WELCOME TO WAT COURSE!

Meeri, Marko & Anni 13.9.2021

OBJECTIVES FOR TODAY MORNING

1) Forming the WAT Course groups

→ Building on WAT Mentor Groups formed last week

2) Mapping your existing expertise on water and environmental engineering

3) Understand the concept of WAT Course

→ Structure, assignments, assessment + 'metathemes'

4) Discuss and agree how Group Work works

→ Setting up your group's own Rules of Work

SO STARTING QUITE EASY – BUT WITH FUNDA-MENTALS
→ Today lays the foundation for the rest of WAT Course

AGENDA

9.00- Introductions: forming WAT Course groups

Mapping your existing expertise

Introduction to WAT Course

WAT Essential elements

BREAK

~11.00- Session on team roles and group work

→ Different phases and roles in the group

→ *Group work by the end of the week (submit to MyCourses):* agree on your own Rules of Work for your group

ANY QUESTIONS / SUGGESTIONS?

INTRODUCTIONS
Who are we?

MARKO KESKINEN

Associate professor,
WAT Programme Director
+ WAT Course Teacher

Interested in water resources
management, sustainability,
governance – and WAT!

people.aalto.fi/marko_keskinen

ANNI LEHIKOINEN

Course assistant (online arrangements)
2nd year WAT student

Interested in sustainability and global
challenges, like access to clean water

TEEMU KOKKONEN

Senior University Lecturer,
Coordinating the Weekly Exercises
of WAT course

Interested in hydrological modelling
urban hydrology + geospatial computing

people.aalto.fi/teemu_kokkonen

MEERI KARVINEN

University teacher (sub.),
WAT Programme coordinator +

Responsible teacher of WAT Course

Interested in sustainability, higher
education and learning
people.aalto.fi/meeri_karvinen

Plus our other professors, university lecturers and teaching staff

→ You'll meet them during WAT Course

GROUPS!

FIRST: How many we are?

→ Do you know of someone missing still?

THEN: Do you have a group? (online: use "raise hand" if not)

→ If you don't find yourself in any of these groups, join one!

→ BUT: each group should have max. 6-7 members!

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
Eemeli	Ksenija	My	Henri	Osama	Pauliiina
Maiju	Camilo	Juho	Vilma	Eveliina	Riku
Jouni	Nathan	Ronja	Fanni	Jasmin	Julia
Joona	Henrika	Sara	Caroline	Alessia	Daria
Chen	Carla	Camilla	Väinö	Sophia	Milla
Léna		Talitha	Hanna		Peter
Maximilian			Thibault		

AND: You will get to know each other this afternoon

YOU SAY WAT?

How would you define Water & Environmental Engineering with just 1 or 2 sentences?
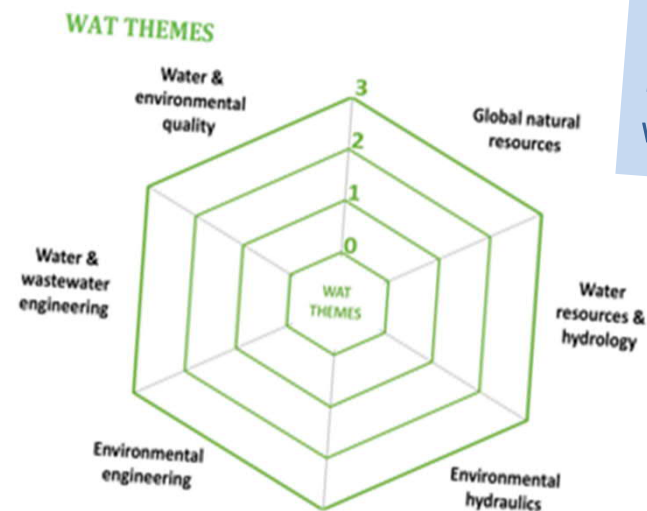
1) Think first alone, write key things down

2) Share your definition with a pair
→ What did you find out?
Key themes, methods, aims?

- You are a diverse set of students, with varying backgrounds and expertise (as discussed last week)

- Challenges us, in different ways

  → Have to find new ways for (co-)learning: we are not so much teachers but facilitators of your learning process

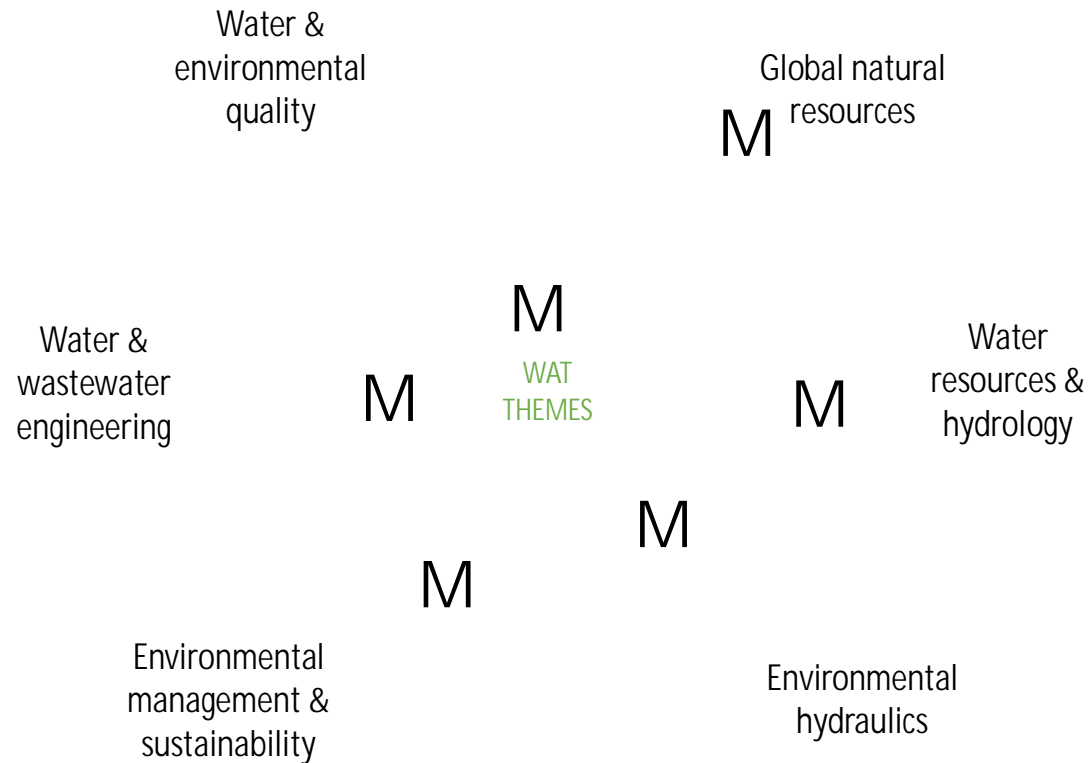- First assignment of WAT Course: mapping your existing expertise through Expertise Maps

NOTE: These are not tests and they will not be graded

Who has not joined course Teams?

WAT THEMES

Water & environmental quality

Global natural resources

3

2

1

0

WAT THEMES

Water & wastewater engineering

Water resources & hydrology

Environmental engineering

Environmental hydraulics

EXPERTISE MAPPING: first individually

NOTE: Three maps: themes, methods, context

Water & environmental quality

Global natural resources

M

M

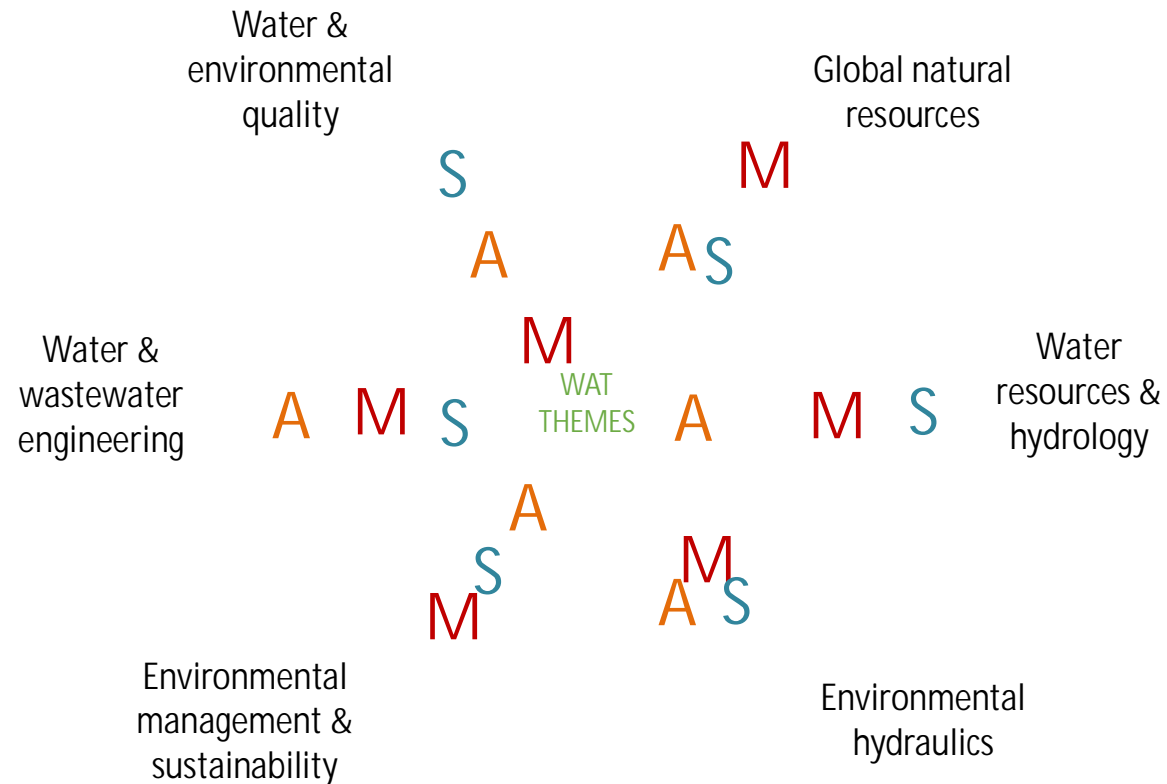Water & wastewater engineering

M

WAT THEMES

M

Water resources & hydrology

M

You'll find the maps in your group's Teams-channel (if you have not joined the course Teams, you will not have access to the channel)

M

Environmental management & sustainability

Environmental hydraulics

0 = know next to nothing ➔ *3 = done 2 or more courses / worked on*

Be honest – and not too humble!

EXPERTISE MAPPING: your group

Water & environmental quality

Global natural resources

Water & wastewater engineering

WAT THEMES

Water resources & hydrology

Environmental management & sustainability

Environmental hydraulics

...bine your expertise into same map:
use different colours to differentiate
→ Your group's unique, combined expertise!

Your combined, unique expertise
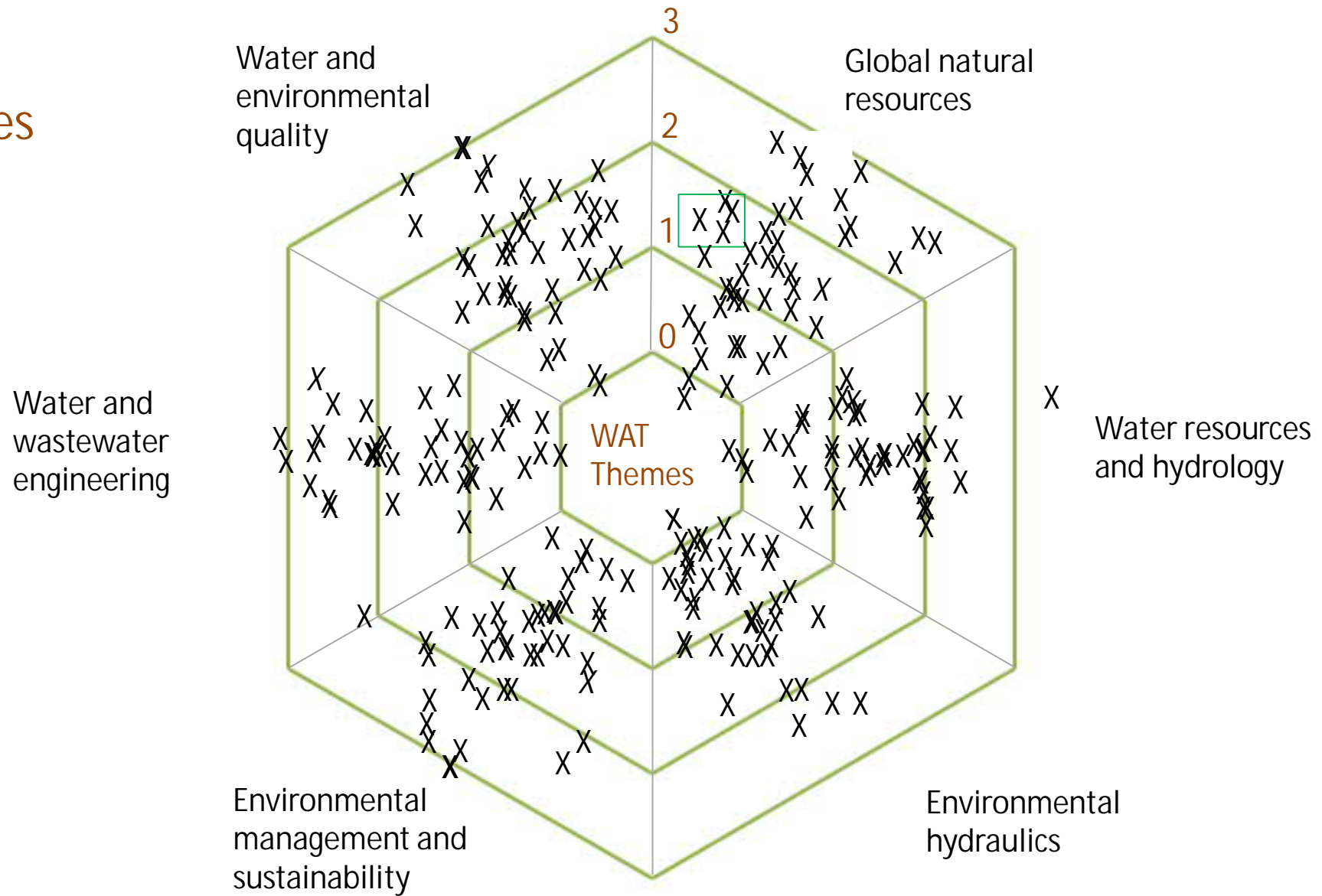
We'll combine your maps and put the combined expertise maps
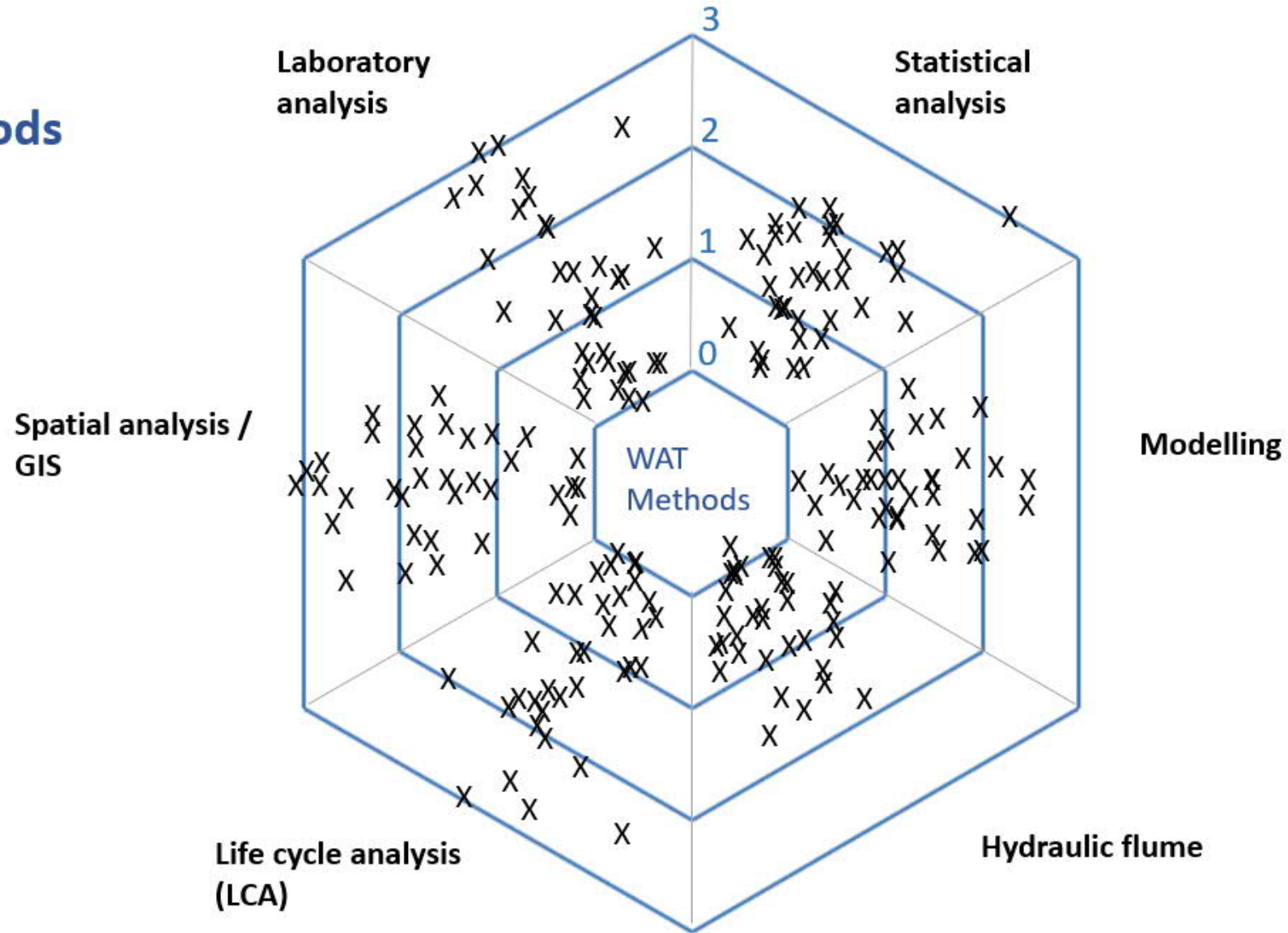for everyone to see (use only your initials in the maps, please!)

→ Helps both you and us to understand your diversity,
and also helps us to plan our teaching

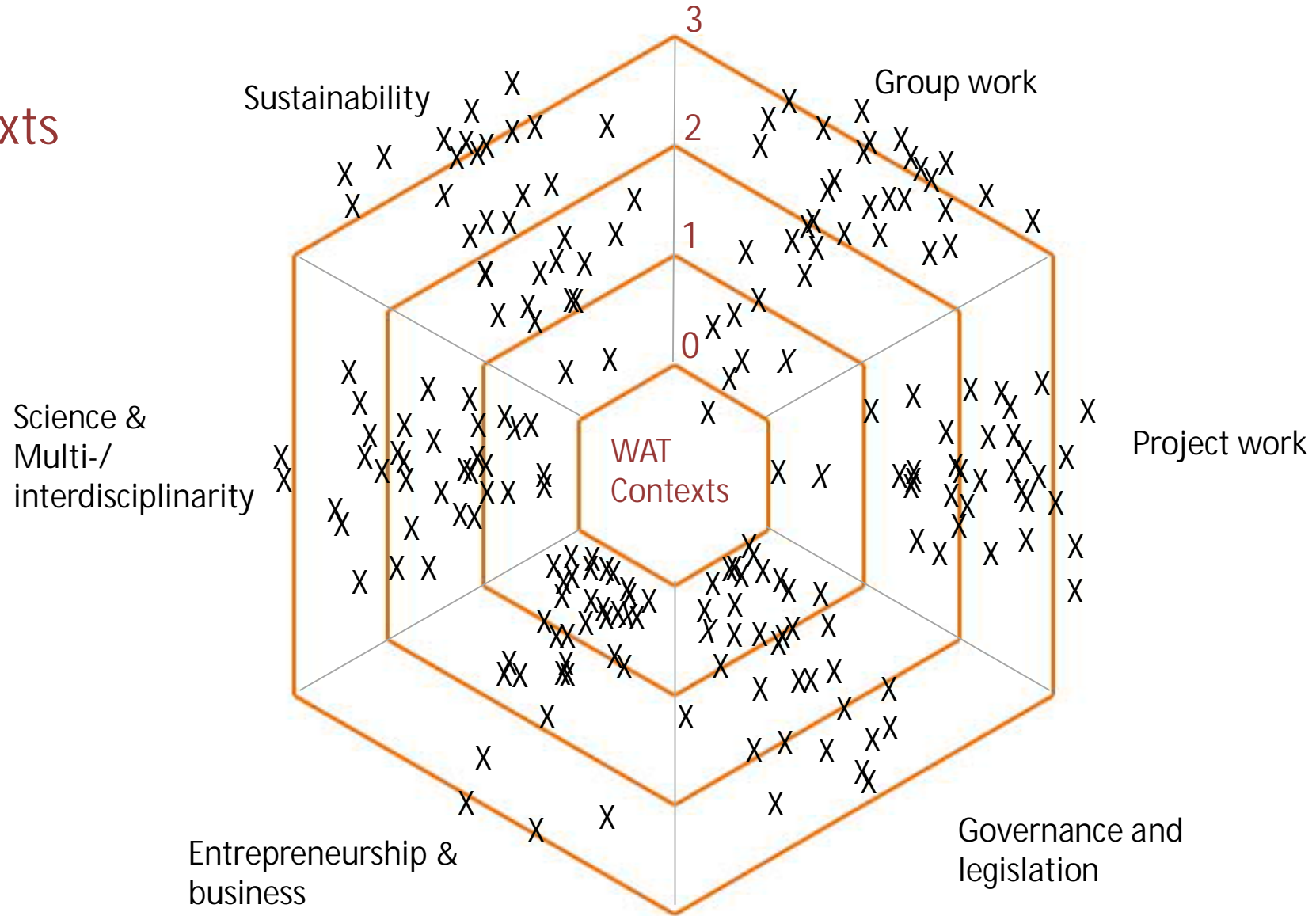*(your maps in the following three slides)*

WAT
Themes

Water and
environmental
quality

Global natural
resources

Water and
wastewater
engineering

Water resources
and hydrology

Environmental
management and
sustainability

Environmental
hydraulics

WAT
Themes

WAT Methods

Laboratory analysis

Statistical analysis

Modelling

Hydraulic flume

Life cycle analysis (LCA)

Spatial analysis / GIS

WAT Methods

3

2

1

0

WAT Contexts

Sustainability · Group work · Project work · Governance and legislation · Entrepreneurship & business · Science & Multi-/interdisciplinarity

WAT Contexts

3 · 2 · 1 · 0

BE ACTIVE!

- ## Learn from each other

  → As we cannot teach you as one uniform group, you must also learn from each other (so plenty of group work coming)

- ## ...think wisely about your group work

  → Your expertise should NOT mean that everyone does what they already know in the group (as no-one learns then)

  → Rather: do what you don't know so well yet – and use your group members as your mentors to learn it!

- ## ...and let us know of your expertise, too!

  → Tell us already beforehand if you are expert on some of the themes or methods we teach

Questions, comments?

(Online students: You can also send us private chat, if you have questions you want to discuss later on, during the break)

9.00- Introductions: forming WAT Course groups

Mapping your existing expertise

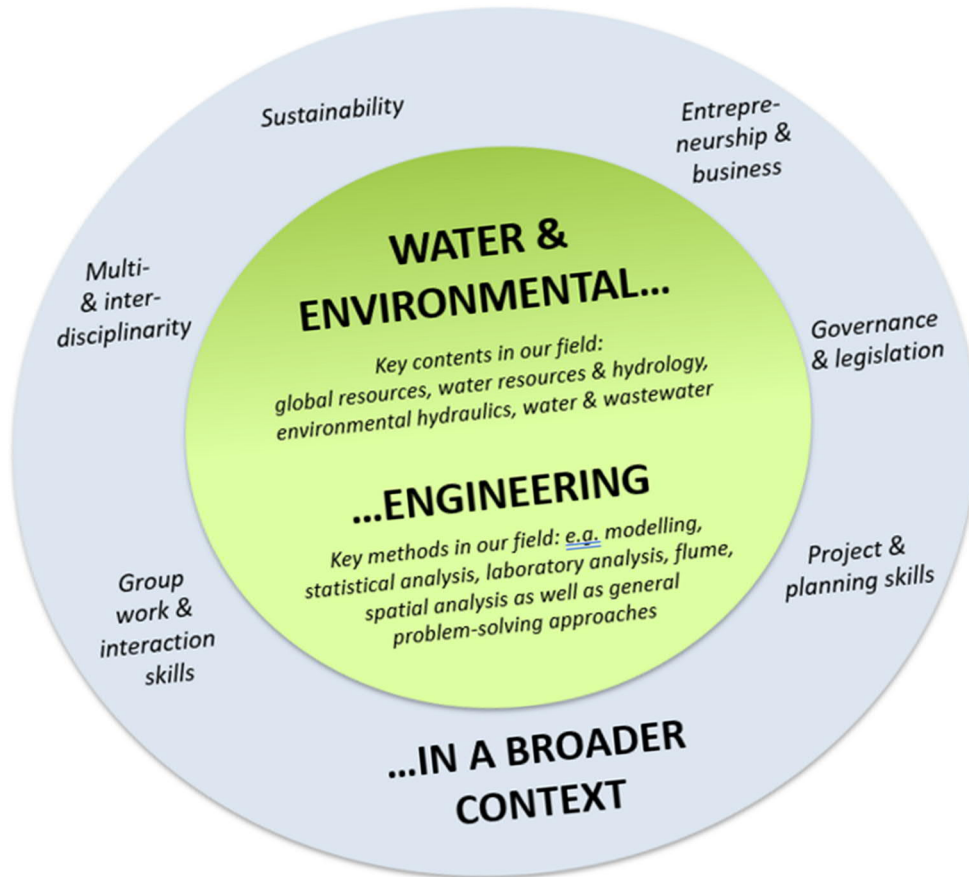**Introduction to WAT Course**

WAT Essential elements

BREAK

~11.00- Session on team roles and group work

→ Different phases and roles in the group

→ *Group work by the end of the week (submit to MyCourses):* agree on your own Rules of Work for your group

ANY QUESTIONS / SUGGESTIONS?

Sustainability

Entrepre-neurship & business

Multi- & inter-disciplinarity

WATER & ENVIRONMENTAL...

Key contents in our field: global resources, water resources & hydrology, environmental hydraulics, water & wastewater

Governance & legislation

...ENGINEERING

Key methods in our field: *e.g.* modelling, statistical analysis, laboratory analysis, flume, spatial analysis as well as general problem-solving approaches

Project & planning skills

Group work & interaction skills

...IN A BROADER CONTEXT

WAT Course introduction

Warning: lot of information, so please return to these slides also later on through MyCourses

Three Elements of WAT course

- The 3 themes of WAT Course form the basics of WAT

  'WATER & ENVIRONMENTAL' (our key themes)

  '...ENGINEERING' (our key methods)

  '...IN A BROADER CONTEXT' (our context)

- You have to get our themes and methods right
  to be a water & environmental engineer

  → But to be able to do your work well, you need
    also to understand the broader context

  → Our advanced courses focus on our themes and methods;
    in-depth expertise on context you have to get elsewhere

WAT Course
provides an in-depth
introduction to
water and
environmental
engineering +
its context

Sustainability

Entrepre-
neurship &
business

Multi-
& inter-
disciplinarity

**WATER &
ENVIRONMENTAL...**

*Key contents in our field:
global resources, water resources & hydrology,
environmental hydraulics, water & wastewater*

Governance
& legislation

...ENGINEERING

*Key methods in our field: e.g. modelling,
statistical analysis, laboratory analysis, flume,
spatial analysis as well as general
problem-solving approaches*

Group
work &
interaction
skills

Project &
planning skills

**...IN A BROADER
CONTEXT**

WAT COMPETENCES
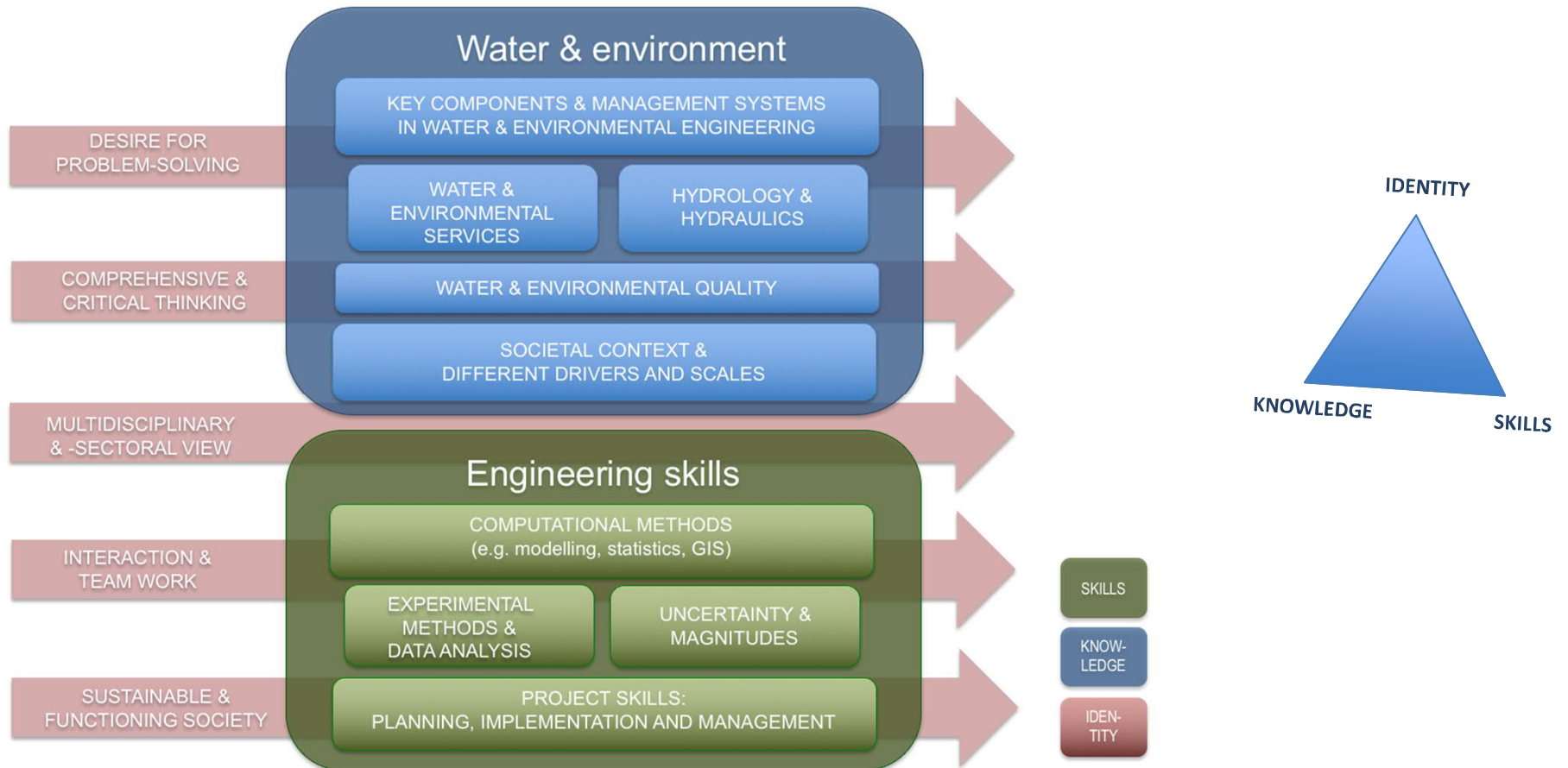
WAT Course aims to provide you a glimpse on all of these: advanced courses provide then more in-depth expertise on your preferred themes and methods

Intended Learning Outcomes I LOs

Check these from SISU / MyCourses' Syllabus: gives you an idea
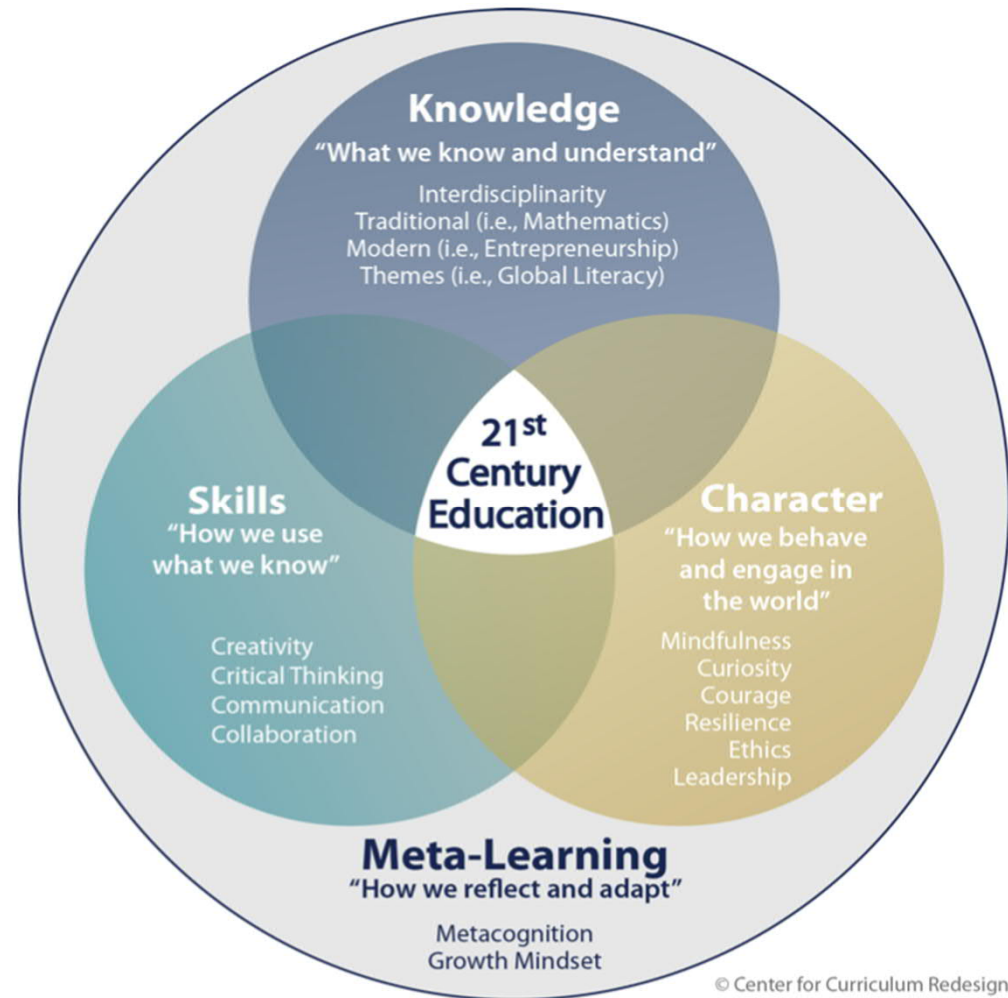what the course is about + also is our quality promise to you

After the completion of the course the student is able to...

- Recognise and describe the main characteristics of the water and environmental engineering field, including its link to sustainability [knowledge]

- Understand the principles of the hydrological cycle and water resources management, including the role of hydraulic structures [knowledge]

- Understand the key principles of good environmental and water quality [knowledge]

- Define the main aspects of water and environmental services and related infrastructures, particularly those related to water supply and sewerage systems [knowledge]

- Identify the broader societal context relevant to water and environmental engineering, including the key governance and entrepreneurial aspects [knowledge]

- Create his/her Personal Learning Portfolio, and in this way is able to recognise, assess and communicate his/her own key competences and strengths [identity]

- Work interactively as part of the group, with relevant communication and group working skills [identity]

Intended Learning Outcomes I LOs

Check these from SISU / MyCourses' Syllabus: gives you an idea
what the course is about + also is our quality promise to you

In addition, the student:

- knows the key computational methods (see below) related to water and environmental engineering [knowledge]
- can apply basic water and environmental measurement methods and related basic analyses in the laboratory and in the flume [skill]
- understands the basic concepts of storing and processing spatial data in GIS [knowledge]
- knows how linear regression and statistical testing can be applied in water and environmental engineering related problems [knowledge]
- is able to quantify errors associated with hydro-environmental measurements [skill]
- understands basic concepts of applying simulation models to problems related to water and environmental engineering [knowledge]
- is aware of the potential of using computational methods in solving water and environmental problems [identity]

Your combined competence profile

Your WAT-competence will be a combination of knowledge, skills and identity skills ('character')

→ These are naturally closely linked, too

Knowledge
"What we know and understand"

Interdisciplinarity
Traditional (i.e., Mathematics)
Modern (i.e., Entrepreneurship)
Themes (i.e., Global Literacy)

21st Century Education

Skills
"How we use what we know"

Creativity
Critical Thinking
Communication
Collaboration

Character
"How we behave and engage in the world"

Mindfulness
Curiosity
Courage
Resilience
Ethics
Leadership

Meta-Learning
"How we reflect and adapt"

Metacognition
Growth Mindset

© Center for Curriculum Redesign

Source: Fadel, Bialik & Trilling 2015

WAT COMMON + ADVANCED COURSES

15 ECTS

WAT Course (WAT-E1100)

Provides you wide view on our field, not so much depth: general introduction

45 ECTS

WATER RESOURCES MANAGEMENT & ENV. HYDRAULICS

WATER & DEVELOPMENT

WATER & WASTE WATER ENGINEERING

Advanced courses are organised according to three thematic study paths: provide you with a more detailed expertise on your selected themes and methods

Note: while the three study paths are thematically different, the methods and tools taught in different courses are useful across all three themes!

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

COURSE TIMETABLE FOR THE 1st YEAR (2021-22)

Period I	Period II	Period III	Period IV	Period V

WAT-E1100 WATER AND ENVIRONMENTAL ENGINEERING (15 cr), incl. Personal Learning Portfolio

	WAT-E2010 GROUNDWATER HYDROLOGY (5 cr)	WAT-E2030 HYDROLOGICAL MODELLING (5 cr)	WAT-E2020 ENVIRONMENTAL HYDRAULICS (5 cr)	WAT-E2040 SURFACE WATER RESOURCES (5 cr)
	WAT-E2060 SUSTAINABLE BUILT ENVIRONMENT (5 cr)	WAT-E2080 WATER & GOVERNANCE (5 cr)		WAT-E2090 WATER & PEOPLE IN A CHANGING WORLD (5 cr)
	WAT-E2140 SUSTAINABILITY IN ENVIRONMENTAL ENGINEERING (5 cr)	WAT-E2070 SUSTAINABLE GLOBAL TECHNOLOGIES STUDIO (10 cr)		
	WAT-E2100 URBAN WATER SYSTEMS (5 cr)	WAT-E2120 PHYSICAL & CHEMICAL TREATMENT OF WATER & WASTE (5 cr)	WAT-E2180 BIOLOGICAL TREATMENT OF WATER & WASTE (5 cr) - AaltoCHEM	WAT-E2130 MODELLING & CONTROL OF TREATMENT PROCESSES (5 cr)
			WAT-E2110 DESIGN & MGT OF WATER AND WASTEWATER NETWORKS (5 cr)	

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

This available in our WAT portfolio MyCourses page
https://mycourses.aalto.fi/course/view.php?id=34281#section-0

LEGEND

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

COMMON	WATER RESOURCES
WATER & WASTEWATER	WATER & DEVELOPMENT

WAT COURSE: WEEKLY STRUCTURE...

WAT Course themes tied together with common weekly structure
(that change a bit each week as every week is different)

General weekly structure

	Mon	Tue	Wed	Thu	Fri
Morning (9.00-)	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				
Afternoon (-4pm)	CONTACT SESSION	THEMATIC TASK	THEMATIC TASK: individual / group work	WEEKLY EXERCISE: Individual / group work	WEEKLY EXERCISE

Timetable for each week can be found from
WAT-E1100 MyCourses: check them out!

...WITH WEEKLY THEMES

...as well as common weekly themes, methods + contexts

WEEKLY THEMES

1) Global natural resources MATTI & OLLI

2) Water resources management & hydrology HARRI

3) Environmental hydraulics JUHA

4) Water & wastewater engineering ANNA

5) Environmental management and sust. MEERI

6) Water and environmental quality RIKU

7) Synthesis MEERI & MARKO

WAT CONTEXTS

- Team roles & group work (Week 1)

- Entrepreneurship & business (Week 4)

- Governance and legislation &

  Science & disciplinarities (Week 7)

WEEKLY METHODS

1) Statistical analysis

2) Simulation modelling

3) Hydraulic flume: measurement & uncertainty

4) Spatial analysis

5) Life Cycle Assessment LCA

6) Laboratory analysis

COURSE MANAGEMENT + TEACHERS

- WAT Course has one responsible teacher Meeri, supported by Marko (general support) and Teemu (computational methods)

- Course assistant Anni responsible for online/hybrid arrangements and support (and some other staff, too)

→ Each week has also Weekly Leader(s) who are responsible for weekly tasks and exercises + actual teaching: Weekly Leaders can be seen in the previous page under Weekly themes

COURSE ASSIGNMENTS

- Each week includes two assignments

    1) Thematic Task: mainly done in groups
    2) Weekly Exercise: individually or in groups/pairs
    → Some weeks include also Context Task

Laboratory safety exam for week 6: DL for the exam is already on Sun 26th Sept. See Week 6 Sub-pages how to take the test!

- The groups have a rotating *Weekly Chair*

→ Responsible for chairing your meetings and submitting group tasks

--> The group decides themselves the Weekly Chairs:
    everyone should be a chair at least once!

THEMATIC TASK

- Done in groups in different formats
- Synthesises the weekly theme and reflects week's activities
- Thematic Task usually completed within that week

TIME / WEEK:
~ 20 hours

CONTEXT SESSION

- Implemented in different ways: some have tasks, others not. Done in groups.

1) *Group/Project Work*
4) *Entrepreneurship & business**
7) *Multi- and interdisciplinarity & Governance and legislation*

TIME / WEEK: ~5 hours
+ portfolio / final assignment

* = exception as crosscutting theme for entire week

WEEKLY EXERCISE

- Done individually or in groups
- Introduces a computational method related to the weekly theme: submission same or next week

1) *Statistical analysis*
2) *Modelling*
3) *Hydraulic flume*
4) *Spatial analysis*
5) *Life-Cycle Analysis LCA*
6) *Laboratory analysis*

TIME / WEEK:
~ 20 hours

Time estimates include time used for contact sessions, group work, independent work, presentation + reflection.

LATE SUBMISSIONS

- The general practice during the whole course is that you should submit your tasks in time, by the given deadline (naturally).

- You are able to submit late, but this will automatically result in -30% of the grade (of that particular weekly task/exercise). <u>Submitting later than one week after the deadline is not possible</u>.

- However, if you face a force majeure situation with your submission(s), please contact the weekly leader/teacher who gave the assignment (or Meeri), and we'll figure things out!
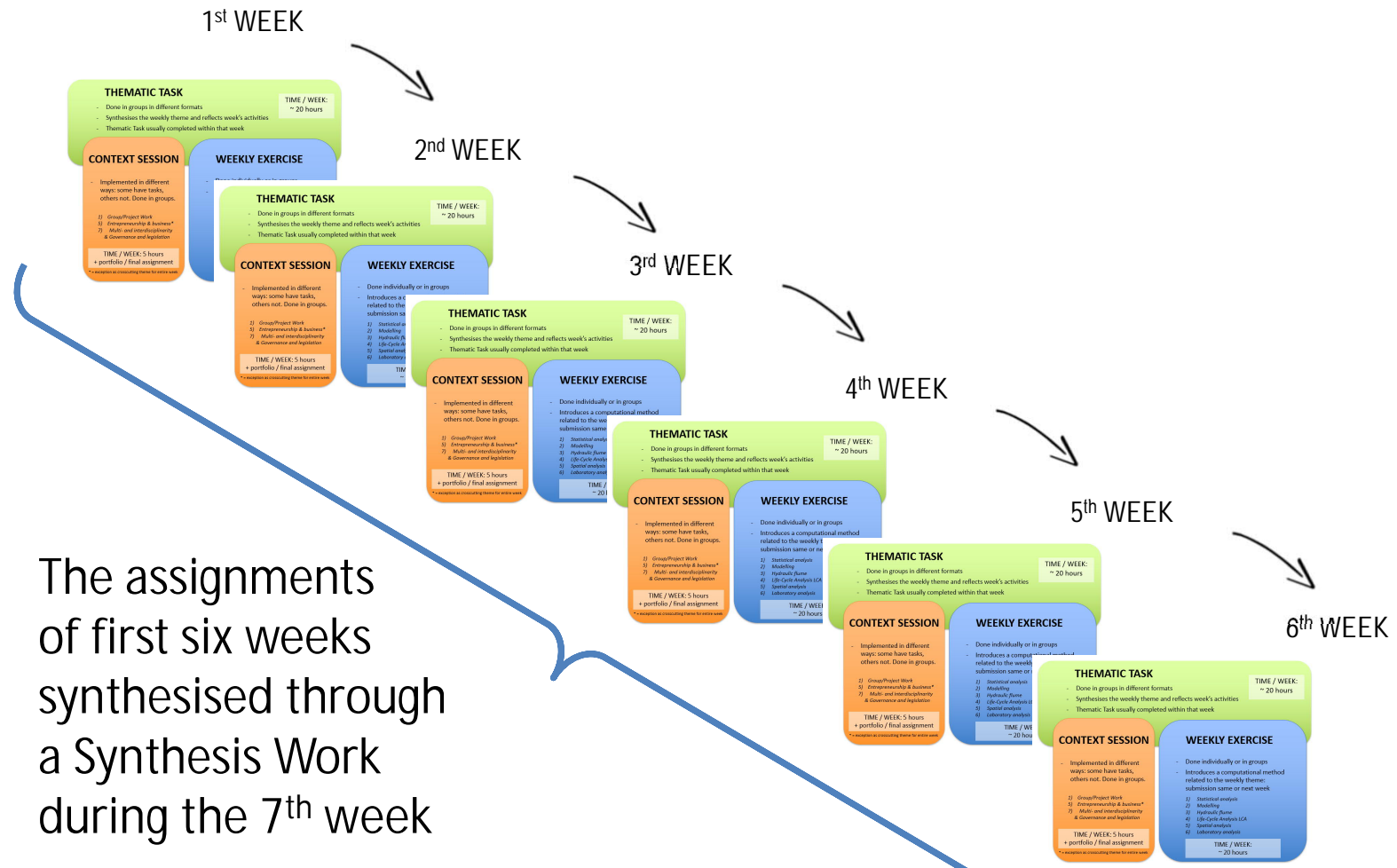
The assignments
of first six weeks
synthesised through
a Synthesis Work
during the 7th week

→ Aim is to answer to the question:
  'What is Water & Environmental Engineering?'

→ Links to your study plan and portfolio process

COURSE ASSESSMENT

The course is assessed in three parts:

1. Grade for Thematic tasks: 0...5

2. Grade for Weekly exercises = 0...5

→ Teachers' evaluation of the weekly assignments

3. Self- and peer evaluation = 0...5

→ As we expect you to work plenty in groups, also assessment done partly by yourselves

→ Final grade = average of the three grades

Some tasks and exercises may be assessed with pass/fail

COURSE FEEDBACK

- We have fine-tuned the concept based on last years' experiences and feedback
  - → We know it is hard work, but trying to improve it by e.g. clarifying the structure and increasing focus
  - → Yet, the concept means you will have several separate tasks, and that you'll learn many new things every week

- Your feedback is very valuable!
  - → Use chat, private calls or send us email
  - → Anonymous feedback box in MyCourses

Questions, comments?

More information through MyCourses pages of WAT Course:

https://mycourses.aalto.fi/course/view.php?id=33494

→ Each week has its own sub-pages

Essential elements

...for 'ensuring a functioning and sustainable society'

This is a self-study section; just for your notion

Essential elements
...for 'ensuring a functioning and sustainable society'

Three critical elements that you must comprehend to successfully pass WAT Course (and entire WAT): what they could be?

→Hint: all start with S!

- Sustainability (the aim & crosscutter)

- Society (the context)

- Systems (the way to think)

All discussed later as well: now just introduction

SUSTAINABILITY

Sustainability = a state of a system (where system maintains its critical functions under change)

Sustainability is the ability of a human, natural or mixed system to withstand or adapt to endogenous or exogenous change indefinitely.

Sustainable development is therefore a pathway of deliberate change and improvement which maintains or enhances this attribute of the system, while answering the needs of the present population.

Dovers & Handmer 1992

*"Sustainable development ...
meets the needs of the present without compromising the ability of future generations to meet their own needs."*

Our Common Future i.e. Brundtland Report 1997
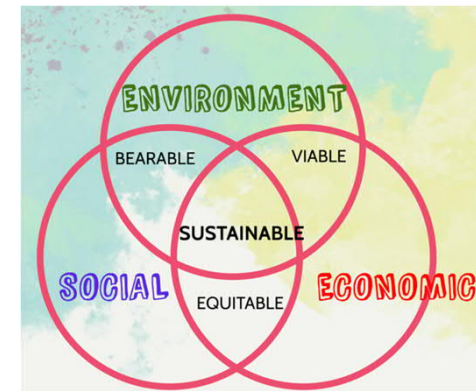
→ Other elements, too: see Marko's e-lecture

SOCIETY

"A large group of people who live together in an organized way, making decisions about how to do things and sharing the work that needs to be done."

Cambridge Dictionary

Society forms the main system for water and environmental engineering: we are at the society's service!

...for 'ensuring a functioning and sustainable society'

→ Yet, society has different scales: sometimes it's about a city, sometimes about a nation, sometimes about entire globe

Sustainability

Entrepreneurship & business

Multi- & inter-disciplinarity

WATER & ENVIRONMENTAL...
Key contents in our field:
global resources, water resources & hydrology, environmental hydraulics, water & wastewater

Governance & legislation

...ENGINEERING
Key methods in our field: *e.g.* modelling, statistical analysis, laboratory analysis, flume, spatial analysis as well as general problem-solving approaches

Group work & interaction skills

Project & planning skills

...IN A BROADER CONTEXT

Light blue doughnut = society

A system is a set of things – people, cells, molecules, or whatever – interconnected in such a way that they produce their own pattern of behavior over time.

Meadows, D.: Thinking in Systems, a Primer. 2008.

→ System includes but also excludes: system boundaries therefore very critical to understand and describe

Confusion and disagreement often because we talk about different systems (or their scales)

SYSTEM ELEMENTS + THEIR INTERACTION = SYSTEM'S PURPOSE
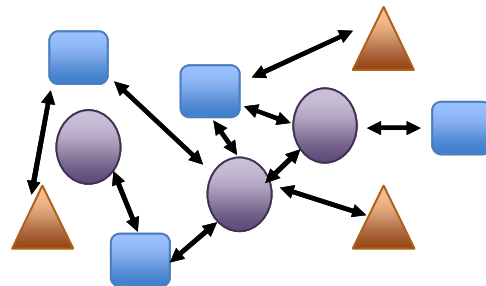
(e.g. functioning water supply, designing new area, national security, sustainability)

SYSTEMS

Man at the top,
world as a resource

Complex, connected
web of life - mutualism

Regenerative
worldview

ethical principles:
1. take care of the planet
2. take care of people
3. fair division of surplus
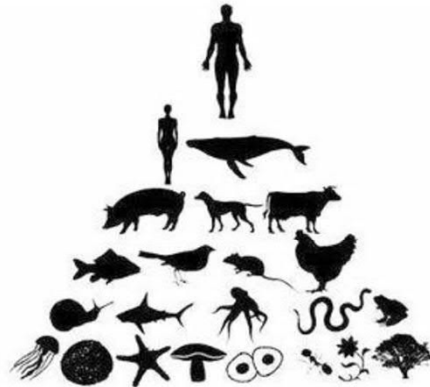
The dominant
culture of our time

Many indogenous
cultures
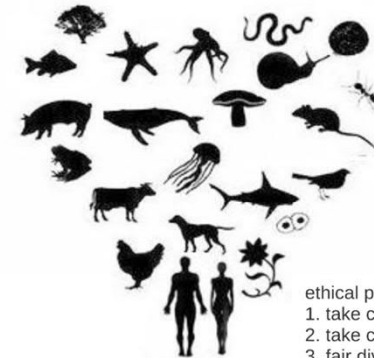
Regenerative design,
e.g. Permaculture

Food production: industrial
scale, with aim to maximum
economical profit

Food production:
interconnected web –
energy and nutrition cycles

Food production: while producing
food for humans, we should heel
damaged natural systems

SPT–E1050
**Systems Thinking for
Sustainable Living Environments**

Katri-Liisa Pulkkinen
Aija Staffans

3.1 –14.2.2018

CHECK: great introduction!

Available in MyCourses

Also differing views on how
systems work and interact,
and what is their purpose

Few, lot of information – you need a BREAK!

AGENDA

9.00- Introductions: forming WAT Course groups

Mapping your existing expertise

Introduction to WAT Course

WAT Essential elements

BREAK

~11.00- Session on team roles and group work

→ Different phases and roles in the group

→ *Group work by the end of the week (submit to MyCourses):*
agree on your own Rules of Work for your group

ANY QUESTIONS / SUGGESTIONS?

Group work introduction

Karoliina Korhonen: Finnish Nightmares
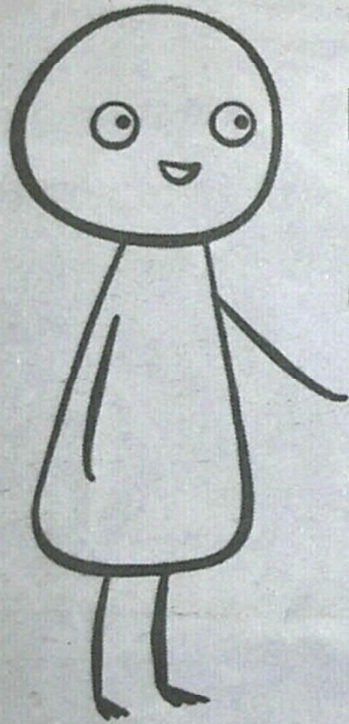
"WORK IN PAIRS NOW. YOU TWO ARE A PAIR!"
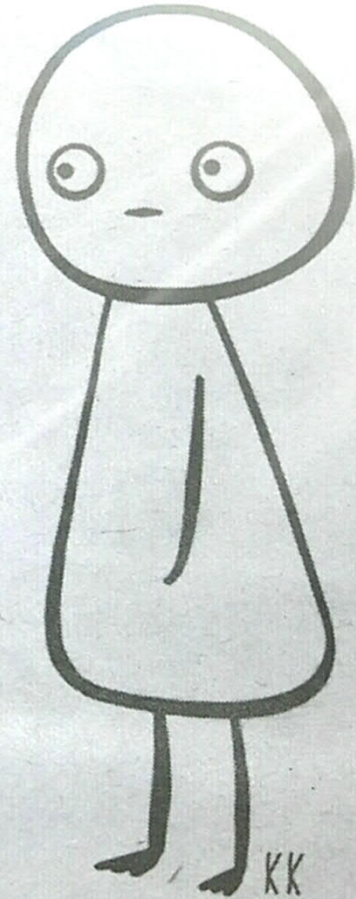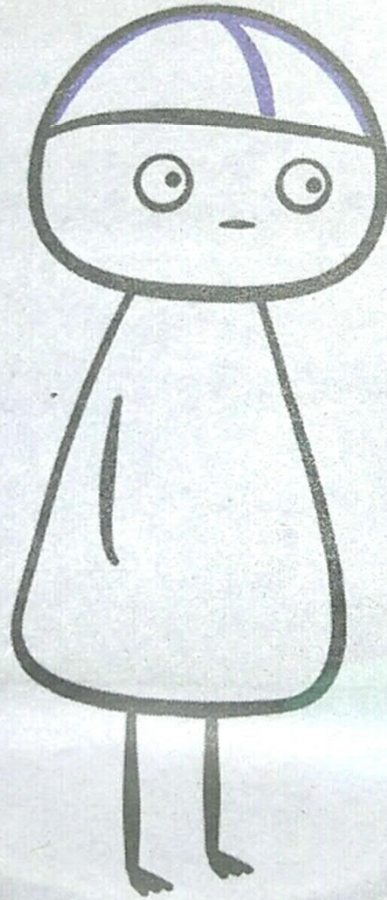
YOU GET SOMEONE AS YOUR PAIR YOU DON'T KNOW.

- Group working is fun! …and hard.

- Who knows the five common stages of group work?
  → Be ready for storms, too: part of the learning process

5. ADJOURNING
Closing the group work, in style – and including reflection

1. FORMING
Nice & exciting: what will happen, what is my role etc.

2. STORMING
Problems emerge: this doesn't work as I thought and hoped for, others suck etc.

4. PERFORMING
Once balance is found, group works!

3. NORMING
Finding a (new) balance: this is how we work!

Based on Bruce Tuckman (1965)
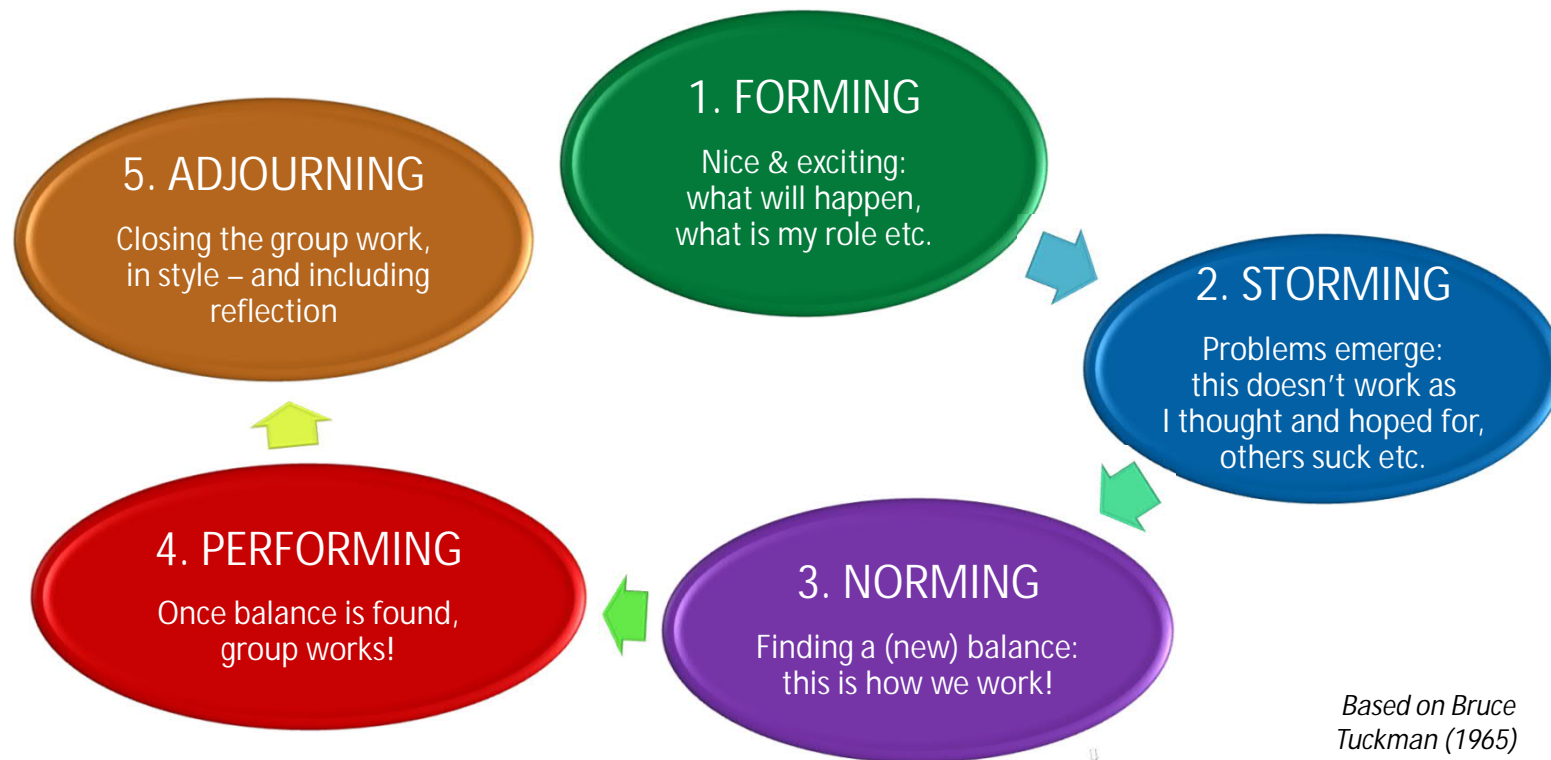
Stages of group development

Personal relations between group members (vertical axis)

- Interdependence
- Cohesion
- Conflict
- Dependency

stage 1
immature group

Forming
- confusion
- uncertainty
- assessing situation
- testing ground rules
- feeling out others
- defining goals
- getting acquainted
- establishing rules

stage 2
fractional group

Storming
- disagreement over priorities
- struggle for leadership
- tension
- hostility
- clique formation

stage 3
sharing group

Norming
- consensus
- leadership accepted
- trust established
- standards set
- new stable roles
- co-operation

stage 4
effective team

Performing
- Successful performance
- flexible, task roles
- openness
- helpfulness
- delusion, disillusion and acceptance

stage 5
disbanding group

Adjourning
- disengagement
- anxiety about separation and ending
- positive feeling towards leader
- sadness
- self-evaluation

Increasing group effectiveness over time

Task functions (horizontal axis)

Orientation to task → Organisation for task → Increased data flow: achieve task → Problem solving

OUR AIM:
TO GO THROUGH THIS ENTIRE PROCESS DURING NEXT 7 WEEKS

Source: Aurora / Tuckman
http://bit.ly/2cPGiFa

GROUP WORK: CHAIR

- Group will have a rotating Weekly Chair
  - → Everyone should be a chair at least once; you decide the order

- Chair is responsible that group's weekly assignments are done well and on time
  - → Makes sure that everyone contributes to the assignments in an equal manner: decides on division of responsibilities
  - → Solves possible disagreements
  - → Acts as group's contact person towards teachers

→ In sum, a great possibility to learn a lot!

- Group = a set of different people in different roles
  - → Everyone takes and/or is given a certain role in a group
  - → The roles can also change over time

- Roles that people take depend on many things
  - Your personal preferences:
    how you like to work, where you are good at
  - Your past experiences in a group
  - Group dynamics
  - Your ambition level for the group work:
    do I want to it very well, or just get it done?

ROLES IN GROUP

- Roles can be beneficial or harmful for the group work
  - → In ideal situation different roles support each other
  - → In practice, however, many groups have a set of roles that can together be less beneficial or even harmful for the work

- Very important to be aware of the roles that you and other group members have (particularly as a Chair)
  - → Try only to take roles that:

    1) are beneficial for the group

    2) allow you to learn most from the group work

  - → Also encourage your group members to do the same (you are hereby given the permission to note them if not)
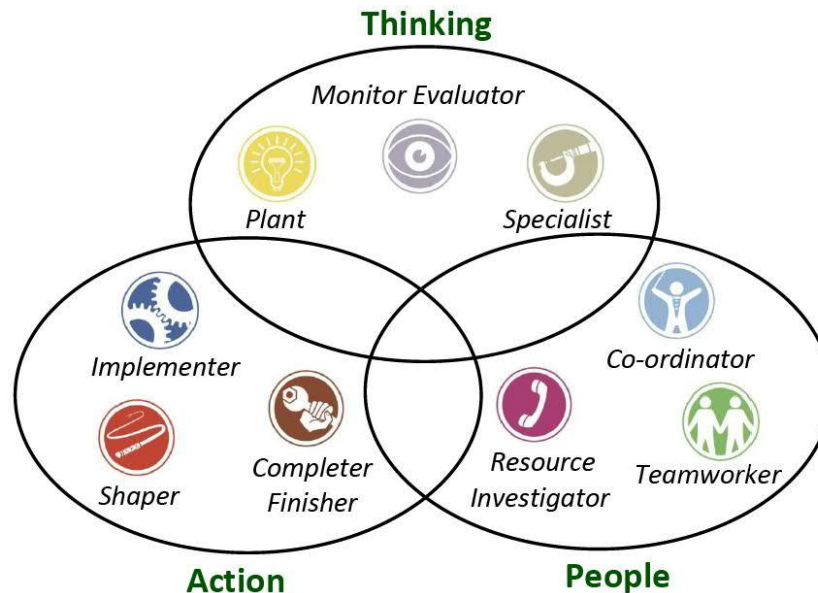
Team role	Strengths	Allowable weaknesses

Action oriented roles

Shaper	• Challenging, dynamic, thrives on pressure • The drive and courage to overcome obstacles	• Prone to provocation • Offends people's feelings
Implementer (company worker)	• Disciplined, reliable, conservative and efficient • Turns ideas into practical actions	• Somewhat inflexible • Slow to respond to new possibilities
Completer finisher	• Painstaking, conscientious, anxious • Searches out errors and omissions • Delivers on time	• Inclined to worry unduly • Reluctant to delegate

People oriented roles

Co-ordinator (Chairman)	• Mature, confident, a good chairperson • Clarifies goals, promotes decision-making, delegates well	• Can often be seen as manipulative • Offloads personal work
Teamworker	• Co-operative, mild, perceptive and diplomatic • Listens, builds, averts friction	• Indecisive in crunch situations
Resource investigator	• Extrovert, enthusiastic, communicative • Explores opportunities • Develops contacts	• Over-optimistic • Loses interest once initial enthusiasm has passed

Cerebral roles

Plant	• Creative, imaginative, unorthodox • Solves difficult problems	• Ignores incidentals • Too pre-occupied to communicate effectively
Monitor evaluator	• Sober, strategic and discerning • Sees all options • Judges accurately	• Lacks drive and ability to inspire others
Specialist	• Single-minded, self-starting, dedicated • Provides knowledge and skills in rare supply	• Contributes only on a narrow front • Dwells on technicalities

TEAM ROLES by Belbin

TEAM ROLES by Belbin

Team role		Strengths	Allowable weaknesses
Action oriented roles	**Shaper**		
	Implementer (company worker)		
	Completer finisher		
People oriented roles	**Co-ordinator** (Chairman)		
	Teamworker		
	Resource investigator	· Extrovert, enthusiastic, communicative · Explores opportunities · Develops contacts	· Over - optimistic · Loses interest once initial enthusiasm has passed
Cerebral roles	**Plant**	· Creativ... · Solves ...	...vely
	Monitor evaluator	· Sober,... · Sees a... · Judge...	
	Specialist	· Single-minded, self-starting, dedicated · Provides knowledge and skills in rare supply	· Contributes only... · Dwells on technicalities

Thinking

Monitor Evaluator

Plant *Specialist*

Implementer *Co-ordinator*

Shaper *Completer Finisher* *Resource Investigator* *Teamworker*

Action **People**

NICE SET OF ROLES
...BUT WHAT ARE MISSING?
→ Purely harmful roles :)

What is closest to yourself?
Have you seen other roles, too?
→ _Talk with a pair

- SHAPER comes up with new ideas and provides structure

- 'VASTARANNAN KIISKI' (MOANER) opposes everything

- COORDINATOR focuses on the job + keeps up good spirit

- WITHDREWER stands back, does only what is asked to

- IMPLEMENTER focuses on implementation

- FREE-RIDER let's others do the work, but takes credit

- SPECIALIST brings in-depth (but selective) knowledge

- OVERACHIEVER aims high, even at the cost of team spirit

Questions, comments?

Group discussion

What do you think about the different team roles?

How do you go around the negative roles, and ensure you have mainly positive ones?

YOUR RULES OF WORK

Based on this presentation and your discussion, agree on Rules of Work for your group (your first context task)

→ A clear set of rules that defines the principles for your group, including communication

→ Also agree how you deal with two kinds of challenges:
1) 'storms' including entire group, and
2) negative team role that an individual takes

→ Write down your rules and submit through MyCourses by the end of the week (this week's chair submits)

https://mycourses.aalto.fi/mod/assign/view.php?id=786520

YOUR GROUP! YOUR PROJECT!

- The group also forms your project team
    - → Your project: your tasks & assignments
    - → Take this as an opportunity to practice your project planning and management skills: these are important part in our programme as well as your career

The stages of project work:

1. Start: setting a goal

2. Breaking down the project into main goals and sub-goals

3. Scheduling the project

4. Implementing the project and backlog

5. Leading the project

6. Dealing with conflicts

7. Ending the project and evaluation of results

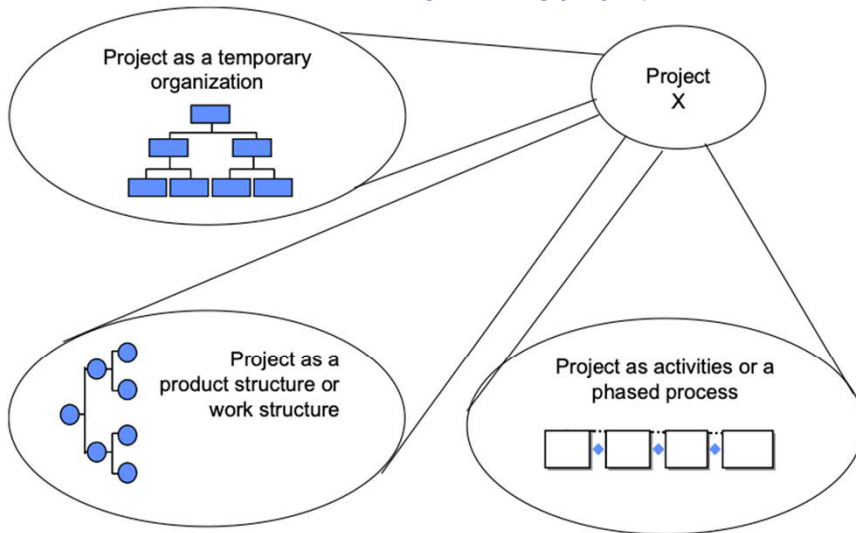* Check Aalto's guidelines on time management and projects:

https://into.aalto.fi/display/enopisk/Self-management+and+time+management

PROJECT PLANNING + MANAGEMENT

WHAT IS A PROJECT?

Figure 5. Three perspectives on projects

HOW TO MANAGE A PROJECT?
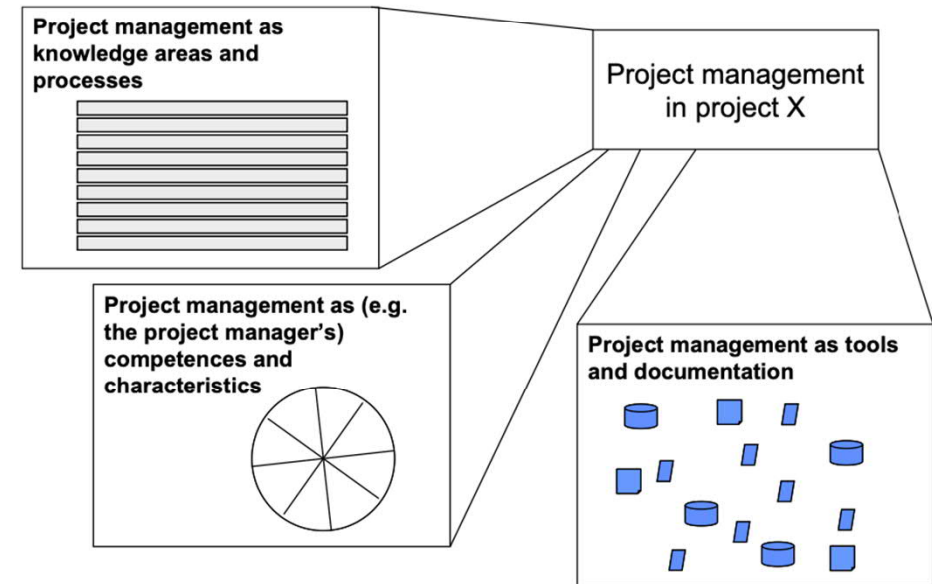
Figure 8. Three perspectives on project management

PROJECT LIFECYCLE

Figure 10. Project lifecycle and project execution

Artto et al. (2011): Project Business
→ Available in WAT-E1100 MyCourses

PROJECT + TIME MANAGEMENT

- Your tasks and exercises form your group's project
  → We give you the main aim and timeline i.e. deadline

- Based on the aim & timeline:

  1) divide the aim into objectives and related activities

  2) agree on the division of responsibilities (who does what)

  3) plan and manage your time

  → Use SMART objectives

    → Decide on the 'level of enough'
       i.e. when something is ready

Specific: what are we going to do?

Measurable: how to measure it is done?

Achievable: can we do it in the given time & resources?

Relevant: will this objective contribute to our main aim?

Time-bound: when will the objective be accomplished?

9.00- Introductions: forming WAT Course groups

Mapping your existing expertise

Introduction to WAT Course

WAT Essential elements

BREAK

ALL DONE!

~11.00- Session on team roles and group work

→ Different phases and roles in the group

→ *Group work by the end of the week (submit to MyCourses):*
agree on your own Rules of Work for your group

Questions, comments?

Thank you!

More information through MyCourses pages of WAT Course:

https://mycourses.aalto.fi/course/view.php?id=33494