

Evaluation of the Bachelor's Programme in Artificial Intelligence (BASV-AIKI) 2021-2025

2nd December 2025

This evaluation follows (an English translation of) the template provided by the Faculty of Social Sciences of the University of Bergen.

1 Introduction

Launched in the autumn of 2021 and hosted by the Department of Information Science and Media Studies (Infomedia), the Bachelor's Programme in Artificial Intelligence (BASV-AIKI) of the University of Bergen (UiB) is a collaboration between three departments (Department of Informatics, Department of Mathematics and the above mentioned Infomedia) from two faculties (Faculty of Science and Technology, Faculty of Social Sciences). It is a full-time bachelor programme consisting of 180 credits¹ and with an estimated completion time of three years. The languages of instruction are both Norwegian and English.

1.1 Contribution to the programme evaluation

Employees, students, external colleagues and representatives from society or the working world shall contribute to the evaluation of the study programme. These may contribute through reports, interviews, participation in groups that carry out specific evaluations, or in other ways that the academic community finds appropriate

List the names and functions of those who contributed to the programme evaluation, and provide a brief summary of the information basis for the report. Year-long studies that are part of a bachelor's programme may be evaluated as an integrated part of the programme in question. In these cases, factors that only apply to the year-long study must be discussed separately, including overall learning outcomes, completion rates, etc.

This evaluation, based on information from different sources (including statistics from *Tableau og Star* [<https://rapport-dv.uhad.no/>], the *Study Barometer* [https://studiebarometeret.no/en/student/studieprogram/1120_basv-aiki/] and *SHoT*), has been written by the current leader of the BASV-AIKI programme council (Fernando R. Velázquez Quesada) with the help and input from the administrators of the programme (namely, Liv Kristiane Bugge and Joakim Dahl Haaland). It also relies on comments and opinions as presented in the courses' evaluations (both by the course coordinators and by the students) as well as the reports from the external programme censor (Thomas Bolander).

1.2 Follow-up after the previous programme evaluation

Briefly describe the development measures planned in the previous evaluation and how these have been followed up.

This is the first evaluation for BASV-AIKI, as the programme has been running only since the autumn of 2021. There is no evaluation to follow up after.

1.3 General information on figures for recruitment, output and candidate production

Provide an overall overview of data showing recruitment, completion and candidate production in the study program (last 6 years), see reports in Tableau and Star for information. The overview here should be brief and descriptive,

¹In this text, the word “credit” is used as an abbreviation for “*European Credit Transfer and Accumulation System*”.

while the parts that it is obvious to go into more detail are discussed in chapters 3 and 4.

So far, BASV-AIKI has five cohorts. Concerning recruitment, the table below ([source](#)) shows, for each cohort, the number of offered study places, the number of applicants and the number of applicants that registered to the programme.

	Study places	Applicants	Registered
2021	30	1 325	30
2022	30	770	38
2023	30	870	46
2024	34	999	32
2025	38	773	41

From 2021 to 2023 the number of places offered remained consistent (30) and has only increased slightly in the last two years. Regarding the number of applicants, while in 2021 the number was abnormally high, since then it has somehow stabilised (above 750 in all cases). Note that 2023 was an odd year in terms of registered students: due to an administrative mistake, more students than intended received the offer to register.

As a final point on recruitment, and to take these numbers in the proper context, note that this year (2025) there has been a general downturn in the number of applicants for IT-programmes at both Infomedia in particular and UiB in general.

Concerning output and candidate production, the table below shows, for each cohort, the number of active students ([source](#)) as well as the respective number of dropouts ([source](#)) and graduates ([source](#)).²

		21a	22s	22a	23s	23a	24s	24a	25s	25a	Total	%
2021	Active	30	27	20	19	19	19	7	5	3	30	
	Dropouts	0	3	10	11	11	11	10	11	11	11	36.66%
	Graduates	0	0	0	0	0	13	14	16	16	16	53.33%
2022	Active			38	33	32	31	29	29	6	38	
	Dropouts			1	6	7	8	10	10	11	11	28.92%
	Graduates			0	0	0	0	0	22	22	22	57.89%
2023	Active					45	42	33	30	27	46	
	Dropouts					2	3	14	17	19	19	41.30%
	Graduates					0	0	0	0	1	1	2.17%
2024	Active							28	24	22	32	
	Dropouts							0	4	6	6	18.75%
	Graduates							0	0	0	0	0.00%
2025	Active									40	41	
	Dropouts									0	0	0.00%
	Graduates									0	0	0.00%

Regarding dropouts, disregarding the odd 2023 cohort, the numbers have oscillated roughly between 18% and 36%. Regarding graduates, only two generations have reached the estimated completion time, with the graduation rates being above 50% in both cases (and having increased from the first generation to the second).

1.4 Work on educational quality

Briefly describe how the overall academic community at the study programme works with quality development.

- How do the study programme director and the programme council facilitate comprehensive quality work in the programme?
- How is work being done to promote educational expertise in the professional environment?

²Note that, in the second-to-rightmost column, the number in the “Total” column in “Active” row is the number of students that register for the first year of the given cohort. The percentages are calculated with respect to this total number.

The BASV-AIKI programme council has the responsibility for maintaining the quality of the programme. To do so, it relies on the information provided by three main sources: *(i)* each course’s course coordinators report, *(ii)* each course’s students’ evaluation, and *(iii)* the yearly programme’s evaluation from the external sensor. The Study Barometer is also used. The programme council meets an average of one time per semester to discuss and propose solutions for the issues that arise.

To ensure educational expertise, Infomedia encourages members of its permanent scientific staff to enrol in and finish the University of Bergen’s Program for University Pedagogy (UPED). Furthermore, the department tries as much as possible to appoint, as course coordinators, permanent scientific staff with extensive teaching experience in the course’s subject. Still, it should be noted that, while these two measures would guarantee a good enough minimal level of educational expertise, they cannot be always achieved. For the first, the workload of the departments’ scientific staff has been abnormally high in recent years, and thus they might not have time to participate in the UPED programme. For the second, in some extreme situations there has not been enough scientific personnel available. In such cases, the department has had to hire temporal personnel to cover those teaching gaps. When funding has not been available (more frequently recently), it has even had to use postdocs and PhD students.

It should also be noted that, being AIKI a collaboration between three departments and two faculties, there are courses featured in the programme over which Infomedia (the host department) has no control. In particular, for some courses it cannot control lecturers or their educational expertise. It is true that the BASV-AIKI programme council includes members from all the departments involved, and through them the programme council can voice ideas, suggestions and concerns. Still, when other department/faculties need to make decisions/changes on their courses, they will do so giving priority to their own interests and needs.

2 Goals and professional profile

2.1 Objectives and learning outcomes

Provide a brief description of the programme’s overall objective and academic profile.

- *How is the programme anchored in UiB’s strategy and the faculty’s long-term plans for the study portfolio?*
- *To what extent are the programme’s learning outcomes academically relevant and important in providing students with competence for the working world of the future?*
- *Is the description of the learning outcomes in line with the “Nasjonalt kvalifikasjonsrammeverk for livslang læring” (National Qualifications Framework for Lifelong Learning)?*

Artificial Intelligence (AI) is a field that studies synthesis and analysis of artificial agents that have the skills to act, up to some level, in an ‘intelligent’ way. The overall objective of BASV-AIKI, as described in its [UiB’s website](#), is to provide the students with the ability to

- construct and evaluate hypothesis about how one can create digital agents,
- design, build and experiment with computer systems that can perform tasks often considered as requiring intelligence, and
- utilize the results from the previously mentioned points to improve the functions of existing digital and robotic systems.

In other words, the goal of the programme is to provide the students with the knowledge and the skills to understand both the theoretical and practical aspects behind the construction of artificial ‘intelligent’ agents, which in turn will allow them to design, build, experiment and improve over such artificial entities. The emphasis on the practical aspects gives the students the “solution-oriented” skills needed to work with pressing ‘real-life’ issues that, in some way or another, should be dealt with. The emphasis on the theoretical aspects gives them ability to abstract away from specific issues and focus on the more general or complex aspects that can lead to a deeper and better understanding. By covering these two aspects, BASV-AIKI is in line with the [UiB’s Strategy 2023-2030 for High Quality Education \(Utdanning av høy kvalitet\)](#): it prepares students to deal with technological advances not only as users of the technology, but also as persons who understand both the basic principles behind those systems and the consequences of their use, giving them in this way academic foundations that lasts throughout their lives and that contributes to making them competent and reflective citizens. The particular emphasis on being not only users of a technology but rather people who understand the principles under which the technology operates

is also relevant for the [2023-2030 Strategy of the Faculty of Social Sciences](#): a proper understanding will give the students the tools to be critical and independent citizens who can contribute to the development of society.

The programme's learning outcomes, as described in its [UiB's website](#), are the following.

- Regarding *knowledge*, students ...
 - have a wide theoretical understanding on how AI-supported systems (AI-systems) work and are constructed.
 - understand how one can program and experiment with AI-systems with the help of methods from machine learning, symbolic reasoning, and algorithmic-analyses.
 - understand how technical AI solutions can have ethical relevance for society and the individual.
- Regarding *skills*, students can ...
 - program new AI systems and experiment with existing systems.
 - analyse, describe and solve a problem by utilizing AI-methods.
 - evaluate an AI-system with special care to how it can be performed responsible, be transparent and take balanced decisions.
 - explain AI-theory to non-professionals.
- Regarding *general competence*, students can ...
 - contribute as a ICT-system developer in different types of roles, ranging from communication with the users to advanced technical development.
 - cooperate both in group- and project-work.
 - can formulate written reports and documentation and be responsible for oral presentation of own work.

These learning outcomes are important in providing students with competence for the working world of the future. Those on knowledge and skills focus on aspects that are crucial on fields that focus on developing technology, as AI does (for the first: having a proper practical and theoretical understanding of the aspects involved in their construction as well as awareness about the consequences of their use; for the second, having the ability to design, build, experiment and improve over them). Those on general competence involve aspects that are required in most working environments (ability to work in groups and ability to document and communicate achievements).

The description of the learning outcomes is in line with the corresponding [National Qualifications Framework for Lifelong Learning](#) (for BASV-AIKI: Level 6). Regarding knowledge, they concern the theories and methods within the field as well as its distinctive character and place in society. Regarding skills, they concern the adequate application of the previously described knowledge to solve new practical and theoretical problems. Regarding general competence, they concern the ability to plan and carry out varied assignments and projects (alone or as part of a group) and the ability to communicate important academic subject matters both in writing and orally.

2.2 Communication about the study

Briefly assess how information about the study programme is communicated in the study plan:

- *Does the study programme have a comprehensive name that communicates well to (potential) students and employers?*
- *Are the programme's academic profile, structure and opportunities for student exchange described in an appropriate manner?*

AIKI's official name, "Bachelor's Programme in Artificial Intelligence", conveys in a clear way the programme's subject of study. Its [UiB's website](#) is the main conduct through which information about the programme is provided to (both prospective and current) students. Its main page covers different topics, including general information (what students learn, what a typical study schedule looks like, the further academic and private industry opportunities an AIKI graduate can pursue) as well as specific

information (admission requirements, programme’s structure, exchanges and study plan).³ In particular, the paragraph on “*Studieplan*” (“*Study plan*”) contains a link to a webpage (Norwegian; English) presenting the programme’s academic profile, including not only the objectives and content, but also the learning outcomes as well as teaching, learning and assessment methods.

An additional comment regarding the number of applicants. AIKI’s main subject, AI, permeates every public talking point nowadays. Yet, while the number of applicants is enough for the number of offered places (as it will be discussed in Subsection 4.1, the number of qualified 1st priority applicants regularly exceeds [and regularly doubles] the number of offered places), the programme is not as ‘in demand’ as one might expect it to be. One wonders whether the department, the faculty and UiB are doing enough to spread awareness about its existence.

3 Academic structure, learning activities and assessment methods

3.1 Academic content and structure of the programme

Asses:

- *In what way do the courses in the study programme contribute to students achieving the expected learning outcomes? Does the composition of the courses provide good academic progression?*
- *In what way do students participate in research activities and/or artistic development work?*
- *To what extent do students have freedom of choice in the composition of their courses? Do any common courses function as an integral part of the study programme?*
- *Has there been any academic development work and/or significant changes to the content/structure of the study programme since the previous evaluation?*

BASV-AIKI consists of 180 credits distributed among six semesters (three years). A typical semester consists of three courses, each one of them worth 10 credits. While the courses for the 1st, 2nd, 3rd and 5th semester are fixed, courses in the 4th semester are ‘up to the student’: they can take courses in another university as a part of their exchange semester⁴, or they can choose any UiB course outside the AIKI programme. The final 6th semester consists of one fixed course plus two courses in one of two specialisation areas: *information science* and *informatics*.⁵

In more detail, the current structure of BASV-AIKI is as follows.

Semester	Courses
1st	{ AIKI100 (Introduction to Artificial Intelligence), INFO132 (Introduction to Programming), MAT101 (Elementary Calculus I).
2nd	{ AIKI110 (Artificial Agents), INFO104 (Formal Methods in Information Science), MAT121 (Linear Algebra).
3rd	{ INFO180 (Methods in Artificial Intelligence), INFO282 (Knowledge Representation & Reasoning), STAT110 (Basic Course in Statistics).
4th	{ <i>Exchange semester</i>
5th	{ AIKI210 (AI Ethics), INF264 (Introduction to Machine Learning), <i>Examen philosophicum</i> .
6th	{ AIKI200 (Bachelor Thesis in Artificial Intelligence), <i>Specialisation Course 1.</i> <i>Specialisation Course 2.</i>

³This main page is currently only in Norwegian, but soon it will be available in English too.

⁴Students must submit their proposed courses before the beginning of the fourth semester. They will be evaluated (and, given the case, approved) by the programme council.

⁵Students that choose not to take any of the available specializations can apply, before the 6th semester starts, to take other courses.

The two specialisation areas contain the following options.

Specialisation in	Available courses
Information science:	INFO215, INFO216, INFO125, INFO135.
Informatics:	INF227, INF237, INF250, INF265, STAT111, MAT111.

AIKI's learning outcomes, as listed in its [UiB's website](#), are recalled below. We also list the programme's mandatory courses that contribute to their achievement, briefly describing how they do it.

- Regarding *knowledge*, students ...
 - have a wide theoretical understanding on how AI-supported systems (AI-systems) work and are constructed. This is supported by the courses MAT101, MAT121 and STAT110 (providing essential theoretical mathematical foundations), the courses INFO132, INFO104 and INFO180 (providing essential theoretical and practical computer science & AI foundations) and courses AIKI110, INFO282, INF264 (discussing each a specific general strategy for building AI-systems).
 - understand how one can program and experiment with AI-systems with the help of methods from machine learning, symbolic reasoning, and algorithmic-analyses. This is supported by the courses INF264 (machine learning), INFO282 (symbolic reasoning) and INFO180 (algorithmic-analyses), each one of them discussing the fundamental methods of its corresponding AI sub-area.
 - understand how technical AI solutions can have ethical relevance for society and the individual. This is supported by the course AIKI210, which covers how AI methods and systems interact and impact people, society, law and economy.
- Regarding *skills*, students can ...
 - program new AI systems and experiment with existing systems. This skill is supported by the courses AIKI110, INFO180, INFO282 and INF264, which not only teach students to design new AI-systems (relying each one on its sub-area methods) but also to analyse existing ones.
 - analyse, describe and solve a problem by utilizing AI-methods. This skill is developed throughout the whole programme: while foundational mathematical and computer science courses (MAT101, MAT121, STAT110 and INFO132, INFO104, respectively) teach the students the rigorous forms of analysis and reasoning that are used in formal sciences, courses on AI methods and approaches (AIKI110, INFO180, INFO282, INF264) provide them with specific AI-approaches for designing solutions.
 - evaluate an AI-system with special care to how it can be performed responsible, be transparent and take balanced decisions. This is supported by the courses INF264, INFO282 and INFO180 (while discussing methods of their specific sub-area, they also discuss how to evaluate their produced systems) as well as AIKI210 (which, through its discussion of the ways AI/systems impact people, society, law and economy, allows the students to understand what it means for a system to be used in a responsible and transparent way).
 - explain AI-theory to non-professionals. This skill is also developed throughout the whole programme, particularly through AIKI210 (a multiple-perspective discussion on how AI-systems impact society requires descriptions and explanations that suit non-experts) and AIKI200 (the students should present their sometimes very specialised projects to a non-specialised audience).
- Regarding *general competence*, students can ...
 - contribute as a ICT-system developer in different types of roles, ranging from communication with the users to advanced technical development.
 - cooperate both in group- and project-work.
 - can formulate written reports and documentation and be responsible for oral presentation of own work.

All these aspects are developed throughout the whole programme, the first through the contents of different courses, and the second and third through the diverse forms of evaluation the courses require.

It is important to emphasise that a proper academic progression was/is one of the main goals when designing/updating AIKI's structure. Still, even though this has been achieved up to a quite high degree, it has not been achieved fully. For example, a higher-level mathematical course on the first semester would give the students stronger mathematical foundations. For another example, the course INFO104 (providing essential theoretical computer science foundations) would take place ideally during the first semester. The reasons for these 'issues' are of a practical nature. The first issue occurs because a more fitting course, MAT105 (which was part of AIKI's 1st-semester until November 2024; more on that below), was dropped by the Department of Mathematics. The second issue is due to the fact that INFO104, a course originally created as part of the *Bachelor's Programme in Information Science (BASV-INFO)*, is taught only in spring.

Overall, limits on the effectiveness of the AIKI's structure are due mainly to the fact that BASV-AIKI relies heavily on courses that were designed and scheduled with other bachelor programmes in mind.⁶ A natural way to solve this would be the creation of courses on which AIKI would have full control. Unfortunately, due to the current workload of Infomedia's scientific staff, this is not possible. This will be discussed in more detail in [Section 6](#).

Regarding the students' participation in research activities, the AIKI structure does not 'force' the students to *perform* academic research. Since AIKI is a bachelor programme, we believe this is not a deficit. However, due to AI's nature, we do consider crucial for the students to *know* about current developments in the field. For this, it should be noted that most (if not all) AIKI courses are taught by (assistant/associate) professors who are active in research. This means that the specific contents of each course are chosen by people who know the direction the research in each sub-area is moving to. In this way, each course provides a modern view on its discussed subjects. This is particularly true for the courses that cover specific AI subareas (INF264, INFO282, INFO180, AIKI210), where students discuss up-to-date topics and get exposed to ongoing research.

Then, there is AIKI200, the 6th semester course where the students develop their AIKI project. Currently, the required project is not a bachelor thesis in the proper sense; still, the students are required to read, analyse and understand research papers in the area. This can be definitely improved, and the department has already started discussions to update the course, so students get to develop a research project, academic- or workplace-based. Ideally, the plan would be completed in some months, and thus implemented during spring 2027. However, it should be noted that, under the current circumstances, a proper research bachelor thesis is not possible: the department does not have the resources (read: enough scientific staff with time to prepare projects and supervise students) required for this.

Regarding the students' freedom of choice in the composition of their courses, the structure presented above shows that the courses for the 1st, 2nd, 3rd and 5th semester are fixed. All these courses are an integral part of the programme, as they cover not only (part of) the mathematical and computer science foundations required for AI's technical developments, but also (part of) the subjects that are fundamental to specific AI subareas.⁷

Still, students have the freedom to choose two of the three courses for their 6th semester, and also all the courses they will take on the 4th semester. Freedom in the 6th semester gives the students the opportunity to choose between the two mentioned specialisation areas, *information science* and *informatics*. Then, while in the 4th semester the students can visit a foreign institution and take courses there, they can also choose to stay in Bergen and take any other UiB's course. It should be emphasised that, while students in the 6th semester can take any of the optional courses listed above, choosing any other course on that semester as well as choices concerning the courses in the 4th semester are subject to the approval of the programme council. This is not only to avoid overlapping with mandatory courses, but also to guarantee that the chosen courses contribute to the students' academic and professional development within the AI field.

To finish this section, AIKI has undergone two changes since it started. The table below shows the two previous structures together with the current one (*EX-PHIL*: Examen philosophicum; *SC*: specialization course).

⁶A further aspect that also plays an important role is that UiB's master programmes that might be of interest to AIKI graduates (specifically, the *Master's Programme in Information Science (MASV-INFO)*, the *Master's Programme in Informatics (MAMN-INF)* and the *Joint Master's in Software Engineering (MAMN-PROG)*) have specific admission requirements that, in particular, involve a certain number of credits in Mathematics and Informatics/Computer Science courses. This was one of the points considered during AIKI's most recent changes in structure, as discussed below.

⁷We include the qualifier "part of" to emphasise that, within the time limits a 3-years bachelor programme imposes, it is nearly impossible to discuss all the aspects that are involved in a fully interdisciplinary field as AI.

Year\Semester	1st	2nd	3rd	4th	5th	6th
2021-2022	AIKI100, INFO132, MAT100.	AIKI110, INFO104, MAT121.	INFO180, INFO282, <i>EX-PHIL.</i>	Exchange semester.	AIKI210, INF264, <i>SC 1.</i>	AIKI200, <i>SC 2,</i> <i>SC 3.</i>
2023-2024	AIKI100, INFO132, MAT105.	AIKI110, INFO104, MAT121.	INFO180, INFO282, <i>EX-PHIL.</i>	Exchange semester.	AIKI210, INF264, <i>SC 1.</i>	AIKI200, <i>SC 2,</i> <i>SC 3.</i>
2025-	AIKI100, INFO132, MAT101.	AIKI110, INFO104, MAT121.	INFO180, INFO282, STAT110.	Exchange semester.	AIKI210, INF264, <i>EX-PHIL.</i>	AIKI200, <i>SC 1,</i> <i>SC 2.</i>

The original structure had MAT100 as the mathematical course in the 1st semester, examen philosophicum in the 3rd semester and three specialisation courses. Starting autumn 2023, MAT100 was replaced by MAT105 to give AIKI graduates enough Mathematics and Informatics/Computer Science credits to apply for the UiB's *Master's Programme in Informatics (MAMN-INF)*. Then, starting 2025, MAT101 replaced the no longer offered MAT105, with further changes required (eliminating a specialisation course, moving examen philosophicum to the 5th third semester, adding STAT110 to the 3rd semester) so AIKI graduates would still have enough credits to apply to MAMN-INF. In the last change, STAT110 was chosen as an additional mathematics course because of two reasons: it fills the lack of statistics in the programme, and it was a specialisation course most students already took as part of the specialisation in informatics. Adding it to the 3rd semester gives the student these tools before they take INF264 (5th semester).

While these changes have been taken as opportunities to improve AIKI's structure, they have been induced by changes on aspects that are out of control of the programme council. Once again, AIKI relies heavily on courses that were designed and scheduled with other bachelor programmes in mind, and thus can only react when important aspects of those courses change.

3.2 Teaching, learning activities and assessment methods

Asses:

- *How are arrangements made for students to actively participate in the learning process?*
- *Are the content, methods and form of the education research-based? Are varied learning activities and assessment methods used in the programme?*
- *How do the learning and assessment methods contribute to students achieving the learning outcomes? Are the assessment methods designed in such a way that students can demonstrate what they have learned?*

The two main teaching activities across the different BASV-AIKI courses are lectures and seminars. Regarding the first, the style of the lectures varies (depending not only on the course coordinator but also on the course's subject), and thus so does the degree to which the students can actively participate. In particular, the 'natural sciences' nature of most of the discussed subjects makes the student participation somehow difficult: a large part of the lectures (particularly in foundational courses) consists of the presentation of concepts, ideas and methods that are critical for the whole subject, leaving not too much time for discussions. Additionally, most AIKI courses have a large number of students; this makes it difficult to have an active discussion in which most people can participate.

Still, it is through the second teaching activity, seminars, that AIKI students are encouraged to actively participate in the learning process.⁸ In these sessions, students typically work, on their own or in groups, on exercises and tasks designed for them to put to practice the sometimes abstract topics that are discussed during lectures. Through these exercises and tasks, and with the help of the seminar leaders, students get a proper understanding of the discussed topics.

As mentioned before, while the used form of education is not fully research-based (to ask new and meaningful research questions, one typically needs a proper understanding of the already established concepts and methods the questions built upon), the AIKI courses have a strong research influence due to the fact that most course coordinators are active researchers in their area of expertise (but see [Subsection 1.4](#) above for concerns regarding the availability of adequate course coordinators). Because of this, topics are typically presented in a research-oriented way: it is a research question which leads to the development of the topics that the lectures discuss. Similarly, these active-in-research coordinators

⁸In most AIKI courses, students are required to attend at least 75% of these seminar sessions.

tend to frequently update the contents of non-foundational courses, to present state-of-the-art methods & approaches as well as discuss novel topics & research directions.

The assessment methods in AIKI courses also vary. They include not only practical assignments (read: programming) but also theoretical ones as well as written reports, oral presentations and written exams. They are all designed to be aligned with each course’s specific learning outcomes, and thus they help the students to achieve them. In evaluating both theoretical and practical aspects, and in asking for different forms of presentations (written, oral) and different forms of groupwork (individual, collective), they also help the students to achieve the global AIKI’s learning outcomes that have been already discussed (Subsection 2.1).

Most courses involve a combination of the mentioned assessment methods, a fact that we see as beneficial: different students are comfortable in different situations (e.g., while some have mastered oral presentations, some others excel in written reports), and the variety gives most (if not all) students the possibility to demonstrate their learning. In the 2024 Study Barometer, AIKI got a global score of 4.3 on *student assessment* (average of similar programmes: 4.0).⁹

3.3 Workload

Provide an assessment of how the workload in the study programme is balanced between courses and whether the programme’s total workload corresponds to 1500–1800 hours per academic year (25–30 work hours per credit).

During a typical semester, a student will take three 10-credits courses for a total of 30 credits. This amounts to 60 credits per year and a total of 180 credits for the full programme, as indicated/required for first cycle qualifications by the European Higher Education Area. Under the common understanding that **one credit corresponds to 25 to 30 hours of work**, BASV-AIKI’s yearly workload corresponds to 1500 to 1800 working hours.

Every AIKI course is worth 10 credits (250–300 studying hours); thus, the workload between courses is, design-wise, balanced. A typical course consists of 16 weeks (15.625–18.75 studying hours per week),¹⁰ each one of them featuring a 2-hours lecture and a 2-hours seminar session. Thus, a typical course covers 64 working hours through lectures and seminars, leaving the remaining 186–236 hours for self-study activities throughout the semester. Different courses use these hours in different ways: while in practical courses students will spend most of this time doing programming tasks, in more theoretical courses they will spend most of this time doing readings and assignments.

It should be noted that, although the three courses per semester add up to 46.875–56.25 expected studying hours per week, the numbers as reported by the students to the Study Barometer is much lower, and has in fact decreased through the years.

Estimate how many hours per week, on average so far in this programme (not including holidays), you spend on:	2022	2023	2024
learning activities organized by the institution (including all teaching and supervision, as well as internships if relevant)	11.7	10.8	7.4
self-study (reading the syllabus, doing assignments, participating in colloquiums and other group work, etc.)	25.4	16.1	10.3
TOTAL	37.1	26.9	17.7

Regarding the number of hours spent in learning activities organised by the institution, the lectures and seminars amount to $4 \times 3 = 12$ hours per week. The fact that, in some courses, seminar sessions are not mandatory, might explain the reported numbers.

The biggest gap is shown on self-study activities, which should amount to 34.875–44.25 hours per week. So far there is no clear explanation for this.¹¹ Still, it should be noted that the numbers are not that different from BASV-INFO (Bachelor’s Programme in Information Science), the programme with which AIKI shares most of its courses (2022: 9.9+12.6; 2023: 9.5+14.7; 2024: 10.3+13.5). Still, some measures are planned (see Section 7).

⁹But note: only 32.3 % of the students filled the survey.

¹⁰In this text, the symbol for the decimal separator is the period “.”.

¹¹One could attribute partial responsibility to shortcomings of the Study Barometer. For example, the survey is carried out between October and November, the ‘calm’ period between the busy start of the semester when students are yet to adapt to each course and its hectic last weeks when students are finishing assignments and preparing for exams. There is also the standard concern about how realistic the reported information is when only a few students fill the survey (only 10 [32.3 %] in 2024).

3.4 Student participation and learning environment

Make an assessment of the academic and social learning environment in the programme.

- *How are students stimulated to be academically engaged, independent and creative?*
- *How are students socialized into student and academic environments?*
- *To what extent and in what ways are students involved in designing learning activities and assessment methods in the programme?*
- *How do students provide feedback on the quality of different elements of the programme (courses, course composition, teaching, learning environment, etc.)? How is the feedback used in further developing the study programme? Describe any measures taken.*
- *Do students have access to appropriate physical and digital learning arenas?*

The main way in which students are stimulated to be academically engaged is through course coordinators that are active researchers in the course's area. Course coordinators can transmit not only the basic knowledge and skills of the subjects under discussion, but also their enthusiasm and passion for the subject and their interests in pushing the knowledge boundaries. According to the [2024 Study Barometer](#), AIKI got a score of 3.3 on “*the academic staff make lectures and seminars engaging*” (average of similar programmes: 3.4) and a score of 3.7 on “*I am motivated for working on my studies*” (average of similar programmes: 3.8).

The main conduct for the students to socialise in a student and academic environment is [Enter](#), Infomedia's student association. Enter is the bridge between Infomedia students and the management. It functions as a consultation body for the department in matters affecting students, and as a contact point for students who want/need help with various issues.

Additionally, there is a specific student organisation for AIKI students called [Node](#). While its focus is on social and informal activities, those also include academic events as well as company visits/presentations.

Students do not have strong direct involvement in designing learning activities and assessment methods. However, as it is described below, they are part of the AIKI programme council (more precisely, they have two representatives [but, as one of them is a substitute, they have only one vote]). This is the way major proposals regarding the mentioned aspects can be conveyed and discussed by the council. In addition to this direct communication channel between the AIKI programme council and its students, there is also Enter, the mentioned student association at Infomedia, where students can voice their concerns on the mentioned topics. Minor feedback on the same aspects can be communicated directly to the course coordinators via each course's students' evaluation, as detailed below.

For courses based on AIKI's host department (Infomedia), students provide feedback on their quality on specific teaching issues through each course's students' evaluation. This survey takes place in the last weeks of each course, and asks the students to report on objective aspects (e.g., the number of weekly hours they spent on the course) as well as on subjective ones (e.g., their opinion on the syllabus, their view on the competence of the lecturer, their perceived appropriateness of the teaching methods & forms of assessments). These reports are sent to the course coordinators so they can reflect on the findings. Then, every course coordinator provides, at the end of the course, a report in which, among other things, they can reflect on the students' feedback. The department encourages the coordinators to take the feedback into account for improving the next instalment. AIKI courses designed and created by other departments have their own tools for gathering feedback from the students.

For feedback on course composition and learning environment, two AIKI students are member of the BASV-AIKI programme council.¹² This is the channel through which students can voice their ideas, opinions and concerns regarding these more high-level aspects. In fact, the students' opinions, brought to the BASV-AIKI programme council by the mentioned representatives, has played a role in the two structural changes AIKI has experienced (see [Subsection 3.1](#)).

On the students' access to appropriate physical learning arenas (i.e., infrastructure), the [Study Barometer](#) reports a score of 3.3 (on a scale between 1 [*“not satisfied”*] and 5 [*“very satisfied”*]) regarding rooms (significantly lower than the 3.9 scored on average by other information and computer technology bachelors) and a score of 3.7 regarding equipment & tools (essentially the same as the 3.8 averaged by similar programmes). An explanation for the former can be the large number of students the Faculty of Social Sciences hosts. Due to this, it is difficult to provide all the courses with state-of-the-art

¹²Note, again, that they have only one vote.

classrooms, and some lectures must take place in not fully ideal conditions (e.g., rooms without enough space or without streaming/recording equipment).

On their access to digital arenas, the same source reports a score of 4.7 regarding library & library services (significantly higher than the 4.1 scored on average by similar programmes, and quite close to 5, the highest possible score) and a score of 3.7 regarding ICT tools & services (essentially the same as the 3.8 averaged by similar programmes).

Finally, it should be noted that, regarding the “*study environment*”, the [Study Barometer](#) reports a total score of 4.2, significantly higher than the 3.6 scored on average by other similar bachelor programmes.

4 Results and relevance

Contributions from students, external colleagues and representatives from society or the working world should be reflected in this chapter. The program council must itself assess what information and relevant data is available.

Other relevant data sources for this chapter include the Study Barometer, SHOT, Student and course evaluations, and Reports in Tableau and Star created specifically for the purpose of student admissions, study progression, completion and candidate production.

4.1 Recruitment and admissions

Provide a brief assessment of the study program’s results in terms of recruitment and admissions (last 5 years). Asses:

- *Is student recruitment sufficient to maintain the study program with a solid academic offering and a good learning environment?*
- *Has the academic community implemented measures to strengthen recruitment to the program?*
- *Is there a need to make changes to the admission requirements for the study program?*

The table below ([source](#)) shows more detailed figures regarding recruitment and admissions.

	Study places	Applicants				Registered		
		Total	1st priority	Qualified	Qualified 1st priority	Total	Female	Male
2021	30	1 325	156	1 142	137	30	8	22
2022	30	770	87	708	78	38	12	26
2023	30	870	87	762	71	46	12	34
2024	34	999	108	802	83	32	11	21
2025	38	773	90	595	67	40	10	30

It has been already discussed ([Subsection 1.3](#)) how the number of study places has slightly increased the last two years and how the number of applicants has since 2022 remain somehow stable. These more detailed numbers show, additionally, how the number of applicants considering AIKI their first option, the number of qualified applicants and the number of qualified applicants with AIKI as their first option have ‘stabilised’ (all these showed in 2023 a sharp increase which has since then go back to ‘normal’). All in all, the student recruitment is more than enough to cover the number of study places AIKI offers. While this latter number (offered study places) might be considered low (compared with the number of applicants and with the number of qualified applicants, it definitely is), it is the number of students for which Infomedia can guarantee a proper learning environment, particularly under the current heavy workload the department’s scientific and administrative staff are under. This is quite unfortunate, as the number of qualified 1st priority applicants regularly exceeds (and regularly doubles) the number of offered places.

Currently, there is no need to change the admission requirements (for applicants from the Norwegian education system: general study competence and MATRS [R1 or S1+S2]; for other applicants: higher education entrance qualification with some background in mathematics).

4.2 Completion and candidates

Make an assessment of the degree of completion of the study program, reasons for dropouts and the total candidate production in the years since the previous program evaluation. Briefly discuss relevant measures that have been

implemented to reduce dropouts and which measures will be implemented in the coming period.

The numbers for dropouts and total graduates (on time), as presented in [Subsection 1.3](#), is as follows.

Cohort	21-24	22-25	23-26	24-27	25-28	Total G.	Total D.
Registered	30	38	46	32	41	68	187
Graduates							
• Total	16	22	1	0	0	38	—
◦ On time	13	22	1	0	0	35	—
• Total (%)	53.33%	57.89%	2.17%	0.00%	0.00%	55.88%	—
◦ On time (%)	43.33%	57.89%	2.17%	0.00%	0.00%	51.47%	—
Dropouts							
• Total	11	11	19	6	0	—	47
◦ First year	10	7	14	6	0	—	37
• Total (%)	36.66%	28.92%	41.30%	18.75%	0.00%	—	25.13%
◦ First year (%)	33.33%	18.42%	30.43%	18.75%	0.00%	—	19.78%

The two rightmost columns try to put the numbers for dropouts and graduates (respectively) in a proper context. The first, “**Total G.**”, indicates that, among the 68 AIKI students that could have graduated so far (the sum of the cohorts whose 3-year period has already finished [2021, 2022]), a total of 38 (the 55.88%) have done so. In fact, out of those 68 AIKI students that could have graduated, a total of 35 (the 51.47%) have done so in the standard 3-years’ time. This continues a pleasant trend for bachelor programmes at Infomedia: each one of its 7 bachelor programmes had, in 2024, a higher ‘on-time graduation rate’ than the average for all bachelor programmes at UiB.¹³

It should be noted that, for graduates on time (cohorts 2021 and 2022), the AIKI percentage (per year: 43.33% and 57.89%; in total: 51.47%) are in line with those of the faculty for bachelor programmes in 2023 (52.01%) and 2024 (50.82%), and in fact close to the 54.42% registered in the record year 2022.¹⁴

The second column, “**Total D.**”, indicates that, among the 187 students that have registered as first-year AIKI students (the sum of all cohorts so far), a total of 47 (the 25.13%) have dropped from the programme. (A total of 37, the 19.78%, have dropped from the programme within their first year.) It should be noted that the cohort with the largest percentage of dropouts, 2023 (41.30% have dropped) is that in which, due to an administrative mistake, more students than intended received the offer to register.

It is not easy to single out general reasons why students leave the AIKI programme, particularly because there are only few cohorts (and, additionally, each one of them is relatively small). One reason that has been advanced is that the term “artificial intelligence” has, in popular culture, a meaning that surpass its reality. Some students’ expectations of designing ‘intelligence agents’ and even ‘robots’ soon after joining AIKI might come to a crash when the first year involves courses on mathematics (e.g., MAT101 and MAT121) and on theoretical computer science (e.g., AIKI100, INFO104). As mentioned above, the BASV-AIKI UiB’s website already contains what we consider the essential programme’s information, including the study plan. Still, an effort has been made to provide more clear information to prospective students (in particular, during AIKI’s open day, typically scheduled on February) about the courses BASV-AIKI has and how these contents rely on a strong theoretical (in particular, mathematical) foundation.

4.3 Relevance and contact with working life

Use information and feedback from alumni and representatives from work or society to assess the study program’s relevance to working life:

- *How is the work done to highlight and ensure that the study program is relevant to working life and society’s competence needs? What is the job market like for graduates?*
- *To what extent are students prepared for a changing labour market and future competence needs?*

¹³Source: Study quality report 2024-2025 for the Department of Information Science and Media Studies.

¹⁴Faculty numbers from the “*Resultater innen utdanningsfeltet. Rapportert til DBH våren 2025*” report.

- *Are students offered relevant work experience during their studies and are the work assignments adapted to the students' professional competence level?*

This is probably the area in which the programme needs most improvement: in the most recent [Study Barometer](#), BASV-AIKI got a low score on issues related to working life (1.9 vs the 3.1 reported, on average, by similar bachelor programmes [scale: 1=“to a low degree”; 5=“to a high degree”]). To be sure, this score reflects *the students' opinions* on the quite specific issues the survey focusses.¹⁵ Still, the results highlight important trends: AIKI scored particularly low on “*Representatives from the labour market contribute to teaching (e.g. as guest lecturers/instructors)*”, “*There are possibilities for cooperating with representatives from the labour market on projects/coursework*”. Regarding these aspects (which have been also highlighted by the programme's external sensor), efforts are already in place to establish proper and long-term collaboration channels between the AIKI programme and the industry (an initial example is the [career seminar](#) that took place this November). This will help to eventually have workplace representatives during courses; it will also make possible to have workplace-related projects during courses. Slightly more details on the latter are discussed in [Section 7](#).

AIKI also scored low on “*I receive useful information about how my skills and knowledge can be used in the labour market*” and “*I receive training in how to convey my skills and knowledge to potential employers*”. These are also deficiencies to amend. Still, one might advance an explanation for the low score. Although modern AI is a field in which “expertise” is understood, by many, as the ability to use specific tools, the BASV-AIKI programme has been designed to provide the students not with the ability to use particular systems, but rather with the ability to understand the principles and fundamentals behind them. To give an example: AIKI students might not learn how to use every programming language (maybe not even the most recent), but they will learn how to program in different programming paradigms (e.g., imperative, declarative). This skill will allow them to learn and master any programming language they face in their post-AIKI life. More generally, while AIKI courses discuss practical aspects, they make particular emphasis on the theoretical grounds on which they lie. As such, they provide the students with stronger foundations that make them competent for the current trends in the job market, and also give them fundamental skills that will last throughout their lives and will remain relevant as long as technological systems remain important. Our focus on dealing with the low scores in these aspects is to communicate better these ideas to the students.

Finally, BASV-AIKI's low scores in the Study Barometer concerning work-life-relevance should be also seen in a larger context: they are essentially the same across most programmes at the faculty.

Unfortunately, this report does not contain testimonials from the industry about the programme's relevance. The programme lacks proper collaboration channels with the industry (and, as emphasised later, it does not include an internship period), so there are no sources to obtain this information. The only ‘official’ contact has been through the final project course AIKI200, where two students carried out projects connected with their workplace.¹⁶ There is already work towards expanding this weak connection (see [Section 7](#)); this should help to establish communication channels to obtain the opinion from the industry about AIKI's relevance.

5 Other requirements for the study programme

5.1 Internationalization

The exchange requirement applies to study programs that lead to a degree.

- *Does the study programme have arrangements for internationalisation that are adapted to the level, scope and nature of the study programme?*
- *Does the study programme have arrangements for international student exchange that are academically relevant to the study programme?*

BASV-AIKI considers academic exchange as a crucial aspect to prepare the students for a global world. As such, as described in the programme's structure, during the 4th semester (2nd year) AIKI students can

¹⁵It is also worthwhile to remember that only [10 students \(32.3%\)](#) filled this survey.

¹⁶For what is worth, these projects were deemed successful by their workplace supervisors (“*To sum all this up we suggest a score of 89/100 and a very good report*” and “[*The student*] has done a good job here in presenting the project in a business context and the thesis captures both the rationale for the current setup in a good way as well as highlighting its limitations”).

visit a foreign institution and take courses there. Analogously, BASV-AIKI welcomes students studying from foreign institutions that want to spend a semester in our courses. It should be noted that all this happen not from particular arrangements BASV-AIKI has, but rather through the student exchange structure provided by the Faculty of Social Sciences, the Faculty of Natural Sciences and the University of Bergen. In the case of outgoing students (AIKI students visiting a foreign institution), they must submit in advance the list of the courses they want to enrol to. The proposal is evaluated (and, given the case, approved) by the AIKI programme council, to ensure not only that the proposed courses fall into the level, scope and nature of the study programme, but also that there is no overlap with any of the programme's mandatory courses.

Here are some statistics concerning outgoing students ([source](#)).

Cohort	2021	2022	2023
Exchange period	Spring 2023	Spring 2024	Spring 2025
# active students	19	31	30
# exchange students	12	6	7
% exchange students	63.15%	19.35%	23.33%
# of different countries	5 ¹⁷	5 ¹⁸	4 ¹⁹

5.2 Studies with practice

- *How do the study's internship periods work and are they in line with the education's framework plan, if any?*
- *Is there an internship agreement with the internship location? Do the internship supervisors have relevant expertise and experience from the internship field?*

BASV-AIKI does not include an internship period; thus, there is nothing to report in this regard. However, several of our students work in the industry during their studies, which gives them the opportunity to put to practice the knowledge they receive in the classrooms. This is particularly encouraged during the 6th semester course AIKI200 (Bachelor Thesis in Artificial Intelligence), where some students have carried out projects connected with their workplace.

5.3 Study regulated by national framework plans and/or guidelines

- *Is the curriculum for the program in line with national frameworks/guidelines, etc.?*

As discussed through [Subsection 2.1](#), the programme is in line with the [2023-2030 Strategy of the Faculty of Social Sciences](#), the [UiB's Strategy 2023-2030 for High Quality Education \(Utdanning av høy kvalitet\)](#) and the [National Qualifications Framework for Lifelong Learning](#) (for BASV-AIKI: Level 6).

6 Professional environment

The Study Supervision Regulations §2-3 Requirements for the academic environment, contains a total of seven paragraphs with provisions on the academic environment associated with the study programme, including the size of the academic environment, educational competence, level of competence, participation in national and international collaborations, etc.

All provisions must be met, but if the study programme has been established or reaccredited in the last 6 years, it is sufficient to describe significant changes since the last evaluation. In cases where there is doubt as to whether some of the regulatory requirements have been met, this is assessed separately.

§ 2-4 Special provision on academic environment provides some exceptions related to the expertise of the academic environment in cases where the study programme has a scope of 30 credits or less, and if it is given in collaboration with external environments that conduct research, artistic development work or academic development work at the level of the institution's own academic environment.

Section 3-2 of the Study Quality Regulations has three sections with provisions related to the accreditation of master's degree studies that must be followed, including requirements for breadth, a broad and stable academic en-

¹⁷Spain (x4), Australia (x3), Denmark (x2), Italy (x1), Germany (x2).

¹⁸Denmark (x1), China (x1), Japan (x1), Italy (x1), USA (x2).

¹⁹Australia (x4), Hungary (x1), Germany (x1), USA (x1).

vironment with high academic competence in the field and with high-level results from collaboration with academic environments nationally and internationally. All sections must be met.

Concerning the [requirements for the academic environment](#), BASV-AIKI was established 4 years ago, so this report does not discuss the provisions. However, it should be noted that, due to the economic situation the faculty has recently experienced, the number of permanent scientific staff positions in AIKI's host department, Infomedia, has remain unchanged in the last years. This, together with the departure of one associate professor, sabbatical years for others and the unfortunate loss of yet another, has increase the amount of work for scientific staff to an almost breaking point. To deal with this, several members have coordinated more than one course per semester, and postdocs as well as PhD candidates have been asked to take the role of course coordinators.

Within Infomedia, there have been discussions about options to alleviate the workload. Although nothing has been decided yet, the options include eliminating certain courses or change the structure of certain programmes, to distribute better the current resources. This will certainly affect AIKI since, as mentioned before, it relies mostly on courses designed with other bachelor programmes in mind, and thus can only react when important aspects of those courses change. The excessive workload also implies that plans to improve the programme or even simply to make it more robust (e.g., the creation of courses [on other relevant topics, with these courses] designed and scheduled for BASV-AIKI) cannot be implemented in the near future.²⁰

The [provisions for a study programme that has a scope of 30 credits or less](#) do not apply to BASV-AIKI. Neither do the [provisions related to the accreditation of master's degree studies](#).

7 Proposals for possible measures and plan for follow-up

Briefly, preferably in tabular form.

Regarding how information about the programme is communicated ([Subsection 2.2](#)).

- BASV-AIKI's main webpage will be translated to English soon. Still, we do not consider this crucial, as several courses in the programme are taught only in Norwegian.

Regarding the low workload reported by the students ([Subsection 3.3](#)).

- The course coordinators will be reminded of the number of working hours each course amounts to. They will also be asked to make the students aware of this in the first lecture of the course.

Regarding contact with working life ([Subsection 4.3](#)).

- Establishing proper collaboration channels between AIKI and the industry will start by allowing students to work on workplace-related projects during AIKI200, the 6th-semester course where the students develop their 'final' project. This already took place on a quite small scale in the spring of 2025 (2 out of 31 students worked on workplace projects), and the expectation is to have, within the next few months, a fully developed plan expanding on this which can be implemented during spring 2027.
 - The idea is to emphasise the importance of learning the theoretical grounds on which the practical aspects lie: they give the students fundamental skills that will make them competent for most technological-related jobs. We will do so during the courses and on BASV-AIKI's website.
-

²⁰The same goes for the creation of a matching *Master's Programme in Artificial Intelligence*. This would give the possibility to 'uncompress' the somehow packed structure of the programme, not to mention the creation of a natural academic continuation over which BASV-AIKI would have control. However, this is not possible under the current circumstances.

Vedlegg 1: Lenke til 3-årig emneevalueringer, egenvurderinger og eksterne fagfelleevalueringer

Lenke til Institutt for Informasjons- og medievitenskap i studiekvalitetsbasen:

<https://kvalitetsbasen.app.uib.no/?year=2022&faknr=15&instnr=17>

3-årige emneevalueringer og egenvurderinger finnes under «Emne» på Institutt for Informasjons- og medievitenskap i studiekvalitetsbasen.

Eksterne fagfelleevalueringer finnes under «Studieprogram» på Institutt for Informasjons- og medievitenskap i studiekvalitetsbasen.

Studieplan for BASV-AIKI Bachelorprogram i kunstig intelligens, høst 2025

Omfang og studiepoeng

Studiet er treårig (180 studiepoeng)

Namn på grad

Bachelor i kunstig intelligens

Fulltid/deltid

Fulltid

Undervisningsspråk

Norsk/engelsk

Studiestart - semester

Mål og innhald

Kunstig intelligens er ein fagdisiplin som studerer syntese og analyse av digitale agentar. Ein digital agent er eit program som har evna til å oppføre seg intelligent, sjølv om det kanskje er i svært avgrensa kapasitet. Dei sentrale måla for kunstig intelligens er:

- å konstruere og evaluere hypoteser om korleis ein kan konstruere digitale agentar.
- å designe, byggje og eksperimentere med datasystem som utfører oppgåver som ein ofte tenkjer at krev intelligens.
- å nytte resultata frå det som er nemnt ovanfor til å forbetre funksjonane til eksisterande digitale og robotiske system.

I kunstig intelligens studerer vi tema som læring, kunnskapsrepresentasjon og resonnering, multiagent-system, søk, planleggjing, naturleg språkhandsaming, robotikk og persepsjon.

Læring innan kunstig intelligens dreier seg om korleis ein kan forbetre åtferda til ein digital agent over tid, og korleis vi trekkjer ut ny kunnskap frå data.

Kunnskapsrepresentasjon dreier seg om korleis informasjon som ein gjev i ei form forståeleg for menneske, til dømes tekst, bilete, lyd etc. kan vere representert i ei maskinforståeleg form, til dømes logikk, binær kode, programmeringsspråk etc. Automatisk resonnering studerer korleis ein kan byggje algoritmar som løyser problem og ta avgjerder ved bruk av informasjon og kunnskap representert i ei maskinforståeleg form.

Multiagent-system dreier seg om modellering av kunstige agentar, einingar som er i stand til å oppfatte inntrykk frå omgivnadane, forme og følgje måla sine og samhandle med miljøet, som òg kan bestå av andre agentar. Feltet handlar både om modellering og simulering av interaksjon mellom agentar.

Søk og planlegging er to felt som handlar om intelligent problemløysing, korleis ein kan nå mål og korleis ein utviklar algoritmar som lager ein plan for å oppnå eit mål ut frå evnene, miljøavgrensingane, og ressursavgrensingane til agenten.

Naturlig språkhandsaming er spesielt opptatt av maskinforståing og manipulering av naturlege språk.

Persepsjon dreier seg om å utvikle evna som ein digital agent har til å observere omgjevnadene sine. Ei av utfordringane handlar om korleis ein digital agent kan identifisere objekt i den verkelege verda (til dømes via video-, lyd- eller billeteopptak) og om tilhøva mellom desse objekta.

Robotikk dreier seg om å byggje intelligente fysiske agentar og forbetre moglegheitane til dei eksisterande maskinane. Desse inkluderer både industrirobotar, husholdningsrobotar, autonome kjøretøy og autonome system generelt.

Læringsutbyte

Kandidaten skal ved avslutta program ha følgjande læringsutbytte:

Kunnskap

- har brei teoretisk forståing av korleis kunstig intelligens-støtta system (AI-system) fungerer og er konstruerte.
- forstår korleis ein programmerer og eksperimenterer med AI-system ved hjelp av metodar frå maskinlæring, symbolsk resonnering og algoritme-analyse.
- forstår korleis tekniske kunstig intelligens-løysingar kan ha etisk relevans for samfunn og individ.

Ferdigheiter

- kan programmere nye kunstig intelligens-system og eksperimentere med eksisterande system

- kan analysere, beskrive og løyse problem ved å nytte kunstig intelligens-metodar
- kan evaluere eit kunstig intelligens-system med omsyn til i kor stor grad det kan gjerast ansvarleg, er transparent og kan ta balanserte avgjerder.
- kan forklare kunstig intelligens-teori til ikkje-fagpersonar

Generell kompetanse

- kan bidra som IKT-systemutviklar i ulike typar roller, i eit spenn som omfattar alt frå kommunikasjon med brukarane til avansert teknisk utvikling
- kan samarbeide i gruppe- og prosjektarbeid
- kan utarbeide skriftlege rapportar og dokumentasjon og gje munnleg presentasjon av eget arbeid

Opptakskrav

Generell studiekompetanse og MATRS (R1 eller S1+S2)

Innføringsemne

AIKI100 er obligatorisk innføringsemne i bachelorgraden i kunstig intelligens.

Rekkefølgje for emne i studiet

Bachelorgraden i kunstig intelligens er eit særskilt tilrettelagt studieprogram med ei normert studietid på tre år, tilsvarande 180 studiepoeng. Alle emna i programmet er obligatoriske, og studentane bør ta dei i den rekkefølgja som er bestemt av programstyret for kunstig intelligens.

Graden består av følgjande emne som alle er obligatoriske (talet på studiepoeng i parentes):

1. semester, haust:

- AIKI100 Innføring i kunstig intelligens (10 stp)
- INFO132 Innføring i programmering (10 stp)
- MAT101 Brukarkurs i matematikk I (10 stp)

2. semester, vår:

- AIKI110 Artificial agents (10 stp)
- INFO104 Formelle metodar for informasjonsvitskap (10 stp)
- MAT121 Lineær algebra (10 stp)

3. semester, haust:

- STAT110 Grunnkurs i statistikk (10 stp)
- INFO180 Metodar i kunstig intelligens
- INFO282 Knowledge Representation and Reasoning (10 stp)

4. semester, vår:

- Utvekslingssemester / Valemne (30 stp)

5. semester, haust:

- AIKI210 Etikk i kunstig intelligens (10 stp)
- INF264 Innføring i maskinlæring (10 stp)
- Examen philosophicum (10 stp)

6. semester, vår:

- AIKI200 Bachelor Thesis (10 stp)

To av følgjande emne (20 stp):

Informasjonsvitskap:

- INFO215 Web Science
- INFO216 Knowledge Graphs
- INFO125 Data Management
- INFO135 Vidarekommande programmering

Informatikk:

- [INF227](#) Innføring i logikk
- [INF237](#) Algoritme-engineering
- [INF250](#) Dataorientert visuell berekning
- [INF265](#) Deep Learning
- [STAT111](#) Statistiske metodar
- [MAT111](#) Grunnkurs i matematikk I

Om studentane ikkje ønskjer å ta ei av dei to spesialiseringane (informasjonsvitskap eller informatikk), kan dei søkje om å velje andre emne i femte og sjette semester. Dei søkjer til studierettleiar før starten av fjerde semester. Programrådet vil så vurdere søknaden.

Delstudium i utlandet

Det finst i dag mange alternativ for studenter som ønskjer å ta delar av utdanninga di i eit anna land. Universitetet i Bergen har samarbeidsavtaler med universitet, institusjonar og organisasjonar i mange land og regionar. Eit eventuelt delstudium i utlandet vert tilrådd lagt til fjerde semester av studiet.

Arbeids- og undervisningsformer

Undervisinga vil normalt bestå av førelesingar, seminarundervising og undervisning/rettleiing på datalab.

Vurderingsformer

Emna som inngår i det tilrådde studieløpet nyttar hovudsakleg ulike kombinasjonar av følgjande eksamensformer: skriftleg

skuleeksamen, munnleg eksamen, karaktersette oppgåver og mappeevaluering.

Relevans for arbeidsliv

Gjennom studiet i kunstig intelligens vil du tileigne deg både ein yrkesrelevant IT-kompetanse og ei akademisk evne til kritisk analyse og nytenking. Det gir deg ein dobbel kompetanse som er svært etterspurt på arbeidsmarknaden. Studiet kvalifiserer for undervising og arbeid i ulike fag avhengig av spesialiseringa du vel i det tredje året av studiet.

Studiet kan og byggast ut med masterstudium i fleire retningar, som kvalifiserer for forskning og undervisning innanfor universitets- og høgskulesektoren.

I den siste delen av studieprogrammet kan du spesialisere deg ut i frå interessene dine. Du kan velje å lære meir maskinlæring og programmering, som er ettertrakta i mange stillingar i industrien og i offentleg sektor. Du kan òg orientere deg meir mot forskning innanfor kunstig intelligens-tema, noko som vil gje deg ferdigheiter som er etterspurde hos selskap som satsar på ny teknologi i kunstig intelligens eller autonome system.

Evaluering

Alle studieprogram og emne blir evaluert i tråd med UiBs kvalitetssystem for utdanning.

Administrativt ansvarleg

Det samfunnsvitenskapelige fakultet ved Institutt for informasjons- og medievitenskap har det administrative ansvaret for studieprogrammet.