

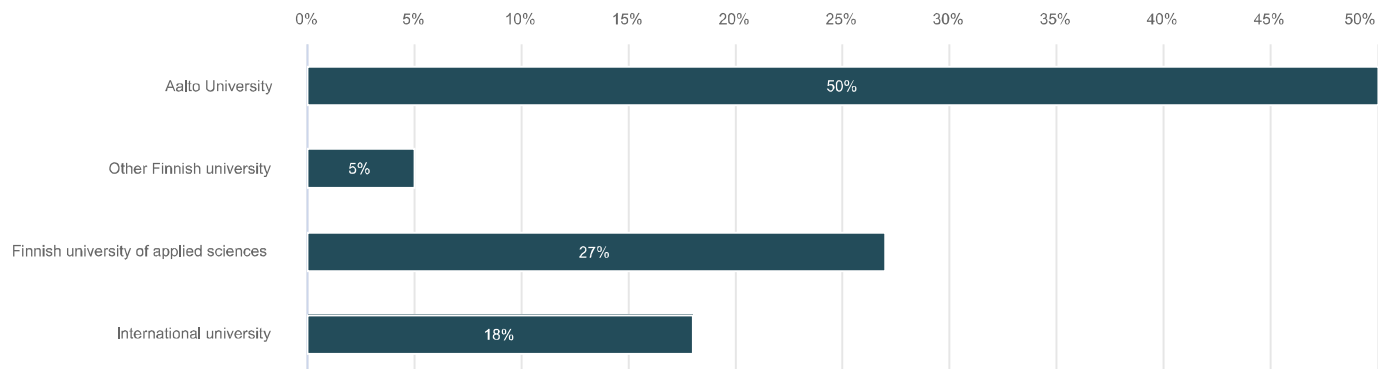
Perusraportti

WAT Survey 2022

Total number of respondents: 22

1. Your previous degree (before WAT Master's Programme) is from:

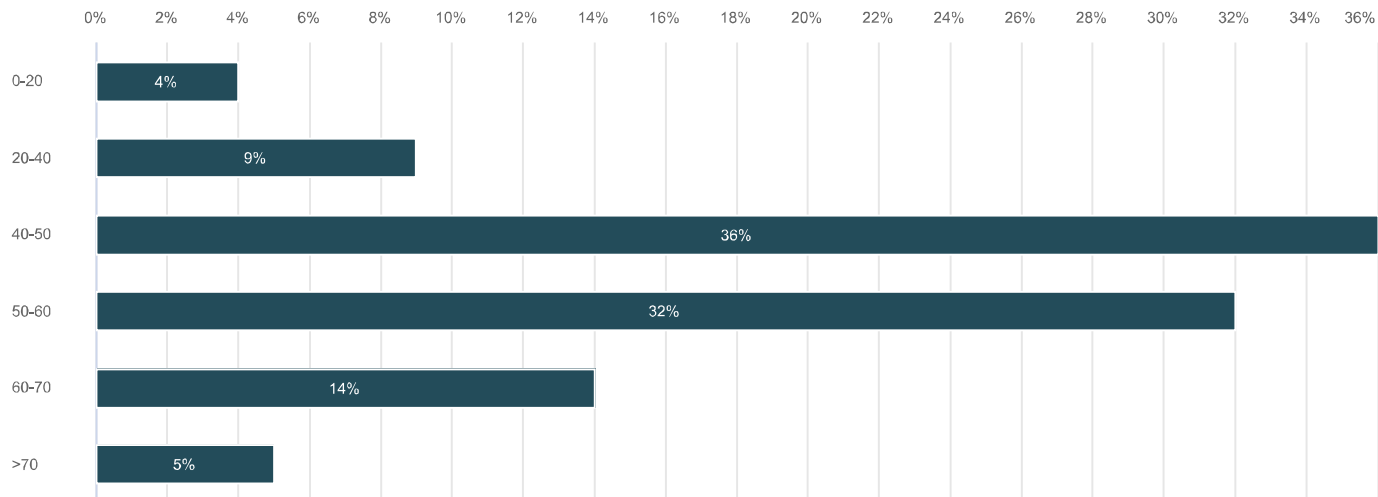
Number of respondents: 22



	n	Percent
Aalto University	11	50,0%
Other Finnish university	1	4,5%
Finnish university of applied sciences	6	27,3%
International university	4	18,2%

2. The approximate number of credits you have achieved during the first year in WAT Master's Programme:

Number of respondents: 22



	n	Percent
0-20	1	4,6%
20-40	2	9,1%
40-50	8	36,4%
50-60	7	31,8%
60-70	3	13,6%
>70	1	4,5%

3. Please, elaborate shortly on the number of your credits: Why have you studied this amount of courses, and are you satisfied with it? Does the number of credits correspond the planned amount? Why/why not?

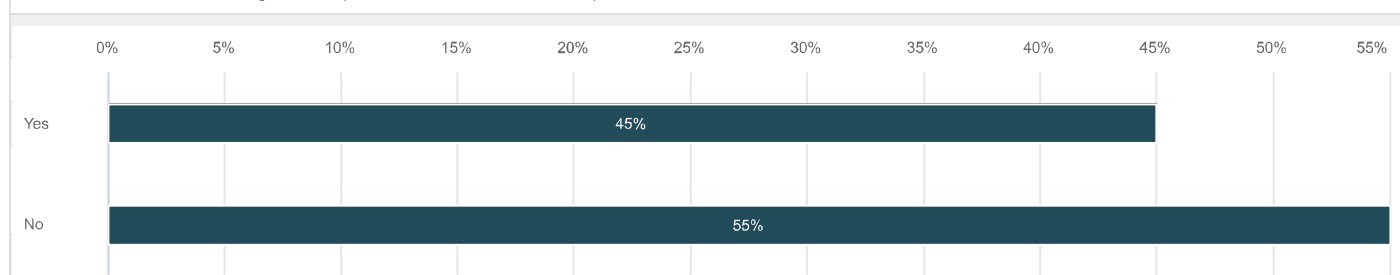
Number of respondents: 22

4. Have you worked during your studies?

Responses

Number of respondents: 22

I needed 60 credits to finish the degree, I have planned 60 credits and will thus complete 60 credits



My study load was based on my time availability to study. I would like to graduate in time, though I would like to have extra free time, thus 10 credits/period was a suitable workload. I am satisfied with my study load, with my approach I was able to spend time on learning and get satisfactory grades for me

Response	n	Percent
Yes	10	45,5%
No	12	54,5%

I start to finish every mandatory course this year and start my thesis in the second year. The completed credits are the same with what I have planned

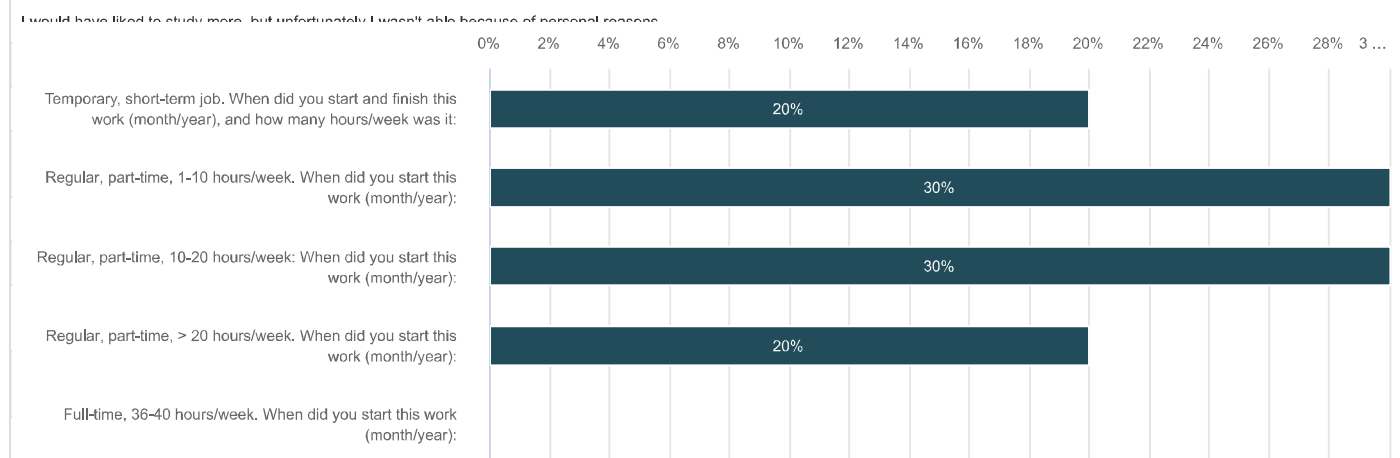
number of credits I had planned to achieve so I am satisfied.

I thought I would have earned more credits and stayed on schedule (i.e. getting 60 credits) but the amount of work and the laborious of the courses were a big surprise.

This year I only studied 33 credits but I took courses for 10 credits already before I started in WAT-program, so I have 43 credits now after the first year. I'm satisfied with that amount and it does

5. Please, select the option that best describes your working, and specify in the text box:

Number of responses for the spring. All my credits are from the autumn.



for my future career, finishing too many courses in relatively short time that is available for each period doesn't feel appropriate way to build a basis for profession. Also, adequate possibility for recovery and free-time are important in a terms of long-term wellbeing.

I have planned to complete Major and Minor courses and finish this take (in total) courses within 10 weeks and I will take more than 60 credits to focus on my Master's thesis next fall semester.

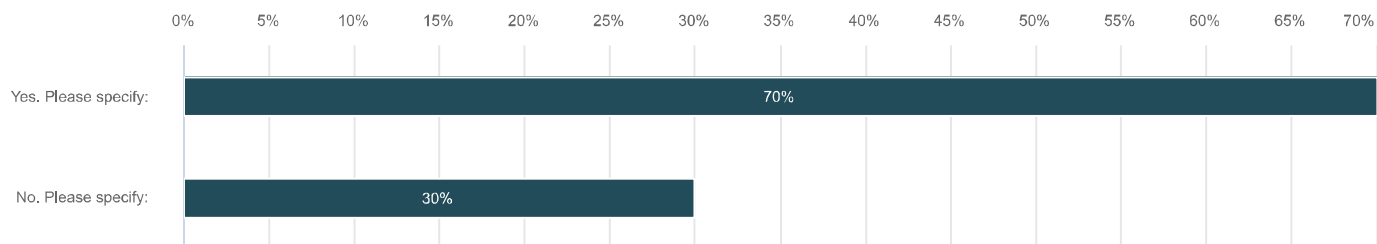
Working Arrangement	n	Percent
Regular, part-time, 1-10 hours/week. When did you start this work (month/year):	3	30,0%
Regular, part-time, 10-20 hours/week: When did you start this work (month/year):	3	30,0%
Regular, part-time, > 20 hours/week. When did you start this work (month/year):	2	20,0%
Full-time, 36-40 hours/week. When did you start this work (month/year):	0	0,0%

Answers given into textfield

Option names	Text
Regular, part-time, 10-20 hours/week: When did you start this work (month/year):	10/2021
Regular, part-time, 10-20 hours/week: When did you start this work (month/year):	09/2021
Regular, part-time, 10-20 hours/week: When did you start this work (month/year):	Many periods in different places: April/2021-May/2021 and September/2021-December/2021, April/2022-May/2022
Temporary, short-term job. When did you start and finish this work (month/year), and how many hours/week was it:	I started my summer job in the beginning of the May as a part time to be able to finish even one course in the last period.
Temporary, short-term job. When did you start and finish this work (month/year), and how many hours/week was it:	Separate assignments seldomly. May take around 6 - 14 h / week
Regular, part-time, 1-10 hours/week. When did you start this work (month/year):	Summer job and different jobs in school
Regular, part-time, 1-10 hours/week. When did you start this work (month/year):	5/2019
Regular, part-time, 1-10 hours/week. When did you start this work (month/year):	2020
Regular, part-time, > 20 hours/week. When did you start this work (month/year):	1/2018
Regular, part-time, > 20 hours/week. When did you start this work (month/year):	5/2020

6. Is your work related to WAT field?

Number of respondents: 10



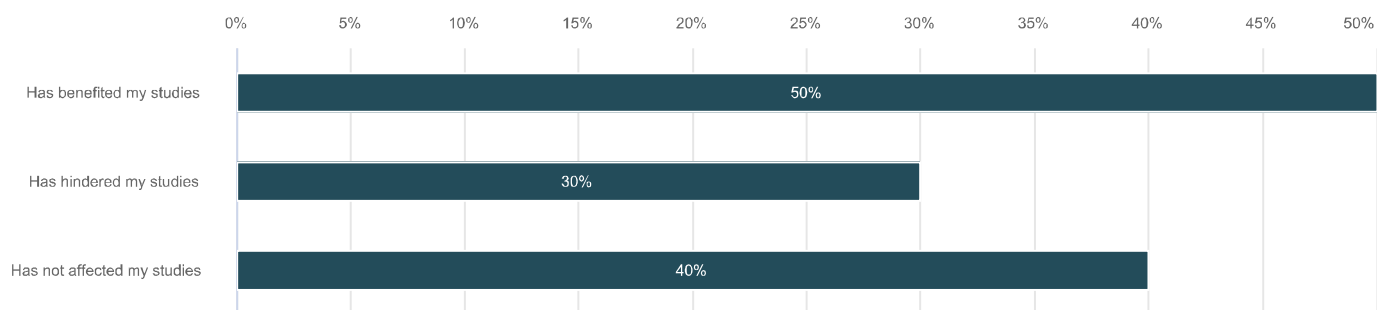
	n	Percent
Yes. Please specify:	7	70,0%
No. Please specify:	3	30,0%

Answers given into textfield

Option names	Text
Yes. Please specify:	Water consumption in buildings
Yes. Please specify:	Industrial Water treatment
Yes. Please specify:	I work with water network model
Yes. Please specify:	Working in the municipal water utility.
Yes. Please specify:	Current job: Carbon and material footprint calculations; Previous job: Stormwater management reporting, carbon footprint project
Yes. Please specify:	Vesihuollon suunnittelija (verkkosuunnittelu, vesihuollon omaisuudenhallinta)
Yes. Please specify:	Fisheries region management planning
No. Please specify:	Data analyst
No. Please specify:	athlete
No. Please specify:	Adventure shop

7. Has your work affected your studies (benefited/hindered)? Please specify your answer(s) to the text box after your answer(s).

Number of respondents: 10 , selected answers: 12



	n	Percent
Has benefited my studies	5	50,0%
Has hindered my studies	3	30,0%
Has not affected my studies	4	40,0%

Answers given into textfield

Option names	Text
Has hindered my studies	I pushed myself to harsh with both sides and was so stressed. However my priority is studying so if it's too much then I reduce my working hours. But if the course was not my interest, I put less effort to that course
Has hindered my studies	Sometimes it is difficult to unite work and studies
Has hindered my studies	During the November and March schedules overlapped a bit.
Has benefited my studies	More confidence and knowledge

Option names	Text
Has benefited my studies	I have learned a lot useful things during my studies and they have widened my knowledge and understanding of water and wastewater services and it is totally useful in my work.
Has benefited my studies	Balance
Has benefited my studies	Giving broader context to study topics and motivates cause I have seen how I can apply my knowledge.
Has benefited my studies	Water governance context, sustainable natural resources management, GIS methods
Has not affected my studies	study program focuses on different topics than my job
Has not affected my studies	But sometimes not, perhaps I have some experience from work

8. What are the most central pieces of knowledge you have learned during your first year of studies, and why do you consider those important?

Number of respondents: 22

Responses
hydrological modelling, did not know much about that before
Very broad view about water quality issues, treatment possibilities, a lot of new knowledge about hydrology ,both theoretical and practical, water network design and assessment, governmental aspects of water (especially flood risk management), relationship between water and sustainability and SDG:s.
The know-how of theory based knowledge. Also, the groupwork and presentations. These are most important assets when it comes To work life.
Hydrology, water circulation in the soil and effects of stormwater and surface water. In addition, knowledge of water and wastewater networks. I think I will need this knowledge at work.
Now that my job is to plan water and wastewater networks in cities I have to say that studying it has been useful. Other more universal thing I have realised is the importance of water. How it really is essential in everything everywhere
You can not challenge belief with logic. Emotions control people. This seems to be true even for the technically talented people. People will sacrifice their critical thinking when there is a pressure to have a consensus about reality.
Time management, communication with students and professors. Chemical, physical and biological water treatment methods. Sustainability topics
Every knowledge I learned was important. In my opinion, the field of hydrology was very interesting and completely new to me, because I did not study it during my bachelor's. I think that has added new insights to my current job.
learned a lot about the different fields involved in water and environmental engineering. The understanding of the varied WAT field elaborated. I learned about water and development, hydrology, water systems, water resource management, sustainability and others.
Urban Water Systems course gave a very wide and diverse knowledge of the operation and maintenance of whole water utility and its services. Also, I got to deepen my knowledge of water and wastewater treatment.
I found the knowledge from the course Water and Governance most important because of there was so much new information and also the non-technical aspects were considered. I believe that especially the understanding of the non-technical aspects will help a lot in the future when co-operating with people from other fields. The course gave more broad thinking.
I have learned most about water supply and sanitation services in general and concept of sustainability in environmental engineering. The main learning outcomes were related to water distribution network, asset management of water services and effects of climate change in terms of competent risk management and contingency planning. Themes included in concept of sustainability were for example different appraisal methods (MIPS, CBA, MFA, MCDA) and different frameworks (Planetary boundaries, Donut shaped model, SDGs, Nexus approach). One of my possible interest is wastewater treatment so knowledge of water supply and sanitation services is essential. Also general knowledge of sustainability in environmetal engineering is important in any workplace in this field.
Broad general knowledge of the field from the first course in the autumn
Scientific background of sustainability (very useful for future work life) Basis of each field from our master's peogram (easy to decide which to focus on more) Governance models (understanding the structure of water field collaborations, stakeholders and companies)
Teamwork PBL especially through SGT
The most important skills were the laboratory skills and modeling experience with Fluidit and R. I have a much better idea of the chemical and biological processes that take place during water and waste treatment.
Basic theory on what impacts environmental flows (parameterisation, uncertainties, measurements); how climate change will modify flows and affect flooding; how flood models are developed.
Water treatment process, as fundamental knowledge a WAT engineer should know Modeling and control of water treatment process water supply and sewage system hydrology
Overall knowledge of water resources, sustainability and water treatment. For me it is important to have broad knowledge from various topics.
I think the pieces of knowledge for me have been that I have learned specific information about that how we produce water and how it will be treated after use. The level of these water and waste water courses was high and that's why I think my learning in these courses was also at a high level. Meaning that I learned a lot of new things. I think those skills are important because I am sure that I need them in the future working life.
Could be classified also in identity category: Comprehensive systemic perception about water field. Fragmented pieces of information are starting to synthesize into a bigger picture where different sub fields of water sector (e.g. water supply & sanitation and water resources management) and fields outside the water sector are becoming more or less integrated. I would say, that knowledge is something useful when taking care of an overall operations in the private sector business or working in the public sector organizations. Makes a difference between the middle management and upper management in working life. Hydrological knowledge integrated to social, economical and environmental themes. I have learnt that water theme is actually found from everywhere and thus it is important to know how water resources could be managed and developed in a sustainable manner. To mention some aspects, this requires comphromising with the different intrresses (social, economical, environmetal), justifying the solutions with science, and being aware of uncertainties related to decisions and solutions.
The first-year introduction to the WAT course gave an excellent opportunity to have a general view of the water and environmental field and focus on major course selection. During the next period, I gained basic knowledge of sustainability in environmental engineering, focusing on SDGs, a nexus approach. Hydrological modeling and environmental hydraulic courses helped diversify the knowledge in the water engineering field. Moreover, I deepened my understanding of water/wastewater engineering with chemical and biological treatment courses and modeling of treatment processes courses.

9. Is there some knowledge you expected/wanted to get but did not get? What is it, and why you did not get it during your studies?

Number of respondents: 22

Responses
maybe more about water quality, but did not have time to take courses related to that
I think the stormwater management side was briefly introduced, but not as much as I was hoping.
-
No.
I wish I would have learned more about other things that affect planning water stuff. You never really just plan waterways or networks. It is always connected to a lot of other things that you need to understand. As an example the basics of city planning what is asemakaava or yleiskaava and that kind of stuff. Luckily, I studied built environment as a minor in bachelor's but I think it still would be good stuff to teach.
The more you know the more questions you have.
This year i didnt get any expertise in BIZ course. I plan to make it next study year
There was no course mentioning more profound knowledge of using water as an energy source (district heating, hydroelectric, etc.)
I got all the knowledge I expected and wanted.
I thought I would get as wide and deep knowledge of water and wastewater networks as I get water and wastewater treatment processes. There is no balance between these themes and teaching them even though water and wastewater networks are even bigger part of water utilities than water and wastewater treatment.
Sometimes the knowledge could be more concrete. If learning for example some method: -how is it used in real life? -examples where is it used? -why it works or is not working in reality? University is a school for academic learning but also the concrete and hands-on things are needed in every course!
No at least at this point of my studies.
I did not complete many courses so there were a lot of knowledge I did not learn.
-
More modelling
There is very little information on the civil engineering aspects of water and waste water. I took urban water systems and modeling and design of water networks, but these really felt like brief introductions rather than a full understanding of how water infrastructure is built. There should be a series of courses on infrastructure, similar to the chemical and physical courses taught by Anna M.
LCA or carbon footprint calculations.
No
-
In the wider picture, there are any skills that I didn't learn. But I have to admit that with better skills in time using I would get better learning results. For example in period 2. I was participating in a course lecture and somehow did all my homework but I did in real-world I didn't have enough time for that course. That's why finally I had to fail that course. But I think that learned a lot about me how to use time in that way my brain would not explode from an overload of information.
My personal desire is to get even more ecological knowledge and adapt that together with the water field engineering knowledge. However, that is not something I expected yet from the first year. It is more an objective for the elective studies taking place in the second year.
It would be nice to include the LCA assessment practical course in sustainability courses. Moreover, I wish there would be more information contained in the Urban water systems course project to clarify some aspects and fulfill expectations.

10. What are 1) the key skills (practical tools and methods), and 2) the key identity skills (working life skills, values, attitudes) you have learned during your first year of studies, and why you consider those important?

Number of respondents: 22

Responses
1) I have learned how to do hydrological models. 2) I have improved my communication skills and how to approach problems better. These skills will surely be useful in the future.
Improved excel computation skills (solver, iterations, if clauses). Excel skills are very useful in working life when something has to be calculated multiple times or data has to be stored visually well for further analysis. Fluidit software for network design, the basic understanding of the design parameters is a great benefit in infra consulting work. Governance analysis, which had a lot of methods also inside it, and skill to read very hard scientific report text. I think these themes are really helpful when writing or updating reports and understanding working life in a strategical level. Water lab measurements to measure water quality. Really important to understand which things indicate good or poor water quality and why the quality is how it is and how it could be improved. Group work skills generally have improved a lot when working with international team. Helping a friend and daring to ask a friend in tasks is constantly helpful. Understanding different viewpoints of clever minded WAT people is good to enlarge own viewpoints and thinking critically. Giving and receiving feedback is always helpful and the willingness to ask for feedback is also good thing to learn in working life and all these I have developed to a higher level.
1. Expertise In the field 2. Leading skills
1) different programs and knowledge of water engineering 2) teamwork. working with people from different countries, communication skills
Teamwork and presentations. We did a group project or four in every course this year and had to present it somehow. I was always pretty good at group work so that wasn't THAT important to me but very useful nonetheless. However, I was bad at presentations and this year I have got so much better at it. Many thanks to my group members in different courses that I got to learn from.
The important skills that I had learned earlier have now been in use and has get reinforced. These skills are about organizing time and files.
Working with various programs: coding and modelling. It was challenging, but very useful in terms of skills and also in terms brain training
I like all coding exercises because it is very crucial nowadays that everyone should know how to code.
1) I improved my laboratory working skills, sustainability analysis, Excel-skills and some modelling skills (GIS) 2) My group working skills improved.

Responses

1) Working and laboratory and doing analyses as it is important to have some kind of basic knowledge of basic analyses and to have basic experience of working in the lab. Also, QGIS and Sumo have been interesting and useful programs to learn. 2) I have realised that I really learn and study for myself and because I want to do it and improve my skills and knowledge. Also, I have learnt even more independent working.

1) Key skills are absolutely R-studio programming and EIA as a method. I have never been as motivated to program as I have been at the Water and people in changing world- course (assignments are meaningful and it is nice when you are free to explore the things you are interested in). EIA is something that will be needed in the future working life. 2) Group working with future colleagues gives insight what is about to come. Challenging studies and coping with them provides confidence. Professors being professionals in our field makes me motivated that I want to be as smart as they are :)

1) I have gained some new computational skills such as basics in QGIS and R, and deepened my knowledge with Excel (important skill in any workplace). 2) I have familiarized myself more with project working, learned to do research and understand different scientific texts and articles. I have learned a lot of teamwork, especially in groups with international students. My interaction and presentation skills as well as my English have improved.

Group work skills, and the ability to pick up new programmes and methods quite fast at simple level. I think those skills are very useful in working environment.

2) Presenting Group work Writing scientific reports Researching 1) Governance analysis GIS Python Because they form the base for working as an expert or reearcher. Also, understanding the common conflicts during group projects.

1) Flood, water resources, R, team work 2) teamwork

Learning to prioritize and drop course work if it becomes too overwhelming. There is a lot of team work and collaboration in the WAT major.

1. Excel, ArcGIS, modelling different scenarios in environmental hydraulics, LCA basics 2. Group working and speaking bravely out loud in front of people!

one key skill could be group work, most of the course will organize group assignment or group project, the communication and collaboration in the group is important

Lab skills, computational skills

1) I learned how to work in lab conditions. That is something that I have never done in my studying history. Another thing is the modeling approach to engineering problems. That is something I have felt really useful in my career. 2) Number one identity skill is that I have used to use the English language better than I thought. It has also somehow increased my confidence to use it because I have always thought that I am not good enough to use English (My matriculation examination was on level A). I have also learned to work as part of an international group. And became more critically thinking about water-related issues.

Modelling is the most important practical skill I have learnt during the first year. Before I had barely any experience from modelling, but now I have a capability to perform basic modelling tasks with several modelling softwares and apply the method in several contexts. That is a skill required often from a water field engineer in several design, planning and management tasks. It is also important to have capability to assess models and modelling results provided by another expert, for example, if buying the modelling service from a consultant. The most important learnt identity skill on top of group working skills and critical thinking has been a way to think across multiple levels and dimensions of an imaginary horizontal and vertical axis: horizontal axis comprises different fields and sectors of science and society whereas vertical axis comprises different levels of management and governance from local scale to regional scale all the way to national and international scale. This is highly related with the systemic understanding described in the knowledge part and has the same justifications of importance.

GIS, SWMM, Fluidit Sewer and Water, and SUMO exercises and projects helped a lot to gain new skills or basic knowledge of different approaches. There was a good balance between group work and individual assignments in this year's courses. Overcoming group work challenges gave me valuable experience in how to solve different problems related to time management, work organization, and discussion skills.

11. Are there some 1) skills and/or 2) identity skills you expected/wanted to learn but did not? What they are, and why you did not learn those during your studies?

Number of respondents: 22

Responses
Probably there are, but can't think of any right now.
Nothing coming to my head right now. I got so much new skills :)
-
No.
I really got nothing on this.
Levitation
This year i didnt get any expertise in BIZ course. I plan to make it next study year
No, I think everything has been brought up and taught.
No.
I thought there would have been more than one modelling program to use in the modeling courses as now there were used only one program. I think it is useful to get more experience of different kind of modeling programs when thinking about future work life.
Nothing comes to my mind.
-
I probably could have learned much more if I studied more courses, but it is difficult to say whta they would have been.
-
1) Better report writing
I would have liked greater networking opportunities with industry professionals. Due to covid, most site visits were canceled, and guest lecturers were mostly via zoom.
OpenLCA or Ecoinvent (tools for carbon footprint calculations).
No
Learn more about gis and coding. Did not have time to take the courses in the last teaching period that offered these skills.
There are not any skills that I would like to learn. Maybe I recognize them later on in this program or in my future working life.
I would like to learn more about statistical methods and applying them into water field. However, I didnt find a course from WAT advanced courses that would have larger emphasis on statistical methods.
Expected skills were acquired or strengthened during the courses.

12. WAT programme has special structure, with only 15 credits of common courses i.e. the WAT Course. Such a structure has three main aims:

- 1) to provide you with a comprehensive set of knowledge and skills in just one period (WAT Course), thus facilitating choosing your individual study path,**
- 2) to help you to learn to know your fellow students and to work as a group (during WAT Course), and**
- 3) to allow you to start individual study paths already in the 2nd period (i.e. selecting those advanced studies that interest you most).**

On the other hand, such a structure means that studying during 1st period i.e. WAT Course is very intensive.

Given these aims, how do you feel the WAT Course concept worked? How would you change it?

Number of respondents: 22

Responses
The course is probably very good for first year students, but when you are on your second year it feels a bit redundant, as it really is mostly a 15 credit recap of already known stuff, so I probably got 5 credits worth of knowledge out of it. I think the problem is also that there are no other WAT courses also going in the first period, so it was either this or nothing. On the other hand, it was good to get to know professors and the other students, and for improving group work skills.
I think the WAT course is good to know what to choose after first period, but for me it was too intense and I would describe it as a survival. I truly agree that it helped to interact with all different kinds of WAT students, as everyone had to take the course. I would say that it should be at least 1,5 period course or otherwise taking something out of it or giving a possibility to decide something. Also the themes could be introduced for eng bachelor students more during the bachelor studies.
For me, it worked perfectly.
It worked good even though it was intensive.
I like the concept. It really was tough but it's the start of the year with new people and everyone still have their motivation high. This wouldn't work in any other period. There are always some details that could've been better but those we gave at the end of the course. All in all, I like that we can get to know each other through this tough first period.
1) I think the bachelor program is intended for this purpose? 2) Best of this was to work with the same group for such a "long" period. 3) Allow to dissect those courses that were least interesting
WAT course was a good kick off. In the end of study year i can even better feel how WAT course was helpful. My only suggestion is to reduce amount of feedback in the end of Course.
I really like the WAT course and in my opinion, the workload did not very intensive as it was told. The knowledge delivered in the course was in the general/background level, which did not require too much time and effort. Also, it was the first course to get along with your classmate. I have no complaints regarding the implementation of it. From the course, the student can be introduced to other

Responses

advanced courses and have a better mindset on how to create their own study plan.

I really liked that there is only one 15 credits common course. There was quite a lot of work but after the course it was easier to choose the most interesting courses.

I think WAT course is very demanding just at the beginning of your studies. It was very good course with good topics and content but a bit confused and stressful. Also, the amount of group work was shocking.

The concept worked really well, it does what it is planned to do which is to introduce students to the content of the master-program as well as to fellow students. It was really intensive but I don't know a thing that could be taken away from it. One thing that is complicated and maybe needs improved, is how the groups work. In a way it was a good experience to collaborate 7 weeks with the same group but also it would have been nice to get to know other people from other groups as well. It would have given new perspectives but also if the workload within a group was not equal, it would have been nice to try also work with some other group.

I find the WAT Course very succesful. It was very intense but it gave nice picture of the whole WAT programme.

I don't personally prefer the 15 credit course, because it is very intensive. However I appreciate that it is possible to start individual study path quite soon already.

It was very useful and compact as it should be. I would ease the end of the course, as it had too much workload. It would give room for students to adapt to upcoming period. I really liked it!

I didn't really get the whole portfolio thing Only nice thing is to discuss what we want to do with our work life

The WAT course was great and helped me build a friend network that has supported me for the rest of the year. I have made lifelong friends and connections through the WAT course. It was actually less intense in course work level than the rest of my periods. If you take at least 2 classes for the rest of the periods, you will be much more busy with studies than the WAT course.

I think the first course was very useful as it also motivated me to study by giving the chance to work with new people very intensively. I also think that we got enough support to facilitate our learning process. However, the course was very intense when it comes to work load and sometimes the exercises had very different amount of work load to do or they were confusing (e.g. during the wastewater period, I remember that our group didn't know exactly what was expected from us on different days which made it very stressful and hard to organize my own schedules for the week).

I think the WAT course concept worked quite well

The course gave an good overall picture of the program and it was a good way to identify personal interests, skills and knowledge.

Overall the concept of the WAT course works very well. It is very intensive but in another hand, you will get a really good start on your master's studies. It is well structured and at least it was easy to understand and follow the course schedule. Diving into a little bit of each of our master's program themes is a good way to get some taste of what kind of courses you would like to study.

The first period and the common course was very intensive and felt also sometimes burdening. On the other hand, it has benefited the later studies by providing a basis to build on with advanced courses. With some of the advanced courses, even the methodological emphasis or the content of the course has not been very familiar in advance, the basis provided by the WAT common course has been enough to manage with those courses.

WAT course concept worked as a good introduction to the program and helped to select a major course for this year. More information for some specific tasks could be added beforehand to have time to prepare.

13. Our WAT portfolio and mentoring process includes the following main parts/phases:

- 1) Writing the portfolio
- 2) Getting feedback on your portfolio (written & facilitated group meeting)
- 3) Meetings with your group and your mentor

How do you feel this process works as a whole? Which parts of the process do you find particularly beneficial? What could be left out? How would you improve the portfolio process so that it has more relevance for your learning and career planning?

Number of respondents: 22

Responses

As a second year student, the portfolio did not feel so necessary. But it was good to have the meetings with the group and the mentor, those were useful.

I think meetings were really good, there could have been actually more meetings, for example one mentor meeting per one end of period etc. Portfolio process was quite odd as I did not know should I write more about working life or more about academic things, I just felt a little lost and maybe would have needed some kind of workshop for it.

Its a good way to get back To the things that were important In each and every course In order To remember well and know what direction In your Career you want to take

To be honest, I have not found the portfolio beneficial for me. However, I have liked to talk with my mentor.

I have never really cared about writing portfolios and I will most likely never open mine again after this year. It will probably help someone but I don't find any use for it. Same goes for the feedback. I don't care about the portfolio, so why would I care about the feedback. But even if portfolios weren't my things I have really liked all the group and mentor meetings we had. It is always good to talk about your situation to other people in person.

1&2) no comment 3) These were helpful to refine own thoughts.

It was beneficial to assess my skills in such format

While writing the portfolio, all knowledge and skills will be reviewed and from that, the student knows better what to improve. However, I don't value much from the group meeting and also meeting with my mentor. About the groupmate, each has their own path and personally, it was irrelevant to me. If my study path is not the same as my mentor's field, I don't think I get much information from her/him.

I think that writing the portfolio helps to think about future. It also helps to choose the courses based on your strenghts and weaknesses.

I think that writing own portfolio is the most useful part as then you really need think about things. Also, mentor meetings is useful is you have some problems and/or questions.

Meeting with your group and mentor were the most relevant parts for me. It is always nice to hear, how others have experienced things and that kind of meetings are always a place to learn something new.

I find meetings with my mentor especially beneficial, it is nice to have individual counselling. Also written feedback was nice. I didn't get that much from the group meetings but it was still nice to talk with other students and hear their opinions.

-

For me it felt very good. It would be interesting to hear from others, like what have others planned for themselves. It would maybe give ideas to others as well.

I didn't really get the whole portfolio thing. It is mainly a waste of time and something that stresses already stressed students out a bit

Responses

meeting with the mentor was great, and helped guide me through the process. It also helps in letting me know that there may be alternatives to my chosen study path if my motivation and decisions change.

The portfolio is a nice way to see what I have learnt, however, I think that I would have needed more support for finding e.g. jobs or master thesis topics etc.

it works not as I expected as these process are not in one period that is hard to arrange the time for meet and to finish 60 credits, sometimes I need to take 3 courses at the same time and don't have time for the portfolio

Writing the portfolio was very useful to reflect on personal learning and to identify own skills and knowledge. The feedback session was useful and gave some perspective to my own studies as well as shared and common feelings and thoughts that felt supportive. Meeting with the mentor was helpful and gave reassurance.

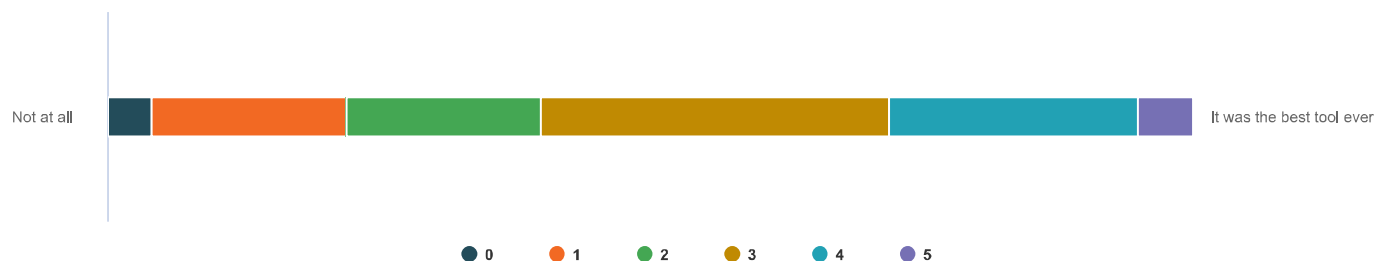
Overall, it was really hard to get motivated for this kind of task. I think because I already had a quite clear path in my mind for my studies and for my career. That's why I have to admit I put little as a possible effort into my portfolio process. But meeting with my mentor group and mentor has been a great experience. I like that we have been able to share our thoughts from our studies and careers. Maybe this had some useful impacts on my thoughts. Maybe some clearer introductions for the portfolio process would be useful, like how it should be made. But on the other hand, it is nice that everyone can make a portfolio that looks like theirs.

Portfolio process as a whole has been meaningful and I wouldn't remove anything out of it. To be honest, if there were no portfolio process, I wouldn't have made myself time to stop for a short while to reflect my learnings. Shared reflections and discussion during the group portfolio meeting were especially fruitful. It proved out easier to apply for summer jobs, as there were already some reflection made regarding to on going Master's studies.

Getting feedback in the group discussion helped add some valuable points to the portfolio. In addition, discussion with the mentor helped correct some portfolio chapters and organize them in general. Writing the portfolio itself was not difficult. However, the choice of the format took some time to decide.

14. How well did the portfolio process facilitate you to think about your learning and to select suitable courses?

Number of respondents: 22



	0	1	2	3	4	5		Total	Average	Median
Not at all	1	4	4	7	5	1	It was the best tool ever	22	2,6	3,0
	4,6%	18,2%	18,2%	31,8%	22,7%	4,5%				
Total	1	4	4	7	5	1		22	2,6	3,0

15. The objective of the portfolio group was to provide you a peer support but also to gain understanding on the diverse expertise you have due to your different backgrounds. Do you think this objective was met? Why/why not?

Number of respondents: 22

Responses
yes, having people with different skill sets helped improve communication and gave better possibilities for problem solving and discussions
It was met well. We had a lot of international people as well as people willing to take different study paths. We also kept in touch after the WAT course.
More or less, the peer support takes In a way lot of time To dig deep into everyones backgrounds. However, it seems that lot of stuff was dis ussed from the top.
Yes and no. I had already talked with my friends from different field about different possibilities and I have also gained understanding on the diverse expertise at my work. Therefore, I feel that I have already got much more before the portfolio group.
I liked my group and got some good insights from them. The importance of it reduces dramatically after the first period but I have certainly worked a lot more with them than other people. Don't really know if that is a good thing or not.
There was no function for the group outside the one meeting.
Yes
I didn't learn anything to be honest because we only talked about our portfolio once in the group meeting, but it was very general and everyone had quite a similar opinion toward something that was asked.
Yes, it was really interesting and helpful to learn from others when doing the group work.
-
Yes, it was nice to talk with the group in such atmosphere that we really had time to just share our learnings/goals and thoughts. In the first period we did not have that kind of time, because we were always in a hurry to do our assignments.
Yes it was! I think that without portfolio groups I wouldn't get to know these people that well. And at this point of studies it is important to have peer support.
-
Yes, for us it was a platform for really good reflections etc.
Haven't really has anything to do with my group afterwards
yes, I was annoyed at having to write the portfolio, but in the end I think it is a useful tool to help me remember and catalog what I have learned and what knowledge I have now.
At least in the last meeting we didn't have much time to talk about our expertise backgrounds. Additionally, I feel like that during the studies everyone (at least many of us) is very confused and insecure about their own expertise and about what we/they want to do in the future so it might be even harder to discuss that with people. But maybe it also helps in structuring that abit.
yes
Yes it was a good way to identify my own skills and knowledge and to reflect my personal learning process.
Yes, it does. I liked that we had at the being some kind of random system to select our mentor groups. And that made diverse groups with various know-hows.
Shared reflections within the portfolio group have helped on building professional identity and have made it possible to adopt suitable parts of the ideas and views from the peers into ones own career plans and prospects.
The objective was met, although some skills were not easy to describe. For example, skills related to identity and not practical tools or knowledge related to the field. Implementing approaches and expertise from different backgrounds was also tricky to describe without examples.

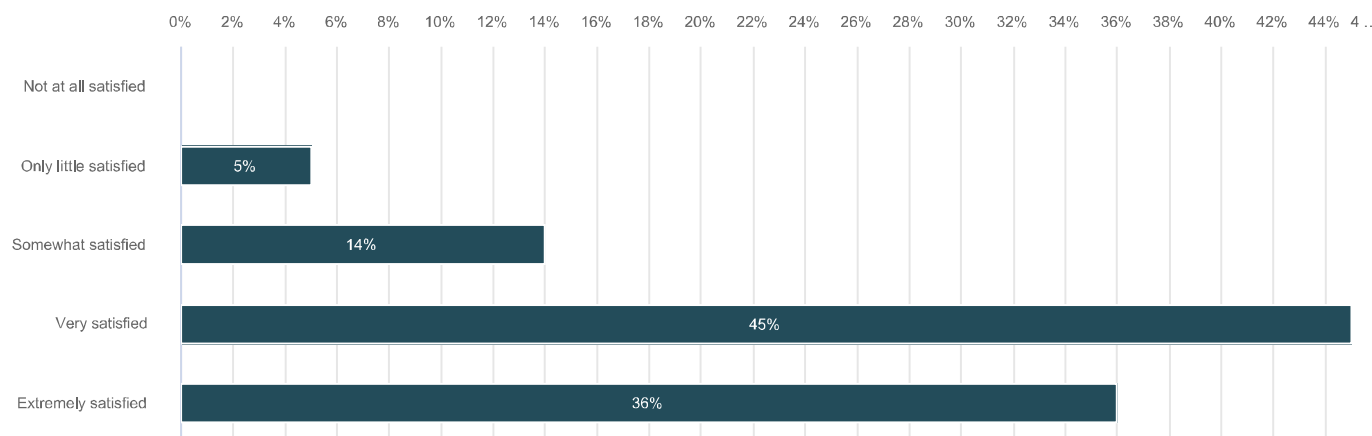
16. Do you feel you are starting to establish your own professional profile / identity in water and environmental engineering field? Why / why not

Number of respondents: 22

Responses
yes, I think so
Yes, after I got hired and started working I felt that my skills are actually very respected and needed. On autumn I was not sure as I did not know entirely what I want to achieve and where, but it is now more clear to me.
Yes, I definitely know what is for me interesting and what direction I would like to take.
Yes, because I will graduate soon.
Especially after getting this job I think I am really starting to build that profile / identity. I feels nice.
I feel I am capable to do anything, but where to start?
Yes since i feel that my knowledge diversified
Yes, because the teaching and curriculum were organized very good. I learned a lot.
Yes, I think I know what I want to do in future.
Yes I am because I think that I have gotten more self-confidence as an future WAT engineer and also important knowledge that support my work.
Yes and that is due the fellow students, successes in studies and the professional professors as I already mentioned.
I think I am still little bit searching but I hope I will find it.
A little, but not much due to lack of completed courses.
Yeah, for me it is mainly seeing possible job openings for me. Like what kind of work interests me and how can I get there. Also, what things I need to be better at it.
Slowly yes but I stile feel unsure I don't feel competent enough
yes, I have a clear idea of how water processes work and what jobs might be available to me upon graduation.
Kind of: My interest lies in the area of sustainability, carbon footprinting and LCA so I my work career is a bit outside of our study programme topics.
yes, the profile is based on the course I take and planned
Yes, especially the portfolio helped with this but also studies and internships have given perspective.
Yes, I think. Whit diverse study options have have been able to construct a study path that support my future career in engineering field.
Yes I do. WAT studies have helped on identifying my own strengths/competenses and provided knowledge and skills to build them further. Being an intensive year, I have also learnt something about my own limitations and possible places I could pay attention to develop more vs. focus less on.
I have started establishing my profile already before the WAT program. However, this year strengthened many skills and gave me valuable expertise for the future.

17. How satisfied you are with the WAT Master's Programme as a whole?

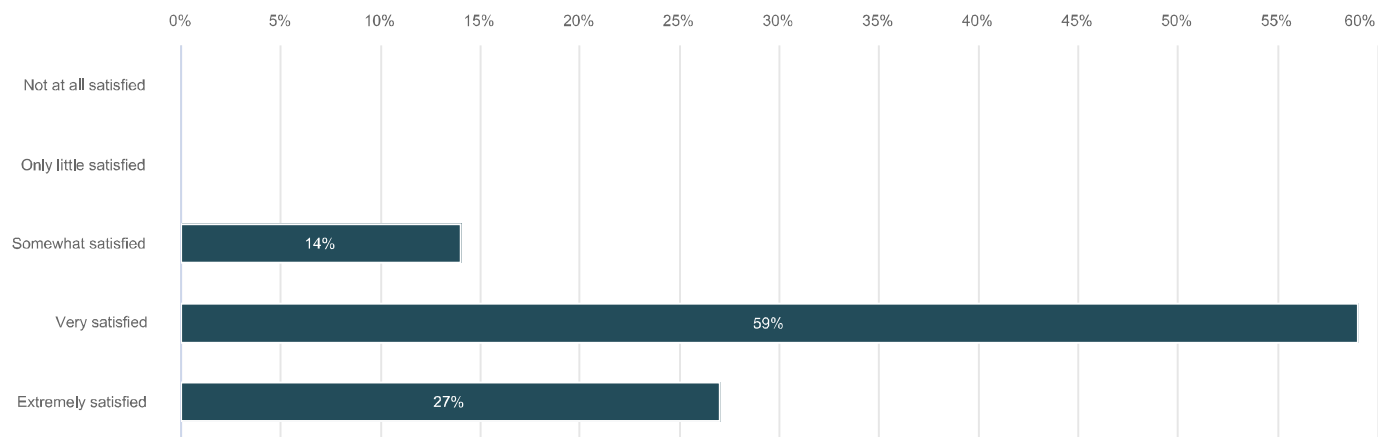
Number of respondents: 22



	n	Percent
Not at all satisfied	0	0,0%
Only little satisfied	1	4,5%
Somewhat satisfied	3	13,6%
Very satisfied	10	45,5%
Extremely satisfied	8	36,4%

18. How satisfied you are with the teachers and teaching methods as a whole?

Number of respondents: 22



	n	Percent
Not at all satisfied	0	0,0%
Only little satisfied	0	0,0%
Somewhat satisfied	3	13,6%
Very satisfied	13	59,1%
Extremely satisfied	6	27,3%

19. Please, elaborate on your previous responses shortly:

Number of respondents: 17

Responses
I think everything worked well
Generally all professors have been super helpful and professional and have tried to give as good teaching as possible. I think with some courses there was too much teaching material (for example treatment courses) and the time estimates for tasks were underestimated.
I appreciate that the staff really cares about the students and their wellbeing. I think you have done exceptionally good job with this programme.
Learnings are still incubating inside me and therefore I am maybe not able to give the value for them that they deserve. The teachers have been wonderful people.
Very professional and helpful professors and assistants to professors.
I have really liked the teachers and the courses of the WAT program.
I supposed that learning would have been more independent. Teaching is overall very high quality but the teaching methods not always the best.
The reason, I'm not extremely satisfied with the programme is that I would like to have more diverse set of courses (for example about environmental issues- not only water).
All in all courses have been beneficial and different teaching methods also very nice.
Teachers are motivated and eager to help our studying process. Good job!
Homework and course work instructions are really subpar. For every class, homework assignment instructions have been vague and poorly written. The teachers are nice and helpful, but it can take almost as long to figure out what the teacher wants as it does to actually do the work.
I think, that during the "Sustainability in engineering" course I realised that it interests me more than water. So I think I would have benefitted more from that kind of courses. Teachers have been very supporting and good when it comes to their knowledge and teaching.
the courses are well organized and the teachers are very nice. only the study could be too intensive when I have 3 courses in one period.
The program was everything I expected. I had quite high hope for the program, as well as the university and they, were both met. Teachers are excellent and very engaged and the quality of teaching is excellent. The learning methods used supports my personal learning well.
This program is very well structured and it has very motivated teachers. Also, the teaching methods encouraged critical thinking and give quality results at least in my option.
WAT Master's Programme has been worth my expectations. It has facilitated the professional development that I was looking from the studies. Teachers have been professional, always keen to help and enthusiastic on their topic. Teaching methods have been well in balance, including both discussion as well as independent work.
Courses were very well organized, and information for studying was provided. In addition, most of the course projects and exercises helped to understand the course's theory and gain practical skills.

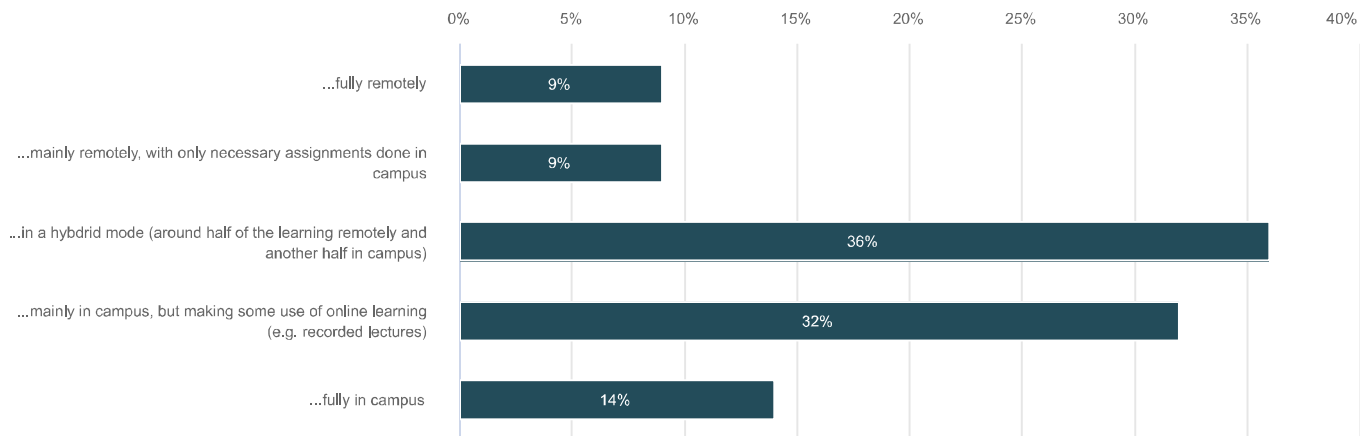
20. Online teaching & learning due to the COVID-19 pandemic: How did you experience studying remotely online in WAT programme? What worked well and what should have been done differently?

Number of respondents: 22

Responses
group work and discussions suffered from online, but otherwise the teaching was well organised and structured
It was very good to start with hybrid teaching. During periods 2 and 3 everything was again online which really sucked. I was really glad that period 4 was given almost entirely live. However, even with online environments, I think everything worked well, but sadly with cameras off with students most of the time.
For me it worked perfectly. Maybe some of the practicality works could have been more live rather than online.
It worked quite good, courses had arranged well.
I really needed the contact sessions in the first period. This year would've been much worse if we hadn't gotten to know each other at the start. After that I didn't really care. I like remote lectures cause I didn't need to leave home but occasional contact session is good. I would make some of the sessions in all courses contact but majority can be organised remotely.
Nothing good to say about this.
Studying remotely was well organised, though personally studying in class is more efficient for me. But it is great to have lecture and workshop sessions recorded, this was extremely helpful!
At this point, I get used to studying remotely and it's a bit strange to get back on campus in the 5th period. I liked that the schedule get more flexible as the lectures were usually recorded, it's also easier to revise the knowledge before the exam, or check again something while doing homework. My voice is quite small in the classroom so it's more convenient to make presentations online too. However, the exercise support or group work is much better organized on campus.
Everything worked as well as it is possible.
I liked to studying remotely and I prefer it. Lecture recordings were especially very useful for me. Breakout room discussions were mostly useless.
I liked the fact that you really tried to get us at campus whenever it was possible.
I find studying remotely online worked well. It was still nice that we met at the campus with out group quite much. No complains of online teaching.
I found that remote studies worked much better for me than live studies.
Remote studying is very apathetic. I wouldnt go fully offline ever again. People need to see people regularly. Maybe even small group meetings or outside lectures etc.
I HATE IT
Remote work is not great. I had covid and the flu during this year. I was too sick to actually use the online tools, and having the whole class via zoom means you do not get to know the teachers or guest speakers at all.
Everything worked fine for me.
online teaching works well, recordings can be watched after class which also helps the study
Fully remotely can be quite exhausting and unmotivating sometimes, but hybrid mode seemed to be a good way to go since you had still the opportunity to participate remotely.
Online teaching worked on my option very well. Maybe, because we had been in this situation almost for two years so methods have been developed from last years. It is nice that you can attend lectures despite where you are. I think this kind of hybrid teaching would be a good idea in the future.
Remote teaching is fitting quite well with my style of studying as I can focus better when being alone. On the other hand, it is much easier to ask for help or share and discuss the views while working together on campus.
Online courses worked well, although it was nice to start having hybrid lectures and get some help with exercises or have discussions in the classroom.

21. Thinking about your experience with online learning and future studying, please select the option that you fits your view best for the following statement: "If I had the choice, I would study..."

Number of respondents: 22



	n	Percent
...fully remotely	2	9,1%
...mainly remotely, with only necessary assignments done in campus	2	9,1%
...in a hybrid mode (around half of the learning remotely and another half in campus)	8	36,4%
...mainly in campus, but making some use of online learning (e.g. recorded lectures)	7	31,8%
...fully in campus	3	13,6%

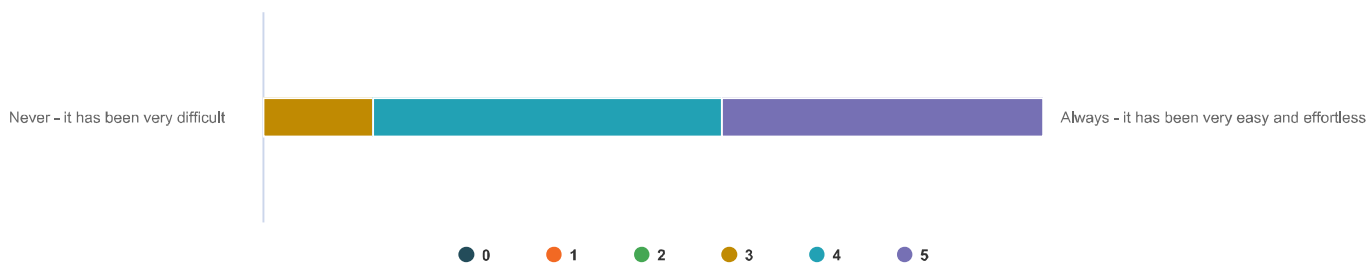
22. What elements of online teaching should be maintained in WAT courses also in the future?

Number of respondents: 22

Responses
online lectures were kind of nice
Entirely none, but some kind of flexibility for example trying to record lectures for people being sick or studying from abroad would be good to remain in place.
The materials, lectures, most of the theory based works
Some helpdesks during courses because it has been easy to share own screen and show the problems.
Miro boards :D
recorded lectures
Online assignment support sessions
The recorded lectures
The possibility to attend the lectures remotely.
Lecture recordings.
Recorded lectures and also that in Teams you can ask help for your assignments (individual zoom-session)
-
The possibility to study remotely almost fully, except for for example laboratory work.
-
I don't care
availability of lecture slides.
It would be nice if during exercise sessions there were almost always an opportunity to do it remotely or in campus so that the student could choose.
recordings for the class is very useful!
Opportunity to participate online or at least have recorded lectures.
Some kind of interactive stuff on the lectures. For example miroboards or presemo etc. Those bring some extra to online lessons and keep students "awake".
Most of the lectures could possible be facilitized online. I also find the recorded lectures super-useful as it was possible to recap the lecture later, e.g, when writing a discussion part of an exercise report in order to look for reflection to broader context. That possibility supported my learning really nicely. Group sessions and exercise sessions could be organized on campus as they have more benefits by that way. Design and Management of Water and Wastewater Networks -course during this spring was especially well in balance. First half of the course was online lectures and individual exercises. Second half of the course was pair work on campus with help available all the time from the teacher. That arrangement worked really well for the purpose of that particular course.
Lecture recordings should be maintained.

23. During the whole academic year, have you been able to receive help and support from WAT staff members?

Number of respondents: 22



	0	1	2	3	4	5		Total	Average	Median
Never - it has been very difficult	0	0	0	3	10	9	Always - it has been very easy and effortless	22	4,3	4,0
	0,0%	0,0%	0,0%	13,6%	45,5%	40,9%				
Total	0	0	0	3	10	9		22	4,3	4,0

24. What do you think should be changed in the WAT Master's Programme? Why?

Number of respondents: 22

Responses
-
It is very hard to complete in one academic year, and this should be kept in mind also telling more frequently that it is okay to so some of the credits also on the second year. Intense 5cr courses for every course could be analyzed for other options, maybe some courses could be 5cr and 2 period (urban water and physical treatment for example)
-
I don't know.
A course or two more to choose from somewhere in periods 2-4. Also this form is too long and I'm losing my interest in answering.
I am not convinced about the usefulness of the first WAT course.
I do not have an opinion
I think the mentor-mentee activities should be chosen by the student's interest (at least corresponding to the 3 study paths), rather than being randomly distributed.
Nothing
To be able to study in one study path if you want to, especially if you know what study path you really want to study. Also, extend the teaching of water and wastewater networks because now it feels like you didn't get as much knowledge and skills of that topic as you would like to have.
As I mentioned, more diverse set of courses would be nice but I'm not sure if it is possible since we have so little amount of students.
At this point of my studies I can not suggest any improvements.
-
-
Maybe the teachers talk a bit together. They know we are in the programme and like taking several other WAT courses at the same time. Maybe if they planned a bit so that all of the big assignments wasn't on the same day?
The SGT studio class was a complete waste of time. It took just as much time and effort as a 5 credit class, but it really is only worth about 3.3 credits. The team I got put on was very disorganized and we got no support from the international partners. The Aalto mentors just kept telling us to ask the international partners, which lead to no developments. It should be stated upfront if your project has funding for student travel or not. I ended up dropping the class because I was not learning anything, but spending a lot of time making mind maps and charts. This class needs to be less work, or worth more credits.
Programme contents wise I would integrate some sustainability engineering to the environmental part of our programme. Additionally, I feel like that our courses are very laborious! Thus, I often have to work during weekends which is not beneficial regarding our mental well-being.
Nothing
Perhaps some small changes in courses (organizing the workload, time schedule etc.) All in all everything worked well.
I don't see any reasons to change anything. Everything has been working fine.
The first common course could be made a bit lighter. However, it is hard to say what should be excluded as all the contents of the course were reasonable. In general, the lengths of the study periods should be 1 or 2 weeks longer in order to support learning and reduce the work load - but that is more a concern of the school level, not a single masters programme.
It seems that the WAT program is already well established and organized.

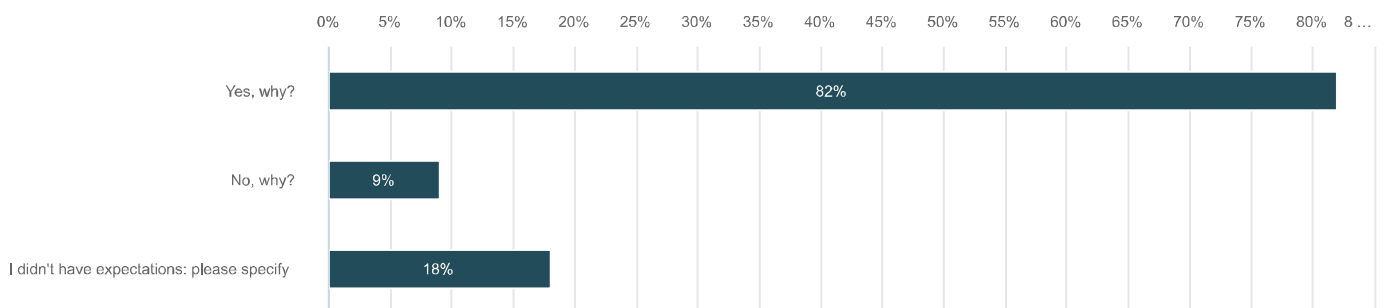
25. What are the things we should maintain in the programme, and why? In other words, what is already working well in the programme?

Number of respondents: 22

Responses
there possibilities of receiving support during courses and for planning studies were very good
Maintain governance course, groundwater hydrology, water design and mgt and hydraulics course as they were the best courses I had. Also try to maintain the diversity of the students!
-
There is only one compulsory course and others you can choose freely.
The interest in student's wellbeing and opinion.
Schedules work fine
Courses structure
The WAT course was nice I liked that courses were divided into 3 different paths
I really like the variety of the courses.
Water and wastewater treatment courses were really good and professional.
The good attitude where the learning but also human orientation is the key.
The first period course was very beneficial at least in my opinion.
-
-
Courses: Water and people, SWR, SGT
The WAT course should be kept. It is great for creating a network at aalto.
Group working is working fine.
everything works well, especially the tutor meeting with professor Harri, in which I gained a lot useful information for my study and work in the future
The teaching, the courses and the syllabus.
The clear structure of study paths, and weekly schedule of courses that you can limit your courses on period.
Portfolio process is useful for supporting the professional development and to support reflection of the learning. That should not be excluded. Themes and topics related to integration of the water field with the other sectors and sustainable development should not be changed. They play an important role on building comprehensive picture of the field. In contrast, focusing only on mathematics, physics and numerical methods (even they are the core of engineering skills) the obtained perspective on the own field would be left quite narrow.
WAT introduction course in the 1st period could be maintained. In addition, lecture recordings in most classes and help desk sessions online and on-campus could also be held.

26. Has the master's programme met your expectations (you can choose several options)?

Number of respondents: 22 , selected answers: 24



	n	Percent
Yes, why?	18	81,8%
No, why?	2	9,1%
I didn't have expectations: please specify	4	18,2%

Answers given into textfield

Option names	Text
No, why?	Studying in foreign language makes it impossible to learn fully and deeply.
No, why?	I would have wanted to have more courses related to sustainability and engineering. However, when it comes to water stuff everything was perfect.
I didn't have expectations: please specify	I have a direction instead of well defined objectives
I didn't have expectations: please specify	The programme is fine

Option names	Text
I didn't have expectations: please specify	I was not entirely sure what the program would be. I have learned a lot, but maybe not as civil engineering related as I expected.
Yes, why?	-
Yes, why?	I learned so much new things about very hot engineering topics
Yes, why?	I learned more than I expected and In a Interesting way
Yes, why?	I think I would like it and I have.
Yes, why?	Now I can understand poo eating bacteria better than before
Yes, why?	I have a clear vision of what I'm studying and how it is needed in the working fields.
Yes, why?	As I did my bachelor in Aalto, I knew what to expect
Yes, why?	I wanted to learn and widen my knowledge and skills and that is totally happened.
Yes, why?	I have learnt skills and knowledge I think I can utilize in the future.
Yes, why?	-
Yes, why?	good experience with the courses and classmates
Yes, why?	I choose this programme to get more knowledge about this field and I have got it.
Yes, why?	It has facilitated the professional development that I was looking from the studies.
Yes, why?	In-depth knowledge, practical tools, and approaches

27. Any other comments or greetings?

Number of respondents: 8

Responses
thank you :)
Thank you so much for everything! See you in June!
This was so long but it's finally done. And have a happy summer :)
Thank you.
Thank you for the first year!
Thank you for this semester, it has been a pleasure to be able to study in the WAT program and at Aalto university.
This program has really motivated teachers and professors that also motivate students to achieve their learning goals. And sorry for submitting this late. I had totally forgotten this survey...
Thank you for the courses.