sup> It is highly recommended that students take courses from a list of 12 courses, with only 1 not PSYK.

<sup>5</sup> There are three recommended GEO courses for the elective courses (10 study points each).

Table 2: Example average number of study points taken by graduates in primary discipline\*

Det humanistiske fakultet	TSP
Bachelorprogram i digital kultur	110
Bachelorprogram i filosofi	118
Fakultet for kunst, musikk og design	
Bachelorprogram i kunst	168
Det matematisk-naturvitenskapelige fakultet	
Bachelorprogram i kjemi	125
Bachelorprogram i matematikk	116
Det psykologiske fakultet	
Bachelorprogram i generell psykologi	138
Det samfunnsvitenskapelige fakultet	
Bachelorprogram i geografi	126
Bachelorprogram i TV-produksjon	164

\*See appendix for full list of programs

Most programs in the Humanities offer complete freedom in the selection of elective courses, while most other programs give varying degrees of recommendations for all or some of students' elective courses. In some cases, this is offered in the context of strengthening their academic knowledge in preparation for the master's level. In other cases, the advice depended on which direction students choose in the program itself (i.e., some programs, such as informatics, have multiple specializations to choose from).

The group now had information about the structure of the programs, the number of elective courses and the advice given in the study plan or by the program administration on what to take as elective courses. We did, however, lack information about what the students actually did choose for their electives.

#### Data on elective course selection

The working group then decided to ask the Division of Student and Academic Affairs (SA) to retrieve this data from the student information system (FS). The data was compiled, organized, and made accessible to us from FS as designed reports in the Tableau system by Svein Jarle Nymark and Øystein Ørnegård. It was then explored and analyzed by a sub-group of the working group. This data provided an opportunity to find out which courses the students in different programs chose as their elective courses. The reports contain data on the actual students from the 21 bachelor programs we had chosen to look into. Eventually, we asked for the same data for all bachelor programs at the UiB.

Table 3: Example study program requirements and student choice of elective courses\*

Program	Avg % elective stp taken in primary discipline	Avg % elective stp taken outside primary discipline
<b>Det humanistiske fakultet</b>		
Bachelorprogram i filosofi	69	21
Bachelorprogram i litteraturvitenskap	58	29
<b>Det matematisk-naturvitenskapelige fakultet</b>		
Bachelorprogram i kjemi	61	33
Bachelorprogram i matematikk	67	28
<b>Det psykologiske fakultet</b>		
Bachelorprogram i generell psykologi	78	15
Bachelorprogram i pedagogikk	59	35
<b>Det samfunnsvitenskapelige fakultet</b>		
Bachelorprogram i geografi	79	15
Bachelorprogram i sosiologi	68	25

\*See appendix for full list of programs

The Tableau data can be filtered to show all credits taken by the students from a selection of programs (from one to all programs), to show only mandatory credits, or to show only the electives taken. It's also possible to filter out one or more years (kull), to select only graduated students or to select all students - including those who graduated, those who didn't, and those who are still in the course of study.

For this report, we singled out the years (kull) of 2016 and 2017 and filtered to look into only the data of the students who graduated. That way, the percentage of electives would be more representative because all students in the data would have completed the whole degree.

The table summarizes the data within two different categorizations of higher education, NUS-codes<sup>6</sup> and "Utdanningsområde." Utdanningsområde is a classification of different types of education used by the Norwegian Colleges and Universities Admission Service<sup>7</sup>. In the data at hand, both classifications were available. We decided to use the NUS-classification, because this seemed to be the most informative for our purpose due to its clearer and more focused categories.

Looking into the data for each program, we were able to get a picture of the extent of variation in the electives chosen by the students from the individual programs. We can also choose to

<sup>6</sup> NUS-classification, definitions: <https://www.ssb.no/en/klasse/klassifikasjoner/36>

<sup>7</sup> Samordna Opptak: <https://www.samordnaopptak.no/>



look at the broader categories to see if the individual programs differ significantly from the average of the broader categories.

To make the data more readable, we made a small table for each program showing the dominant categories for each program and summarized the smaller categories into a column called “others”. For the majority of the programs, the others column shows a percentage smaller than 11 to 12 and will normally represent the choices of a very small number of individuals. However, the Bachelor of AOP shows a 28 % in the others-column, the BA in Psychology shows a 20 % and the BA in Geology shows a 22 %. This could indicate that the others-column hides a more general pattern for these programs, that could be interesting to check out.

**Table: Example Student Course Selection Ranked by Percentage of Courses in Primary Discipline**

Faculty	Studieprogramnavn	%PD	%OD
KMD	Bachelor i kunst	100	0
SV	BA i tv-produksjon	95	
SV	BA i geografi	79	15
PSYK	BA i psykologi	78	15
HF	BA i filosofi	69	21
SV	BA i sosiologi	68	25
MN	BA i geologi	65	30
KMD	BA i musikkvitenskap	61	20
MN	BA i kjemi	61	33
HF	BA i digital kultur	60	29
PSYK	BA i pedagogikk	58	35
PSYK	BA i spesialpedagogikk	47 <sup>8</sup>	47
HF	BA i retorikk	38 <sup>9</sup>	47

If we take a closer look at a few representative examples, we can see that even if the percentage of elective study points taken outside of a student’s main subject area is relatively high, the disciplinary breadth achieved by taking those “outside” courses is still relatively narrow.

### *Bachelor in Literature Studies*

For instance, in the bachelor program in Literature Studies, students take 93% of their elective courses in Literature, Language, History, Philosophy, Art History, or Library Studies, and while

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<sup>8</sup> Also includes credits in psychology

<sup>9</sup> Most of spesialization in this program is from medievitenskap and other disciplines

there is clearly some “breadth” there, literary studies is intimately related to and reliant on each of those other fields.

Historisk-filosofiske utdanninger <sup>10</sup>	Litteratur- og bibliotekutdanninger <sup>11</sup>	Språkutdanninger	Andre
42%	20%	31%	9%

### *Bachelor in Chemistry*

Similarly, in Chemistry, students take 61% of their elective study points in chemistry or physics, and another 22% in mathematics or informatics.

Biologiske fag	Fysiske og kjemiske fag	Informasjons- og datateknologi	Matematikk og statistikk	Andre
6%	61%	8%	14%	11%

### *Bachelor in Datavitenskap*

In Informatics, students take 93% of their elective study points in either computer science or mathematics.

Informasjons- og datateknologi	Matematikk og statistikk	Andre
68%	25%	7%

### *Bachelor in Sociology*

In Sociology, the breadth is somewhat more significant, as 10% of students’ elective study points are from history or philosophy, but still, 56% are in sociology and 19% in psychology.

Historisk-filosofiske utdanninger	Psykologiske fag	Sosiologiske fag	Andre
10%	19%	56%	14%

### *Bachelor in Spesialpedagogikk*

In Special Pedagogy, students take 93% of their elective courses in either psychology or pedagogy.

Psykologiske fag	Utdanninger i pedagogikk	Andre
61%	32%	7%

<sup>10</sup> Historisk-filosofiske utdanninger consists of Philosophy, Cultural Studies, History, and Art History.

<sup>11</sup> Litteratur- og bibliotekutdanninger are ALLV-emner (literature-courses).

In sum, students in the programs we examined take, on average, about 70% of their elective study points in their primary discipline. They also average over 120 of their overall 180 study points in their primary discipline.

## Core Issues

Any meaningful initiative to broaden the undergraduate curriculum at the University of Bergen will be a complex undertaking that will require buy-in at all levels of the institution, from the central administration, the faculties, the departments, the administrative and teaching staff, and the students, as well as stakeholders in the community such as potential employers.

The data collected for this report shows that while the typical student at UiB does get a great deal of disciplinary depth in their studies, they are getting very little breadth. Indeed, what breadth they do get (i.e., courses taken in other subjects) is overwhelmingly either part of their required program or closely aligned with courses required in their program (e.g., courses in math or computer science to support the statistical or programming expertise required to be able to work in their primary discipline).

It is difficult to determine across all of the programs whether this kind of specialization leads to better workers or citizens, but the working group suspects that it mostly leads to better master's candidates for UiB's specialized master's programs (while also putting candidates from other institutions at a disadvantage).

Therefore, the first issue is whether the university wants to institute measures to broaden students' exposure to and development of various disciplinary perspectives and ways of thinking, as well as how prescriptive it wants to be in setting up structures to achieve this goal.

The next issue is, if the university does indeed want to institute such measures, it must be decided which measures are most likely to lead to the desired end. In the following section, we present a broad range of possibilities, ranging from significant redesigns of study programs to the creation of special courses to the implementation of better advising practices and tools.

It is important to keep in mind that significant revisions to existing study programs (such as changing the required number of study points in the primary discipline from 90 to 80) will be a huge undertaking that could (or at least should) take years to do well. It is also important to note that simple changes might lead to changes on paper and in administrative effort but not necessarily to changes in the students or their learning.

## Recommendations

A difficulty in choosing a path forward is that there are a large number of possible paths, with each having advantages and disadvantages. Before sider concrete actions can be considered authentically, however, the university needs to decide what it is, exactly, that it wants to gain from this process and whether it is committed as an institution to pursue it.

## Institutional Issues

### *Identify core learning values that every bachelor student at UiB should have*

The first step in the process could be to identify the core learning values of students graduating from the University of Bergen and to develop a Graduate Attributes Policy Statement. Indeed, this might be the most important step in the process. What are the qualities or values that every graduate of UiB should have? As mentioned above, many institutions would say things like getting students to think differently (critical thinking, problem solving), building important skills (writing, collaborating, communicating), developing personal and intellectual values (social commitment, digital competence, complex ways of thinking and understanding difference and different perspectives). A brief example of a Graduate Attributes Policy Statement is found [here](#)<sup>12</sup>. It needs to be decided and articulated what those things are for UiB. From there, we can then best choose the path forward and make better, more informed decisions how to achieve the intended goal.

A strong consideration in this would be to allow for innovation but also to protect against certain departments or programs being injured in the process. One consideration here would be to make a core value of our teaching and learning enterprise to make our teaching practice more about being partners in learning rather than dispensers of information There is already a lot of very good and important work being done across the university in incorporating more student active learning, alternative assessment methods, digitalization, and students as partners in research. Glowing examples of this would be the impressive number of Diku projects awarded to UiB in multiple faculties, and most of the possible avenues mentioned below should build on that work constructively and not be perceived as yet another burden for instructors to bear. It must also be ensured that what we are doing is not just offering a random smorgasbord but rather a real and intentional institutional learning outcome that is reflected in the learning outcomes of every (bachelor) program.

It is also important to consider work-life relevance in this process, and as discussed in the February 2021 UU meeting, the Studiebarometer seems to show that students do not perceive the link between their studies and their future working life. Some of this has to do with specific information about possible careers or companies and some with actual skills being gained, but it is also likely due to a lack of specific effort at the course and program level to meaningfully address this, not just at the job-specific level but also simply in making more explicit connections between what is being learned and the world outside the classroom. The working group is aware of some efforts in this regard, such as a new internship initiative being

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<sup>12</sup> [https://policy.federation.edu.au/university/general/statement\\_of\\_graduate\\_attributes/ch01.php](https://policy.federation.edu.au/university/general/statement_of_graduate_attributes/ch01.php)

developed at iEarth, but there should be more such developments and they should have institutional support. Berit will comment on this in English

Additional challenges might be that the meaning of work-life relevance varies from discipline to discipline, that there are inconsistencies among staff, and that students might not be sufficiently engaged in processes of developing and implementing goals for the graduate attributes in higher education ([Bitzer and Withering 2020](#)). Once the specific values the University wants to gain from this broadening of the curriculum are decided, there are a couple of other important considerations before we can look at specific actions or plans.

*To what extent should any of this be mandatory?*

One consideration is to determine how important it is to maintain a balance between protecting students' freedom of choice and achieving the desired end of giving them a broader curriculum. Therefore, it might be more of an issue of helping them make better decisions rather than institutionally restricting their ability to make decisions. The same, of course, can be said of programs. How mandatory will it be for programs to implement changes? And what allowances and resources will be available to them for this purpose? At the same time, however, the process of helping them make those decisions will need to be strategically decided, else the entire initiative could become "something we say we did" with no outcome whatsoever.

*Redesign advising practices and processes*

Regardless of potential structural adjustments, the success of focusing more on generic attributes of the UiB graduates will depend on how well students are advised in the choices they make. This could be done by helping them be more strategic in choosing their electives. Advisors could also intentionally encourage or push students to take particular courses in other departments or faculties, or to choose from a list of recommended courses that are selected to complement their studies in particular ways. These lists could be made up of more obvious choices (e.g., an easy example would be that a chemistry major would become a better chemist if she took a particular course in physics, or a more ambitious one would be if a law student would become a better attorney if he took a particular course in a far different discipline in a different faculty, such as biology or psychology) or more novel or interesting ones. Also, these lists might be made up of existing courses or new ones developed for this purpose.

One possible advantage of this approach is that most of the options listed above would require no substantive redesign of programs or even regulations. It would mostly just be a change of practice, but it can also be difficult to take courses at other faculties as you often need "forkunnskapskrav." However, it would require effort to change those practices and, even more importantly, the general curricular culture of the University. It is also very possible that we could make a huge deal about this but have nothing actually change. Therefore, it will likely be necessary to go beyond simply changing advising practices.

### *Remove unnecessary institutional barriers*

A key challenge would be to remove unnecessary institutional barriers. Put simply, it must be easier for students to take courses outside of their faculty.

Another primary barrier to several ideas mentioned in this document (and others that may arise as this process moves forward) is that the economic engine of the university incentivizes departments to have their students take courses in their home department. Of course, if students from one department take courses elsewhere, then students from other departments might also be taking courses in that first department, but it is currently in a department's interest to attract both their own students and students from other departments to take their electives in that department.

In recent inter-faculty study programs, UiB has established new funding models, where for instance basic funding is divided between the participating faculties participating with tutoring and courses, while the performance-based funding based on production of credits, goes to the department/faculty offering the courses. Establishing a transparent model for this kind of programs could be a way of facilitating breadth and interdisciplinarity.

### *Approach this with an “organizational change” perspective*

How the university will or should approach this aspect of the process is beyond the scope of this report or the working group, but for any change to be meaningful, it needs to be successfully integrated into the culture of the institution, not just written into documents, and that takes strategic work.

### *Possible initiatives or developments to broaden the curriculum*

Once we have decided on these issues, there are several possible avenues through which we can address this. Here are some of the possibilities:

### *Require students to take courses from certain “perspectives” or disciplinary families*

Another related option would be for the university to identify a set of core perspectives and that each bachelor student would need to take at least one course that represents each perspective. Many of these perspectives could be represented by courses that are already required by a program, but it would seem unlikely that all of them would. An interesting example of this is practiced at [Clark University](#) in Massachusetts, where students have to take a course that represents the following 6 perspectives:

- Aesthetic Perspective courses
- Global Comparative Perspective courses
- Historical Perspective courses
- Language and Culture Perspective courses

- Natural Scientific Perspective courses
- Values Perspective courses

UiB would, of course, be free to choose a different set of perspectives (although these are quite good), but this would be a fairly easy way to ensure that students get the broadening of perspectives that this initiative seeks.

*Create a new Group of 80/40 system like they have at the University of Oslo*

This kind of system is very common in American universities where most institutions have students declare a major and a minor (e.g., someone might be an economics major with a political science minor, or a French major with a comparative literature minor). In the American system, a student would typically take the equivalent of 80-100 study points in their major discipline and 30-45 study points in their minor discipline. Some version of this might offer the best opportunity to achieve the kind of breadth this initiative is seeking; but there would be some challenges to implementing such a system at UiB.

However, UiO does this in many of their study programs, where students take courses in a “Group of 80” study points in their primary discipline and then choose another “Group of 40” in a related discipline. In that system, these groups are generally pre-determined by the study program, and while students have choices of which Group of 40 they select, some of the courses within that group are mandatory and some are optional.

If such a system were developed or adopted at UiB, students could take courses from a group of 90 and a group of 30 (or groups of 80 and 40), where students take 30 study points in a group that is made of courses from a discipline that is different from theirs. These groups could be pre-made by the programs or other offices, or possibly even by the student, as long as they can make a strategic account for how it either complements their study goals or serves some other purposive role in their education. It might also be possible for students to choose 2 or 3 courses in a particular discipline (say, 30 study points), where the student could 1) take existing courses, 2) departments offer courses aimed specifically at minors, or, preferably, 3) a combination of the two. A challenge, however, with students choosing their own paths, or even with programs creating such paths, is that in some circumstances this could lead to less breadth, so advising and other standards would be an important part of this.

Ideally, these groups of 30 (or 40) could be deliberately developed to be interdisciplinary, whether they are oriented around a theme, focus, or other purpose. They could also be designed around the “perspectives” strategy mentioned above, where the courses in a group of 30 could each represent a different perspective from the one(s) in the student’s primary discipline.

*Create special courses*

Creating new courses that specifically address the issue of broadening the curriculum in particular ways is probably the most promising option, and it could take shape in a wide variety of ways. Each of these could be crafted in a way to ensure breadth, exchange, work-life relevance, etc.

#### Choose an institutional strategic focus or theme

This might entail the University choosing a strategic focus or theme (such as the Sustainable Development Goals or UiB's three strategic areas, where students could choose one of those, or where the goal or area rotates with each in-coming class (kull) and then having students take a minimum number of study points in courses related to that focus. These might be courses developed particularly for this purpose, existing courses, or a combination of both.

#### Develop learning pathways

Develop interdisciplinary courses that run in parallel or independently with a major that focuses on a particular theme or topic. The idea is to give students something that aligns or connects with their interests and provides them exposure to different perspectives on that theme or topic. A key consideration here would be to make sure that faculty (and departments) are not penalized by participating in these courses. Indeed, perhaps the biggest challenges to any of these possibilities concern the financial obstacles posed by current funding mechanisms.

#### Create a requirement consisting of "buckets" of courses

This proposal would entail grouping selections of courses into certain "buckets" where students would need to choose at least one course from each bucket. These buckets could be created/determined at the program, faculty, or university level. Possible buckets might be based on broad disciplinary categories (e.g., social sciences, natural sciences, humanities, etc.), thematic categories (e.g., sustainability, social issues, UiB's strategic areas, etc.), or some other categories (work-life relevance, internships, etc.).

#### Build on SVT's Dannelseemne program

UiB could build on SVT's Dannelseemne program where courses are designed around a theme or topic that is viewed from a variety of disciplinary perspectives. This could be focused, as it currently is, on pressing social issues, or other foci could be explored, such as SDGs or interesting intersections of disciplines that would naturally complement different degree programs, preferably programs from different faculties or at least seemingly different disciplines (e.g., literature and social anthropology).



### Require students to take courses around “Big Questions” or “Wicked Problems”

This is similar to other recommendations but with a slightly different emphasis. This could be combined with the grant program above to incentivize cross-faculty cooperation. It could also be focused around a theme such as sustainable development or the university’s strategic goals. It could also take a methodological focus like problem-based learning or interdisciplinary research-based learning

### Create courses for non-majors

Departments, Programs, or even Faculties could create more courses designed for students who are not majoring in that discipline. These could be very general (e.g., “what every educated person should know about geology” or “what natural science students should know about the humanities), or they could be very specific (e.g., what religion students should know about evolutionary biology”). Most introductory courses, especially in the post-Quality Reform Norwegian system, are designed as much to turn students into that discipline’s “-ist” (e.g., a sociologist) as they are to introduce students to the basic content and concepts of the discipline. Courses could be developed that are aimed at non-majors; getting students to see how this discipline sees the world or approaches problems differently than other disciplines. This could partially, if not fully, be achieved by students taking existing courses in other programs, but there would need to be attention paid to how “appropriate” these would be for the desired impact. There would also be issues around enrollment and staffing of courses (although this will be an issue no matter what direction is chosen).

There are obviously rewards and risks with any of these “special courses” options, with the primary risk being market issues. Even if a lot of resources are put into developing new courses, there is always a risk that in the end, very few students might be interested in taking the course.

### Other practical strategies

There are several other possible strategies that can be employed as well. Some are directly related to the idea of special courses mentioned above, while others are completely different.

### *Require courses from other departments or faculties*

Another less radical option would simply be to require that students have to take a certain number of study points (e.g., 15 or 30 ECTS) in courses with a prefix that is from outside of their home department or faculty. While less radical and somewhat easily achievable than some of the other possibilities, if this option is to have a meaningful effect, there would need to be

some kind of strategic element employed, both by the individual students and the programs, to make it not just a random and arbitrary requirement.

#### *Offer grants to “interdisciplinize” courses*

Provide instructors money and/or time to create or revise a course to include a significant interdisciplinary element. There has been a considerable movement to do this in the US over the last decade or so.

#### *Develop inter-faculty or inter-program cooperations*

Many bachelor programs work interdisciplinarity into their curriculum. This is most commonly achieved by including, for example, lectures from a mathematician in a meteorology course or a chemist in a pharmacy course. There are likely many other instances where a political scientist will give a lecture about history in her comparative politics course or a pedagogue will give a lecture on sociological theory in a qualitative research methodology course.

- What if new interfaculty courses were created where these intersections are explored more deeply?
- Or what if some scientific staff had dual or visiting appointments (e.g., where a historian had a 25% appointment in SAMPOL or an information scientist had an appointment in iEarth)?

#### *Create alliances between programs*

A new PPE program (philosophy, politics, and economics) is currently being developed, and this model could be extended and adapted to include other disciplines that intersect in unexpected and fruitful ways. Also, could this be used as an example of courses and/or “groups of courses” and not just full programs? Either way, it would only affect the students in those programs.

#### *Take better advantage of the General Competences learning outcomes category*

This is an intriguing option that could possibly yield profound impact but also have the lowest chance of success. The idea is that a large proportion of courses at UiB take a hard look at their general competences learning outcomes and rework them, in print and in practice, to make generic attributes like critical thinking, problem solving, communication, and collaboration a much larger part of the focus of the teaching and learning in a course, and to do it in a way that conspicuously incorporates interdisciplinary ways of thinking and learning, as well as work-life relevance, into the course. Ways of doing this are well described in research literature across disciplines and speak to teaching and learning projects that are already running at program level at UiB. Furthermore, there is an ongoing project at Mat-Nat to implement this in their courses in regard to communication and collaboration.

### *Create a website/database of courses*

The type of courses that we have suggested here, that is, interdisciplinary courses open to all students independent of faculty background, should be easily found on the UiB website. A basic visibility strategy would be to create a specific “Elective Courses” page in the form of a database with all necessary information presented in an appealing manner. As the offered courses will vary a great deal from semester to semester, such a website will be a dynamic enterprise and an exciting opportunity to showcase UiB’s future oriented focus on generic and graduate attributes of its students.

### Questions for Discussion

1. Does the University want to institute measures that will cause students to broaden their studies beyond their major discipline?
2. If so, how prescriptive does the University want to be in setting up the structures of such a broadening? That is, how mandatory should this be for programs and for students?
3. What are the obstacles to achieving this successfully and what incentives can be offered to overcome them?
4. Which of these (or other) models might the UU want to recommend for broadening the curriculum?