

>Welcome Tutor of 2017!

Engaging ETH students in interdisciplinary group work is at the very core of ETH Week. One tutor guides one team through the whole week. As these students only meet at the beginning of the week, they do not know each other beforehand. They also come with a backpack of different backgrounds, experiences and knowledge. All have different attitudes and personalities, maybe even different cultures.

To work together in such a team and under time pressure is challenging. Your role is to facilitate the team process so that they learn to deal with each other, to take decisions together and eventually become really productive, share tasks, coordinate and produce a presentation by Friday afternoon.

Your role might change depending on the task at hand. Sometimes you will only observe or keep the time. Sometimes you might need to moderate a discussion and help them focus on a taking a decision or have them reflect and ask 'why?' until the team finds a clear answer they can build upon.

There is one rule you need to stick to:

You are neither responsible for the content of the projects nor for the outcome.

This includes that you should not take content decisions for them, even if you know better. ETH Week is also not a competition between tutors.

Instead, you are responsible for the process and your central task is to encourage self-directed learning.

There are three different kinds of time slots during the week.

1. Tutors have the lead. These are the three milestone time slots that you prepare together with the trainers during the online phase of the tutor training: Team-building (Sunday), Check in (Daily), Wrap up (Friday).
2. Tutors facilitate the team process. These are most time slots, especially during Sunday, Monday, Tuesday and Friday.
3. Tutors support facilitators. These are the time slots on Wednesday and Thursday.

For all time slots, it is your responsibility to know the tasks at hand and understand what the learning outcomes (goals) are. Students will rely on you to clarify what it is they need to do and how it links to the rest of the week and their presentation on Friday.

This script will give you a solid basis for that responsibility. Each spread explains one half-day in detail, from the moment the students leave the plenum and start the team process until the moment where you hand them back off to us. During most slots, you have a certain flexibility in the procedure as you might have to adapt to the needs of your team.

LEGEND



Dedicated team process time slot designed by tutors.



Relates to one of the four design thinking phases.



Team works as a whole.



Team splits up in sub-teams.



Students work in pairs.



Students work individually.

EMERGENCIES

In case of an emergency, inform the Info Desk directly or call the ETH Week hotline (+41 44 633 99 10). In case of urgent emergencies, call the Emergency desk of ETH Zurich (+41 44 342 11 88). They will transfer your call to the ambulance (144), police (117), or fire brigade (118). Please immediately inform the Info Desk afterwards.

sunday
sept 10



meet

monday
sept 11



experience

tuesday
sept 12



funnel

wednesday
sept 13



refine

thursday
sept 14



test

friday
sept 15



communicate

7.05 Sports

8.30 Kick-off

9.00 **OVERVIEW INPUT**
L. Schefer.

10.15 **Field trips!**

12.00 Registration

13.15 **OPENING EVENT**
L. Guzzella,
A. Waskow.

DESIGN CHALLENGE
Wallet Exercise

15.45

Team building.

STEEP Analysis.

Template check out.

16.00

Unpack.

Draw stories.

Template check out.

18.30 Dinner

19.45 **CRITICAL THINKING NIGHT**
P. Blom.

7.05 Sports

8.30 Kick-off

9.00 **DEEP DIVE DIALOGUES**
A. Studart, I. Burgert,
M. Meboldt, F. Gramazio,
A. Krause, G. Grote.

11.45 Lunch break.

12.30 **Prepare for
knowledge fair.**

13.30 **KNOWLEDGE FAIR**
Representatives from industry,
research and public sector.

15.45

Unpack.

Problem statement 1.0.

Template check out.

18.30 Dinner

19.45 **TECHNICAL PANEL**
T. Netland, P. Beck,
A. Fritz, K. Michel,
P. Zanone, J. Zimmermann.

7.05 Sports

8.30 Kick-off

9.00 **SOCIETAL PANEL**
S. J. Groeneveld,
J. Schumm, T. Straumann,
J.-E. Sturm, T. Wäfler.

10.30

Ideate.

12.15 Lunch break.

13.00 **Research and test.**

Problem statement 2.0.

Template check out.

18.45 **ROBOTICS NIGHT**
R. Loveridge, M. Lyrenmann.

Fair with Robots
from ETH Zürich and
Interactive Dinner.

7.05 Sports

8.30 Kick-off

9.00 **Prototype.**

12.15 Lunch break.

13.00 **FEEDBACK ROUND**
Experts provide feedback
to the ideas of the students.

14.30

Integrate feedback.

Template check out.

18.30 Dry Run and Dinner.

19.45 Stage Test.

7.05 Sports

8.30 Kick-off

9.00 **KEYNOTE**
C. Leister.

10.15 **Polish your
presentation.**

Last check out.

13.30 Lunch break.

15.00 **FINAL EVENT**
Opening by S. M. Springman.

Students present
their work.

18.15 **Wrap up.**

19.15 **CONCLUDING PANEL**
S. Coros, B. Dillenburger,
L. Isa, S. Schürle.

20.30 Celebrations and Dinner.

Plenum Sessions

Team work

↳ Tutors and facilitators

RESPONSIBILITIES OF THE FACILITATORS

They will join us on Tuesday afternoon, to observe progress of teams and get acquainted with your tutors, teams and work space.

On Wednesday and Thursday, they will:

- Give instructions and run the students teams through the different activities as planned in the facilitator agenda;
- Ensure all teams obtain the desired results from each exercise to be able to move forward;
- Give expert input and feedback if needed (process/method);
- Quality assurance (content) by asking reflective questions;
- Establish and maintain a positive environment in which students are encouraged to be actively engaged in the learning process throughout the workshop.

RESPONSIBILITIES OF THE TUTORS

You will have the lead during the three milestone time slots that you designed during the online phase of the tutor training: Team-building (Sunday), Check in (Daily), Wrap up (Friday).

On Wednesday and Thursday, you will:

- Support the facilitators
- Monitor effective participation
- Promote positive and engaged team dynamics
- Watch timing of their team
- Take care of space and material

Otherwise, you are in charge of facilitating the team process.

SUPPORT

If you need support with the team process or if it is unclear how you can assist the teams for a specific task, you may talk to one of the trainers or organisers directly. We will regularly be present in the team spaces or the ETH Week Hall. If you cannot find us and it is urgent, contact the Info Desk. In addition, the LET organises formal and casual debriefing from Monday to Thursday.

MEETINGS

We organise meetings every morning in parallel to the plenum sessions.

- 9.00^h ● **TUTOR MEETINGS**
Monday, Tuesday, Wednesday
at Info Desk.
- 18.45^h ● **HALF-TIME MEETING**
Wednesday
at team space 11.
- 18.45^h ● **FINAL MEETING**
Thursday
at Process Walls.

While the meetings in the morning are there to answer your questions, the last two meetings help us monitor the progress of the teams. On Wednesday, it will impact how each team continues the morning after.

The meeting on Thursday is important for the preparation of the concluding panel. During dinner, we ask you (for about 5') to bring yourself and one student to the Process wall, so that we can understand what your team is working on and how they evolved during the week.

↳ The process wall

Instead of handing the students a problem to solve, we ask them to define their own challenge, to frame a problem that they identify within the topic of 'manufacturing the future'. They will go through a process, where every step of the way helps them find answers to the following three questions, that we call the brief.

1. Define a problem statement that describes the challenge you want to address. It needs to be linked to a Swiss actor and to one of the 5 key topics of ETH Week.
2. Tell an inspirational story that explains where your ideas come from, why your problem statement is relevant and how a possible solution could look like.
3. Critically reflect your ideas by answering the following questions:

SCIENTIFIC RIGOR

- What are your underlying assumptions?
- What facts and figures did you rely on?

FEASIBILITY

- How feasible is your solution?
- What are your underlying assumptions?

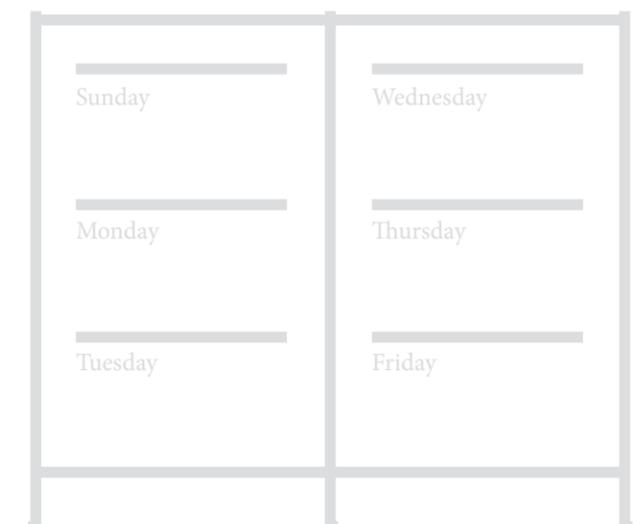
SYSTEMS THINKING

- How is the problem embedded in the ecological, societal and economical context?
- What are the implications and tradeoffs of your solution?

We document this process by filling a template at the end of each day. Using this tool, the students document their preliminary results. When they are finished working, they hang the template on their Process Wall in the ETH Week Hall where it remains until the end of the week. In this way, experts who are part of ETH Week are able to understand what students are currently working on. It also emphasises how a constructive and iterative process is the main goal of ETH Week.

By making the different building stones visible, we hope to encourage spontaneous discussions between experts and students but also between students of different teams, so that ideas can build on each other. The templates, together with the final prototypes will be part of the exhibition on Friday evening. They will be crucial on .

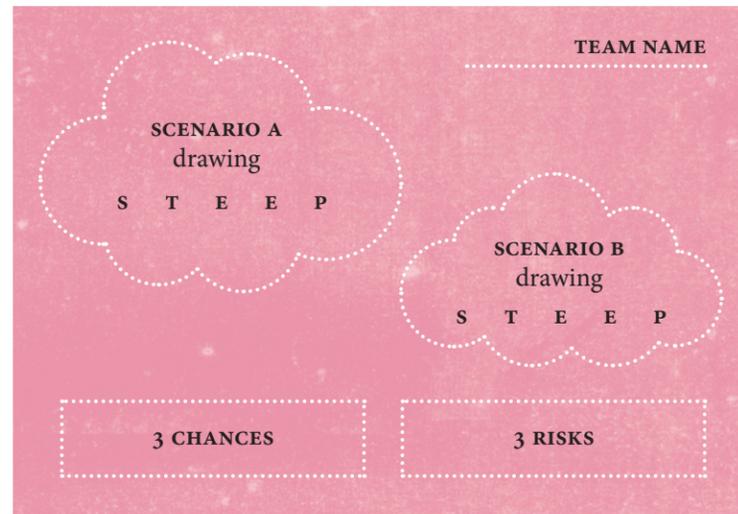
The tutors and the students also meet every morning during the Check-in in front of the templates where they will serve as a roadmap for the week. A short overview of content of the templates:



Daily Templates.

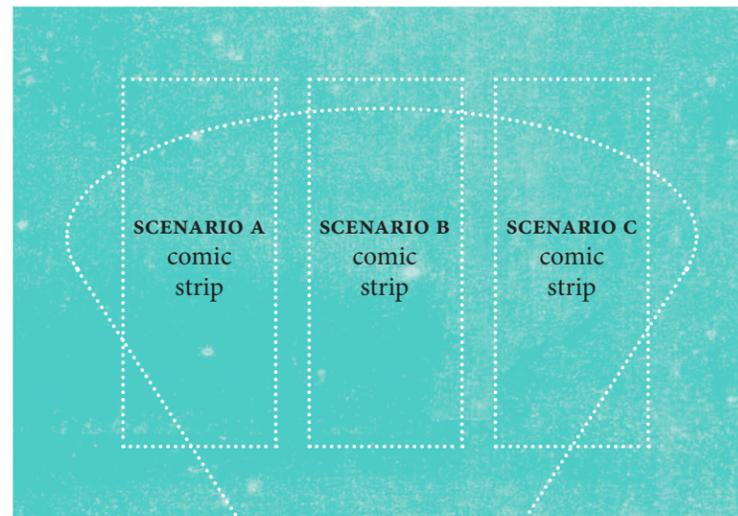
SUNDAY

The template contains two future scenarios that contain aspects along STEEP categories that your team links to manufacturing. It contains the essence of their first discussions on the topic and shows the knowledge already present before any content inputs.



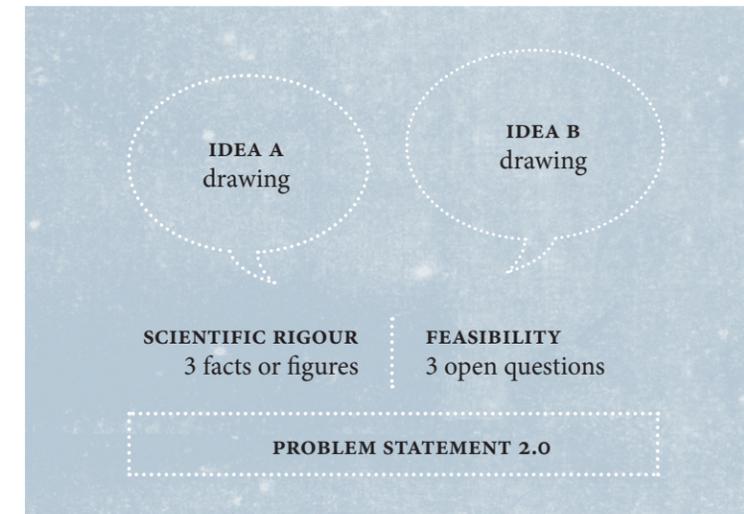
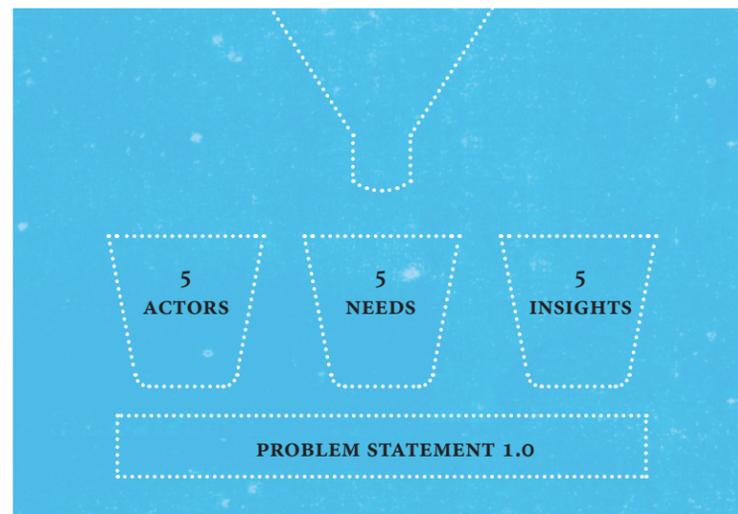
MONDAY

The second template shows three comic strips that highlight the most significant stories of the field trips. They are the result of a first funneling step, where the team needs to digest a large amount of information from about ten excursions to just three stories.



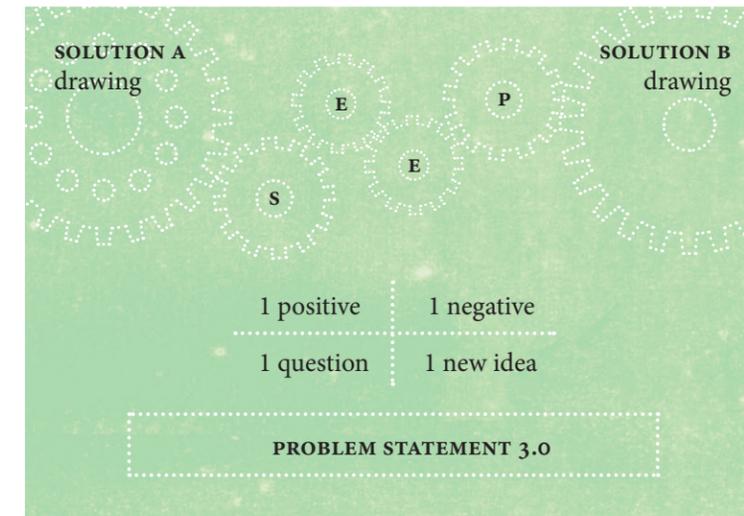
TUESDAY

More decisions on Tuesday result in a first selected and articulated problem statement (Version 1.0) and 3–4 other problem statements in the buckets (actors, needs, insights). By starting to visualise the evolution of their problem statement, students document how their understanding of the problem deepens.



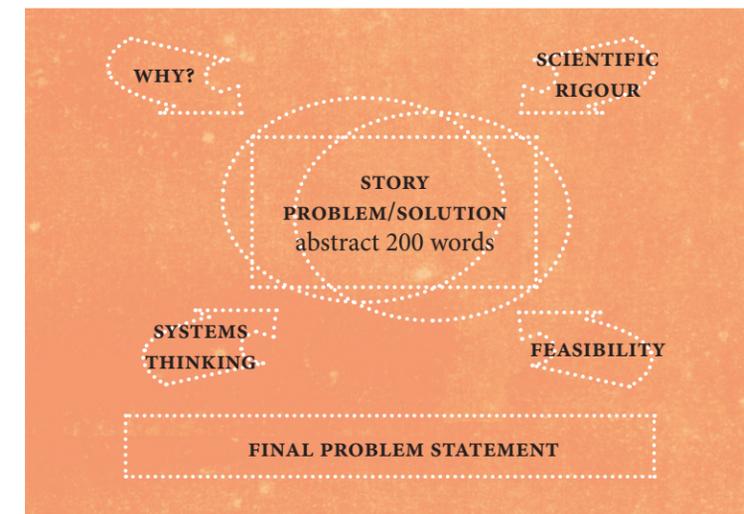
WEDNESDAY

The main result of the day is an improved problem statement (Version 2.0). The template will contain two solution ideas (the sketches of the morning), and first building blocks to answer the questions in the brief for scientific rigour and feasibility.



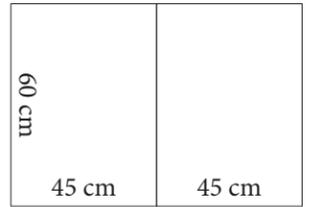
THURSDAY

The Thursday template contains a visualisation of both prototyped technological ideas that were presented to the experts and the problem statement (Version 3.0). It will also contain the lessons learned from the feedback and to start answering the systems thinking question of the brief, at least one societal, economical, environmental and political aspect.



FRIDAY

Finally, the last template will contain the final version of the problem statement. Answer to the brief: write an abstract describing how your solution connects to the problem and why your problem is relevant. Document the answers of scientific rigour, feasibility and systems thinking. Your prototype will be exhibited in front of the Process wall.



Cut off two pieces of 60 cm length from the måla paper roll, glue together.

Sunday. Meet.

11.30 — Tutors arrive at ETH Week Hall (H1B).
Team Kick off.

12.00 — Welcome students to ETH Week Hall at
Info desk, snack.

13.15 **◆** **OPENING ETH WEEK**
15' Welcome, introducing tutors.

14.00 **◆** **DESIGN CHALLENGE**
1h30' The wallet—a demonstration.

15' ----- Bring students to team space.

15.45 **↘** **Team-building.**
2h30'



↘ **STEEP Analysis.**

↘ **Template check out.**

15' ----- Transit to ETH Week Hall.

18.30 **▲** **ENTREPRENEURSHIP NIGHT**
1h With Spin-off from ETH Zürich.

19.30 — Interactive Dinner.

Bar closes at 22.30. Hall at 23.00.

- Help Alan with the wallet exercise.
- After the wallet exercise, stand at your team wall and take your team to your space, take team box.

↘ Team building.

The first time slot is dedicated time for students to get to know their tutor and fellow team members. The tutor will design this slot together with the trainers in the online phase of the tutor training. The team members learn about their respective backgrounds, experience and motivation to join ETH Week. They select a name to establish the team and discuss the expectations for the week.

GOALS

- Become comfortable working in a team setting.
- Acknowledge the diversity of the team.
- Commitment to the team and to the task of ETH Week.

MATERIALS

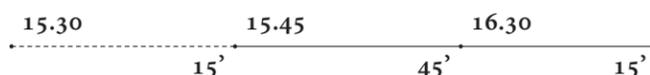
Depends on how you designed the slot.

TUTOR ROLE

Design the slot in coordination with trainers. Lead and keep time.

PROCEDURE

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|--|--|---|
| <p>1.1 --- Meet your team at the Process wall, explain the road map. Walk over to settle into the team space.</p> | <p>1.2 ✨ Start with the team-building activity you designed. Make sure they establish a team name, too.</p> | <p>1.3 ✨ Explain the brief and facilitate a discussion about the expectations of the week.</p> |
|--|--|---|



TIMING

Flexible, allow for 1h15'. Use timeline as a guide.

↘ STEEP Analysis.

Enter the topic: Manufacturing. Students will bring in their ideas about the topic by going through a STEEP Analysis (Societal, Technological, Economical, Environmental, Political). In this way, we start to build on the knowledge, motivations and interests of your team. To set it up: split your team wall vertically into 5, one layer for each category.

GOALS

- Identify existing knowledge about the topic.
- Start framing the topic informally.
- Become familiar with systems thinking.

MATERIALS

Post-its, paper, team walls.

TUTOR ROLE

Explain the process. Keep time. Encourage them to be critical. Balance out the different STEEP categories.

PROCEDURE

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|---|---|---|
| <p>2.1 ✨ Hang up post-its with aspects/trends that you believe will have an impact 'manufacturing' for all STEEP categories.</p> | <p>2.2 ↔ In subteams, combine the ideas into scenarios of possible futures. Draw an image for each and link to the underlying aspects.</p> | <p>2.3 ✨ Present to each other and discuss the chances and risks for each scenario. Use post-its to document this critical reflection.</p> |
|---|---|---|



TIMING

Flexible, allow for 1h15'. Use timeline as a guide.

↘ Template check out.

Students learn the first habit of ETH Week, i.e. to document their daily process. The templates contain the essence of the day and function as a roadmap for the week. You will discuss them every morning at the process walls in the ETH Week Hall. The first template contains the two scenarios (and at least one STEEP aspect each) and their critical reflection (chances and risks). Also, add the team name to the template.

GOALS

- Visualise the results of the day onto the template.
- Understand to work under time pressure.
- Learn to be critical about your own ideas.

MATERIALS

Sunday template (produce according to page in this book).

TUTOR ROLE

Moderate the discussion. Keep time. Guide the template completion process.

PROCEDURE

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|---|---|---|
| <p>3.1 ✨ Explain the goal of the daily templates and how this will look. Use it as a roadmap for the week.</p> | <p>3.2 ✨ Transfer the two scenarios onto the template by being as visual as possible. Mention the identified aspects, chances and risks.</p> | <p>3.3 ✨ Briefly wrap up and walk back to the ETH Week Hall to hang the template back onto the Process wall.</p> |
|---|---|---|



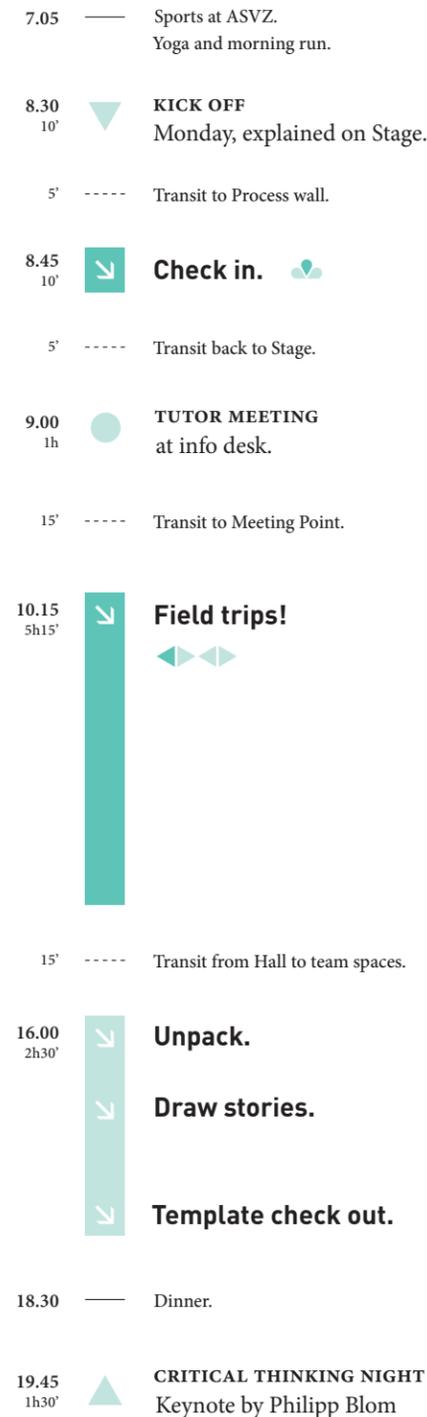
TIMING

Allow for 25'. Use timeline as a guide. Plenum session at 18.30.

Sunday afternoon.

- Remind students to register for sports before 20.00.
- Leave the team space at 18.15 and remind students to be in the Hall at 18.30.
- Hang up Sunday template on team wall.

Monday. Experience.



Hall closes at 23.00.

- Pick up your lunch voucher.
- Set up Process wall so that it serves your purpose.
- Meeting with Alan and Tutors at 9.00 at Info Desk.

↘ Check in.

After the formal kick-off of the day, meet at your Process wall. Tutors have the lead and design the procedure of the time slot themselves. Make use of the daily templates as a roadmap for the week. Clarify open questions about the process and make sure all team members feel included and are committed.

GOALS

- Review the results of the previous day(s).
- Understand the goals of the day at hand.
- Link the next tasks to the general goal of the week.

MATERIALS

Daily template. Standing table. Other material if necessary.

TUTOR ROLE

Design the slot in coordination with trainers. Lead and keep time.

PROCEDURE

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|---|--|--|
| 1.1 --- Walk from the kick-off to your Process wall. Make sure you start on time. | 1.2 ✨ Review the results from the previous days. Facilitate a discussion. Ask why? Clarify open questions. | 1.3 --- Make sure students are back for the plenum talk in time. |
|---|--|--|



TIMING

Strict. 10' for the task, account for 5'+5' of transit time.

↘ Field trips!

Each team member joins a different field trip, visiting a different real-world setting. Students are responsible for leading the discussions and engaging in a dialogue, collecting information that they judge to be relevant. Guiding questions are available in the workbook.

Students will be asked to bring back a story: Someone... (a person, a group), wanted... (sought, desired, had a goal), but... (complication, obstacle, conflict), so... (climax, outcome, learning, resolution). On the way back students discuss these stories in pairs. Each student then writes his story down on color-coded post-it notes.

GOALS

- Link the global overview talk to the local context.
- Engage with real-world partners by formulating own questions, keeping an open and critical mindset.
- Put yourself into someone else's shoes and build empathy.
- Distill an experience to a story that others can relate to.

PROCEDURE

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|--|---|---|---|--|--|
| 2.1 ☉ Wait for students at meeting point. Introduce yourself. Check participants list, headcount. Leave on time. | 2.2 ✨ Explain rules and attitude. Remind students to ask why. Contact external partner and confirm arrival. | 2.3 ✨ Introduce yourself to external partner, explain your role. Help him to stick to the schedule. | 2.4 ✨ Encourage discussions by students. Repeat the goals if necessary. | 2.5 ⚡ On the way back, students discuss the excursion in pairs and distill it to a story using the workbook. | 2.6 ⚡ Hand out the color-coded post-it notes where students record their story individually. |
|--|---|---|---|--|--|



TIMING

Depends on excursion. See excursion factsheet.

MATERIALS

Excursion brief for tutors, including participants list. Color-coded post-it notes: Someone (yellow), Wanted (green), But (pink), So (orange). Gratitude for external partner.

EXCURSION COORDINATOR ROLE

During the excursions tutors become coordinators, meaning you only have organisational tasks.

The coordinator keeps track of all students, keeps the time and encourages students to interact with the people on site.

The coordinators are also the contact person for our external partners: introduce yourself, be the face of ETH Week, make sure to respect the external partners rules and wishes. Make sure students behave professionally and like a guest.

Contact the Info Desk, if you should run late or if you run into any troubles.

Monday morning.

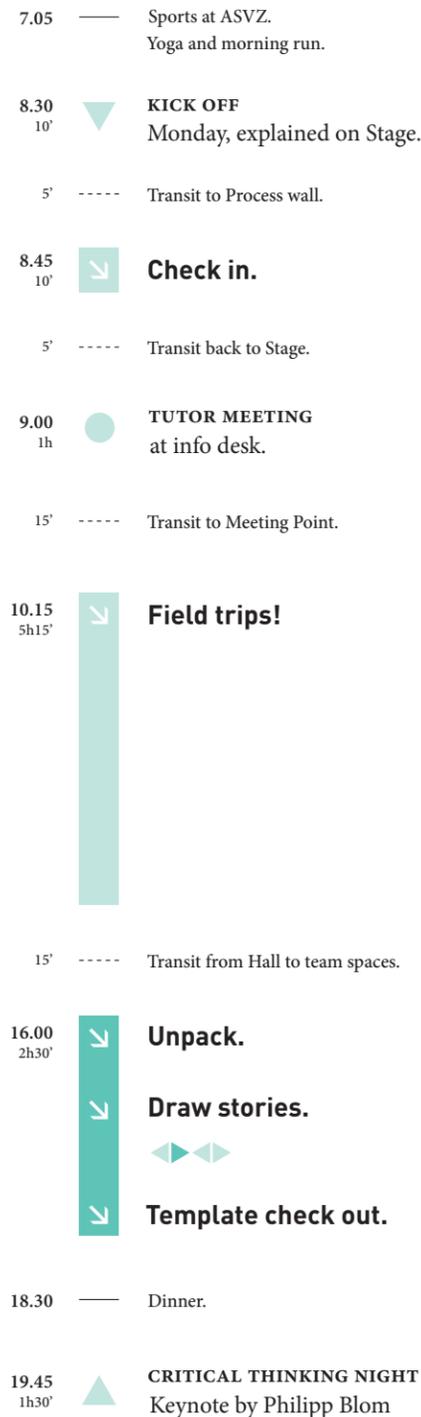
- Make sure you have the excursion package.
- Track of the head-count during excursions.
- Thank the external partner(s) and hand them the gratitude.
- Bring the students back to the hall by 15:30.

Be back at the Hall before 15.30. Next task starts at 16.00.

- Make sure everyone used the same color coding: Someone (yellow), Wanted (green), But (pink), So (orange).
- Marion is available for casual debriefings.

- Prepare the Monday template. Set everything up so that you can transfer the essence of the discussion onto the template quickly.

- Leave the team space in time for dinner that is served at 18:30.
- Remind the students to register for sports before 20.00.



Hall closes at 23.00.

↘ Unpack.

This time slot brings the team members up to speed about the experiences had during the excursions. By listening and engaging in short discussions, relating them to each other, the team starts the synthesis process. The post-it sets (Somone, Wanted, But, So) capture an interesting story. Students explain in their own words why they chose this story and what aspect fascinated them. Putting them up, the team starts the 'space saturation' process, filling their walls with tangible information that documents thoughts and experiences.

GOALS

- Condense information and convey it efficiently.
- Acquire an overview about key actors and stakeholders within the topic of manufacturing, understanding some specific needs and solutions.

MATERIALS

Use the walls in the team space to hang up the story post-its.

TUTOR ROLE

Moderate and keep time. Make sure all team members speak equally. Make sure the stories told are well documented on the walls in the team space.

PROCEDURE

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|--|---|--|
| <p>1.1 ✨ Make sure everyone uses the same color code. Explain the goals and timing of the next two steps.</p> | <p>1.2 ➡ Everyone shares his/her story while the others then probe for more information. Balance out time.</p> | <p>1.3 ✨ They redistribute and cluster the post-its so that it makes sense to the team. Add labels, descriptions.</p> |
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TIMING

Flexible, allow for 1h30'. Use timeline as a guide.

↘ Draw stories.

Learning how to take decisions as a team will be crucial in order to be productive during the week. Time pressure helps this process. Consider this slot a dry-run for more important decisions to come later. Condense the large set of observations to the 3 most significant stories and visualise them into 3 comic strips. Students are allowed to mix and match stories from different excursions.

GOALS

- Take decisions as a team.
- Visualise information creatively.
- Identify connections, systems thinking.

MATERIALS

A4 paper, to stick to the Monday template.

TUTOR ROLE

Keep time. Moderate the discussion. Make sure they take the decisions in time. You may suggest a tool to speed up the process. Point out connections below stories.

PROCEDURE

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|---|--|---|
| <p>2.1 ✨ Moderate the selection process so that students manage to choose 3 stories.</p> | <p>2.2 ↔ In parallel, have students (in subteams) produce the 3 comic strips. Use text to make ideas clear.</p> | <p>2.3 ✨ They explain them to one another. Make sure stories are understandable.</p> |
|---|--|---|



TIMING

Flexible, allow for 45'.

↘ Template check out.

The three comic strips contain the essence of the discussions of the day. Stick them onto the daily template. Hang them up at the ETH Week Hall where they will be ready for tomorrow's Check in.

GOALS

- Visualise the results of the day onto the template.
- Understand to work under time pressure.

MATERIALS

Monday template (produce according to page in this book).

TUTOR ROLE

Moderate the discussion. Keep time. Guide the template completion process.

PROCEDURE

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| <p>3.1 ✨ They finish the comic strips and hang them onto the template</p> | <p>3.2 ✨ Wrap up the day.</p> | <p>3.3 ✨ Walk back to the ETH Week Hall to hang the template back onto the Process wall.</p> |
|--|--|---|



TIMING

Flexible, allow for 15'. Break for dinner at 18.30.

Tuesday. Funnel.

- 7.05 — Sports at ASVZ.
Body Combat and morning run.
- 8.30 10' ▼ **KICK OFF**
Tuesday, explained on Stage.
- 5' ----- Transit to Process wall.
- 8.45 10' ↘ **Check in.**
- 5' ----- Transit back to stage.
- 9.00 1h' ● **TUTOR MEETING**
at info desk.
- 11.45 — Lunch break.
- 12.30 50' ↘ **Prepare for fair.**
- 10' ----- Transit from Team spaces to Hall.
- 13.30 1h30' ■ **Knowledge fair.**
- 15.00 45' ◆ **NETWORKING EVENT**
Informal exchange with
Knowledge Fair Experts.
- 15.45 2h45' ↘ **Unpack.**
- ↘ **Problem statement 1.0.**
- ↘ **Template check out.**
- 18.30 — Dinner.
- 19.45 1h' ▲ **TECHNICAL PANEL**
with Torbjörn Netland.

Hall closes at 23.00.

- Pick up your lunch voucher.
- Remind students to be on time for knowledge fair and also to take contact details of experts for research on Wednesday afternoon.
- Meeting with Alan and Tutors at 9.00 at Info Desk.

Prepare for fair.

Students prepare for the knowledge fair in the afternoon. They work in pairs, choose one of the five areas and decide what they are going to ask the actors and stakeholders. They prepare at least 5 questions per expert.

They brainstorm questions, identify and group themes, then establish an order to allow for the discussion to flow naturally and so that they get answers to the following questions: What is the expert trying to solve? How are they solving it? Why are they doing it in this way?

GOALS

- Build on the knowledge from the excursions.
- Identify links between the topic talks, the actors, and stakeholders of the fair.
- Learn how to prepare an interview.

MATERIALS

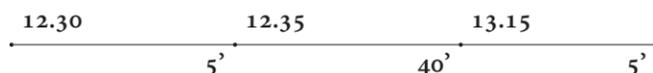
Workbooks.

TUTOR ROLE

Oversee progress. Moderate the discussion about the strategy. Explain the procedure of the knowledge fair in the afternoon.

PROCEDURE

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|---|---|---|
| <p>1.1 ✨ Split team up into pairs (or one group of 3 if necessary). One pair per area. If you only manage to cover 4 areas, let us know.</p> | <p>1.2 † Oversee how the teams prepare questions. You may call a short team discussion midway.</p> | <p>1.3 ✨ Discuss the strategy and expectation of what to bring back from the fair. Wrap up on the way to Knowledge Fair.</p> |
|---|---|---|



TIMING

Strict, allow for 50'. Use timeline as a guide.

Knowledge Fair.

During the knowledge fair, we have invited 25 representatives from business, research, administration and non-governmental organisations. By getting access to this network, students get a multiplexed understanding and benchmark of the current best practice examples in the field.

The knowledge fair is organised in 5 areas. Each area has 5 booths. Students rotate in pairs, visiting 4 of the booths, one at each of the 4 rounds. Each pair remains in the selected sector.

After a short elevator pitch, the students are required to engage in a discussion and lead the conversation, getting answers to the interview questions prepared in the morning.

Students record information in three categories (buckets): actors, needs, insights. They form the ingredients of a problem statement.

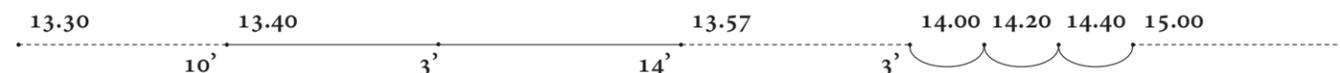
The students are also encouraged to take contact details for follow-up questions on Wednesday afternoon.

GOALS

- Connect the challenges of the morning session to specific solutions.
- Close the knowing-doing gap to find solutions for manufacturing related problems.
- Identify and cross-check ideas for solving problems.

PROCEDURE

- | | | | | | |
|--|---|---|---|---|---|
| <p>2.1 † Each pair goes to their topic and picks a first expert booth, 3 pairs max per booth.</p> | <p>2.2 Ⓜ The invited actor or stakeholder of one booth gives a short elevator pitch.</p> | <p>2.3 ✨ Together with the students from the other teams at the booth, students lead the discussion.</p> | <p>2.4 † The acoustic signal marks the end of the round. Students switch to the next booth. A free market approach if facilitated.</p> | <p>2.5 ○ The steps 2.2–2.4 are repeated 3 times.</p> | <p>2.6 † We thank the external partners of the fair. Students take a break and stick around for the informal Networking Event.</p> |
|--|---|---|---|---|---|



TIMING

Strict. Switching occurs on acoustic signal.

- Remind students to ask experts for their business cards and if they could send them an email before noon on Wednesday to arrange a phone call later that afternoon for follow-up questions.

Next task starts at 15.45.

☐ Marion is available for casual debriefings.

☐ Prepare the Tuesday template. Set everything up so that you can transfer the essence of the discussion onto the template quickly.

- ☐ Make sure the template is ready at 18.30 in the Hall so that experts can have a look at what you produced so far.
- ☐ Leave the team space in time for dinner that is served at 18:30.
- ☐ Remind the students to register for sports.



Hall closes at 23.00.

↘ Unpack.

This time slot brings the team members up to speed about the experiences of the knowledge fair. Similar to the unpacking process after the excursions, we work again with post-it notes to categorise the gathered knowledge from the interviews into three 'buckets': actors, needs, insights.

GOALS

- Cluster information into categories (actors, needs and insights) and convey it efficiently.
- Identify how the different problems relate to each other, add structure help define what to focus on later.

MATERIALS

Color-coded post-it notes, one color per bucket: actors (yellow), needs (green), insights (pink).

TUTOR ROLE

Time keeping. Moderation. Make sure everybody gets to speak equally.

PROCEDURE

| | | |
|---|--|--|
| <p>1.1 ⚡</p> <p>For each booth, synthesise the knowledge gathered onto the color coded post-its.</p> | <p>1.2 ⚡</p> <p>Each pair shares their new knowledge and fills the wall with post-it notes.</p> | <p>1.3 ⚡</p> <p>Moderate a discussion to cluster the post-its. Team takes first decisions what to focus on. Identify interesting links.</p> |
|---|--|--|



TIMING

Allow for 1h30 in total. Use timeline as a guide.

↘ Problem statement 1.0.

The buckets are the ingredients of a problem statement. Actor – need – insight. From all the knowledge unpacked over the last two days, we produce a first set of problem statements in pairs and then decide as a team which one has the most potential and inspires all members of the team. It will be a very first draft that will be improved continuously. The first version can be simple. Follow the criteria to define scope and make sure all ingredients properly relate to each other.

GOALS

- Take decisions during a first define round quickly.
- Practice how to formulate a problem statement.

MATERIALS

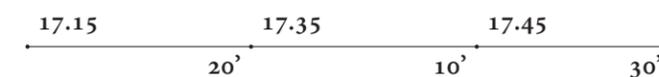
Workbooks.

TUTOR ROLE

Time keeping. Moderate the decision process.

PROCEDURE

| | | |
|---|--|--|
| <p>2.1 ⚡</p> <p>Have students work in pairs to formulate a problem statement using the workbook.</p> | <p>2.2 ⚡</p> <p>Each pair shares their problem statement with the others.</p> | <p>2.3 ⚡</p> <p>Moderate a discussion so they choose one problem statement (can also be a combination).</p> |
|---|--|--|



TIMING

Allow for 1h in total. Use timeline as a guide.

↘ Template check out.

The result of the day is a first problem statement that will guide the ideation process on Wednesday. For each bucket (actors, needs, insights), copy 5 to the template. All other discussions and problem statements are documented on the walls in the team space. In this way, they remain part of the process to refer back to them later or integrate them into novel ideas. Hang up the template in the ETH Week Hall where they will be ready for tomorrow's Check in.

GOALS

- Archive the results of the day onto the template.
- Capture wider results of the discussions on team space walls.

MATERIALS

Tuesday template (produce according to page in this book).

TUTOR ROLE

Moderate the discussion. Keep time. Guide the template completion process.

PROCEDURE

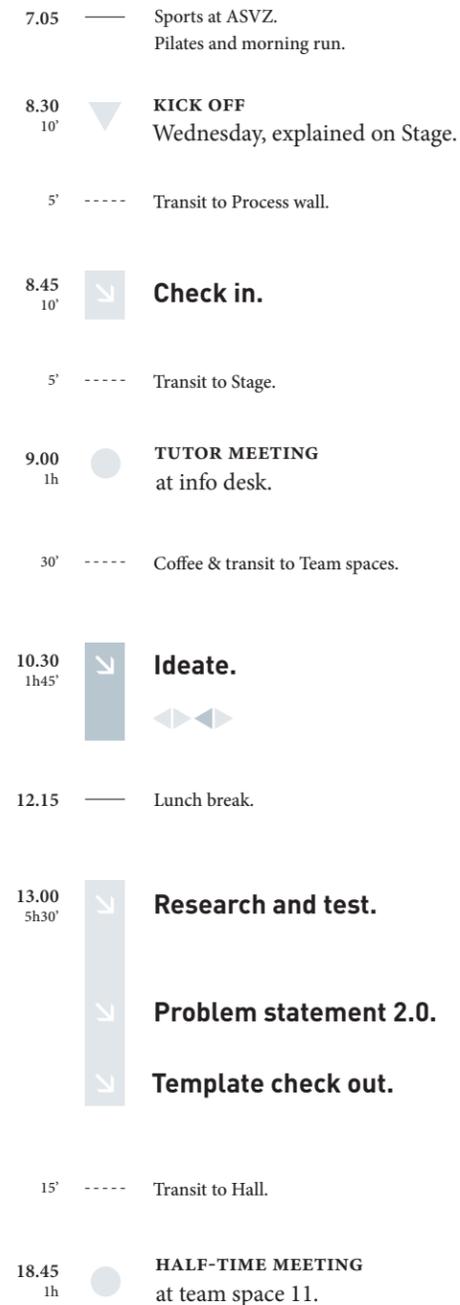
| | | |
|--|---|--|
| <p>3.1 ⚡</p> <p>They finalise the language and write the problem statement onto the Wednesday template.</p> | <p>3.2 ⚡</p> <p>Add other problem statements as separated elements: actors, needs, insights.</p> | <p>3.3 ⚡</p> <p>Wrap up the day and walk back to the ETH Week Hall to hang the template back onto the Process wall.</p> |
|--|---|--|



TIMING

Allow for 15'. Break for dinner before 18.30.

Wednesday. Define.



Hall closes at 23.00.

- Pick up your lunch voucher.
- Reach out to experts before noon.
- Remind the students to be back in team spaces by 13.00.
- Prepare paper and markers for upcoming brainstorming.

↘ Ideate.

After establishing a first draft of the problem statement, it is time to explore if it holds and is productive. We therefore ideate in two steps. First we brainstorm, exploring solutions that answer to the problem statement. The goal is not yet to develop good solutions but to get the obvious solutions out of the heads to go beyond them. Ideas are generated, selected, and clustered, then they reflect on the problem statement. This is repeated twice. The result of the first step is an improved problem statement and clusters of ideas.

GOALS

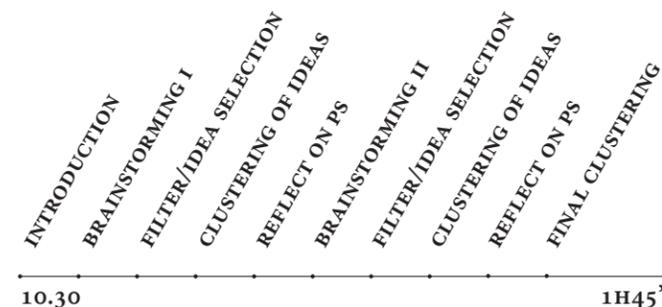
- Rephrase your first problem statement.
- Generate ideas instead of evaluating them.
- Probe and clarify different aspects of a solution.
- Bring abstract ideas onto paper so they become shareable.

MATERIALS

Plain A3 paper. Use the standing tables. Place a problem statement in the center. 15 paper sheets per student (size: 1/3 of A4).

TUTOR ROLE

Keep time, moderate the feedback round, ensure that everyone can share his/her opinion on the clusters.



TIMING

Use facilitator instructions as a guide.

MEET THE FACILITATORS (AGAIN)



ALICE REPETTI is a Social Scientist with a background in Economics. She has experience in designing research projects and facilitating training programs using collaborative and agile techniques. Her ambition is to explore new ways to integrate Technology, Innovation and Design into effective strategies to create social change and shape new educational approaches.



HAZEM AHMED is a doctoral student at the Institute of Pharmaceutical Sciences, ETH Zürich. Hazem obtained his Bachelor's degree in Pharmacy and Biotechnology in Egypt. He oscillated between academia and industry before joining ETH Zürich. He is attracted to negotiations, project management and has a passion for challenges and solving problems.



LINDA ARMBRUSTER holds a Master's degree in Strategic Design from the design akademie berlin. As Project Manager at Spark Works, a strategic human-centered innovation firm, she builds and leads inspiring research and advisory programs with interdisciplinary teams to tackle complex challenges in the private and public sector.



AXEL ZEIJEN is a doctoral student in the Technology & Innovation Management group at ETH Zürich. He studies how new technologies, such as 3D Printing, can shape the future of manufacturing – and how organizations and we as a society can get there.



JANNES JEGMINAT'S goal is dying a wise man. Extensive exploration might one day get him there: He studied Astrophysics, spent years in Ecuador, Chile and Texas and is currently doing in his doctoral studies in Computational Neuroscience. He leads community affairs and the AI series at reach, and tutored last year's ETH Week.



SONJA FÖRSTER is a trained mechanical engineer and business school graduate. Not being able to side with one or the other community, she has since been working at the intersection trying to reveal the constructive forces of interdisciplinary team work. She is also very passionate about applying methods (to herself and others) that shake up routinized behavior to expand individuals' creative potential.



GIACOMO CATTANEO holds a Dr.sc. in Innovation Management from ETH Zürich and Aarhus University focused on collaborative innovation processes and their role in the strategic renewal of organisations. He is part of Spark Works, supporting clients in their innovation journey, as well as RethinkResource, consulting companies on circular economy and circular design.



JOSE ARRIETA is a Costa Rican, physicist and electrical engineer, turned Innovation Management doctoral student after coming to Zurich. Jose studies the process of how managers and entrepreneurs solve strategic problems, and develop routines in dynamic environments, in the hope of helping in fostering creativity.



WILFRED ELEGBA is a final year doctoral student in Plant Science and Policy at the ETH Zürich. He loves working with interdisciplinary teams to help tackle everyday problems of society. This is the third time he is participating in the ETH Week. He also enjoys working on social intervention projects such as the EquipSent, an initiative which focuses on improving teaching and research in underdeveloped countries by donating unused but functional equipment from ETH Zürich.

Wednesday morning.

Break for lunch at 12.15.

Marion is available for casual debriefings.

Prepare the Wednesday template. Set everything up so that you can transfer the essence of the discussion onto the template quickly.

Make sure the template is ready by 18.30
 Remind the students to register for sports before 20.00 at the Info Desk.

- 7.05 — Sports at ASVZ.
Pilates and morning run.
- 8.30 10' ▼ **KICK OFF**
Wednesday, explained on Stage.
- 5' ----- Transit to Process wall.
- 8.45 10' ▼ **Check in.**
- 5' ----- Transit to Stage.
- 9.00 1h ● **TUTOR MEETING**
at info desk.
- 30' ----- Coffee & transit to Team spaces.
- 10.30 1h45' ▼ **Ideate.**
- 12.15 — Lunch break.
- 13.00 5h30' ▼ **Research and test.**
◀▶▶
- ▼ **Problem statement 2.0.**
- ▼ **Template check out.**
- 15' ----- Transit to Hall.
- 18.45 1h ● **HALF-TIME MEETING**
at team space 11.

Hall closes at 23.00.

↘ Research and test.

Students will deepen their understanding. For this, they split up to work in parallel. Some do literature and online research to back their assumptions with facts and figures answering to the scientific rigor part of the brief. Others test the problem statement and the idea sketches with the experts they contacted in the morning. Others test with non-experts on campus or on the street, answering the feasibility part of the brief. All then come back and share the feedback with the team.

GOALS

- Understand how to build on other people's knowledge.
- Open up to feedback and be critical about it to evaluate your own ideas.

MATERIALS

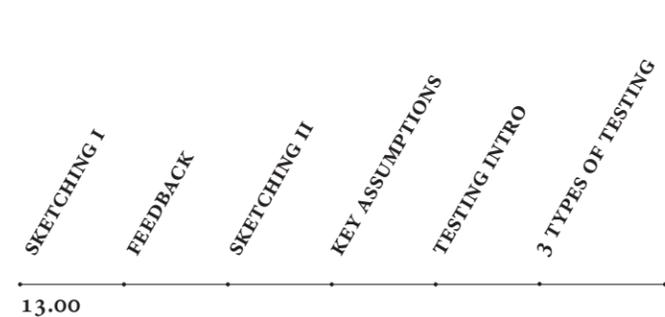
Workbooks. Post-its and team space walls.

TUTOR ROLE

Separation into subteams, time keeping. Moderate unpacking, assist with research, ensure a smooth process.

FACILITATOR ROLE

Clarifications, help unpacking.



TIMING

Use facilitator instructions as a guide.

↘ Problem statement 2.0.

Students continue working in parallel subteams and simultaneously refine the problem statement and the idea sketches. Combine or discard sketches based on the feedback so that only one sketch per subteam remains. They then rephrase and refine their problem statement. Make sure they become more precise, the link between insight and need are clear and they continue to fulfill the criteria.

GOALS

- Fall in love with the problem, not with the solutions.
- Clarify and deepen problem statement and idea sketches.

MATERIALS

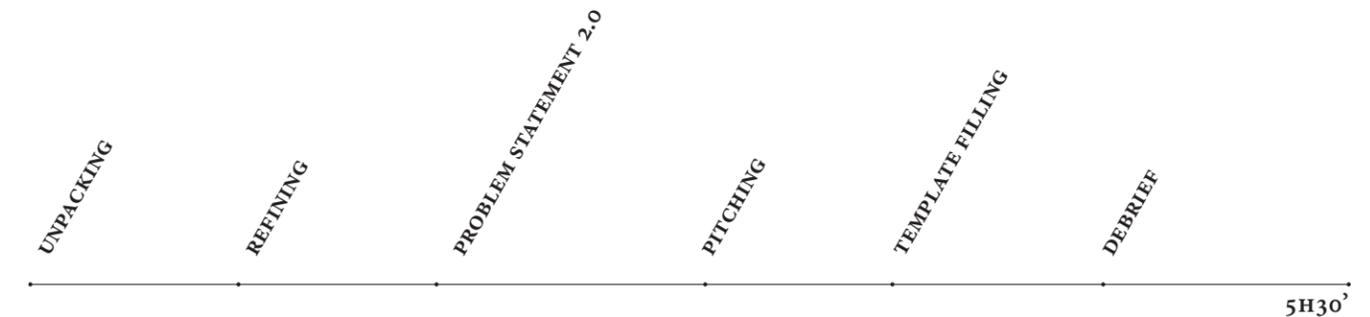
Paper.

TUTOR ROLE

Time keeping. Clarify process.

FACILITATOR ROLE

Clarifications, help framing the problem.



TIMING

Use facilitator instructions as a guide.

Break for dinner before 18.30.

↘ Template check out.

The Wednesday template contains the problem statement 2.0 as well as 2 selected ideas and the building blocks to answer the questions in the brief for scientific rigour and feasibility. Hang up the template in the ETH Week Hall where they will be ready for tomorrow's Check in.

GOALS

- Visualise the results of the day onto the template.
- Capture wider results of the discussions on team space walls.

MATERIALS

Wednesday template (produce according to page in this book).

TUTOR ROLE

Moderate the discussion. Keep time. Guide the template completion process.

Thursday. Test.

- 7.05 — Sports at ASVZ.
Muscle pump class and morning run with Sarah M. Springman
- 8.30 10' ▼ **KICK OFF**
Thursday, explained on Stage.
- 5' ----- Transit to Process wall.
- 8.45 10' ▼ **Check in.**
- 5' ----- Transit to Team spaces.
- 9.00 3h15' ▼ **Prototype.**
- 12.15 — Lunch break.
- 13.00 1h30' ▼ **Expert Feedback.**
- 14.30 3h45' ▼ **Integrate Feedback.**
- 15' ----- Transit to Hall.
- 18.30 — Dry run for presentation.
- 18.45 1h ● **FINAL MEETING**
at team walls.
- 19.45 1h30' — Stage Test with Technics.

Info Bar closes at 22.30. Hall at 23.00.

- Pick up your lunch voucher.
- Pick up pavilion box from Info Desk on the way to your team space.
- Remind the students to be back at 13.00 in team spaces.

Prototype.

Prototyping is a chance to make ideas tangible. While they can be very different in format, ranging from a wall of post-it notes, to 3D models, to role-play, the general idea is the same: to gain an understanding of how your solution will function in reality and how it will be experienced from the actor's perspective.

It is an iterative process, they learn to move from intangible ideas to a concrete model. What was unknown when they started off, becomes precise. By making ideas concrete, they also become shareable. The more you go into detail, the less there is a chance for misunderstanding. Therefore, prototypes are valuable conversation pieces and can have their very own rhetorical value.

GOALS

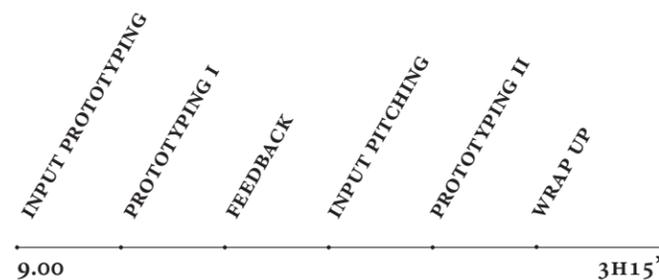
- Use prototyping as a way to refine an idea and take design decisions.
- Use the prototypes to learn how to tell a convincing story.
- Learn the benefits of working concurrently and take decisions to integrate both ideas into a final one.

MATERIALS

Prototyping materials are available in pavilion boxes and on the porch. The material is shared between all teams. Try to return material to the boxes that you don't need so that others can use it.

TUTOR ROLE

Keep time and moderate the feedback rounds.



TIMING

Use facilitator instructions as a guide.

MEET THE FEEDBACK ROUND



MARTIN BATLINER is a doctoral researcher at Product Development Group Zurich.



ETIENNE CABANE is a group leader and postdoc fellow at the Wood Materials Science.



FABIO GRAMAZIO is Professor for Architecture and Digital Fabrication at D-ARCH.



PHILIPPE KNÜSEL is a doctoral student at the Optical Materials Engineering Lab, D-MAVT.



LUCIO ISA is Professor for Interfaces, Soft Matter and Assembly.



HODA HEIDARI is a postdoctoral scholar at the Machine Learning Institute at ETH Zürich.



BENJAMIN DILLENBURGER is Professor for Digital Building Technologies at D-ARCH.



TORBJØRN NETLAND is Professor in the field of Production and Operations Management.



DAVID JENNY is a Research Assistant in Architecture and Digital Fabrication.



STELIAN COROS is Professor for Computational Robotics at D-INFK.



INGO BURGERT is Professor for Wood Materials Science at D-BAUG.



NADINE BIENEFELD is a postdoc at the Chair of Work and Organizational Psychology.



KUNAL MASANIA is a postdoctoral researcher in the Complex Materials Group.



STEFAN BOËS is a doctoral researcher at the Product Development Group Zurich.



IRINA STOLLER is a doctoral researcher at the Chair of Work and Organisational Psychology.

Thursday morning.

Break for lunch at 12.15.

Friday. Communicate.

| | | |
|-------|-------|---|
| 7.05 | — | Sports at ASVZ. Tai Chi class and morning run. |
| 8.30 | ▼ | KICK OFF Friday, explained on Stage. |
| 5' | ----- | Transit to Process wall. |
| 8.45 | ↘ | Check in. |
| 5' | ----- | Transit to from Hall to Stage. |
| 9.00 | ◆ | KEYNOTE Christiane Leister. |
| 30' | ----- | Coffee & transit to Team spaces. |
| 10.15 | ↘ | Polish your presentation. |
| 3h15' | ↘ | Practice. |
| | ↘ | Last check out. |
| 13.30 | — | Deadline for Hand in and Lunch break. |
| 15.00 | ↘ | Final presentations. |
| 15' | ----- | Transit to from Hall to space of choice. |
| 18.15 | ↘ | Wrap up. |
| 15' | ----- | Transit back to Hall. |
| 19.15 | ◆ | CLOSING CEREMONY with Sarah Springman. |
| 20.30 | ▲ | CELEBRATIONS Dinner and Party. |

Info Bar closes at 23.45. Hall at 24.00.

- Pick up your lunch voucher.
- Pick up the list that will define in what order teams will present this afternoon.

↘ Polish your presentation.

Before finishing up, the team checks the brief one last time and makes sure that all questions are answered and the focus is clear. Students stick to their problem statement, finish working on their prototypes, continue preparing their presentations and answer all questions of the brief.

GOALS

- Students learn how to rely on each other and wrap up a project in time.

MATERIALS

Whatever works for you.

TUTOR ROLE

You continue without the facilitators. Moderate the discussion about the brief. Then keep time and help coordinate.

PROCEDURE

| | | |
|---|---|--|
| 1.1 ✨ Discuss how to organise during the last 3 hours. Make a plan for the day. Double-check the brief. | 1.2A ◀ Work in sub-teams to to finish the prototype, polishing specific arguments, and writing the overall narrative. | 1.2B ▶ Have other sub-teams work on answering the questions of the brief. Or organise in a better way. |
|---|---|--|



TIMING

Flexible. Allow for 2h45' in total.

↘ Practice.

We rely on you to make the final event possible. Simulate the procedure as described under the Final Presentations slot so that we can get 180 people on and off stage in less than 3 hours. Include the logistics of the event, when you need to prepare, how much time you have to get on stage, and when you receive the '1 minute left' notice. Also clap when the time is up to find an elegant way to wrap up in case you should run over time.

GOALS

- Become comfortable with the final presentation
- Practice not only what you say but also how you say it.
- Understand the logistics of your presentations to best use the time you have available.

MATERIALS

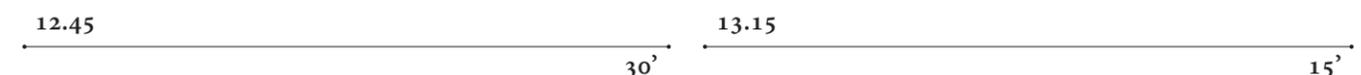
A timer, your prototype.

TUTOR ROLE

Keep time, make sure team understands logistics.

PROCEDURE

| | | | | | |
|--|---|--|---|--|--|
| 2.1 ✨ Make sure they are done with the prototype, the ingredients for the final poster and the presentation. | 2.2 ✨ Document and clean up the workspace, sort leftover materials into the labeled boxes on the porch. | 2.3 ⌚ Students rehearse their story. Stay under 5' and clap when the time is over to simulate the real thing. Wrap up. | 2.4 ⌚ In parallel, potentially in pairs, hand in the prototype at the stage in the ETH Week Hall. | 2.5 ⌚ Finish the last template and hang it up to complete the Process wall. Document it. | 2.6 ⌚ Hand in all digital files before 13.30 at the Info Desk and props in the backstage area. |
|--|---|--|---|--|--|



- Make sure your teams space is clean: no more paper on the floor or on walls, store your tools and materials
- Prepare the Friday template. Set everything up so that you can transfer the essence of the discussion onto the template quickly.

- HAND IN: All digital files: for the screens during the presentation and the 1-pager at the main stage need to go to [main stage](#).
- Process templates and prototype go to the [process wall](#).
- Props for presentation to the [backstage area](#).

↘ Last check out.

The Friday template complements the final prototype so that it is understandable without your performance on stage. Therefore write out the final problem statement, explain the solution and prototype in written form, and give final answers to the questions of the brief.

GOALS

- Document your ideas so that they can be archived after ETH week and work without your presentation.

MATERIALS

Friday template (produce according to page in this book).

TUTOR ROLE

Moderate the discussion. Keep time. Guide the template completion process.

Presentations start at 15:00 sharp!

Friday morning.

☐ If you used your prototype during the presentation, bring it back to your team wall.

- 7.05 — Sports at ASVZ.
Tai Chi class and morning run.
- 8.30 **KICK OFF**
10' Friday, explained on Stage.
- 5' ----- Transit to Process wall.
- 8.45 **Check in.**
10'
- 5' ----- Transit to from Hall to Stage.
- 9.00 **KEYNOTE**
45' Christiane Leister.
- 30' ----- Coffee & transit to Team spaces.
- 10.15 **Polish your presentation.**
3h15'
- Practice.**
- Last check out.**
- 13.30 — Deadline for Hand in and Lunch break.
- 15.00 **Final presentations.**
3h
- 15' ----- Transit to from Hall to space of choice.
- 18.15 **Wrap up.**
45'
- 15' ----- Transit back to Hall.
- 19.15 **CLOSING CEREMONY**
1h15' with Sarah Springman.
- 20.30 **CELEBRATIONS**
... Dinner and Party.

Info Bar closes at 23.45. Hall at 24.00.

Final presentations.

All teams get to go on stage. Each team has 5' to present their project. At the end of the

GOALS

- Explain something complex in a simple way with a clear message using a compelling visualisation.
- On the other hand, show the foundation and the result of your research, proving your ability to think critically.
- Act as a team.

MATERIALS

The prototype (if you want), props, no powerpoint.

TUTOR ROLE

Assist your team and clap as loud as you can.

PROCEDURE

1.1 --- Team x-2 is done. Applause. Team x goes through the right door to the back-stage area.

1.2 ✨ Students (team x) organises props quietly in the background while team x-1 presents.

1.3 --- Team x-1 is done. Applause. Team x walks to the stage through the left door and gets mic's and gets ready.

1.4 ✨ Team x presents. Time keeper hints when 1' is left. The audience claps when the 5' are up.

1.5 --- Team x walks through the right door to the backstage area.

1.6 --- Team x leaves backstage through left door, sits down quietly before the presentation of team x+1.



TIMING

Strict. 3h in total with two breaks.

Wrap up.

The last time slot of the week is dedicated time for students to reflect their team process and discuss the experiences of the week. The tutor will design this slot together with the trainers in the online phase of the tutor training.

GOALS

- Network and to informally exchange ideas about the group process.
- Reflect on our expectations pointed out on day 1.

MATERIALS

Depends on how the tutor designs the slot.

TUTOR ROLE

Design the slot in coordination with trainers. Lead and keep time.

PROCEDURE

1.1 --- Move to a place of your choosing (team spaces are closed). Cast the votes for the two awards before.

1.2 ✨ Wrap up according to what you have prepared during the online phase of the training.

1.3 --- Return to the hall for the panel discussion and the closing ceremony.



TIMING

Strict 1h15' in total.

Closing ceremony starts at 19.15.



**Thank you for your dedication to the tutor role.
We are looking forward to celebrate a successful
week with you on Friday.**