

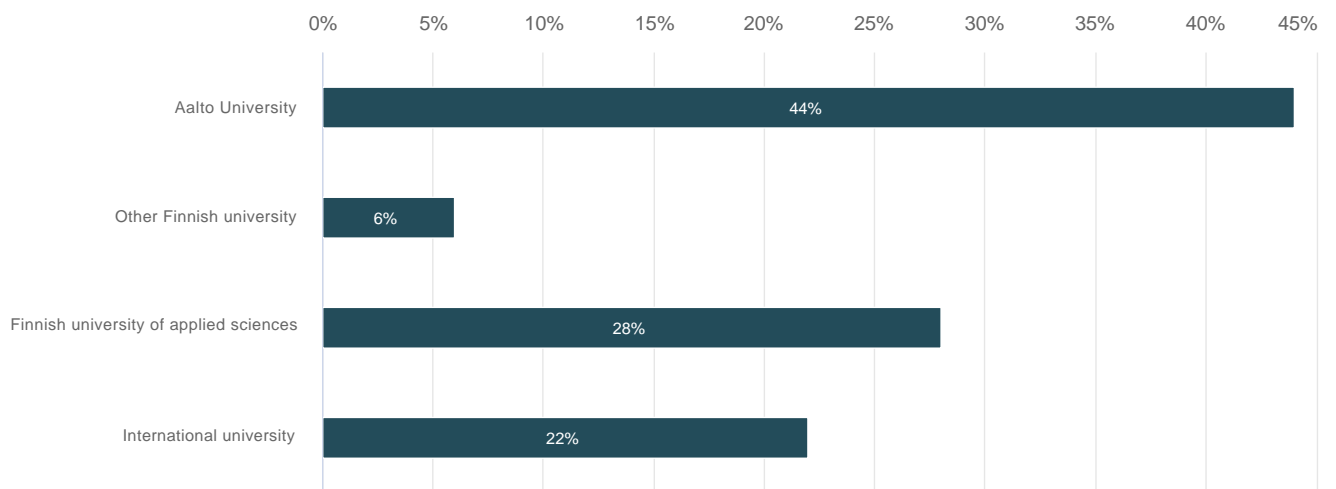
Perusraportti

WAT Survey 2019

Total number of respondents: 18

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

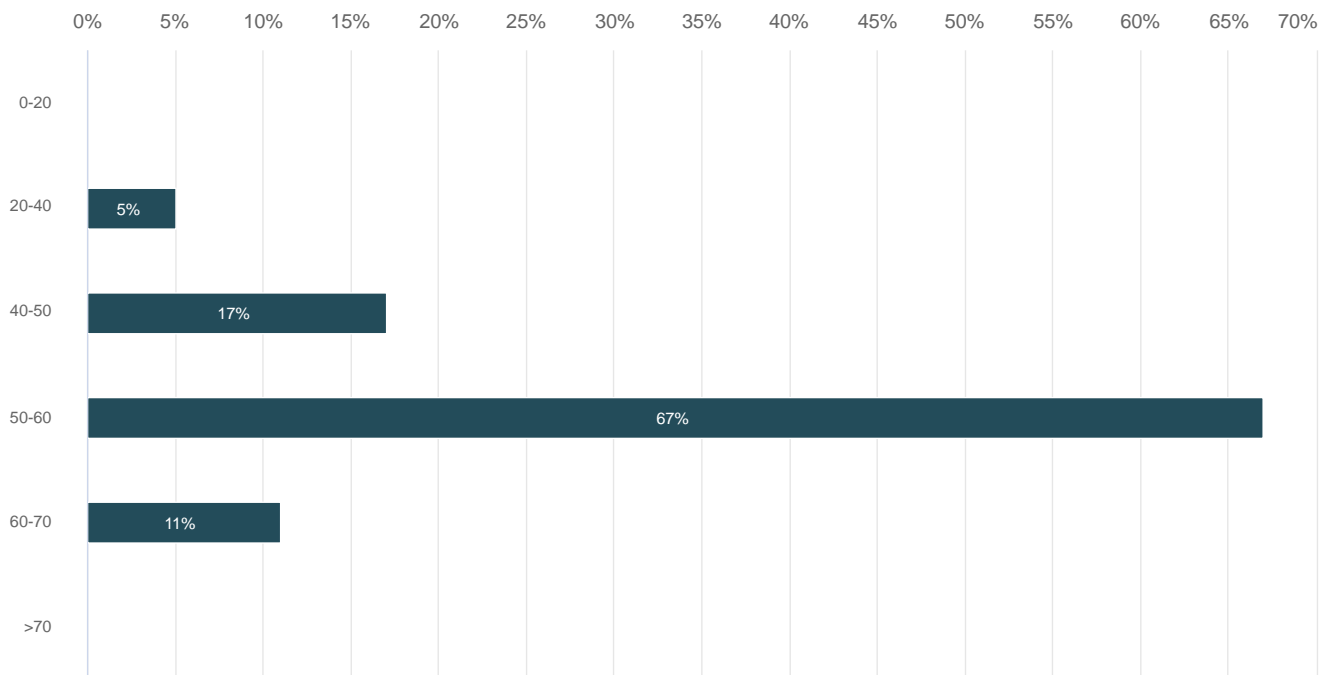
Number of respondents: 18



	n	Percent
Aalto University	8	44,44%
Other Finnish university	1	5,56%
Finnish university of applied sciences	5	27,78%
International university	4	22,22%

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

Number of respondents: 18



	n	Percent
0-20	0	0%
20-40	1	5,55%
40-50	3	16,67%
50-60	12	66,67%
60-70	2	11,11%
>70	0	0%

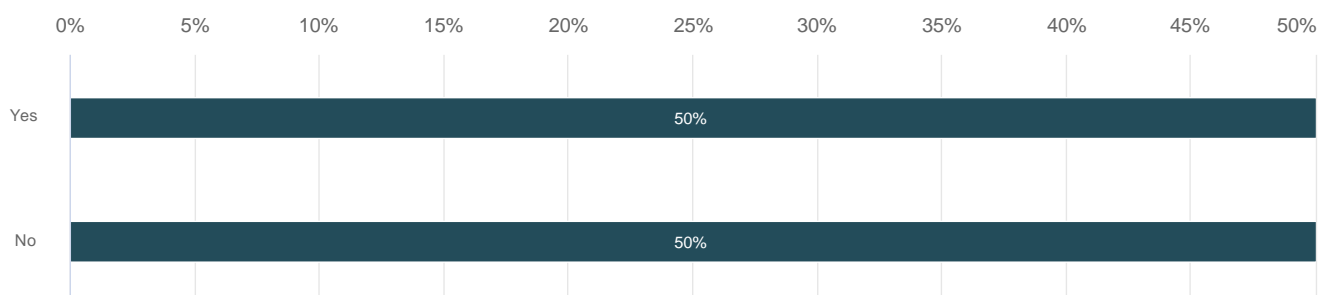
3. Please, elaborate shortly on the number of your credits: Why have you studied this amount of courses, and are you satisfied with it? Does the number of credits correspond the planned amount? Why/why not?

Number of respondents: 18

Responses
I have planned to finish my degree in 2,5-3 years, thus I am rather well on path to achieving this goal.
I wanted to complete all compulsory courses during the first year because I did not want to leave 1-2 courses for the second year. I wanted to focus on my thesis during the second year. I still have two of the last courses ongoing, so it is uncertain at this time if I will reach the goal. I am satisfied with the amount of credits I've achieved and it corresponds to the planned amount.
As a Enviro5Tech student, I had a fixed number of 60 ECTS to achieve during the year.
I am a Nordic master student and this is my second year of the programme, but my first year at Aalto. I completed 60 ECTS during my first year at DTU and hence I took course worth 30 ECTS only.
I studied 60 credits so that I can graduate on time. The amount of courses is manageable, some of them are a bit too time-consuming than others. Overall, all the courses seem to actually take more of my study time than the number of credits, but this issue was already mentioned in practically all the feedbacks in all courses. However, I am still satisfied with the amount of knowledge that I gained and the grades given.
I have achieved the number of credits I had planned to achieve, so I'm satisfied. In each period I have taken two courses as was recommended at the beginning of my studies, and this has proven to a suitable amount, anything more would have probably been too much.
I will have 55 WAT credits by the end of the academic year, and probably 5 credits from Practical Training. I studied through the academic year as was suggested: two courses per period. I am satisfied with my number of credits.
I have been studying full time, and at the end of the semester I should have 50 credits in total. I left out 2 courses, because I felt like it would have been too much work. I am satisfied with it, even though it's a bit less than I planned first.
By the end of this period I would have completed 55 credits. This is less than planned because I was hoping to get 60 credits but due to the strict schedule requirements of one course (Environmental Hydraulics), I decided to take it next year. I am satisfied with this number of credits because it is in line with the 2 year program since I can complete the electives this autumn and hopefully begin my thesis at the beginning of next year.
The number of credits to be done at Aalto University was 60, in order to proceed with my Nordic5 programme at DTU. All of the 60 credits planned were (or will be) achieved without any particular problem. I had also planned to take a Finnish course which I did not complete.
By the end of this academic year, I will get 60 credits. I am satisfied with that, since that was my aim and since that is the amount required for me to obtain during the year in order to get scholarship of 50% from the price, that was one of the main drivers.
I planned to do slightly less than I ended up with, because I've been working while studying and the studies have been quite intense.
I wanted to keep up with the pace of 60 credits per year to be able to go on exchange next semester and then focus on my Master's thesis in Spring 2020. I have studied like I had previously planned so I am satisfied with my progress with studies so far.
50 op. WAT kursseja. Tavoitteeni mukainen tulos johon olen tyytyväinen. Puuttuvat 10 noppaa ovat samassa periodissa, josta olen suorittanut jo kaksi muuta kurssia. Eli ei olisi ollut edes mahdollisuutta saada 55 tahdilla 2 kurssia periodissa.
I wanted to study the 60 credits to be able to graduate in 2 years. I am happy with my study efforts and the 61 credits I did/am doing.
Tried to have 60 credits, but had to drop one course. Still, I am satisfied with it.
I am satisfied with the number of my credits (55 ECTS), as it corresponds to my study plan (2 courses/period).
I had planned on taking the risk analysis course in the fourth period, but due to the SGT course and field trip in the beginning of that period I decided to leave it for next year. I am satisfied.

4. Have you worked during your studies?

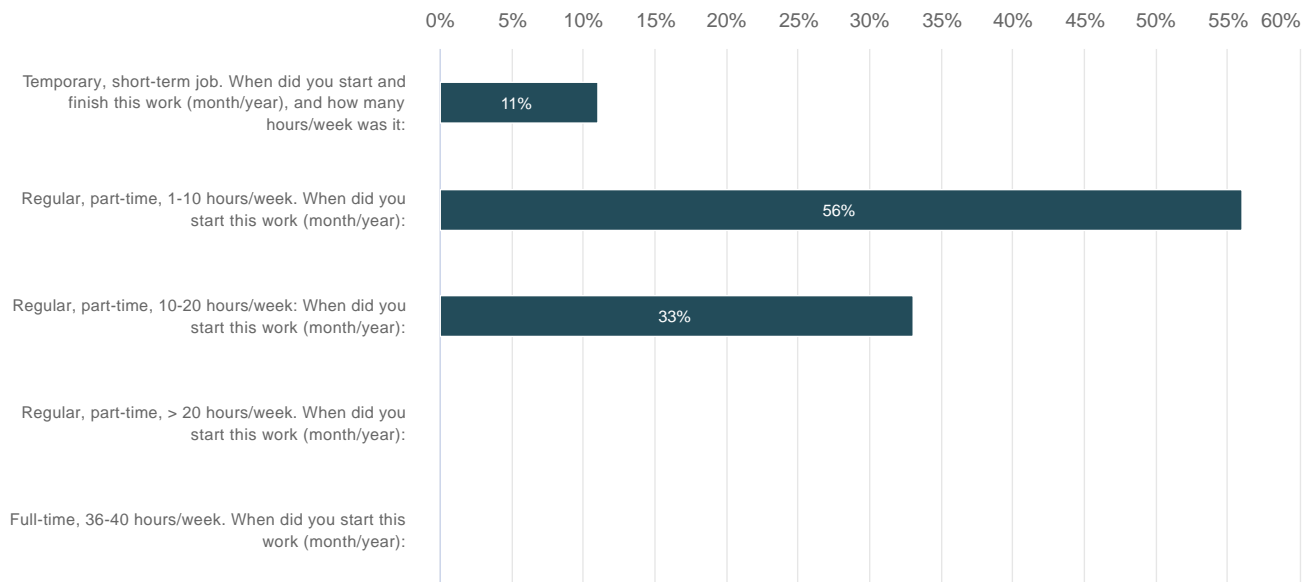
Number of respondents: 18



	n	Percent
Yes	9	50%
No	9	50%

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

Number of respondents: 9



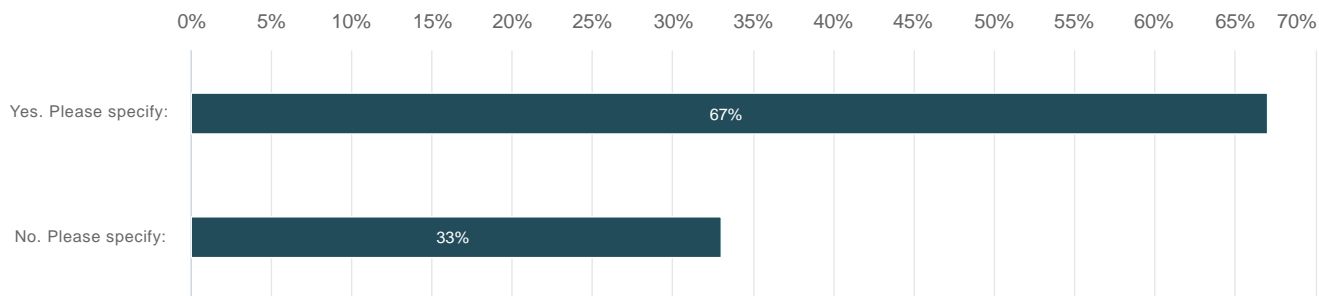
	n	Percent
Temporary, short-term job. When did you start and finish this work (month/year), and how many hours/week was it:	1	11,11%
Regular, part-time, 1-10 hours/week. When did you start this work (month/year):	5	55,56%
Regular, part-time, 10-20 hours/week: When did you start this work (month/year):	3	33,33%
Regular, part-time, > 20 hours/week. When did you start this work (month/year):	0	0%
Full-time, 36-40 hours/week. When did you start this work (month/year):	0	0%

Answers given into free text field

Option names	Text
Regular, part-time, 10-20 hours/week: When did you start this work (month/year):	04/19
Regular, part-time, 10-20 hours/week: When did you start this work (month/year):	Nov 2018
Regular, part-time, 10-20 hours/week: When did you start this work (month/year):	1.9.2018
Temporary, short-term job. When did you start and finish this work (month/year), and how many hours/week was it:	Inconstant job, approximately 7 hours, 1 day per week. Since March 2019.
Regular, part-time, 1-10 hours/week. When did you start this work (month/year):	10/2019
Regular, part-time, 1-10 hours/week. When did you start this work (month/year):	10/2018
Regular, part-time, 1-10 hours/week. When did you start this work (month/year):	Basically 8 hours a week. It begun from September last year and ends in May this year
Regular, part-time, 1-10 hours/week. When did you start this work (month/year):	Koko lukuvuoden enemmän ja vähemmän, mutta opintojen ehdoilla.
Regular, part-time, 1-10 hours/week. When did you start this work (month/year):	06/2017

6. Is your work related to WAT field?

Number of respondents: 9



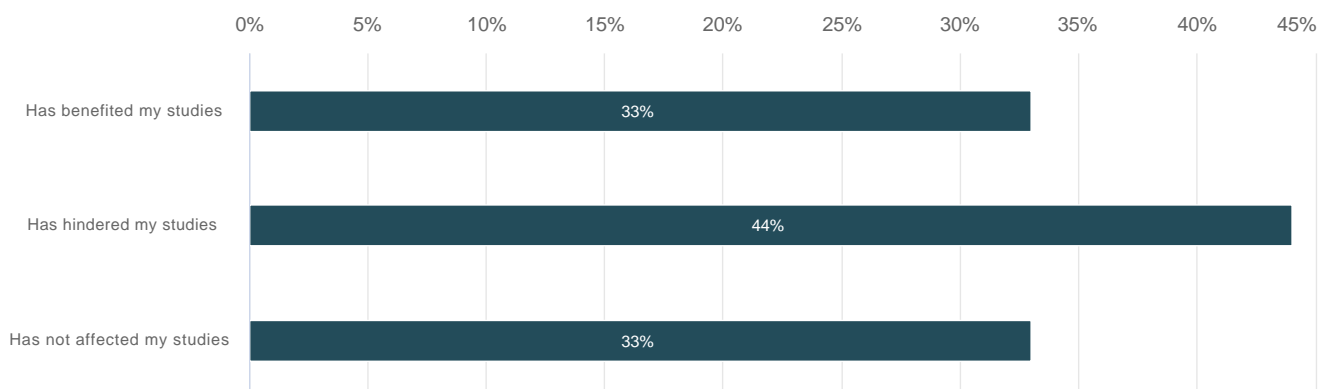
	n	Percent
Yes. Please specify:	6	66,67%
No. Please specify:	3	33,33%

Answers given into free text field

Option names	Text
Yes. Please specify:	agriculture and forestry
Yes. Please specify:	Research assistant in a WAT research project
Yes. Please specify:	Project support engineer at Evac Group. Evac provides water and waste manage systems to ships, for instance.
Yes. Please specify:	Vanha liittyi kandiopintoihin ja sivusivat ympppää. Uusi työni ympppäteknikkaa.
Yes. Please specify:	Environmental engineering
No. Please specify:	Food delivery
No. Please specify:	Part time job in a warehouse
No. Please specify:	Babysitter

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: 9 , selected answers: 10



	n	Percent
Has benefited my studies	3	33,33%
Has hindered my studies	4	44,44%
Has not affected my studies	3	33,33%

Answers given into free text field

Option names	Text
Has hindered my studies	added stress
Has hindered my studies	2 WAT courses require 40-50 h/week, which makes working simultaneously fairly difficult. Of course my personal ambitions for grades and study success affects the hours used for school.
Has hindered my studies	I could have used more time to focus and improve assignments and tasks

Option names	Text
Has hindered my studies	It has not particularly affected my studies due to the flexibility of the job, but it has taken some hours off of them.
Has benefited my studies	applying knowledge
Has benefited my studies	Benefitted: Working has helped me to learn scheduling and prioritising. Also, it has taught me more about what kind of a workplace I wish to work in and with what subjects. Even though it has increased my workload, I have learned so much more while working alongside studies. I find the learning more important than graduating strictly in 2 years.
Has benefited my studies	Lisännyt motivaatiota ja syventänyt/laajentanut osaamista.
Has not affected my studies	I was allowed to pick my own work shifts and was able to plan it around my studies.
Has not affected my studies	I stopped working in March 2019 to focus completely on the two last periods of study. My grades indicate that working didn't affect my studies too much. However, I feel I was under a lot of workload during the second and the third period, which is why I quit working for the two last periods..
Has not affected my studies	but of course it has taken my energy

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: 18

Responses
Elaborated understanding of the varied WAT field, some key areas include water and development, hydrology, water legislation and governance, water systems administration, water resource management, and others.
- Water treatment, water networks, water utilities. Water utility sector is a career option for me so these things are important to me - Aspects, technologies and skills related to environmental engineering (e.g. risk analysis, sampling, contaminated lands). Another career option for me - Deeper and holistic knowledge on sustainability, world, water, environment. I am not sure what my actual career will be, but these aspects are relevant to multiple fields especially in the future
Elements taken from my portfolio. SCIENCES Fluid mechanics. Biological contamination of waters. Biological processes occurring in a WWTP. Chemical contamination of waters. Chemical processes occurring in a WWTP. ENGINEERING Environmental hydraulics solutions. Water supply system. Considerations for the choice of numerous elements of the system. Groundwater and surface water hydrology. Stormwater problems and necessity to treat it. Management and choice of transport and treatment systems. Wastewater issues and necessity to treat it. Management and choice of transport and treatment systems. Usual water quality analysis. Data collection. Data analysis. MANAGEMENT Teamwork function. Communication Task assignment. Financial computations. Economic analysis. Time management techniques. Stress management. Deliverables. MCDAs. POLITICS AND LAW Institutions governing at various levels. Actors involved in governmental issues. Interactions between institutions and actors. Basics of legislation, regulations, directives, etc. Law and regulation structure and hierarchy. Processes for running businesses and associated paperwork. PERSONAL SKILLS Language. GIS MODFLOW SWIMM and FLUIDIT MATLAB SUMO Critical Thinking Most of the knowledge acquired during the year support my future goals and achievements on professional and personal aspects.
I learned a lot about the different fields involved in water and environmental engineering. The field I learned the most about would be water and wastewater treatment. This was important to me as I wanted to do my master thesis and hopefully continue working on treatment of drinking water.
I learned about the hydrological processes and how to explain them. Also, the treatment steps and the processes behind them are what I found the most helpful for my personal goal.
It's really hard to find really specific things, but I would say that generally the knowledge related to groundwater (Darcy's law, flow and transport), hydrology (water balance, runoff generation) and surface waters (e.g. lake water balance and regulation) as well as the governance aspects (IWRM, Water Framework Directive, legislation). I think these are quite central subjects in this field and understanding all of them, at least on some level is important.
Water & wastewater engineering: Water supply engineering: - Physical elements, functions and information technologies of water supply, wastewater and stormwater infrastructure, as well as their operational and life cycle management - Financial and organizational management of water supply and wastewater services, their legal framework - Understand and manage risks related to drinking water quality - Understand the multi-objective optimization problems related to system design and operation Water treatment technologies: - Ability to describe the most important physical, chemical and biological water & waste treatment processes - theoretical background of relevant physical, chemical and biological treatment units - Ability to explain biochemical, microbiological and ecological phenomena in biological treatment processes - Understand the overall process train and understand the modelling and control techniques In WAT field, I'm most interested in Water and wastewater engineering. From the WAT field, water and wastewater engineering career opportunities seem the most interesting and diverse to me, and this knowledge should help me with pursuing a career.
Probably the most central pieces of knowledge I've learned is understanding the water treatment processes, since most of my courses have focused on that. Also I've learned some more about governance, sustainability and risk analysis.
Water treatment theoretical knowledge was the main piece of knowledge I valued since that's the focus of my future career. In addition to that, the knowledge gained in the hydrological and groundwater modelling courses also proved beneficial in widening the scope of my water engineering expertise.
On one side, I have learned some hydrology, particularly the processes governing water resources, both for groundwater and surface waters, and I have gained some knowledge on the fate of nutrients and pollutants in water. I am right now learning the hydraulics in vegetated natural conditions, as well as the differences between this discipline and the classical hydraulic. On the other side, I have deepened my knowledge on water treatment, I now have an overview of how a treatment plant works beside the treatments themselves (i.e. how to operate a plant from several perspectives including the finance) and on the distribution networks. I have learned more on the physical, chemical and biological treatment of water, and I am starting to achieve a big picture that helps me combine the specific knowledge in order to analyze water treatment solutions.
I have learnt all new field of hydrology and hydraulics from the grounds, in addition to network systems those were interesting and to some extent useful for me. I deepened my knowledge in treatment technologies, which I liked the most and those are important to me since they complement my previous experience and those topics are beneficial for my future potential career that I am aiming to start in treatment field.
I've learned to consider sustainability more broadly, considering its three different dimensions more, as well as taking into account its time and scale aspects. I've learned to be more critical whenever sustainability (or life cycle analyses) is considered, be it in the media, studies or elsewhere. I've also learned more about how the government works and how to consider the societal context a lot more. This has helped me to connect all the theory I've learned throughout my studies to "the real world" and hopefully will help me in utilising my knowledge in working life. I believe this will also help in the transition to working life. Being more aware of what kind of different actors exist in the Finnish (European and Global as well) environmental governance is surely important knowledge for me in working life. I've also learned about water engineering of course; about groundwater hydrology (gw intake project was very educational. The exercises helped in refreshing my maths and learning about what needs to be considered when

Responses

modelling groundwater), water quality (even though I have not studied any of the water treatment courses I found the water quality week during 2 courses very beneficial and educational in learning some basics), IWRM and global water questions come into my mind as well.

The most central piece of knowledge I have gained is on water resource use and management systems. This I consider important because I will probably work with tasks closely linked to water resources management and the planning of it. Additionally, the governance frame around water issues which includes legislation concerning WAT themes (national, EU, international) was something very new to me and highly important as governance is closely linked to everything engineers do.

Kestävähkehitys, vesienhallinta ja riskienarviointi. Niitä voi hyödyntää kehitettäessä yritysten yhteiskuntavastuun asioita.

A general picture of water field. An understanding of water resources and what working with them includes. The rebound effect of sustainability. Overview of how the environmental issues relate to water field. These are important because I got excited about them and was enjoying learning more. They also gave reasons why to study these topics and how the different issues relate to each other.

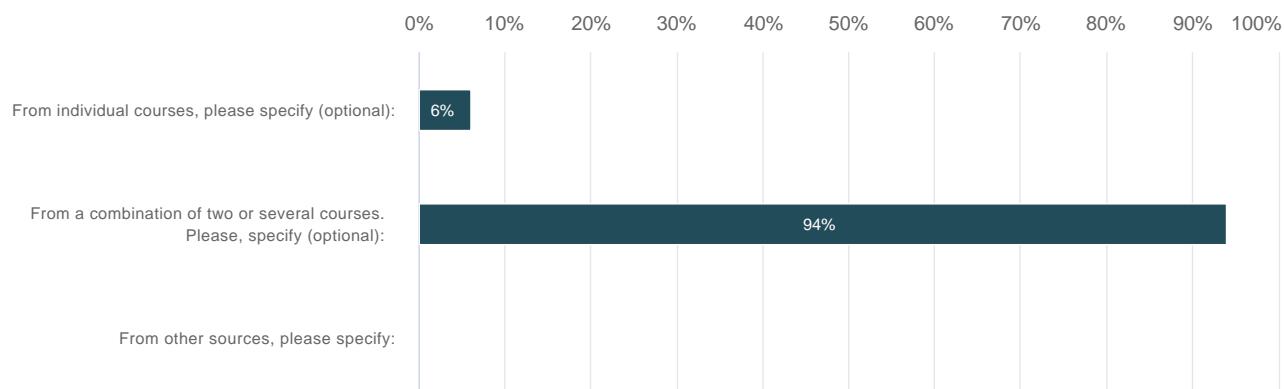
I have learned more about career opportunities and the themes water engineers work with.

As I selected to take "Water resources"-study path, most of my learning outcomes are related to water resources and their management, hydrology and hydraulics. I have learned about e.g. theoretical background of groundwater flow, understand basic principles of water balance, and surface water resources and their distribution. Also other courses offered me a broader understanding of the field, and in particular its social context.

I have learned to see the complexity of water-related issues more broadly and can consider things I maybe wouldn't have considered before. Water links to all sectors of a society and especially in countries with low income the social aspects can be quite significant. In the SGT course we saw how water resources management can also be improved through poverty alleviation. And this brings the nexus approach to mind... I understand the EU Water Framework Directive better and also what ways international institutions and organisations have to influence environmental policies of national governments. I found the linkages between income and emissions interesting and the rebound effect was something that really has made me to think my own actions as well and how to take it into account in the future.

9. Have you gained this expertise mainly:

Number of respondents: 18



	n	Percent
From individual courses, please specify (optional):	1	5,56%
From a combination of two or several courses. Please, specify (optional):	17	94,44%
From other sources, please specify:	0	0%

Answers given into free text field

Option names	Text
From individual courses, please specify (optional):	Physical and chemical treatment of water and wastewater
From a combination of two or several courses. Please, specify (optional):	Study Tracks: Water Resources and Water and Wastewater
From a combination of two or several courses. Please, specify (optional):	- Urban water systems, design and management of water and wastewater networks, Physical and chemical treatment course, Biological treatment course, Modelling and control of water treatment processes courses
From a combination of two or several courses. Please, specify (optional):	Urban water systems, physical and chemical treatment course, biological treatment, modelling and design of water networks
From a combination of two or several courses. Please, specify (optional):	The water treatment courses side combines together to achieve the big picture, as specified. The hydrology courses feel a little more detached between one another.
From a combination of two or several courses. Please, specify (optional):	Chemical and physical tretament, biological treatment, modelling and control of treatment system, urban water systems.
From a combination of two or several courses. Please, specify (optional):	Major studies
From a combination of two or several courses. Please, specify (optional):	WAT-E2010, WAT-E2030, WAT-E2080, WAT-E2040, WAT-E2090
From a combination of two or several courses. Please, specify (optional):	Some from individual courses, but the complexity and different things to consider from many courses. SGT!

10. 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: 18

Responses
I believe I got a good selection of these from the courses I selected, and not much is missing in terms of knowledge. Maybe in some cases the courses would benefit from concentrating more on a little bit fewer topics, instead of trying to cram too much material into one course.
- Water utility economics and business. Discussed briefly in some courses and were expected to understand in some courses with very limited teaching. I am mainly referring to organisation structures, financial arrangements, m&a etc. in the utility sector. Very relevant to understanding how and why different water utilities work in specific ways. I think incorporating industrial management, financing and accounting studies to the water treatment study path (not just relying on students taking these courses voluntarily as electives) would give WAT graduates a major advantage in this field.
Focus on economic aspects was clearly missing in my opinion. This may be due to the lectures that I chose. Some engineering considerations such as feasibility and real-life applicability were covered superficially.
I would have liked some more technical /engineering or mathematical knowledge in certain courses. I felt some courses focused more only on theoretical knowledge.
No I learnt all the knowledge I wanted.
Maybe something more on the water quality side, related to both, groundwater and surface waters. The courses just were focused on other matters, understandably its not possible to fit everything in such a restricted time.
- Water engineering related business knowledge. More about project management in water engineering projects, communication and role between different stakeholders. Moreover, more about the career opportunities in water engineering: I feel I have learned a lot of knowledge related to water engineering, but I know close to nothing about the working life of water engineers.
No special knowledge, but maybe I was expecting more environmental engineering courses before I started with the master's studies.
Didn't really have any specific knowledge expectation at the beginning of the courses so I feel the courses gave me the essential knowledge I needed.
I would have liked to achieve as much knowledge as possible on the environmental hydraulics and hydrology side. I would have enjoyed more hydraulics courses, such as some advanced hydraulics. Many hydrology courses focused mainly on the modelling skills and had little theory to back the models. I would have enjoyed some more in depth knowledge on the physical processes of hydrology.
I would want to get more knowledge in industrial water treatment sector, since there is much more potential labour market than in municipal sector. Anyway those technologies are quite related and can be utilized.
I still have some major courses to do next year, but right now I wished we had more opportunities to study environmental engineering as well. For example emission estimation and calculation is something I would be interested in learning about (I have not taken the environmental engineering courses yet, so not sure what all is included in them!).
Urban runoff management, modelling and planning. The track of water and wastewater engineering would have probably covered these to some extent but I could not fit those courses into my study plan. Hopefully I can fill this gap on exchange.
Ei.
Nothing specific comes into mind.
No.
Courses could have highlighted the global perspective more.
So far I have been content and I decided to divide the WAT courses for two years, so I will continue working on these themes still.

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

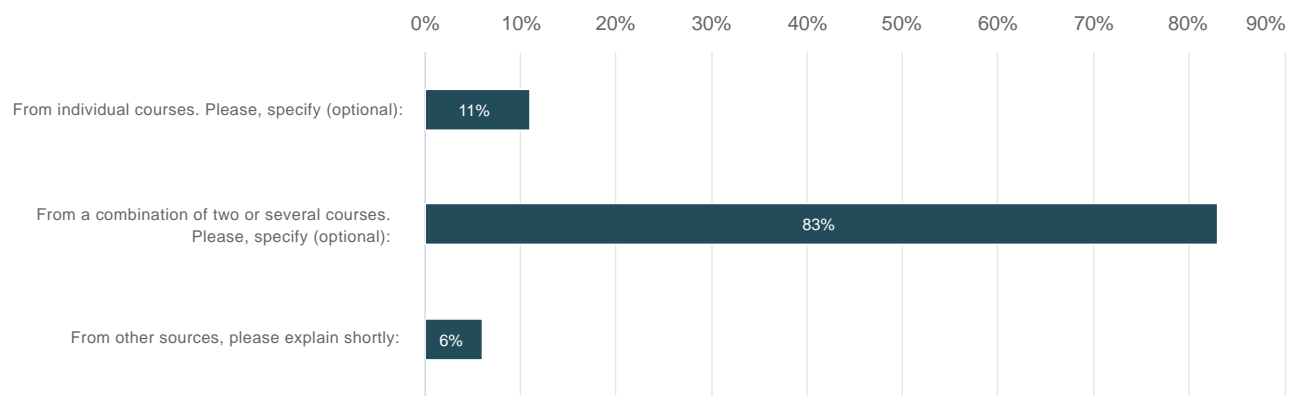
Number of respondents: 18

Responses
1) Modelling and quantitative methods in particular, including validation/calibration of models, theoretical knowledge informing the various assumptions in modelling and several practical applications for these through very interesting case studies. 2) Group work and project management skills arise as the most important, as these have been frequently utilized skills that I have learned the most about. The varied approaches used in engineering have surprised me, as have the varied modes of thinking and analytical rigor in both quantitative and qualitative applications. Furthermore, academic practices can be seen as belonging to this category.
- Learned to use multiple different new software and also sharpened existing skills in different tools and software - Learned to do research more efficiently (also improved my personal style of doing research) - Learned about what type of work I would enjoy doing - Learned about what type of roles I would take in projects - Networking is even more crucial than I thought. All professionals in our field seem to know one another, so connections seem to matter.
Elements taken from my portfolio. SKILLS: SCIENCES Translate natural phenomenon in a mathematical language. Apply theories while understanding their boundaries. Apply mathematical analysis, linear algebra and statistical tools. Simplify complex systems. Plan a quality assessment of ecosystems. Estimate water pollution and its remediation in a WWTP. ENGINEERING Water extraction site analysis potential. Design of pumping stations, basins and pipe network. Demand prediction. Groundwater fluxes and motions. Stormwater forecast. Run-off computations. Treatment system choice. Detention and retention basin design. Main and pipe network. Wastewater forecast, WWTP layout. Design of various treatment units. Pipe network. Processes design, control, and monitoring. Laboratory Work. Conduct measurement, pre- and post-process collected data. MANAGEMENT Leadership. Mediation. Task division. Costs and prices estimation, calculation. Future prediction. Terms of reference, minutes, project planning and controlling. POLITICS AND LAW Understand the political background of land planning. Understand the general governance ruling water in European. Communicate with people from the legislative sector. Plan projects within the legislative framework. Master plan, construction permits, environmental permits. PERSONAL SKILLS Being able to communicate in other languages. Survey and data analysis. Hydrological modeling. Water network modeling. Various uses. Water treatment processes modeling. Ability to question contents of sources. IDENTITY: SCIENCE Methodology in approaching, analyzing, and solving problems. Multidisciplinary of the environment. Broadness of the field. Water circle intricacy. ENGINEERING Methodology in approaching, analyzing, and solving problems. Motivation to work in the field. Complementary knowledge. Critical thinking of collected data. MANAGEMENT Consider other viewpoints and understanding that anybody is superior to myself in some way. Integration of economic concerns in projects. Broader picture of projects. Multidisciplinary. Motivation to start a business. Methodology in project management. Will to manage projects. POLITICS AND LAW Understanding the big picture. Integrating the legislative framework. PERSONAL SKILLS Understanding of other cultures. Understanding of the possibilities of numerical computations and their limitations and uncertainties. Exert critical thinking with regards to literature and data. As for knowledge.

Responses
Practical tools and methods - GIS, modelling using excel, laboratory analysis, analysis of scientific articles, scientific writing Identity skills - Group work, public speaking, cultural integration
I think I learned more about modeling and designing network. I also enhanced my critical thinking and reading skills. These are very important skills for working life, especially on the research side.
1) Probably modelling skills (groundwater and hydrological modelling), some statistical and data analysis methods, experience on R and Matlab as well as enhanced writing and Excel skills. Many of these are very general skills that can be applied widely and are presumably beneficial no matter where in this field one is employed. 2) I think that I have learned to be a bit more systematic and critical and to better understand the uncertainties related to e.g. modelling. These are important, since it is of course crucial to think independently and to be able to understand the limitations in different methods etc.
1) - design, dimensioning, modelling and optimization of water and wastewater networks as well as treatment plants - modelling process execution - reporting results and interpreting them with data analysis - data visualization (creating beautiful informative maps and graphs) supporting results reporting and interpretation - simple forecasting based on historical data and different scenarios I expect good design, modelling, data analysis, results reporting and interpretation skills to be integral in my future career. 2) Conducting a project with time constraints □ managing a project by allocating tasks to different people, calculating work hours and ensuring everyone does their part - improved systematic thinking - Group work – relevant communication and coping with different views - Recognizing the profound influence of water supply services and water quality on public and environmental health - good working attitude: I want to produce excellent results, even if it costs me time and other resources. - life-long learning and curiosity: I accept that I cannot learn everything I want during my Master's studies, and I have a hunger to learn more during my working life. Recognizing the influence of water supply services on public and environmental quality is the reason why I am studying these subjects. Group work skills, working attitude and hunger to learn more are key identity characteristics to an enjoyable working life. Improved systematic thinking: through process thinking taught in the modelling courses, I feel I can produce nicer in tasks given to me. Also, being prepared for conducting larger projects with time constraints is a plus.
1) Improved my lab working skills, governance analysis, Excel-skills, some modelling skills 2) Better group working skills, more motivated attitude for the field
Improved Group working skills Improved Software skills Better time management skills These are important because you will always have to work in a group at some point in the future and time management skills are essential in any working life.
During this year I have gathered a nice set of skills that I did not have before, due to the teaching difference with respect to my bachelor. I have learned a lot of modelling (with no previous experience at all), how to use excel to some advanced level, and in general more IT skills. In addition, I have gained interesting laboratory skills, from the single analyses to more complex pilot projects. I have also gained time management and decisional skills. I have learned how to prioritize work according to pre-set goals, and the consistency of work. In addition, I have had the opportunity to work in different groups and see different group dynamics, which made me understand more on my role in a group. I have learned that it is okay not to know, and that eventually all things are manageable.
Modelling skills, usage of MATLAB, and GIS. Design and calculations related to treatment technologies. All justifications are the same as for knowledge part.
1) Out of computational methods, my skills have advanced most with Matlab, R and Excel, but I've also been acquainted with SWMM and ModelMuse. I've also become more comfortable with using statistical methods and handling large data sets. I find all of these very important and relevant skills for my future, since these programs are quite widely used (Matlab, R, Excel) and I feel I have finally acquired some level of proficiency in them. I'm sure an engineer will also have a hard time avoiding handling large data sets at some point in their career (if not frequently), so being familiar with them is important. I've also learned about data visualisation (also presentation visuals), writing (overall writing skills, academic english, getting used to others reading my text, etc.). 2) My group working skills have improved and I have learned a lot about myself in the process (how do I tend to work in a group and where I can develop myself in). - Obviously extremely important for future studies and professional life! Working while studying has been tough, but it has taught me scheduling and prioritising in a new way than when I used to only study. It has taught me to be a bit more merciful towards myself (not over-working myself as much), which I consider extremely important for my long-term well-being. It has made me more oriented towards working life and made me think about which direction I want to face towards, and it has also taught me about the kind of a workplace I wish to work in in the future. I've also learned to communicate better, asking more for help if necessary. By becoming a lot more aware of my priorities and values (through everything I've listed above and for example through the portfolio process), I have a quite clear mind at the moment about the direction I'm going towards in my studies, working life and life at the moment, which makes me have peace of mind. :)
1) use of computational methods and modelling in water resources management 2) group-work skills, project-work skills and understanding broader context and uncertainties in WAT related projects and decision-making
1) R ja excel sekä erilaiset governance analyysityökalut. 2) Kärsivällisyys, englanninkieli, raporttien tekeminen, ryhmätyötaidot Näistä tulee olemaan työurallani hyötyä päädyn töihin minne tahansa.
1) A lot of important skills with R and Matlab, also some tools for assessing the multidimensional (environmental, social and economic) sustainability and data processing & representation. 2) Argumentation, develop my English scientific writing, presentations All of these are general skills that can be used no matter what I end up doing after graduation.
1) I learned more computational skills, like Matlab, R etc. 2) I have not learned any identity skills.
Matlab, R, Adobe Illustrator, Modflow, data visualization, importance of data post-processing.. Teamwork and negotiation skills, critical thinking, ability to work long-term and towards specific goal, working under given (strict) time-table... I feel that the expertise of different software is useful in the early stages of a career. Furthermore, the importance of teamwork and negotiation skills cannot be overemphasized.
I have learned about the LCA process and many tools that can be used in its evaluation. I have learned a basic framework for governance analysis and what should be considered there. I have enjoyed practicing R and visualisation of data. I got to practice and improve my team working and project management skills on the SGT course and have kept on trying to improve my time management skills although it sometimes feels hopeless business.

12. Have you gained these skills and identity skills mainly:

Number of respondents: 18



	n	Percent
From individual courses. Please, specify (optional):	2	11,11%
From a combination of two or several courses. Please, specify (optional):	15	83,33%
From other sources, please explain shortly:	1	5,56%

Answers given into free text field

Option names	Text
From individual courses. Please, specify (optional):	tools from individual courses, identity skills from all of them
From a combination of two or several courses. Please, specify (optional):	WAT-E2030 and WAT-E2040
From a combination of two or several courses. Please, specify (optional):	Study Tracks: Water Resources and Water and Wastewater
From a combination of two or several courses. Please, specify (optional):	All courses
From a combination of two or several courses. Please, specify (optional):	Hydrological modelling, Chemical and physical treatment, biological treatment, modelling and control of treatment system
From a combination of two or several courses. Please, specify (optional):	Key skills were gained from the track water resources management and modelling. The key identity skills have come from several courses with almost all courses contributing to these.
From a combination of two or several courses. Please, specify (optional):	water and people in changing world, water resources path-courses
From a combination of two or several courses. Please, specify (optional):	WAT-E2010, WAT-E2030, WAT-E2080, WAT-E2040, WAT-E2090
From other sources, please explain shortly:	Studies, working while studying, tutoring, life outside of work and studies

13. 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: 18

Responses
More knowledge on programming basics and other general engineer skills would have been nice, could have made some exercises slightly easier.
- More skills in sustainability reporting and assessment, especially related to corporate sustainability. I believe these things are more relevant to the field of accounting at least in Aalto University, but could be incorporated to the WAT program. - Not sure which of the skills I've learned thus far are on an acceptable level (i.e. would be able to conduct real-life projects or work) and which need more sharpening. Unclear on what is de facto expected from me skill-wise on entry-level positions. Of course, this will become more clear once I start applying for jobs and actually start working
Same as for knowledge.
I think I'm happy with what I learned regarding skills and identity skills
I expected to learn more deeply about modeling in the hydrology track, but of course we do not have time to cover all of that.
Nothing comes to mind at the moment.
- I wanted to learn more business management skills, but they are not in the scope of this programme at all.
No special skills I was expecting, maybe some more GIS but I will take some GIS courses to my elective courses.
More entrepreneurial driven courses would have been nice. I quite enjoyed that entrepreneurial exercise we had in the first 2 courses we did.
I expected to learn more computational skills to side the IT skills. These were left aside, as the equations were mainly used in order to be inserted within models, and there was no necessity to really understand them or where they could come from.
I think I learnt quite everything what I expected, some topics could me more deepenly learnt I guess. Like those kind of designand parameters and calculations for treatment technologies: it was mainly the homeworks but I would want to see full lectures about those.
Nothing that comes to my mind, I've learned a lot and don't think there is much space for anything more timewise.
Something related to financial side of engineering as water engineering projects are usually highly dependent on finances and it affects also the extent of research that can be done and thus the related uncertainties. Consulting side is also a large employer for us and especially there competition is related to selling your work/skills.
Ei
1) The basics of Matlab & R code. We have been filling up ready made code and I lack the ability to start a code on my own and understanding some of the basic issues. I understand why this is done as it is -> to save time & many people have studied at least some coding before. 2) Well, I still don't know what I would like to focus on my thesis (or life after thesis)
I can't think of anything.
I expected to learn more about GIS-based programs but unfortunately only one exercise was based on using GIS (during 2courses).
Not really

14. WAT programme has special structure, with only 15 credits of common courses i.e. 2courses. Such a structure has three main aims:1) to provide you with a comprehensive set of knowledge and skills in just one period (2courses), 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 2courses), and3) to allow you to start individual study paths already in the 2nd period (i.e. selecting those elective studies that interest you most).On the other hand, such a structure means that studying during 1st period i.e. 2courses is very intensive.Given these aims, how do you feel the 2courses concept worked? How would you change it?

Number of respondents: 18

Responses
The concept has worked very well, and I believe the 2courses system allows for an effective verification of existing knowledge and learning to build a WAT engineer identity. The studies were intensive but not overly so, and I believe the shared experience binds the students together well. Also, it is valuable that everyone gets a basic knowledge of the whole field, and I think this was accomplished rather well in 2courses.
In my opinion, the concept works very well and helped me to learn some key concepts related to WAT studies and the professional field I would be entering after graduation. It also work-wise prepares students for the upcoming super-intensive WAT courses. It also might be very exhaustive for some students not used to sacrificing most of their personal time on school related things. I wouldn't necessarily change it though, but would have appreciated an extra 5 cr for the hours I put in to the package.
In my opinion, the 2courses structure was just great. It fulfilled all the desired goals. As an international student, it was a great way to get in contact with my classmates, get an overview of the 1st year, get familiar with the Finnish way of teaching and learning, among others. I truly enjoyed getting a glimpse of the different topics taught in the master' programme and wouldn't change a thing. Workload was also more than bearable.
I think the 2courses concept is a very good way to introduce a student to a particular field. It gives an idea of all the avenues or streams that can be pursued by doing wat engineering. It was also good to have all the students in the programme in the same course and it made it easier to get to know them and get introduced to all the professors.
I think the concept worked very well, especially on the second aim. However, I think the 2courses might be a bit of time-consuming since everything introduced is still very vague and to understand how the courses work, we can look at them in Oodi. But I agree that because of the 2courses, we found it easier to fall in line with how our degree works.
I think it worked well in giving a sense on what can be studied in this programme and helping with the decision on the individual study path. Also the learning to know fellow students part came true quite well. At this point its hard to remember what I thought after or during the course but in retrospect I'm happy with it. Of course it was intense but it served its purpose well in my opinion.
I feel that the "comprehensive set of knowledge and skills in just one period" -concept is too ambitious: I feel that knowledge and skillset given in 2courses is very superficial, we were only given a glimpse of some concepts in WAT field. I feel I learnt group work skills and got to know my group members, but these skills could have been delivered by other courses going more in depth to what one wants to learn. As for starting individual study paths, I would have wanted to begin with them already

Responses

during the 1st period. I feel that a Master's student is already mature enough to plan their studies according to their interests, without the help of an introductory course. I knew right from the start, that I am most interested in Water & wastewater engineering issues, and would have wanted to focus on them right from the start. I felt 2courses was bit of a pain for me due to this. I would choose not to have any common courses, in order for the student to have more freedom of choice in their studies and being able to profile themselves more I think there should be 3 or 4 study tracks of 45 cr (Water and Wastewater engineering, Water resources management, Water & development, Environmental engineering) to choose from, and let the student choose one of them. 2courses could split the study tracks to form 4 separate courses, and add these courses to the different study tracks accordingly. The study tracks could have overlapping courses, for example Water resources management courses could be studied in the water and development –study track. 45 cr can be electives: maybe one minor of 25 cr and 20 cr electives could be possible. One could still add WAT courses to their electives. In this programme, I have felt that I have studied courses that will be irrelevant for me in my career. I would have been happy with 45 cr major courses in water & wastewater engineering + water and development, and having the possibility to study other subjects elsewhere more freely..

I think it worked nicely; I got a good overall view from this programme and that made it easier for me to figure out which study paths I would like to follow. I think the 2courses fulfilled these aims pretty well. Even though it was quite intensive, it didn't feel like it was way too much work to handle. I don't have any ideas to change it.

I think it worked perfectly and even though it was a lot of work, it was structured very well and efficiently.

The 2courses concept has worked and it is crucial in order to understand or validate the study paths that a student wishes to choose. I feel that, since a lot of topics were covered, the two courses is fundamental to give a good overview of the whole programme, but it does not provide a lot of knowledge or skills. It feels like a broad introduction, which as said, is fundamental to get the overview, but at the same time reduces the amount of credits to be taken - and therefore the depth of knowledge achievable - in the specific fields. In addition, I have found that the workload during the 2courses was much less intense than in the following courses (probably because of the interconnection between the two courses, preventing overlapping of deadlines) and would not recommend warning on the intensity of the first period.

I liked the way it was held and organized, the only thing is that it hard to work with the same group of people for the whole period. I would rotate the participants inside the groups once or twice during 2courses.

I think 2courses works very well in achieving its aims. The main issues were about scheduling issues on the environmental engineering week, where the workload was 1,5 times higher than on other weeks. The workload on that week is manageable (but not recommended..) as is as well, as long as it is informed about right in the beginning of the week. To improve aim 2): I would suggest to mix the groups during the short lecture discussion exercises, that way you get to know everyone better (and still have plenty of time to work in your own group).

I think the 2courses concept is great and suits all of the before-mentioned three main aims. I fully agree that it is a good way to introduce everyone to each other and give an introduction to the WAT programme. It is also nice to get to know all of the professors. Only thing I would highlight is that lecturers of different courses (elective studies) would not continue repeating the things already taught in 2courses as it is compulsory to us so we know the things already after 2courses. This same applies if the concept would be changed to any of the suggestions in question 15.

Toimi hyvin. En kokenut liian raskaaksi, mutta kurssin lopussa annetut kehitysehdotukset olivat hyviä.

It worked okay. It was not too intensive work load-wise, but the obligatory presence at all lectures and sessions was tiring and difficult. I get that the concept is hard to execute without that.

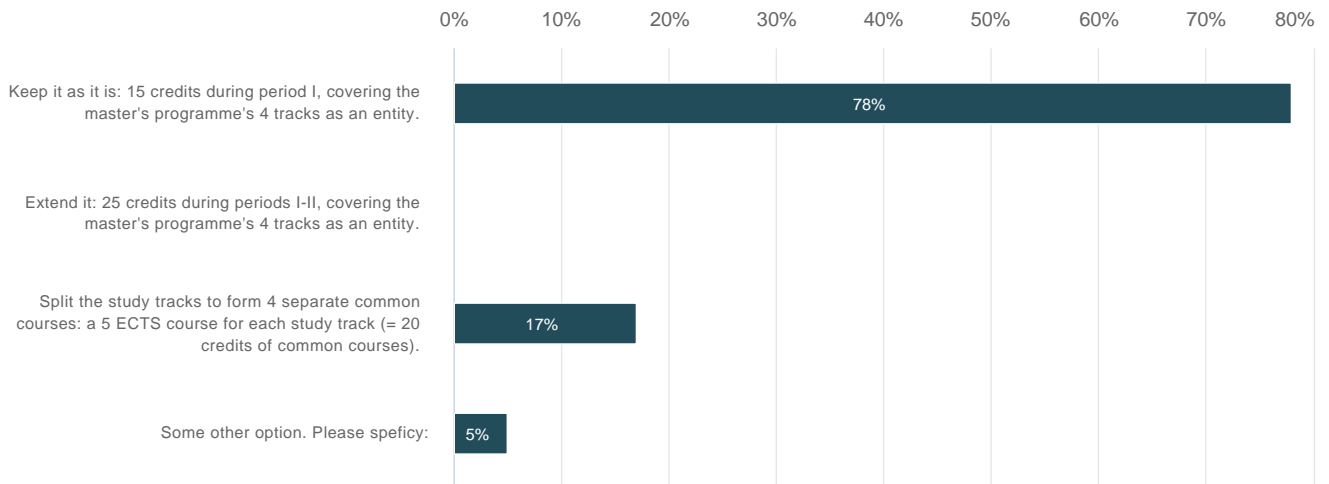
It worked well. It was a dense package, but not too intense. The best thing was being able to start selecting elective studies early on. I wouldn't change it.

I think that 2courses concept worked well. I liked its structure (one theme per one week) and thus, it provided an opportunity to get to know different study paths. However, I think the first seven weeks were very intensive and this could be improved in the future. For example, more flexibility to group work i.e. group members could decide when and where to do work.

It was intense, but I think it was useful in getting an idea what to expect. Also it was nice to start studying when I already got those 15 credits done. Comment to next question: NOT 4 separate courses! It's annoying to try to concentrate on more than 2 topics at the same time & not nearly as efficient

15. What would be the best option for the future of the 2courses:

Number of respondents: 18



	n	Percent
Keep it as it is: 15 credits during period I, covering the master's programme's 4 tracks as an entity.	14	77,78%
Extend it: 25 credits during periods I-II, covering the master's programme's 4 tracks as an entity.	0	0%
Split the study tracks to form 4 separate common courses: a 5 ECTS course for each study track (= 20 credits of common courses).	3	16,67%
Some other option. Please specify:	1	5,55%

Answers given into free text field

Option names	Text
Some other option. Please specify:	I would choose not to have any common courses, in order for the student to have more freedom of choice in their studies and being able to profile themselves more I think there should be 3 or 4 study tracks of 45 cr (Water and Wastewater engineering, Water resources management, Water & development, Environmental engineering) to choose from, and let the student choose one of them. 2courses could split the study tracks to form 4 separate courses, and add these courses to the different study tracks accordingly. The study tracks could have overlapping courses, for example Water resources management courses could be studied in the water and development –study track. 45 cr can be electives: maybe one minor of 25 cr and 20 cr electives could be possible. One could still add WAT courses to their electives. In this programme, I have felt that I have studied courses that will be irrelevant for me in my career. I would have been happy with 45 cr major courses in water & wastewater engineering + water and development, and having the possibility to study other subjects elsewhere more freely..

16. Our WAT portfolio and mentoring process includes the following main parts/phases:1) Writing the portfolio2) Getting feedback on your portfolio3) Meetings with your group and your mentorHow do you feel this process works as a whole? How would you improve the portfolio process so that it has more relevance for your learning and career planning?

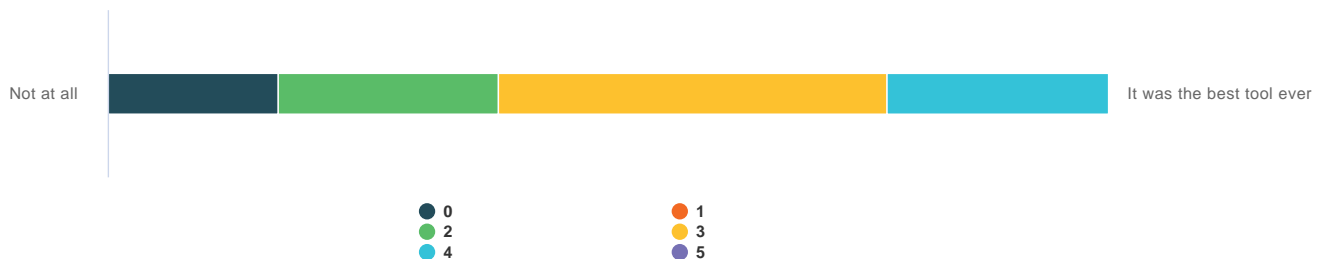
Number of respondents: 18

Responses
It has been relevant, but I believe it should only last for the first year of studies.
The process works and does force students like me who don't have a clear idea about what I will do once I graduate to actually think about my options. I may seem as a nuisance, but helps in distinguishing personal professional preferences as there are multiple options in WAT studies to choose from. I would maybe think about the working-life mentors through. Our mentor was currently a CEO of a physical paper related to another field. Sure, he had graduated from the old WAT program (back in TKK days), but had actively steered away from our field to enter another during his career. There was very little for us students to relate to in his career, expect some entry-level jobs. My suggestion is to focus on finding mentors that have been in the working life for <10 years so that they would have some relevant tips and advice for graduating students. However, I think it is great that we are offered the opportunity to meet graduates and professionals within our field.
Regarding the portfolio, I must admit that I took some time to report and think. It has always been difficult to start a new round of thinking/reporting due to missing motivation and a reluctant feeling. It however pushed my decision-making process and encouraged pondering about my gains from courses. On the whole, the portfolio has definitely helped me and will continue to do so but, like every self-questioning and soul-searching processes, difficult and painful. I love the time that is invested by teachers and others to help and advice us. It sourced great discussion and, even better, pondering. This was especially the case for me during my first meeting with Riku Vahala and with Antti Inkinen, NIRAS. 2nd counseling and group discussion with Meeri did not benefit me so much, except for meeting some of my fellow group members.
I think the process is really helpful as it helps students learn about their interests and what stream they would want to follow.
I think the process is overall very nice, especially when we have mentor meeting to guide us according to our interest. The feedback of portfolio was helpful as well. Writing it is not too easy. I think the portfolio process as it is now is already good enough for students.
I am not sure if I have really benefited from the portfolio process, at least so far. If I would have had more time and energy to concentrate on the portfolio, the situation would be perhaps different but now it feel a bit pointless.
I feel that writing the portfolio has been useful in what I have really learned and what is important for me. We only got one feedback thus far for the portfolio, maybe more feedback could be useful for the sake of the process. However, it could be cumbersome to the students and those assessing them. Working-life mentor meeting was great. The working-life mentor meeting with HS-vesi managing director gave a lot of insights of what career opportunities lie in the water sector. I would have liked to meet different people from different career paths elsewhere. I would have liked to meet some people from consulting and water utilities from different expert and manager positions to really get a view on what the working life is like.

Responses
The process works as a whole quite well, it forces me to think about the future and what I want to do, which is good. It feels very separate thing, compared to the studies, and partly because of this I don't have very much motivation to write the portfolio. But overall I think it's been useful that I've had to think about the career path etc I want in the future.
I think the meetings with the mentors should be done according to the tracks the student plans to take. For example, I was interested in taking the water treatment path and my mentor was more specialized in the environmental engineering field and this made it difficult for the mentor to give advice. I however enjoyed the talks with the mentor and it still benefited me in getting a general idea of the engineering working life in Finland.
The portfolio process is an incredibly useful tool to start thinking about our future and goals. It acts as a spark to start giving a direction to our studies. The whole process works as it is.
I feel that it is just a formal thing that needs to be done. No one from the working life would read my portfolio, they will have a look at my CV. And if you are a Master's student already, you probably know what you learn and what you are aiming to do. Again, this is just a personal reflection, for some other this might be extremely helpful. For improvement I would make this process more aimed on job search, CV and cover letter writing and structure.
The portfolio process works okay, I found it very beneficial to think about, but wouldn't put a massive amount of effort in it at the same time (on the other hand, I think it's good you give students the freedom to put as much effort into it as they want, while also not making it graded for example). I think phases 1) and 3) mentor meetings were most beneficial.
I did not feel that the portfolio process itself was very useful. It did make you think about your gained knowledge etc. but I think this same comes when doing job applications. The most useful part was the mentor meeting which was nice (both with professor and mentor outside Aalto. So I would focus this process more on the meetings and the continuity of them (not only one meeting). I think the professionals give useful insight into and new thoughts of working life and career paths.
Turha. En kokenut hyötyväni näistä asioista ollenkaan. Portfolio tuntuu ylimääräiseltä työltä eikä se anna mitään. Mentorin tapaamisesta ei ollut hyötyä, kun mentoria ei voinut valita omien kiinnostusten mukaan jolloin yhteistä ei ollut.
It worked okay. Having a mentor who knows about the study paths you are doing would be more useful, now we just ruffled.
It might be useful for some people, but for some it is just waste of time. I would improve it by making it voluntary.
The portfolio process forced me to reflect on my own strengths and weaknesses as well as my learning. After the first deadline, it was easier to write e.g. job applications as you have to think your abilities and skills. Thus, I think that as the portfolio process was ok but I cannot really say that it provided something especially for my career planning. I think that most of the portfolio process focused on current situation and the share of the working life perspective remained minimal.
The portfolio process has not been something I would have pondered throughout my studies. This is mainly due to my own inactivity, but maybe it would be more useful if it linked to the courses more tightly or if there were more mid-checks? Then again, with all the courses and other activities there is already a lot to stress about...

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

Number of respondents: 18



	0	1	2	3	4	5		Total	Average	Median
Not at all	3	0	4	7	4	0	It was the best tool ever	18	2,5	3
	16,67%	0%	22,22%	38,89%	22,22%	0%				
Total	3	0	4	7	4	0		18	2,5	3

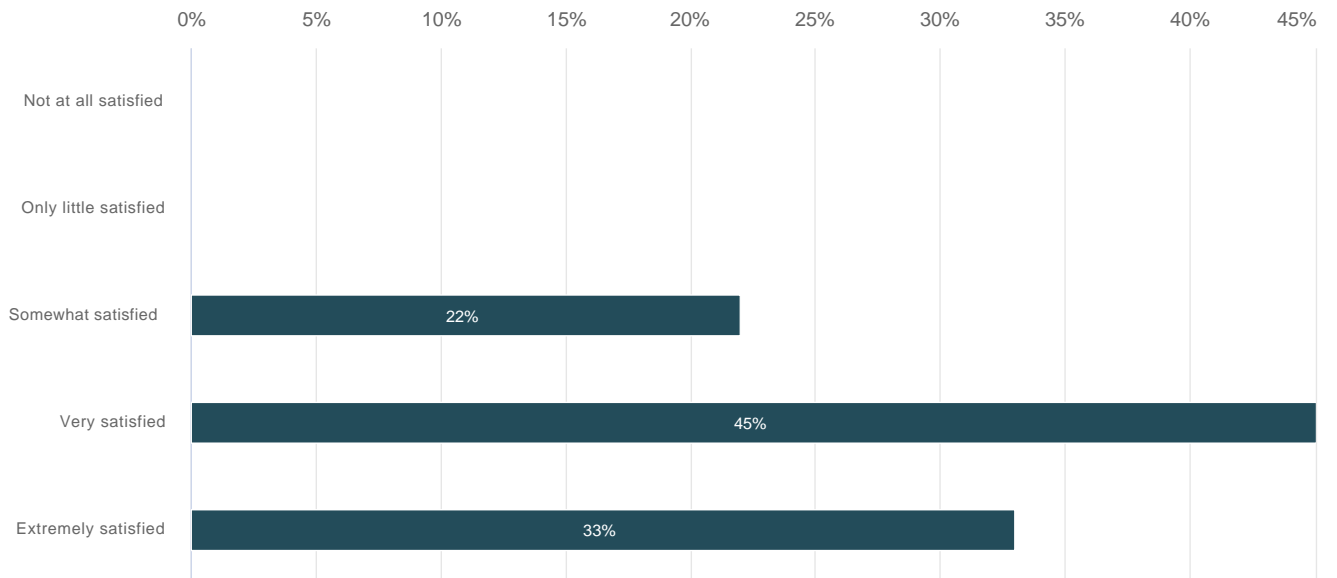
18. The objective of the portfolio group was to provide you a peer support but also to gain understanding on the diverse expertise you have due to your different backgrounds. Do you think this objective was met? Why/why not?

Number of respondents: 18

Responses
It has been useful to have an organized activity for this sort of peer support, although I believe I am the type of person who gets that support from my peers regardless. However, I think it has been a successful and well functioning system.
Yes it was met. Our portfolio group had people from different backgrounds and we were able to share our experiences and ambitions related to our field.
I didn't understand this objective until writing this feedback... It was clear since the beginning that students had different knowledge and skills thanks to the group projects during the 2courses. Further group works in other courses also highlighted this. I do not remember having talked about such in group discussions.
I personally did not participate in the portfolio process as I was a second year master student.
I never thought that having a portfolio is necessary, but in reality after I have done it, I realized that we also need to spend time to reflect what we've learnt and start planning the future. So the portfolio process can also help me with writing my cv later on.
I think this was achieved more during 2courses than in the portfolio process, since (as I recall) we have only had one quite brief meeting related to his.
In my peer group, I feel the expertise was not really that diverse: we all had similar study backgrounds (same study subjects, only difference university level vs. university of applied sciences level). After 2courses, we have not really given each other peer support regarding the portfolio process
The objective was prpbably partly met, it did give some different viewpoints. But we only have had one meeting with the portfolio group considering our portfolios, which is probably why this objective was not fully met.
I think it was a nice initiative and even though we had more or less the same backgrounds in my group it was still good to compare the various strengths we possess and our plans to improve other areas.
It definitely worked. Meeting people with different mindsets and backgrounds made me think more critically about my own background, which was hard to define at first.
Yes those objectives were met and diverse expertise has been shown and that was interesting to see how people in the same field do differ and knowledge and skills.
I think we get to know each other so well in 2courses, and even more so throughout the year, that I did not feel like I learned considerably more in the portfolio meeting. However, I found it very beneficial to see what kind of portfolios others had written.
I think the aim of understanding the diverse expertise we have due to our diverse backgrounds became more apparent during 2courses than during the portfolio process. Peer support is important and in my opinion it is good that we have certain groups during 2courses to form a "peer support group" but I did not find the portfolio meetings necessary for group bonding, 2courses played a more important role. However, I do see that the portfolio process can work towards these aims but for my group it was not that useful as we had formed a close group already in 2courses and continued to see each other during other courses.
Ei. Portfolio ryhmässä kaikilla oli hyvin erilaiset toiveet tulevaisuudesta joten yhteistä ei ollut. Portfolio ei auttanut jäsenitelemään ajatuksia vaan tekeminen vie turhaa aikaa.
Yeah rather well, but that is coming through from other courses as well when working together, not specifically from portfolio process.
The portfolio group didn't provide me any new information about the diversity of our expertise. I learned about those things during the 2courses and other courses.
As we had only one meeting with our group, I cannot say that this objective was met. Practical exercises (during 2courses) provided more understanding of different perspectives, based on each individual background, compared to this meeting.
In the autumn when I was writing the first draft I felt like I couldn't say anything at all about my expertise, it felt like I had only seen how much there is I have now idea about. So it was kind of depressing to try to write it as I didn't (and still don't really) feel like I know all that much.

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

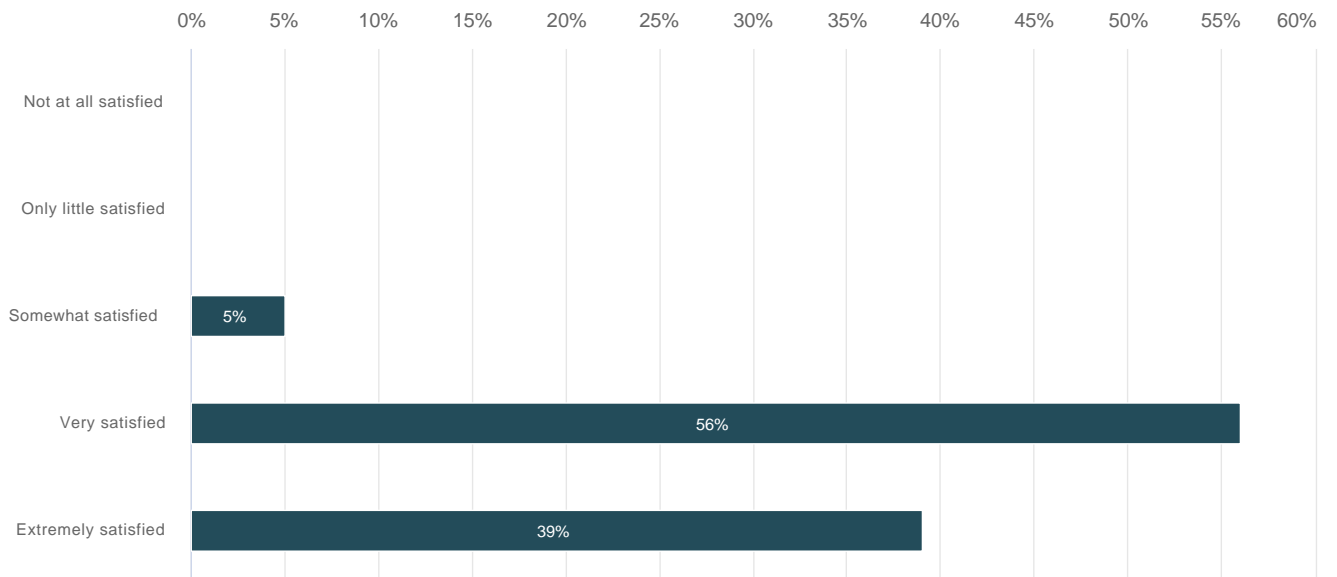
Number of respondents: 18



	n	Percent
Not at all satisfied	0	0%
Only little satisfied	0	0%
Somewhat satisfied	4	22,22%
Very satisfied	8	44,45%
Extremely satisfied	6	33,33%

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

Number of respondents: 18



	n	Percent
Not at all satisfied	0	0%
Only little satisfied	0	0%
Somewhat satisfied	1	5,56%
Very satisfied	10	55,55%
Extremely satisfied	7	38,89%

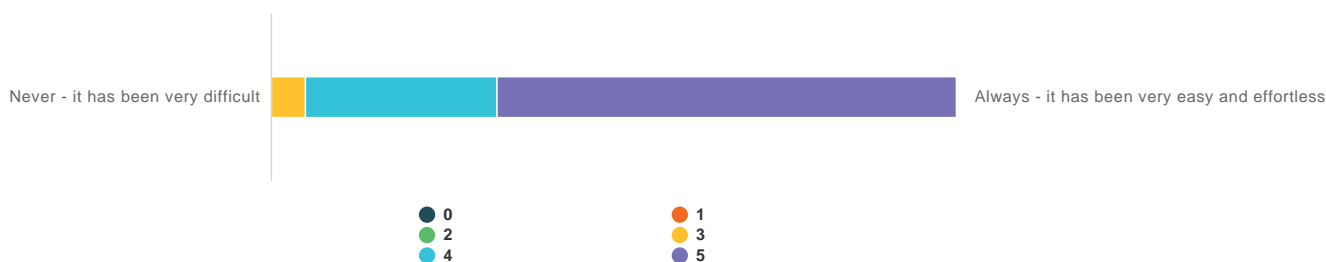
21. Please, elaborate on your previous response shortly:

Number of respondents: 16

Responses
Very progressive and forward-thinking teaching pedagogy at times, and there is a steady will to renew the program which is a delightful thing!
There were some things I would have liked to learn (see my previous answers), but all in all I was very satisfied with the level and methods of teaching.
Most teachers were really eager to teach and to make sure that we understand how the lecture goes and what knowledge is required to digest. Furthermore, flexibility, open-mindedness, and availability were their watchwords. Surely, some minor problems and conflicts occurred, but these were marginal.
I feel the way the programme is structured is very good for those starting their masters at Aalto. However, for a second year student part of the Nordic master programme, it was slightly chaotic in the 3-5 period as I had to attend course while doing my master thesis. That being said, I think the professors understood that and were ready to provide me with any extra help I would require. Their teaching methods also made it easy to follow courses despite not being able to attend all the lectures or teaching sessions.
I think the content of the courses are very awesome, and the teachers manage to find assignments for us to really understand the theory better, so that even without having to learn by heart for an exam, we still understand the content. The teaching method is diverse and innovative as well. In all courses, teachers always provide enough support for students and are happy to answer all the questions, so we are not afraid of asking.
I think that for most parts the courses have been well organized and the teachers competent as well as interested in actually helping students learn and complete the courses successfully.
On some courses, studies have been made easy and enjoyable for students (Groundwater hydrology, Hydrological modelling, Design and management of water networks, Water and people in a changing world). In these courses, all the deadlines, objectives of projects and assignments have been very consistent and clear throughout the course. However, Urban water systems and water treatment courses have been vague. One has had to be resilient to changing deadlines, unclear and not properly defined assignment instructions, messy lecture slides, vague project objectives, boring lectures of 4h and inconsistency during these courses.
I am satisfied with the skills it provides, the teachers are very prepared on their topics and know how to pass the messages through to the students. I am a little less satisfied on the overall knowledge it provides, as stated already in the previous answers. It is very much guided, which makes it easier for everybody to follow the path, but hinders creativity and deep problem solving skills.
I am satisfied with courses and teachers and differen teaching methods, even though the timing is sometimes dense and tense, the outcomes are good.
I have enjoyed the use of multiple different types of exercises and project works and the lack of exams during the year. Sometimes I wish a bit more time would be reserved for the lectures, taking some time away from the interactive lecture elements. More emphasis should be put on reducing the workload to the most essential bits and balancing the workload among the different courses. On some courses the grades, points and feedbacks have been very late, which has hindered learning and made it difficult to give feedback about the grading of the course in the course feedback. I think you should stick to the 4 hour long sessions, but please keep adequate breaks. Preferably at least one 15 minute break on long lectures. The flexibility of the teachers during courses has been greatly appreciated!
Teachers/lecturers are willing to improve and seem motivated in teaching. They focus on students as individuals (a lot of individual feedback, professors clearly put time on teaching). Teaching methods mostly combine well lectures, group-work and individual assignments. All this reflects to the whole program and how well thought-out is seems.
Kurssit ja opettajat ovat hyviä, mutta niissä ei mennä tarpeeksi syvälle. Lisäksi minusta aallon ei pitäisi mainostaa ympäristötekniikan opintoja, koska et voi suorittaa niistä täyttä tutkintoa. Pitäisi olla enemmän syventäviä kursseja jo käsitellyille aiheille.
Of course some teachers are not what I personally enjoy, but generally I think the WAT teachers use a diverse set of different methods. The used methods also aim at people actually learning and all the teachers seem to prioritise people's learning, which is very nice.
Studying in this programme was a little bit different than I expected. I was hoping for more individual work. Also, I had to study a lot of courses that I didn't find interesting. Teaching was good quality, although I found the amount of groupwork excessive.
I think that most of courses provided student-centered learning and many teachers provided personal feedback. Also, the used learning methods were good and versatile. However, the share of group work was bit too large in some courses.
Some courses were not optimally organized, but nothing too extreme and the topics have been very interesting!

22. Have you been able to receive help and support from WAT staff members?

Number of respondents: 18



	0	1	2	3	4	5		Total	Average	Median
Never - it has been very difficult	0	0	0	1	5	12	Always - it has been very easy and effortless	18	4,61	5
	0%	0%	0%	5,55%	27,78%	66,67%				
Total	0	0	0	1	5	12		18	4,61	5

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

Number of respondents: 18

Responses
Nothing in particular I would change, if I could I would add more to the fundamental courses section of the studies and extend the recommended study time to 2,5 years but I think the study program is rather realistic in its expectations of students. It would be nice to have a dedicated course on EIA and environmental legislation specifically for WAT. The current studies on environmental law at Aalto are a little generic and the study style is not well suited to our studies.
I would increase the role of environmental engineering and especially sustainability studies in the program. I really liked WAT-E2140, and would have liked more courses like that. Rethink the course credit system. 5 cr per course is definitely not enough for the hours and work students have to put in. By attending two courses, working simultaneously or completing other studies is not possible. This problem has occurred on almost every WAT course I have attended. I have no simple solutions for this, but maybe some of the content could be cut, or the amount of credits rewarded per course could be increased. Overall, I think Aalto's technology & engineering schools should move to the 6 cr system like Aalto BIZ has. At the moment, WAT courses are quite demanding (attendance, exercises, exams, projects...etc.) and imbalanced with other Aalto courses. Drop the compulsory sessions during synthesis weeks! These are the only times during a school year for students to finish their project/group assignments, recharge and catch up on personal life before starting other courses. I really appreciate having project assignments over exams (don't change this), but I think WAT students should be given a break every now and then.
As a Nordic5Tech student, I cannot really answer this question as my choices are limited.
I feel 6 weeks is a very short duration to learn the contents of a course. A short duration make a course easy to follow but also leads to a lot of information being left out.
I think basically I would not want to change anything, but maybe the workload could be considered more doable.
I have been quite happy with the programme and can't come up with proposals for changes right now.
I feel the most important change should be that students have only 45 cr major courses, and to have more freedom of choice in their studies. Now, WAT students have some freedom of choice in their studies, but it is only limited to WAT courses. Getting rid of 2 courses would help in this. Also, 4 hour lectures are too long. Max 2h lectures + 2h support sessions for exercises is nice, which is already executed on some courses.
Maybe I'd like to have more courses about environmental engineering
Nothing I can think of at this moment. I've been satisfied.
Maybe the correlation of assignments and group work during the period, with some final summary exams (including both definitions and computations) could promote deepening of the knowledge and of the problem solving attitude.
About grading at some courses. For instance it was possible to gain total 200 points during the course, I have gained 150 and grade 4 was starting from 152 points. Can it be possible to finally put the grade 4 since the student was actively present on lectures and showing interest, etc.? I am not sure if it is right but that just a proposal, to be a while less critical in those kind of issues. Also, 3 courses in one period is quite tough. Everything else in WAT is fine by me.
See 21. Also, maybe consider the order of the water resources management courses, I think they might work better as a whole if surface water resources was the first course instead of being third.
I think it is almost impossible to take 3 advanced courses in one period and that is what 60 credits in a year would require so this contradiction is something that could be thought about. Also the usefulness of the portfolio process could be reconsidered. Otherwise I do not have any recommendations what should be changed as in my opinion the program is very good.
Pitäisi olla enemmän syventäviä kursseja jo käsitellyille aiheille ja mahdollisuus suorittaa ympäristötekniikan tutkinto-ohjelmaa, kun sitä niin mainostetaan kandi vaiheessa.
The environmental engineering part is a bit misleading as you have mentioned. There could be a project course which could be done in Finland.
Less groupwork. It is good to learn how to work in a group, but it also increases the workload.
More balance between different courses workloads. Also, more courses related to environmental engineering.
I don't know, I have been satisfied.

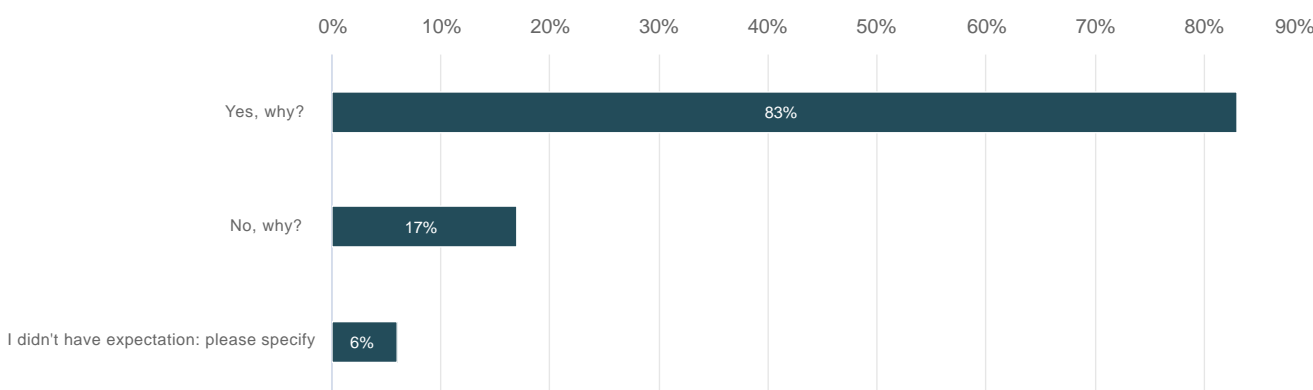
24. What are the things we should maintain in the programme, and why? In other words, what is already working well in the programme?

Number of respondents: 18

Responses
Maintain the multifaceted nature of the studies and the varied general studies of 2courses! It works very well, and I think it prepares students well for the rest of their studies at WAT.
No big exams. Diverse courses with interesting topics. Diverse teaching methods with varying content. Usually clear objectives during courses. Great guest lecturers, all stakeholders generally represented (helps in students to identify preferred employers as well). WAT professors, teachers, assistants and all course staff have been highly motivated to help students, are professionals within their field, and are actually excited about the things they teach. Help has always been there when a student needed it.
The (de)connection of courses in each thematic study path was well managed. In other word, all courses could be taken as individual course but they also make sense as a whole. Link between teachers and students is truly enjoyable!
The systematic course structure should be maintained. Every course had a well defined structure and that it easy to plan my thesis work so as to not stress myself out.
I think the program is good as it is, and I hope to maintain the same system in following years.
See previous answer.
See question 21.
2courses was a good introduction, overall the current courses (at least the ones I've taken) have worked well and I feel like I've learned quite a lot. The 3h lectures sometimes feel very long though.
The time schedule is working really well. I like the fact that no 2 major courses overlap, no matter the track you choose. This gives more freedom to choose whatever major course one likes. I think this should be maintained.
Overall, the programme works extremely well, the introductive period is very important, the portfolio process is useful, and the single courses provide some very useful skills.
Overall structure of tracks is fine and well set, almost no intersactions. Mentoring is good also.
2courses, the time slots for the different courses (please stick to them, the long sessions already make it quite difficult to study electives at the same time, and to my understanding a lot of students choose to extend their studies a little due to the heavy workload and other life commitments, leading to you needing to study electives at the same time as major studies), aiming for deeper learning during the courses and not focusing on exams, long 4h teaching sessions. The portfolio process, I don't think you should get rid of it completely.
Some of the things working well: - 2courses as a whole as introduction to program - idea of different tracks - option of choosing advanced courses based on own interests - great teachers/lecturers who are willing to improve - focus on students as individuals (a lot of individual feedback, professors clearly put time on teaching) - the ease of going on exchange (all mandatory studies can be done during first year)
Olemassa olevat kurssit ja opetusmenot ovat hyviä.
The teachers, a lot of good topics and good tasks, which are given a lot of feedback!
Mentors are worth maintaining. It is easier to get help whenever you have trouble. They also provide useful insight.
Good and clear division between different study lines. Student-centered teaching and versatile teaching methods, hands-on trainings were nice and supported learning.
I like the four paths that we have to choose from

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

Number of respondents: 18 , selected answers: 19



	n	Percent
Yes, why?	15	83,33%
No, why?	3	16,67%
I didn't have expectation: please specify	1	5,56%

Answers given into free text field

Option names	Text

Option names	Text
No, why?	I wanted more business and management related studies, but this programme let me study these things only 30 cr.
No, why?	Ei ollut mahdollisuutta suorittaa ympäristötekniikan opintoja ja kurseilta saatu osaaminen jäi hyvin perustasolle.
No, why?	My expectations were unjustified.
I didn't have expectation: please specify	I had no previous expectations.
Yes, why?	Different way of teaching, topics taught (except for economic aspects), and great atmosphere.
Yes, why?	I had hoped to gain knowledge and skills and complete my master thesis in the best way possible and I was able to meet all these goals.
Yes, why?	I feel I have learned necessary things related to water and wastewater engineering, what I came to learn. Also studying in an international environment has been really enjoyable.
Yes, why?	I have learned a lot from the courses
Yes, why?	I was expecting hands-on, practical knowledge, which is exactly what I mainly gained from this year of studies.
Yes, why?	I learnt new things that I wanted to learn and developed the things I wanted to develop.
Yes, why?	Being from Aalto, I knew quite well what to expect
Yes, why?	Has exceeded my expectations, clearly student-focused and the enthusiasm of teaching as well as possible shows, all lecturers very willing to improve the courses and help students, all aspects I can think of are clearly better than in the Aalto Bachelor programme
Yes, why?	I wanted to learn new things and I have
Yes, why?	Good and accurate course descriptions gave good overview of this master's program before applying.
Yes, why?	I have got to learn and increase my awareness about interesting topics, and also to broaden my views about these themes

26. Any other comments or greetings?

Number of respondents: 9

Responses
Thanks for a great 1st year! I look forward to continuing next fall :)
Thanks WAT staff for your hard work and help throughout the year!
The part about the skills, knowledge, and identity in the present survey was just painful as we already write a portfolio which address such questions. Or I didn't understand this part's goals. Please stay open and welcoming, and I could elaborate more =) Truly enjoyed myself in Finland!! Thanks.
Thanks for an awesome first year!
Thank you for the effort and passion you all put in what you do. It is very much appreciated and leads the students themselves to find passion in their studies.
Great greetings for Anna Mikola, the best courses, always excursions, perfect teaching, support and grading.
Thank you for the intensive but extremely educational and rewarding first year in WAT master's programme!
These were my humble opinions.
Thank you for the work you are doing and the warm atmosphere with which you collaborate with us students!