Safety regulations
For working in the Workshops of the DesignLab.
WORKSHOP INFORMATION!

10 Safety rules of the workshop!
1. Only people who have had instruction are allowed in this Workshop
2. The workshop supervisor must be aware of the contents of your work
3. Notify the supervisor immediately of any unsafe condition or accidents
4. Long hair must be tied back securely
5. Always wear safety goggles and hearing protection in the mWorkshop
6. Never remove tools from the workshops
7. No food and drinks are allowed in the workshops
8. Clean your workspace
9. Wear safe clothing during a workshop activity
10. Always close the workshop door

eWorkshop: you need a badge!

The eWorkshop is mainly for electronics and rapid prototyping. We are equipped with:
Solder stations, oscilloscope, power supplies, multimeters, function generator.

How to Laser and 3D print
DON’T DO-IT-YOURSELF!
Show your designs to the supervisors, who will assist you with your work and operate the machine for you.

Laser cutter
The design should contain red (RGB:255) lines for cutting and black (RGB:0.0.0) or grey levels for engraving.
The design should be in vector format (as much as possible), possibly in DXF, DWG, Coreldraw (CDR) or PDF. SVG might not keep the correct scale.
Results on engraving depends on the materials and require testing.
An overview about the materials that can be used can be found here: https://blog.utwente.nl/designlab/lasercutting/

3D printer
The design should be in STL format and you should us CURA (https://software.ultimaker.com/) for checking time and constraints.
We mainly use PLA (if required we can also use ABS).

Electronic works
NO 220V works, unless permission is granted.
Only use devices if you know how to use them, otherwise, ASK FOR HELP.

mWorkshop: you need a badge!

The mWorkshop is mainly for working materials that make dusts and smells.
On all the machines have the information needed for working with them, but contact the supervisor FIRST.
We can cut foam, wood and plastics.
We can help you on how to build objects and to use mechanical tools in the best way.
We are equipped with:
tools for grinding, cutting, measuring, etc...

blog.utwente.nl/designlab/
The 7 rules of DesignLab:

1. Be prepared, someone will talk with you. If you are sitting here, it means you are open to discussion, you might be contacted out of curiosity or from people asking for help (because you look so expert in what you are doing...), or they might have ideas to help you. Here we want to build project and share them with others!

2. Cleanup after yourself! (Do we need to go into the details??)
Handle everything with care.

3. Do not touch things that do not belong to you (unless permission is granted).

4. Feel free to rearrange tables and furniture, with respect for the others in mind.

5. The common lounge area is for everyone, keep it clean and do not camp there!

6. Do not take tools or objects out of the Workshops/DesignLab without permission.

7. Only explicitly allowed people can enter in the workshops.

Do you have a project? COME TO US FIRST! Did you loose something?
Questions? If in Doubt... Ask at the COCKPIT or to the DreamTeam. Highly qualified experts are there for you 🙃

Andrea Minuto
Interaction designer, computer scientist, creative thinker, interested in arts with an eye always for interaction.
COME TO MEEEEL!

Eric van der Most
We can help you on how to build something and to use mechanical tools in the best possible way.
We can cut foam, wood and plastics. So do not hesitate, we can help you with your projects and assignments.

Alfred de Vries
Practices in electronics and creating project with students for many years!
I'm frequently in the DesignLab, but you can find me also in XP-Lab!
Talk with us before you start a project!

a.minuto@utwente.nl
06-39317536
a.p.devries@utwente.nl

e.h.vandermost@utwente.nl
Introduction
This document is intended to inform all parties who work on any type of project in the workshops of the applicable safety regulations.

Please refer to the CTW safety regulations (reference: CTWA05-0330) for general faculty safety rules which are to be followed at all times. See Appendix A for more information: [http://www.utwente.nl/ctw/intra/arbo_milieu_huisvesting/informatie/veiligheidsreglement_12.doc/](http://www.utwente.nl/ctw/intra/arbo_milieu_huisvesting/informatie/veiligheidsreglement_12.doc/)

This document should be seen as a supplement to these safety regulations. Please read this document carefully and abide by the regulations in it. If you have any questions you can contact the head of your research group, the research group VMM coordinator*, your supervisor, or ask one of your colleagues.

You are only allowed to work in the Workshops when you have had the workshop instruction by Andrea Minuto, Alfred de Vries or Eric van der Most.
Please make an appointment for this instruction with one of them, you can contact them at 053-489 2079 or DesignLab@utwente.nl.
1. Organisation

Technical team

Management staff: M. Iliohan (053 489) 6970
Coordination staff: R. Bults 6098
Supporting supervisor staff: A. Minuto 2079
A. de Vries 6875
E. van der Most 2079

2. Opening hours

The Workshops are both open on working days from 9.00-17.00. Within opening hours a supervisor is present to help you with your projects and give you advise about what materials and equipment can best be used in your project. If you want to carry out work outside the regular period you can contact one the supervisors to discuss this.

3. Access

All students, researchers and organisations that are working on a project together with DesignLab are allowed in the workshops only if they have followed the instructions by one of the supervisors.
If you want to make an appointment for an instruction please contact them.

If you want to work in one of the workshops it is necessary to reserve on time online. You can do this here by sending an e-mail to a.minuto@utwente.nl or a.p.devries@utwente.nl or e.h.vandermost@utwente.nl.

If your project is not related to the University you cannot use the Workshops.

It is imperative that the workshop doors are closed at all times. Only authorized persons are allowed to open the workshop doors.

4. Visitors

• Visitors should be supervised at all times by someone who is familiar with the workshop.
• Visitors are forbidden in the workshop during work on machines that could pose a danger to an observer. If in doubt, please ask the supervisor.
5. General instructions

You are only allowed to work in the workshops when you have followed the required basic instructions! These instructions are given by the workshop supervisor if you want to attend an instruction, please contact him. When the instruction is completed a document with the basic rules has to be signed by you and the badge must be signed by the student and the supervisor.

5.1 Eating or drinking in the workshops:
This is absolutely forbidden

5.2 Entering the workshops is only allowed under the following conditions:
Under supervision or after consultation of a supervisor.

5.3 Work may only be carried out under the following conditions:
- A minimum of two persons is present in the workshop.
- The supervisor has to be aware of the contents of the work you are doing.
- Close-fitting clothing is required.
- Long hair has to be tied back.
- Safety goggles are required when working on one of the machines.
- Clean your workspace.
- No tools are allowed to leave the workshop.
- Close the doors from the workshops.

5.4 Personal Protective Equipment
Suitable footwear (enclosed and sturdy) must always be worn when working in the workshop. Open footwear such as flip-flops is forbidden.
The following personal protective equipment is available if required:
• Safety goggles;
• Hearing protection;
• Dust mask;
• Gloves;

You can find instructions and reasons for using Personal Protective Equipment at: http://www.utwente.nl/hr/info_voor/medewerkers/arbo/VGM/Veiligheid/pers_beschermingsmid/werken_met_pers_beschermingsmid

7. Using machines and tools
You are only allowed to use the machines and tools if you had the instruction from the supervisor. Follow all instructions in the user manual next to the machine. Take into account the different safety precautions every machine requires.
Everything has to stay in the mWorkshop.
The circle saw, band saw, laser cutter and 3D printers are only operated by the workshops supervisor. Contact him for help if you need anything. It is forbidden to use these machines on your own.

8. Materials
Some materials can be bought in the workshops. The pricelist will be available with the supervisor. Different types of wood and three different types of foam are available. It is also possible to bring your own materials.

9. Guidance/advice
When in doubt do not hesitate to ask any employee. The experienced supervisor can help you with many things:
- Choice of materials.
- Choice of machines.
- How to use the machines.

10. Safety instructions

10.1 Trouble with one of the machines
During uncertainties using one of the machines do not hesitate to press the emergency buttons on the wall or on the machines and contact the supervisor. (see photo)

Andrea Minuto
a.minuto@utwente.nl

Eric van der Most
e.h.vandermost@utwente.nl

Alfred de Vries
a.p.devries@utwente.nl

10.2 In case of emergency Alfred de Vries
Assess the extent of the emergency.
A small fire (e.g. in a rubbish bin) may be controllable using the fire equipment present (see Appendix 2).
If in doubt, always call the alarm number 053-(4836)222 and evacuate the building.
In an emergency: Remain calm! Think of your personal safety!

Call the alarm number 053-(4836)222 and report:
- Your name and location (DesignLab, The Gallery Hengelostraat 500 7521 AN ENSCHEDE);
- The nature of the emergency;
- The number of injured and the nature of their injuries.

In case of fire:
Press the nearest fire alarm (red button) (see Appendix 2).

After you have activated the alarm you can warn other Design Lab users and evacuate. Remain in the area so that you can assist the Emergency Response team if necessary.

10.3 In case of evacuation
- Leave the Design Lab as quickly as possible when you hear the evacuation alarm (slow whoop).
- Press the emergency stop button on the machine you are using (Emergency Stop Procedure).
- Check whether everything is safe.
- Ensure that other Workshop users have heard the alarm.
- Leave all belongings and equipment behind.
- Close the doors behind you but do not lock them.
- Follow the instructions of the Emergency Response team (BHV).
- Leave the Design Lab via the escape route indicated.
- Make your way to the muster point (the Waaiier) as quickly as possible and await further instructions.

10.4 Locations of fire equipment and escape routes
Fire equipment is stored in various places in the workshops and the DesignLab. The locations are described in Appendix 1 and 2. The escape routes can also be found there.

The following fire and safety equipment is present in the building:
- Foam extinguishers;
- CO2 extinguishers;
- Fire hose;
Manual fire alarms (which can be pressed in case of fire) are placed throughout the Design Lab (see Appendix 1 and 2). These will automatically alert the fire service.

10.5 Location of first aid kit
The first aid kit can be found in the kitchen of the DesignLab on the wall.

Appendix
1. Escape map
2. Location of manual fire alarms
3. Safety and health signs.
Appendix 1. Escape map
Appendix 2. Location of the manual fire alarms

Press the nearest fire alarm in the center of the Exhibit across from the lounge.
Press the nearest fire alarm (red button) in the hall position 1.86-1.88.
The fire equipment in the mWorkshop is by the door.

The fire equipment in the eWorkshop is by the door.
### Appendix 3. Safety- and health signs

<table>
<thead>
<tr>
<th>1) Verbodsborden</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Verboden te roken" /></td>
</tr>
<tr>
<td>Verboden te roken</td>
</tr>
<tr>
<td><img src="image2.png" alt="Vuur, open vlam en roken verboden" /></td>
</tr>
<tr>
<td>Vuur, open vlam en roken verboden</td>
</tr>
<tr>
<td><img src="image3.png" alt="Verboden voor voetgangers" /></td>
</tr>
<tr>
<td>Verboden voor voetgangers</td>
</tr>
<tr>
<td><img src="image4.png" alt="Geen drinkwater" /></td>
</tr>
<tr>
<td>Geen drinkwater</td>
</tr>
<tr>
<td><img src="image5.png" alt="Geen toegang voor onbevoegden" /></td>
</tr>
<tr>
<td>Geen toegang voor onbevoegden</td>
</tr>
<tr>
<td><img src="image6.png" alt="Verboden met water te blussen" /></td>
</tr>
<tr>
<td>Verboden met water te blussen</td>
</tr>
<tr>
<td><img src="image7.png" alt="Niet aanraken" /></td>
</tr>
<tr>
<td>Niet aanraken</td>
</tr>
<tr>
<td><img src="image8.png" alt="Verboden voor transportvoertuigen" /></td>
</tr>
<tr>
<td>Verboden voor transportvoertuigen</td>
</tr>
<tr>
<td><img src="image9.png" alt="Verboden voor personen met een pacemaker" /></td>
</tr>
<tr>
<td>Verboden voor personen met een pacemaker</td>
</tr>
</tbody>
</table>
### Waarschuwingsborden

<table>
<thead>
<tr>
<th>Icon</th>
<th>Gefarende Stoffen</th>
<th>Oxyderende Stoffen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bijtende stoffen</td>
<td>Explosieve stoffen</td>
<td>Ontvlambare stoffen of hoge temperaturen</td>
</tr>
<tr>
<td>Biologisch risico</td>
<td>Niet-ioniserende stoffen</td>
<td>Radioactieve stoffen</td>
</tr>
<tr>
<td>Laga temperaturen</td>
<td>Gevaar voor elektrische spanning</td>
<td>Laserstraal</td>
</tr>
<tr>
<td>Transportvoertuigen</td>
<td>Belangrijk magnetisch veld</td>
<td></td>
</tr>
</tbody>
</table>
### 3) Gebodsborden

<table>
<thead>
<tr>
<th>Veiligheidsschoenen</th>
<th>Oogbescherming</th>
<th>Gehoorbescherming</th>
</tr>
</thead>
<tbody>
<tr>
<td>verplicht</td>
<td>verplicht</td>
<td>verplicht</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Veiligheidshandschoenen</th>
<th>Adembescherming</th>
<th>Veiligheidshelm</th>
</tr>
</thead>
<tbody>
<tr>
<td>verplicht</td>
<td>verplicht</td>
<td>verplicht</td>
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</tbody>
</table>

### 4) Reddingsborden

<table>
<thead>
<tr>
<th>Vluchtweg/ nooduitgang</th>
<th>Te volgen richting (vaak in combinatie met ander roddingsbord)</th>
<th>Eerste hulp EHBO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brancard</td>
<td>Veiligheidsdouche</td>
<td>Oogdouche</td>
</tr>
</tbody>
</table>
### 5) Borden in verband met brandbestrijding

<table>
<thead>
<tr>
<th>Brandslang</th>
<th>Ladder</th>
<th>Blusapparaat</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Bord" /></td>
<td><img src="image2" alt="Bord" /></td>
<td><img src="image3" alt="Bord" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Handbrandmelder</th>
<th>Telefoon voor brandbestrijding</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image4" alt="Bord" /></td>
<td><img src="image5" alt="Bord" /></td>
</tr>
</tbody>
</table>

General rules:
- Always listen to the supervisor
- Work safe
- Wear goggles and hearing protection
- Clean your workspace

MANUAL: BELT GRINDER

Step 1: Check if the black button is pressed

Step 2: Check if the table is stable

Step 3: Align your model and guide

Step 4: To start, press the green button

Step 5: Hold your model firmly!

Step 6: Press the red button to stop
MANUAL: DISK GRINDER

General rules:
- Always listen to the supervisor
- Work safe
- Wear goggles and hearing protection
- Clean your workspace

Step 1: this is the machine

Step 2: move the safety down as far as possible

Step 3: to start, press the green button

Step 4: hold your model firmly!

Step 5: press the red button to stop

NO
LOOSE CLOTHING
LOOSE SCARVES
LONG HAIR EXPOSED
MANUAL: SCROLL SAW

General rules:
- Always listen to the supervisor
- Work safe
- Wear goggles and hearing protection
- Clean your workspace

Step 1: move the safety down as far as possible

Step 2: reposition the air extractor near the saw

Step 3: press the green button

Step 4: hold your model firmly!

Step 5: to start, press the foot pedal

Step 6: press the red button to stop
MANUAL: BAND SAW

General rules:
- Always listen to the supervisor
- Work safe
- Wear goggles and hearing protection
- Clean your workspace

Step 1: this is the machine
Step 2: move the safety down as far as possible
Step 3: align the guide
Step 4: to start, press the green button
Step 5: hold your model firmly!
Step 6: press the red button to stop
MANUAL: DRILL PRESS

General rules:
- Always listen to the supervisor
- Work safe
- Wear goggles and hearing protection
- Clean your workspace

Step 1: this is the machine

Step 2: lower the platform

Step 3: set the right drill bit

Step 4: position your model

Step 5: put the screen in front and turn the on button

Step 6: move the handle down to drill