

# *Welcome to WAT!*

*Master's Programme in Water and Environmental Engineering*

*WAT Orientation Days*

*Sept 1<sup>st</sup>-2<sup>nd</sup> 2020*

*Please prepare to introduce yourself shortly,  
with your video and mic on*

# Who are here?

*Hopefully all names are correct...*

WAT  
TEACHERS

Anna Harri Marko Olli Riina  
Riku Meeri Matti Teemu Päivi  
Planning officer at LES

*More info:  
people.aalto.fi*

WAT  
STUDENTS

Pihla Eveliina Kielo Milla Helena Sara?  
Elli Jukka Juho Anni Marie Fanni Lisa

Mihn Phuong Anise Nina Jenni Yean Jye  
Navid Tiia Oana Sonja  
*Nordic5Tech*

*Exchange students: Chloé, Laurence, Leah, Tomoki*

SOMEONE'S  
NAME  
MISSING?

# WAT?

WAT = Water & Environmental Engineering

→ Our Master's Programme combines theory with practice, including case studies and project work

→ Fifth year starting now:  
really nice to see you all here!

*Many great things!*

- You! Skilful students with diverse backgrounds  
→ You will also learn from each other
- Approach: student-centered & problem-orientated
  - Programme-focus (not just a set of courses)
    - Portfolio process  
→ Emphasis on learning (not just on credits)

*'Ensuring a sustainable & functioning society'*  
**MASTER'S PROGRAMME IN**  
**WATER & ENVIRONMENTAL ENGINEERING**

Water and environmental engineering is essentially about making the world work. With limited natural resources and an increasing demand for water, food and energy, we look at practical ways to develop our society in a sustainable manner.

Strong technical basis combined with sound understanding of the broader societal context

Making use of the students' diverse backgrounds & encouraging individualised study paths  
→ Only one 15 cr common course

Student-centered learning  
→ Group work, personal portfolio, mentoring

**Water & environmental engineering in its broad sense: education in research, planning & management**

**Strong technical basis, but operational skills**  
• Cross-cultural  
• Link to practice

**Our water & environmental engineering graduates are enthusiastic professionals with solid problem solving skills:**

• Attitude and readiness for problem solving  
• Assessing society's practical needs

• Motivation  
• Lifelong learning  
• Sound professional identity

• Sustainable development in resource scarcity  
• Functioning society

TOTAL	COMMON COURSES	ADVANCED COURSES	SELECTION OF STUDENT COURSES	MARKKUS
120 cr	15 cr	45 cr	10 cr	10 cr

**ADVANCED COURSES**  
Select 45 credits to create an individual specialisation, and strengthen it with 30 credits of elective courses

<b>WATER RESOURCES</b> <ul style="list-style-type: none"><li>• Groundwater hydrology</li><li>• Hydrological modelling</li><li>• Surface water resources</li><li>• Environmental hydraulics</li></ul>	<b>WATER &amp; WASTEWATER</b> <ul style="list-style-type: none"><li>• Urban water systems</li><li>• Physical and chemical treatment of water and waste</li><li>• Biological treatment of water and waste</li><li>• Design and management of water and wastewater networks</li><li>• Modelling and control of treatment processes</li></ul>
<b>WATER &amp; DEVELOPMENT</b> <ul style="list-style-type: none"><li>• Sustainable built environment<ul style="list-style-type: none"><li>• Sustainable Global Technologies SGT Studio (10 cr)</li></ul></li><li>• Water and governance</li><li>• Water and people in a changing world</li><li>• Sustainability in environmental engineering</li></ul>	

**COMMON COURSE**  
Solid foundation for all our graduates

Water and environmental engineering (15 cr)  
Key contents related to the field combined with core computational methods in a broader context

Head of the Programme: Senior University Lecturer Marko Reikonen  
Coordinator: University Teacher (iR) Maarit Korhonen  
Contacts:\_firstname.lastname@aalto.fi

@AaltoWATER February 2020

# *Unique programme structure*

- Only 15 credits of common courses
  - But that's intensive 1st period then!
  - Lot of freedom to plan your studies  
= individualised study paths
- Major to be done in one year
  - 2nd year for elective courses: you can do them also abroad!

More on this  
tomorrow  
morning and  
during WAT-  
E1100 course

# *Info on WAT*

- "Everything is in Into!"
- <https://into.aalto.fi/display/enwat>

## CONTACTS:

PÄIVI Kauppinen, Planning Officer

MARKO Keskinen, Programme Director

MEERI Karvinen, Programme Coordinator

→ (firstname.lastname@aalto.fi)

WAT Master's Programme: wat-eng@aalto.fi

**Questions?**  
You can also ask  
them during  
'rastit' today or  
tomorrow

# What happens today & tomorrow?

- Today morning = WAT Day: you get to know us
- Today afternoon = group work: you get to know your group & think together what you already know
- Tomorrow = Student Day: we get to know you  
→ Also discussion about WAT + portfolio

WAT ORIENTATION DAYS 1.-2.9.2020		
	Tuesday 1.9.	Wednesday 2.9.
	<i>Virtual location of the WAT orientation days:</i> <a href="https://aalto.zoom.us/j/6538836082">https://aalto.zoom.us/j/6538836082</a>	
9:00 ap.	<b>INTRODUCTION TO WAT</b> - Welcome + introduction - Marko & Meeri - Forming WAT Mentor Groups + instructions → Your group stays the same for the entire Master's Programme - Virtual study tour in groups (10.30-) 1) minute visits (each) Introducing WAT personnel & research activities → AKVA student association	<b>INTRODUCTION TO STUDENTS</b> 9.00: Introduction to WAT 10.00: Discussion with mentor and Group work presentations Wrap-up: how does WAT and its students look like?
	Lunch break	Virtual Group Lunch spend the lunch break with your group → see that your lunch is ready-made!
Afternoon	<b>GROUP WORK</b> → Each group independently in your chosen location / virtual room: aim to get to know each other and create a Group Presentation. <b>Tasks for group work:</b> 1) Introductions: each student's background 2) Recognition of your existing knowledge & skills 3) Expectations from the Master's studies + career plans → These together = Group Presentation <b>Also take a Group Photo (e.g. screen shot) and include it into your presentation!</b>	Portfolio session 13.00-13.45
	(Aalto opening ceremony 13.15-14.30)	

INFOPOINTS ('rastit') - Tuesday 1.9 @ 10.30-12.00	
<u>Theme + responsible persons</u>	<u>Location (Zoom-links)</u>
1) BREAK (10 min)	
2) Water supply & sanitation (RIKU & ANTONINA):	<a href="https://aalto.zoom.us/j/68544019967">https://aalto.zoom.us/j/68544019967</a>
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- Welcome + introduction - Marko & Meeri
- Forming WAT Mentor Groups + instructions
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- Virtual study tour in groups (10.30-)
  - 10-minute visits ('rasti') introducing WAT personnel & research activities + AKVA student association

## INTRODUCTION TO STUDENTS

- 9.00- Introduction to WAT
- 10.00- Discussion with mentor and Group work presentations

Wrap-up: how does WAT and its students look like?

Lunch break

Virtual Group Lunch

spend the lunch break with your group  
--> see that your lunch is ready-made!

## GROUP WORK

-> Each group independently in your chosen location / virtual room; aim to get to know each other and create a Group Presentation.

**Tasks for group work:**

- 1) Introductions: each student's background
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- > These together = Group Presentation

**Also take a Group Photo (e.g. screen shot) and include it into your presentation!**

Portfolio session 13.00-13.45

Afternoon

(Aalto opening ceremony 13.15-14.30)

These available in  
WAT-E1100 MyCourses:  
WAT Orientation Days

<https://mycourses.aalto.fi/course/view.php?id=30136&section=1>

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Time for you to share your thoughts

*What are your  
expectations  
from WAT?*

*→ Write in the whiteboard*



## Your expectations from WAT?



I have fairly clear idea on what I would like to do and I am hoping that this degree would help me to get there  
hand-on studies!

A great network with other Aalto's students  
be able to participate in reserach projects to gain some experiences

getting to know new people

New experiences  
water resourses management

Politics concerning water

Learning new things from different cultures

water and waste treatment  
Learning how to workefficiently in a group

new way of

internationality

sustainable water management

a practical approach to engineerig and working in a team :)

interesting and useful studies

getting to do lab work

practical work

Learning new things on water and environmental engineering

I'd like some insight on environmental engineering too

working with lots of different people in groupwork tasks

new friends and groupwork

enhance researching skills

Finding meaningful and interesting career

More practicality in studies and at work later

problem-solving and team-working skills

# YOU = GROUP OF EXPERTS

Diverse expertise: different fields, degrees, interests...

→ Three important ways to make use of your diversity

1) Portfolio & mentoring process = creating your Personal Learning Portfolio and discussing it with your fellow students

→ Combined with a mentoring process with WAT staff

→ Assessing your current levels of expertise in the WAT Course  
(= our common course),  
and reflecting your learning throughout the programme

2) Group work = most courses make use of group work activities

→ Be prepared (we'll practice it during WAT Course)

3) You and your mindset = be ready to learn from each other!

→ Be active + make your expertise & interests  
known, to us and to your fellow students

→ It's about learning & expertise, not (just) credits

# EXPERTS, GET INTO YOUR GROUPS!

A key set of expertise =  $X$  +  $A!$

*External applicants*

*Aalto applicants*

- IDEA: to combine the expertise from inside and outside Aalto, to share ideas, knowledge & skills + best practices

HOW: by forming Mentor groups according to your expert role:

Akva seed person
Aalto applicant
External applicant (also exchange students)

# *Getting to know each other*

Before forming the groups, we'll help you to get to know each other using a virtual COCKTAIL PARTY METHOD

→ 3 min chat with your fellow student in breakout rooms  
(we'll change the pairs every 3 minutes, for a few times)

In breakout rooms, tell 3 things:

1. Your name
2. Background
3. Interests

You have just 3 minutes, so be clear and concise, and make sure both of you have the time to tell the 3 things!

# Forming the groups

TASK: form six groups of preferably 4 experts, including experts with both colours (+ possible exchange student)  
→ This will be your WAT Mentor Group

HOW: Go into our shared Google Sheets file

<https://docs.google.com/spreadsheets/d/114sdIgeeYbnNArcU0HsMqTGUglVNzD4SRHghfZ31Lfl/edit?usp=sharing>

1. Select yourself one of the six groups, and write your name there, following your own expert colour.
2. Tick also the box "teaching @campus", if you most probably could attend some teaching sessions at campus, in Otaniemi Water Building

And please, stay online in Zoom while selecting your group!

Name	teaching @campus
Akva Seed Person	
Aalto applicant	X
External applicant (also Exchange students)	X

Example group: Both colours represented, ~4 members, and 2 members able to attend teaching @campus

# Group selections

A few students missing today, so some groups will get new members members later on when the WAT Course starts

## Group 1

Name	teaching @campus
Anni L.	x
Marie H.	x
Jenni H.	x
Yean Jye N.	

## Group 2

Name	teaching @campus
Elli-Noora T.	x
Fanni. (?)	
Tomoki L.	x
Navid M.	

## Group 3

Name	teaching @campus
Lisa S.	x
Helena H.	x
Sonja G.	
Laurence A.	

## Group 4

Name	teaching @campus
Pihla B.	x
Milla S.	x
Oana I.	x
Nina P.	x

## Group 5

Name	teaching @campus
Kielo I.	
Jukka S.	x
Leah L.	x
Tiia S.	x

## Group 6

Name	teaching @campus
Juho M.	x
Chloé B.	
Anise M.	x
Minh Phuong D.	x

# Infopoints

- Start with the infopoint that has the same number than your group:
- Group 1 = infopoint 1, Group 2 = infopoint etc..
- Then go to the next number, 1→2→3→4→5→6  
(note that after infopoint 6, you will go to infopoint 1 = 10min Break)

- 10min/infopoint + ~5min short break to change "rooms"

→ Infopoints start at:

-10.30      -10.45      -11.00      -11.15      -11.30      - 11.45

Get back to this joint Zoom room at 12.00 to get instructions for group work!



# *My group!*

- Your task for this afternoon, after lunch: get to know each other, and agree on how to present your group to others tomorrow with a Group Presentation

→ Instructions in MyCourses (WAT-E1100, Orientation Days)

**WAT Orientation Days' programme**, [see here!](#)

**The instructions for your Group Presentation** (to be done during Tuesday 1.9.), [see here.](#)

**Tuesday's slides**, [see here!](#)

**The programme of the entire Orientation Week**, [see here.](#)

→ Your group has a ready-made an Zoom room, and a shared Drive-folder: find the links in the Google Sheets (see columns L-N)

<https://docs.google.com/spreadsheets/d/114sdIgeeYbnNArcU0HsMgTGUGjVNzD4SRHghfZ31LfI/edit?usp=sharing>

(the same links will be used during the WAT Course; you'll find them also in WAT-E1100 front page, when you have registered to the course)

### **1) Introductions: introduce yourselves to each other**

→ Where you come from, what you have studied, why you decided to apply to WAT etc.

### **2) Recognising existing expertise**

→ Discuss what kind of knowledge and skills each of you already has related to our water and environmental engineering field. How do your knowledge and skills differ?  
Can you already think some ways that your expertise is complementary?

### **3) Expectations from the Master's studies**

→ What do you expect from your studies? What kind of knowledge and skills you would like to get during your studies? What are your career plans and general dreams for life?

### **4) Take a 'usie' i.e. group selfie and include it the last page of your presentation, with your names (listed in the same order than you are in the photo).**

→ you can e.g. take a screen shot from your virtual room or create a groupie using Photoshop, or whatever you find the most convenient for your group.

Presentation must include (as text, drawing, diagrams, images etc.) following elements:

- Number and name of your group as a poster title
- Names of each group member
- Group's 'identity', based on your background
- Group's existing expertise
- Key expectations from WAT Master's Programme
- Group picture with names

Document all these into your PowerPoint in a clear manner, so that you can present it (and thus your group) to others in 10 minutes.

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  - Instructions in MyCourses (WAT-E1100, Orientation Days)
  - Your group has a ready-made Zoom room, and a shared Drive-folder: find the links in the Google Sheets (see columns L-N)  
<https://docs.google.com/spreadsheets/d/114sdlgeeYbnNArcUOHsMgTGUg1VNzD4SRHghfZ31Lfi/edit?usp=sharing>(the same links will be used during the WAT Course; you'll find them also in WAT-E1100 front page, when you have registered to the course)

Meet your group now for a few minutes in Breakout rooms to

1. agree, what time to meet after the lunch
2. to share your contact information with each other

# *Practicalities about teaching*

Majority of teaching takes place online in Zoom

- Follow carefully the information given in MyCourses
- Some courses also use Teams for discussion & assistance in exercises
- Make sure to also follow your aalto.fi –email

Some sessions can be arranged @ Otaniemi campus

- Water Building Lab and/or Lecture Hall 286/287

- Lecture Hall 286/287 has also students' Coffee Corner, maintained by Akva
- Lockers in Computer class 229

(just for your information, in case we are able to return to the campus in some point)

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*Welcome to  
the second day of  
WAT Orientation!*

*Master's Programme in Water and Environmental Engineering*

*WAT Orientation Days  
Wednesday Sept 2<sup>nd</sup> 2020*

# WAT Wednesday

• How was yesterday?  
Any questions or comments?

→ Related to our programme  
or research / rastit?

→ Related to your group?

Today's tasks:

1) to get to know you

2) talk about WAT

& portfolio process

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**(Aalto opening ceremony 13.15-14.30)**

9.00: Introduction to WAT

10.00: Discussion with mentor  
+ group work presentations

Around 12: Wrap-up

Lunch

13.00: Portfolio session



'Ensuring a sustainable & functioning society'

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### ADVANCED COURSES

Select 45 credits to create an individual specialisation, and strengthen it with 30 credits of elective courses

<b>WATER RESOURCES</b> <ul style="list-style-type: none"> <li>Groundwater hydrology</li> <li>Hydrological modelling</li> <li>Surface water resources</li> <li>Environmental hydraulics</li> </ul>	<b>WATER &amp; WASTEWATER</b> <ul style="list-style-type: none"> <li>Urban water systems</li> <li>Physical and chemical treatment of water and waste</li> <li>Biological treatment of water and waste</li> <li>Design and management of water and wastewater networks</li> <li>Modelling and control of treatment processes</li> </ul>
<b>WATER &amp; DEVELOPMENT</b> <ul style="list-style-type: none"> <li>Sustainable built environment             <ul style="list-style-type: none"> <li>Sustainable Global Technologies SGT Studio (10 cr)</li> </ul> </li> <li>Water and governance</li> <li>Water and people in a changing world</li> <li>Sustainability in environmental engineering</li> </ul>	

### COMMON COURSE

Solid foundation for all our graduates

Water and environmental engineering (15 cr)

Key contents related to the field combined with core computational methods in a broader context



@AaltoWAT

Head of the Programme: Senior University Lecturer Marko Keskinen

Coordinator: University Teacher (sub) Meeri Karvinen

Contacts: [firstname.lastname@aalto.fi](mailto:firstname.lastname@aalto.fi)

February 2020

# WAT?

Strong technical basis, combined with understanding of broader societal context.

Emphasising project and interaction skills, too.

→ Based on stakeholder feedback, including our WAT Alumni survey

Employment and career of Aalto University water and environmental engineering alumni

WAT ALUMNI SURVEY RESULTS 2017

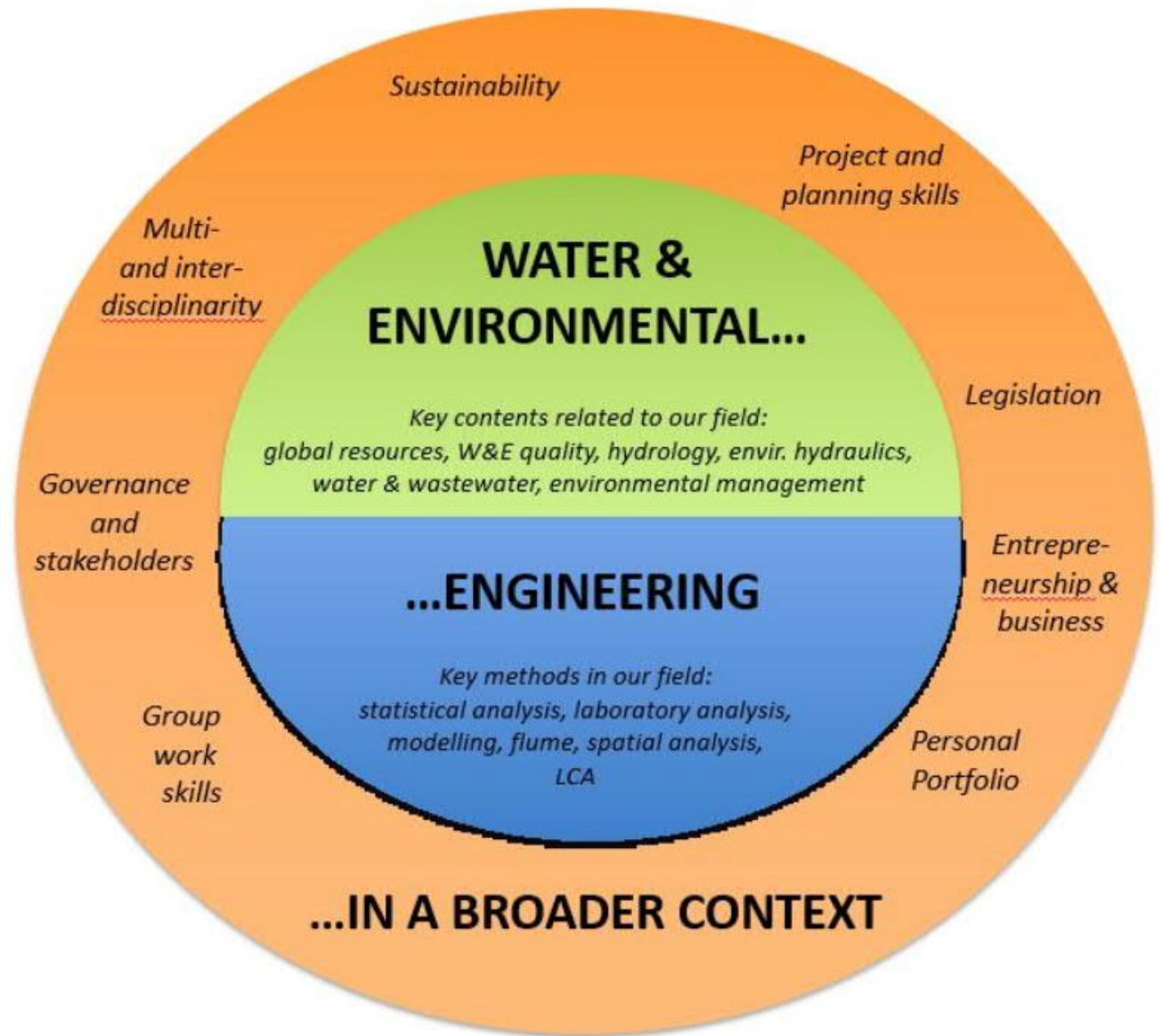


Three study paths, corresponding with our research focus -> Have bit different emphasis: WAT Course gives a hint about this

# 'WAT doughnut'

The center: our key contents (green) and related methods (blue)

...in a broader context (orange)



# Alumni survey 2017 & Stakeholder survey 2019

Employment and career of  
Aalto University water and  
environmental engineering alumni

WAT ALUMNI SURVEY RESULTS 2017



Stakeholder survey results 2020  
of Aalto University's Master's Programme in  
Water and environmental engineering

Stakeholders' perceptions of the development of the field,  
role and skills of graduates, and working life needs

Julia Renko, Anni Kaikko and Meeri Karvinen



More during portfolio session and WAT course.

See also Career planning sub-page in our Into page: <https://into.aalto.fi/display/enwat>

*'Ensuring a sustainable & functioning society'*

# MASTER'S PROGRAMME IN WATER & ENVIRONMENTAL ENGINEERING

Water and environmental engineering is about making the world work.

With limited natural resources and an increasing demand for water, food and energy, we look at practical ways to develop our society in a sustainable manner.

*Strong technical basis combined with sound understanding of the broader societal context*

*Making use of the students' diverse backgrounds & encouraging individualised study paths*

→ Only 15 credits of common courses

*Student-centered learning*

→ *Group work, personal portfolio, mentoring process*

Water & environmental engineering in its broad sense: connection to research, planning & management

- Strong technical basis, incl. computational skills
- Cross-sectoral
- Link to practice

*Our water & environmental engineering graduates are enthusiastic professionals with solid problem solving skills*

- Readiness for problem-solving
- Answering society's practical needs

- Motivation
- Lifelong learning
- Sound professional identity

- Sustainable development in resource scarcity
- Functioning society

TOTAL  
120 cr.

COMMON  
COURSE  
15 cr.

ADVANCED  
COURSES  
45 cr.

ELECTIVE,  
incl. STUDENT  
EXCHANGE  
30 cr.

MASTER'S  
THESIS  
30 cr.

MAJOR 60 cr.

## ADVANCED COURSES

Select 45 credits to create an individual specialisation, and strengthen it with 30 credits of elective courses and your Master's Thesis

## COMMON COURSE

Solid foundation for all our graduates



### WATER RESOURCES

- Groundwater hydrology
- Hydrological modelling
- Surface water resources
- Environmental hydraulics

### WATER & DEVELOPMENT

- Sustainable built environment
  - Sustainable Global Technologies SGT Studio (10 cr.)
- Water and governance
- Water and people in a changing world
- Sustainability in environmental engineering

### WATER & WASTEWATER

- Urban water systems
- Physical and chemical treatment of water and waste
- Biological treatment of water and waste
- Design and management of water and wastewater networks
- Modelling and control of treatment processes

Course emphasis on water: you can study general environmental aspects further in other programmes, as part of your elective studies

### Water & environmental engineering (15 cr.)

*In-depth introduction to the key themes and problem-solving methods in our field, through variety of group work and individual tasks.*

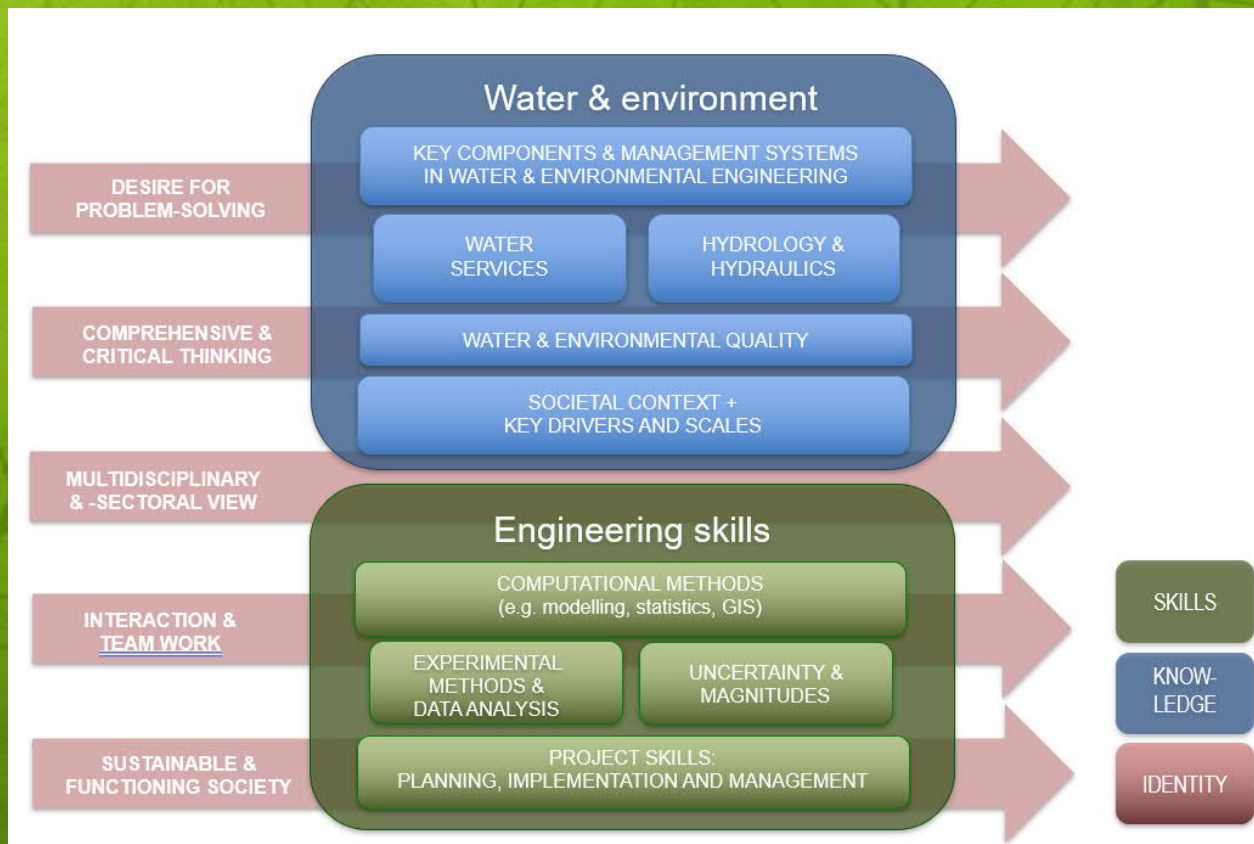
Head of the Programme: Associate Professor Marko Keskinen  
Coordinator: University Teacher (sub.) Meeri Karvinen

Contacts: [firstname.lastname@aalto.fi](mailto:firstname.lastname@aalto.fi)

March 2020

# WAT competences & ILOs

(i.e. our quality  
promise  
for you and our field)



Our graduate is able to:

**ILOs: knowledge**

- 1) Recognise the key components and management systems in water and environmental engineering, and understand the relevance of sustainability for the field
- 2) Understand the principles of the hydrological cycle and movements of water in natural and built environments
- 3) Define and differentiate the main sections of water services and environmental services, with focus on the treatment of water and waste water
- 4) Understand the key principles of water and environmental quality
- 5) Identify the societal context relevant to the water and environment, and comprehend the different scales and key drivers applicable to water and environmental engineering

Our graduate is able to:

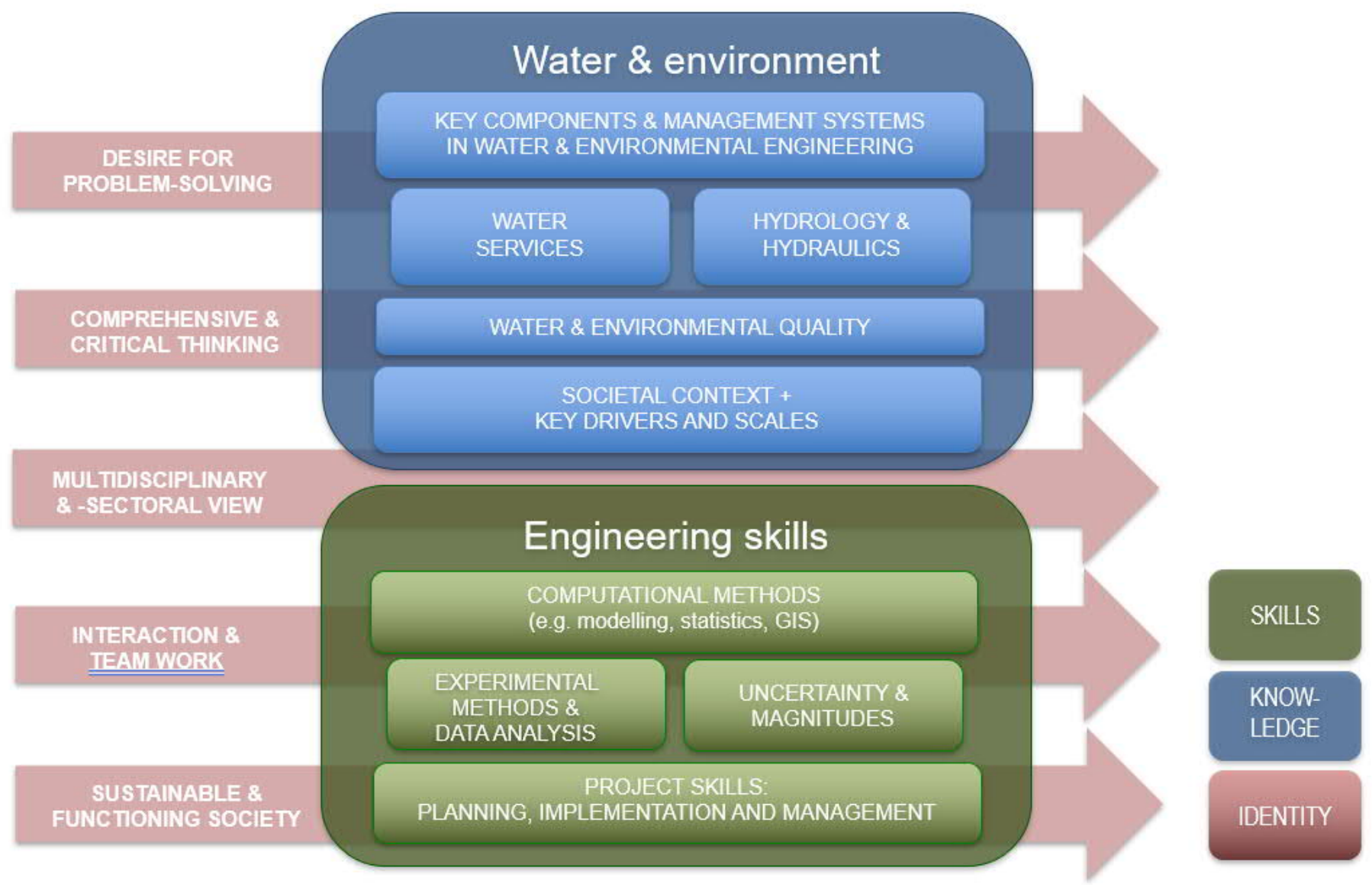
**ILOs: skills**

- 1) Apply key computational methods related to water and environmental engineering
- 2) Understand relevant experimental methods and data analysis processes, including the use of data archives
- 3) Comprehend uncertainty and different orders of magnitude related to the measurements, data analysis and modeling
- 4) Recognise and analyse the main components of water- and environment-related planning, implementation and management processes, and use related basic project skills

Our graduate:

**ILOs: identity**

- 1) Is motivated and has a desire for problem-solving
- 2) Thinks in a comprehensive and critical manner about his/her work and field
- 3) Maintains a multidisciplinary and -sectoral view related to water and environmental engineering
- 4) Is able to work as a part of a team and has relevant skills for interaction and communication
- 5) Promotes a sustainable and functioning society





Our graduate is able to:

## ILOs: knowledge

- 1) Recognise the key **components and management systems in water and environmental engineering**, and understand the relevance of **sustainability** for the field
- 2) Understand the principles of the **hydrological cycle** and movements of water in natural and built environments
- 3) Define and differentiate the main sections of **water services and environmental services**, with focus on the treatment of water and waste water
- 4) Understand the key principles of **water and environmental quality**
- 5) Identify the **societal context** relevant to the water and environment, and comprehend the different **scales** and key **drivers** applicable to water and environmental engineering

Our graduate is able to:

**ILOs: skills**

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- 4) Recognise and analyse the main components of water- and environment-related **planning, implementation and management processes, and use related basic project skills**

## ILOs: identity

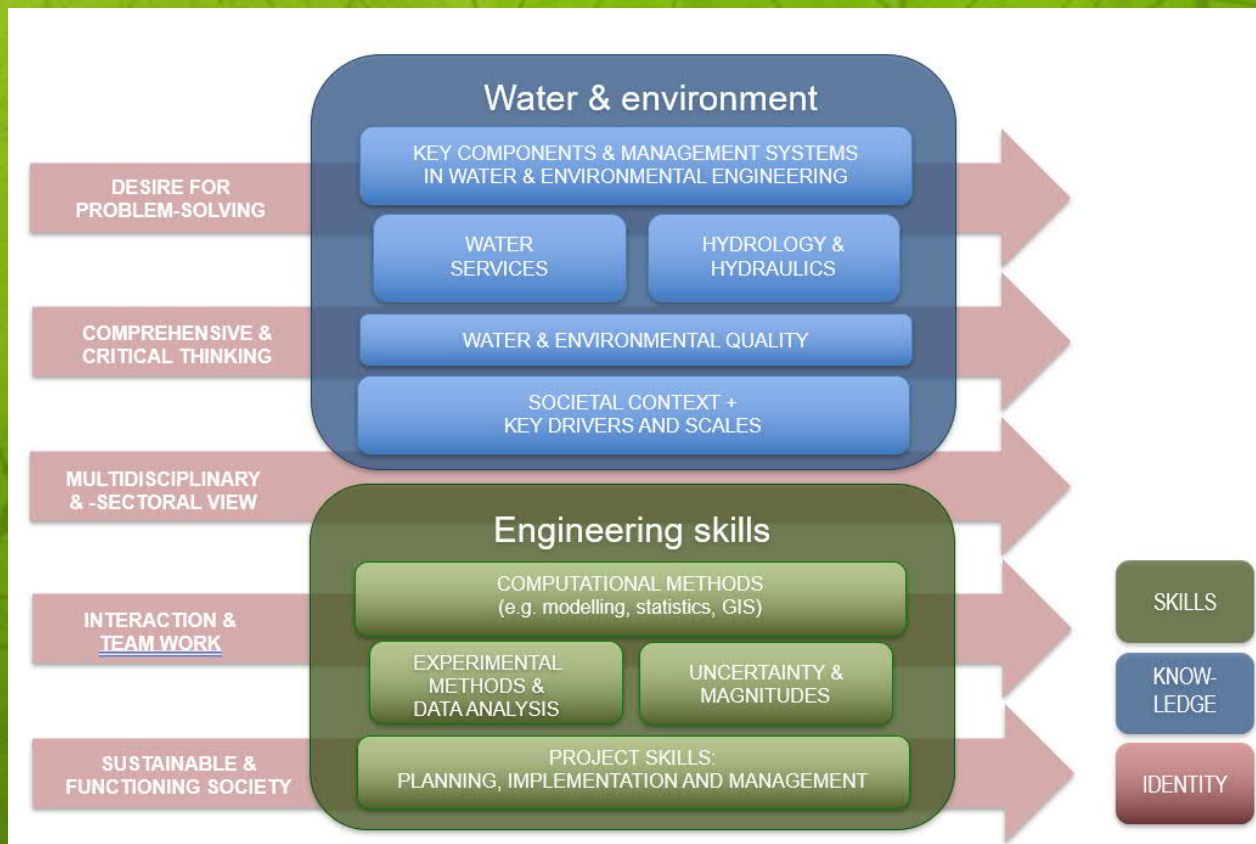
(i.e. general  
working-life skills)

Our graduate:

- 1) Is motivated and has a desire for **problem-solving**
- 2) Thinks in a **comprehensive and critical manner** about his/her work and field
- 3) Maintains a **multidisciplinary and -sectoral view** related to water and environmental engineering
- 4) Is able to work as a part of a team and has relevant skills for **interaction and communication**
- 5) Promotes a **sustainable and functioning society**

# WAT competences & ILOs

(i.e. our quality  
promise  
for you and our field)



Our graduate is able to:

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Our graduate:

**ILOs: identity**

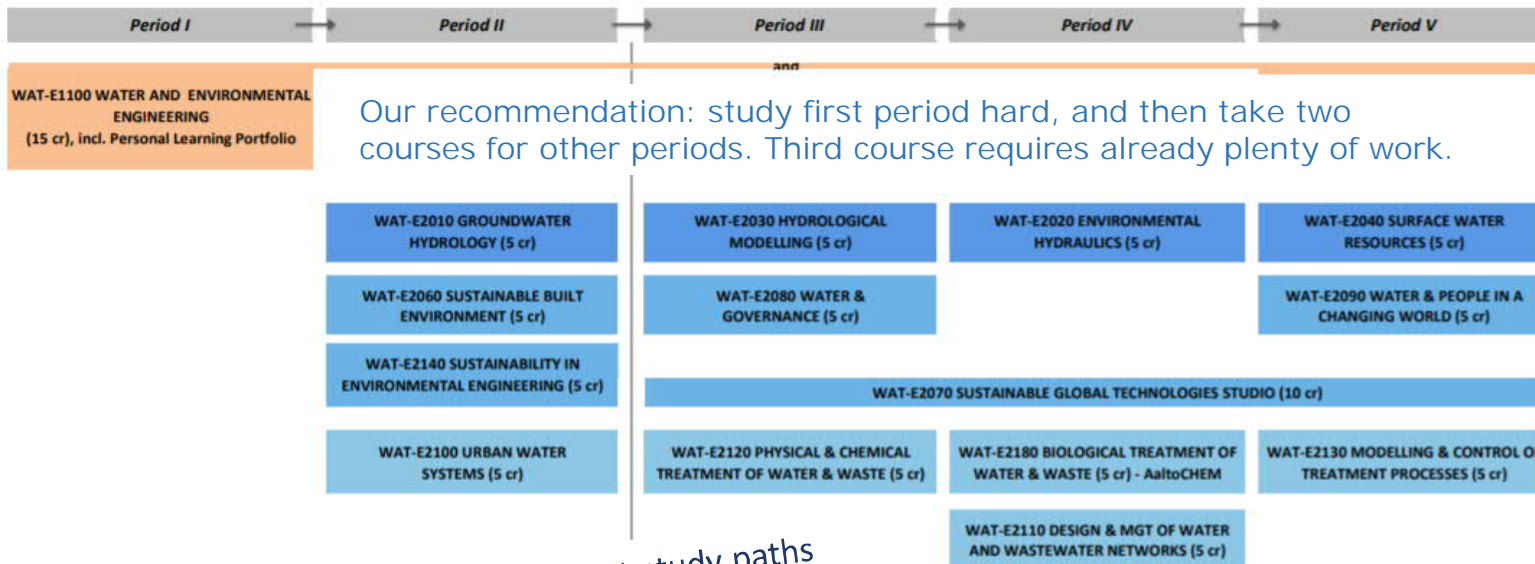
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- 4) Is able to work as a part of a team and has relevant skills for interaction and communication
- 5) Promotes a sustainable and functioning society

# WAT COURSES: SCHEDULE

## Master's Programme in Water and Environmental Engineering (WAT)

### COURSE TIMETABLE FOR THE 1st YEAR (2020-21)

11.8.2020



WAT-3010 SPECIAL COURSE ON WATER & ENVIRONMENTAL ENGINEERING (5 cr) (can be taken during any period)

Note: different study paths have bit differing emphasis: WAT Course + your mentor help to figure these out

The 60 credit Major consists of the common courses (15 cr) as well as 45 credits of advanced courses: these can be selected from the 16 courses available above.

The advanced courses include three thematic study paths: the students can either follow those paths or create their own course mix based on their interests. The personal portfolio created during the Introductory course facilitates this decision.

The thickness of the course is indicative for credits / period.

#### LEGEND



	Mon	Tue	Wed	Thu	Fri
Morning	8.30-12.00	Course slot 2	Course slot 3a	Course slot 4	Course slot 5
		Course slot 1		Course slot 1	
LUNCH					
Afternoon	13.00-16.30	Course slot 3b	Course slot 4	Course slot 5	Course slot 1
				Course slot 1	Course slot 2
Extra	16.30-18.00	Course slot 5	Course slot 1	Course slot 2	Course slot 3
				Course slot 3	Course slot 4

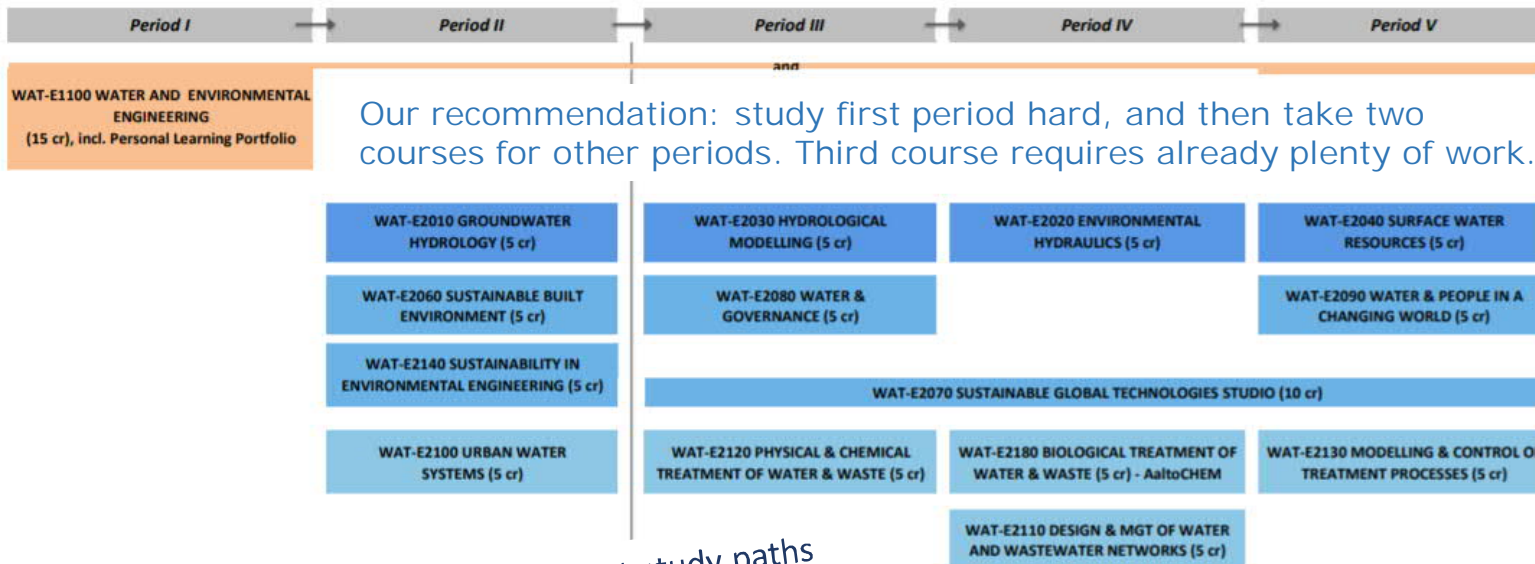
		Mon	Tue	Wed	Thu	Fri
Morning	8.30-12.00	Course slot 1 <small>Period II = Slot 3 (blue)</small>	Course slot 2	Course slot 3a	Course slot 4. <small>Period III = Slot 1 (red)</small>	Course slot 5
	LUNCH	Advanced courses planned so that you can take any course combination without major overlaps				
Afternoon	13.00-16.30	Course slot 3b	Course slot 4	Course slot 5	Course slot 1 <small>Period II = Slot 2 (green)</small>	Course slot 2
Extra	16.30-18.00	Course slot 5	Course slot 1	Course slot 2	Course slot 3	Course slot 4

# WAT COURSES: SCHEDULE

## Master's Programme in Water and Environmental Engineering (WAT)

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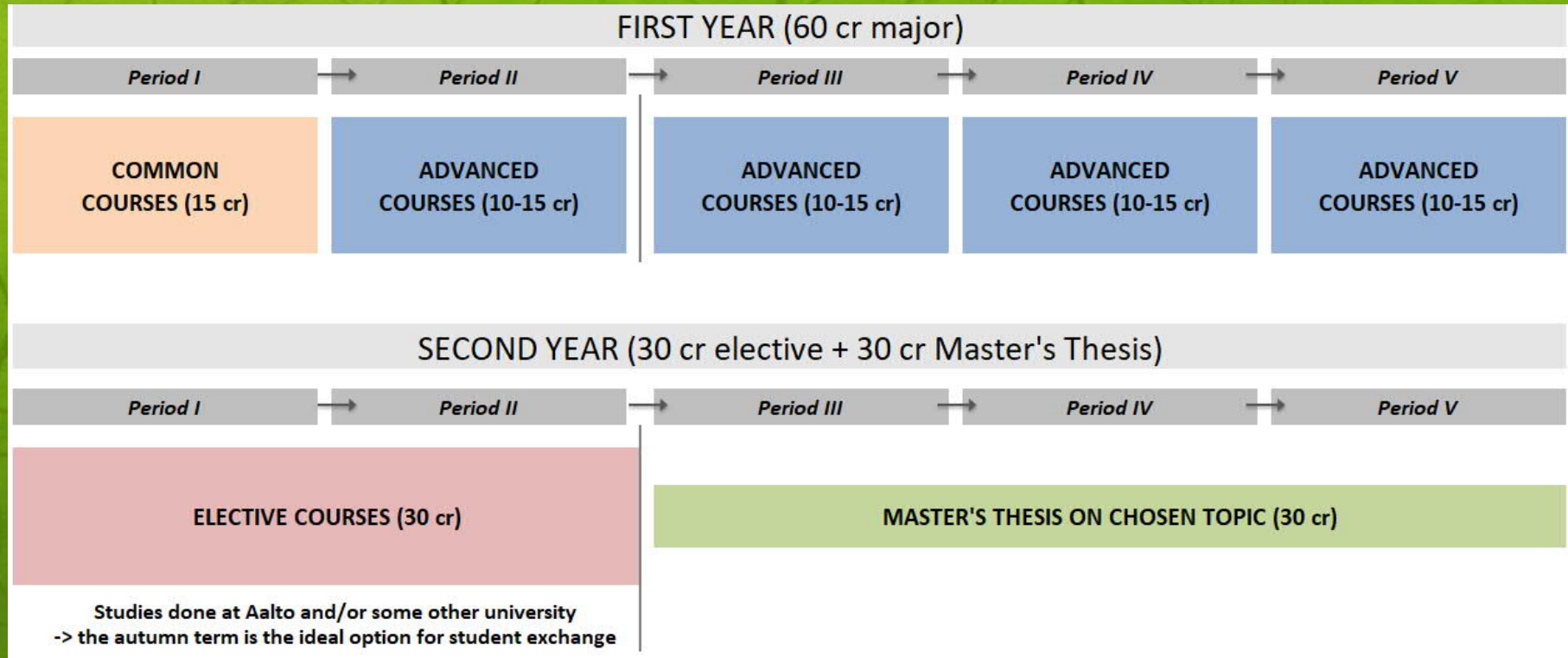
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				Course slot 1	Course slot 2
Extra	16.30-18.00	Course slot 1	Course slot 2	Course slot 3	Course slot 4

# WAT 1st + 2nd YEAR



Leave Aalto (but do come back)!  
Our programme structure provides you a  
perfect chance to go for study exchange  
during 2nd year: make use of it!

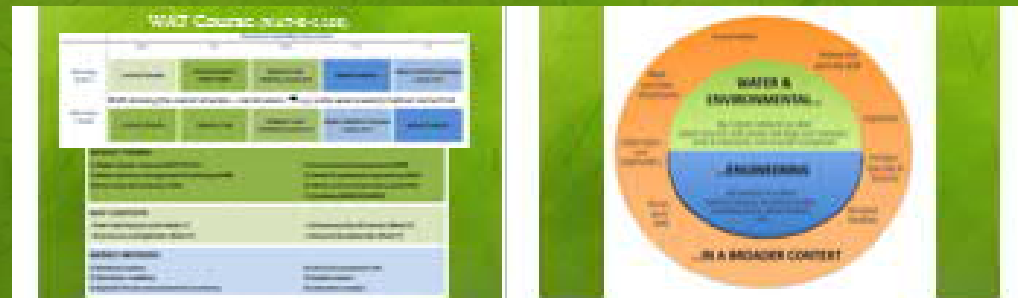


# *Pair discussion*

- How does WAT sound?
- Do you already have some ideas on what advanced courses to take?
  - Anything unclear?

*...and yes: we start with a bang!*

- First period (September-October) requires full-time studying from Monday morning till Friday afternoon
    - Not all of it Contact Sessions, but part of it group work and part individual studying
- 1) Learning to know each other + our field
  - 2) Helps you to plan your advanced courses, too!



# WAT Course (WAT-E1100)

## General weekly structure

	Mon	Tue	Wed	Thu	Fri
<b>Morning (9.00-)</b>	CONTEXT SESSION	CONTACT SESSION/ GROUP WORK	THEMATIC TASK: individual / group work	WEEKLY EXERCISE	WEEKLY EXERCISE: Individual / group work
Draft showing the overall schedule – not all weeks → e.g. some weeks weekly method comes first					
<b>Afternoon (-4pm)</b>	CONTACT SESSION	THEMATIC TASK	THEMATIC TASK: individual / group work	WEEKLY EXERCISE: Individual / group work	WEEKLY EXERCISE

### WEEKLY THEMES

- 1) Global natural resources MATTI & OLLI
- 2) Water resources management & hydrology HARRI
- 3) Environmental hydraulics JUHA

- 4) Environmental management MEERI
- 5) Water & wastewater engineering ANNA
- 6) Water and environmental quality RIKU
- 7) Synthesis MEERI & MARKO

### WAT CONTEXTS

- Team roles & group work (Week 1)
- Governance and legislation (Week 4)

- Entrepreneurship & business (Week 5)
- Science & disciplinarity (Week 7)

### WEEKLY METHODS

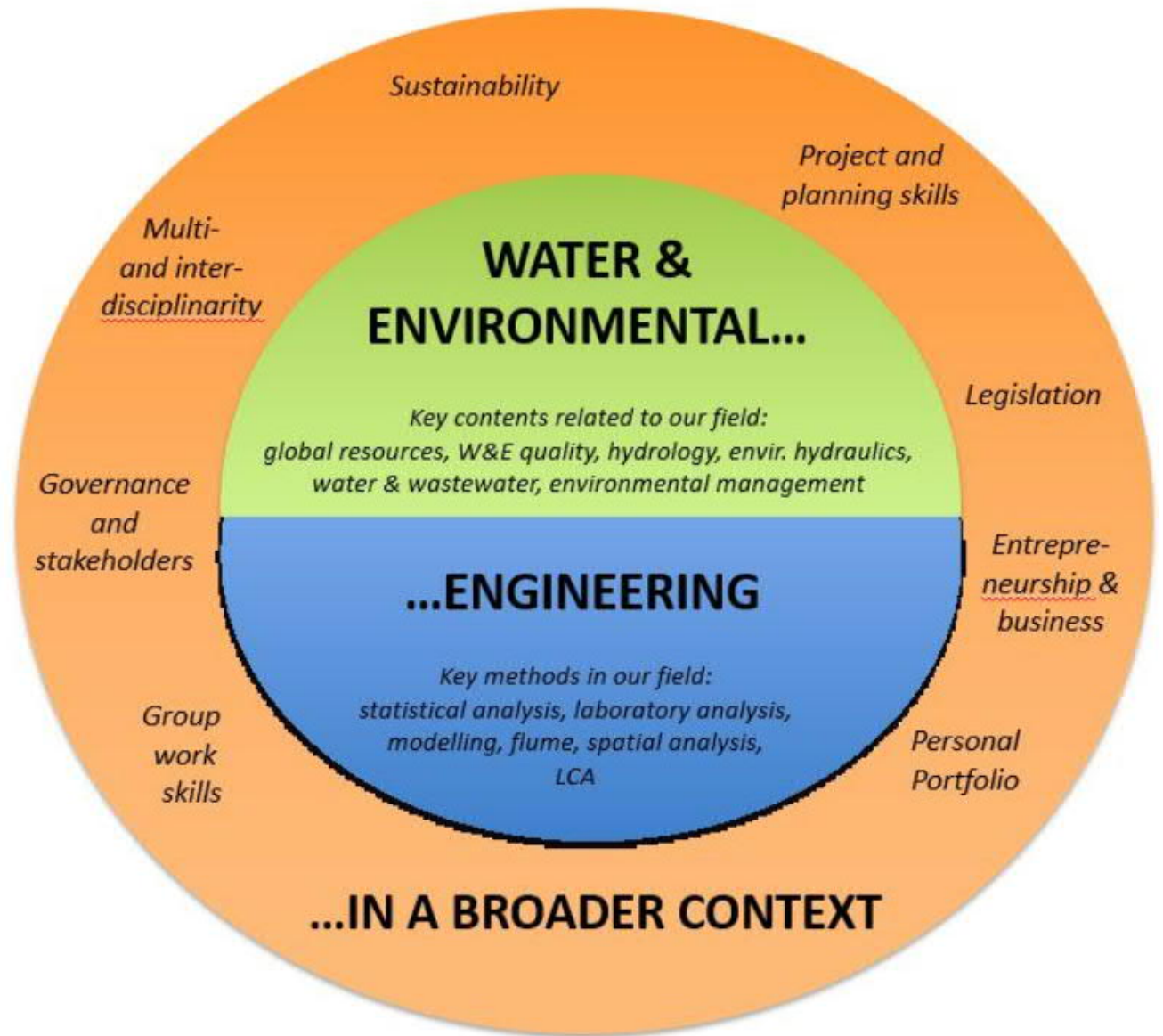
- 1) Statistical analysis
- 2) Simulation modelling
- 3) Hydraulic flume: measurement & uncertainty

- 4) Life Cycle Assessment LCA
- 5) Spatial analysis
- 6) Laboratory analysis

# 'WAT doughnut'

The center: our key contents (green) and related methods (blue)

...in a broader context (orange)

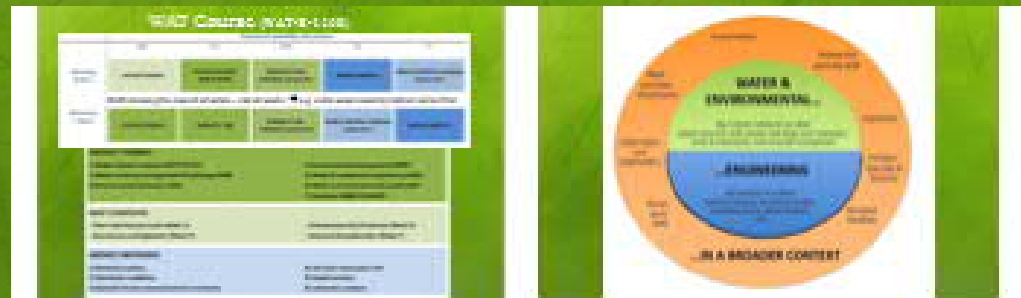


*...and yes: we start with a bang!*

- First period (September-October) requires full-time studying from Monday morning till Friday afternoon
  - Not all of it Contact Sessions, but part of it group work and part individual studying
- 1) Learning to know each other + our field
- 2) Helps you to plan your advanced courses, too!

Questions?

More on Monday



# *Break*

Get ready for your group presentations  
(you will be moved to breakout rooms for the break,  
if you want to go the presentation through  
with your group)

Soon we'll start the presentations, but before...

# Let's get you a Mentor!

Akva Seed Person picks a letter from A-F (starting from Group 1)

→ Now your group has a mentor; get into breakout groups and introduce yourselves to each other (~10min)!

Mentor: who you are and what you do at WAT

Students: who you are and why you came to WAT

You can also discuss about our courses  
(particularly those that your mentor is involved in)

# *Group Presentations*

10 min per group

→ Introduce your own group;  
questions & comments from the audience also fine!

- \* Names & background of your group members
- \* Your existing expertise from our field
- \* Your expectations for WAT Master's Programme



# *HOW & WHO ARE YOU?*

- In breakout rooms with your group:  
discuss three key points you have  
learned about yourselves today
  - About your existing expertise
  - About your expectations for WAT  
(agree also on your virtual lunch, if haven't already)

*Questions, comments?*

Then for Group lunch @ 12-13  
and Portfolio session @ 13.00

# Three key points from your discussions

## Group 4:

- We realised that we have a lot in common regarding previous studies
- our expectations from the WAT program vary a lot
- everyone realises the importance of team work and we re working hard

similar interests, different backgrounds  
many students had similar

- diverse knowledge
- everyone is curious to learn more about WAT
- friendly and similar interests: "same wavelength"

- Diversity in work/study experience, International environment
- Interest in waste water
- Different degrees background

- we are not really interestet in waste water treatment

Lot of interest in waste water → our group had none :-D

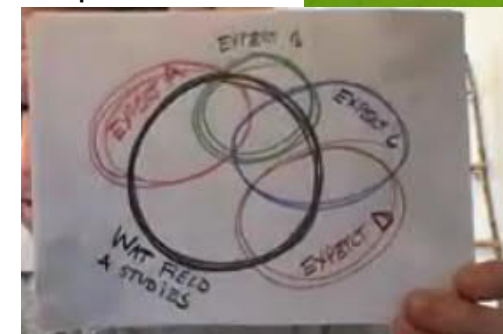
Everyone is very enthusiastic and willing to learn more within the water and environmental field

Other groups had strict goals for careers

We all have different backgrounds but  
Multidisiplinary groups  
international environment

We thought we had a broad background but others had aswell

Marko's visualization: your expertise & WAT:



The image features a dense, repeating pattern of green leaves with visible veins, creating a textured background. The leaves are a vibrant green color, and the veins are a slightly darker shade. Centered on this background is the text "Welcome to WAT!" in a white, italicized serif font.

*Welcome to WAT!*

# *Portfolio and mentoring process*

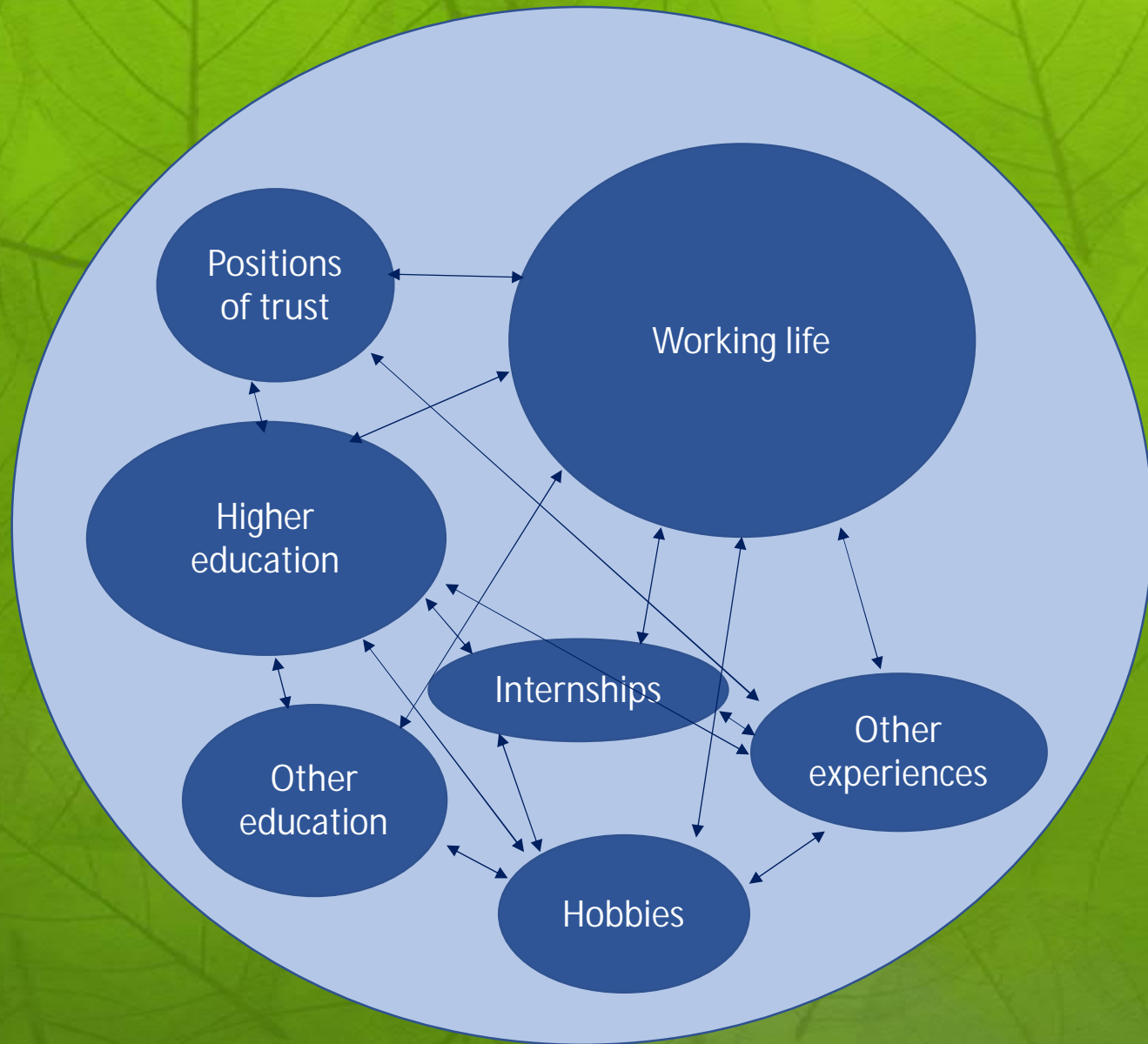
- Facilitating you to recognise and visualise your learning
  - Supporting your career planning in WAT programme
- 1. Ville Kivimäki (AaltoENG/Mech): General about portfolios & PDPP Course (<https://mycourses.aalto.fi/course/view.php?id=25129>)
  - 2. Portfolio and mentoring process in WAT
  - 3. Portfolio examples & experiences, Wat 2018-19

What kind of experiences affect your identity as a WAT graduate, and also your skills and knowledge?

- WAT programme offers methods and scientific background from WAT field and means to apply them in practice.

→ Is that enough for your future career as a WAT graduate?

→ How to make good use of all your experiences in life?



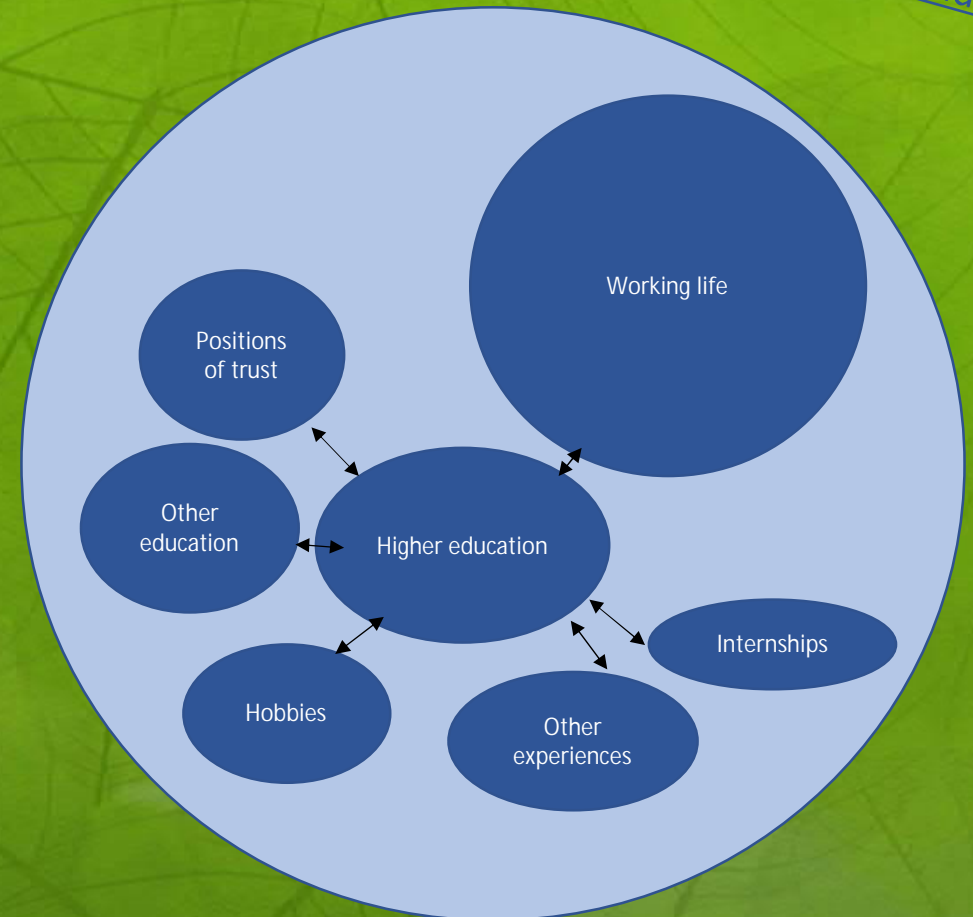
# Personal Learning Portfolio

More in MyCourses:  
<https://mycourses.aalto.fi/course/view.php?id=30189>

- Aims to combine your previous skills, knowledge and values with your master's education

→ Recognising your competences and identity as a WAT graduate

→ facilitating your career planning



# Alumni survey 2017 & Stakeholder survey 2019

Employment and career of  
Aalto University water and  
environmental engineering alumni

WAT ALUMNI SURVEY RESULTS 2017



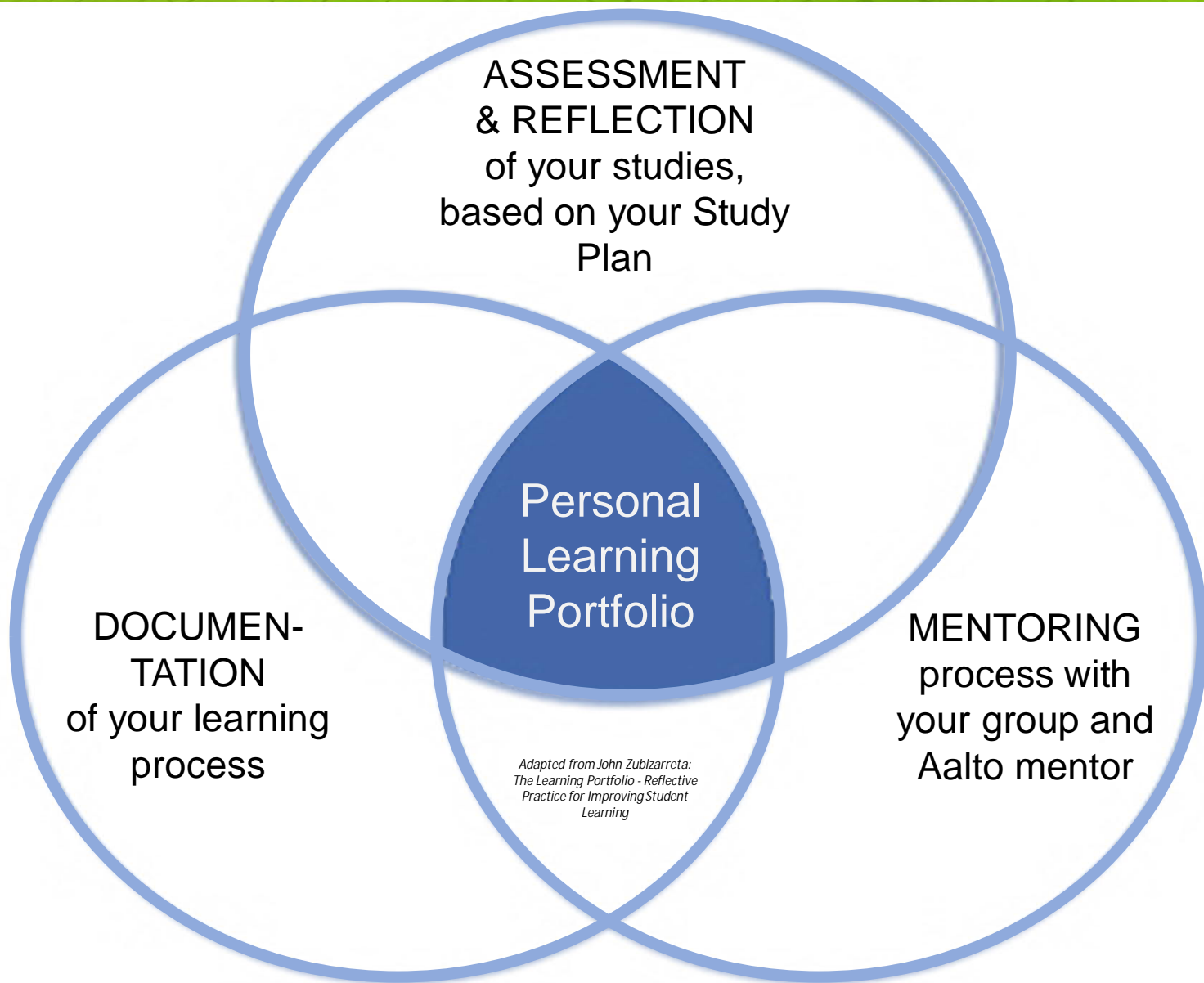
Stakeholder survey results 2020  
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Water and environmental engineering

Stakeholders' perceptions of the development of the field,  
role and skills of graduates, and working life needs

Julia Renko, Anni Kaikko and Meeri Karvinen



See the summary of the results in your Portfolio-page: <https://mycourses.aalto.fi/course/view.php?id=30189>  
See also Career planning sub-page in our Into page: <https://into.aalto.fi/display/enwat>





# *Portfolio process*

- Consists of compulsory parts:
  - a) Creating your own learning portfolio
  - b) Meetings with your mentor-group for peer support
  - c) Meetings with your Aalto-Mentor
  - d) Attending the WAT Synthesis session in May 2021
  - e) Attending the Master's thesis process 2021-2022
- Also optional parts highly recommendable
  - Following & attending the Aalto Career Services activities  
<https://into.aalto.fi/display/enopisk/Career+Services>
  - Making use of Aalto PDPP-course

# *Portfolio in practice*

1. Submission of portfolio drafts ~twice a year = 2-4 submissions during your Master's studies
  - Jan 2021, June-Aug 2021, 1-2 submissions during 2nd year (final version before graduation)
  - Tutoring available always before the submission deadline
  - Personal Study Plan PSP to be attached to your portfolio submission; see Into for PSP instructions: <https://into.aalto.fi/display/enwat/Planning+your+studies> (DL 31st Oct)  
(note that WAT teachers are not able to see/manage your study plans in Sisu → contact Päivi Kauppinen if you have anything to ask about the PSP)
2. Feedback Session with your Mentor Group after the 1st submission
  - Facilitated and organized by WAT staff (Meeri)
3. Feedback given also individually through MyCourses

# *Mentoring in practice*

1. Individual meetings with your mentor once a semester (topics to discuss will be given beforehand)
  - 1st meeting: Oct 24th, your mentor will be in touch about the times
2. Meetings with your Mentor group preferably after each study period
  - *Your group* arranges these meetings (without WAT staff)

Career-mentoring: Possibility to attend Aalto's mentoring programme (by Aalto Career Services)

- Individual mentoring process with one of our alumnae
  - Application to the mentoring programme usually in the beginning of April, follow Into: <https://into.aalto.fi/display/encareerweb/Mentoring>

# *Examples of WAT 2018-19 portfolios*

- Personal choice & style:
- Reflection “diary”: text document (with pictures)
- Mind map / other type of map
- PowerPoint / pdf / webpages: visual presentation
  - can be attached e.g. as a part of you job application when finalized

# Master's Thesis process in short

Consists of:

1. Attending & listening to (at least) one Master's Thesis Seminar before you start your own thesis
  2. Presenting your research plan in a Master's Thesis Pre-Seminar
  3. Attending a Thesis Finalizing Session
  4. Presenting your ready thesis in WAT Master's Thesis Seminar
- Seminars arranged monthly; online in WAT Master's Programme Teams
  - You will always receive an email invitation to the seminars through wat-students email-list (you will be added to the list soon!)
    - No registration needed if you just want to listen to the presentations
    - When it's time to start your own thesis, read carefully the instructions in MyCourses Portfolio-page (Master's Thesis subpage)

MyCourses: WAT Personal Learning Portfolio  
<https://mycourses.aalto.fi/course/view.php?id=30189>