Pedagogical guide & worksheet

MODULE 4
FUTURE OF CONSTRUCTION

Table of contents

Empowering Women in Construction

FEMCON project

FEMCON develop innovative vocational education & training that assist women working in or considering a career in construction industry to progress to visible roles within the industry.

In so doing, FEMCON aim to increase the attractiveness of the industry for others, thus leading to a greater number of women choosing the sector.

The long term objective of FEMCON education is to impact female workforce in the construction industry across Europe, to become aware of their rights to equality in the industry & to utilize their skills in the industry towards their careers progression, thus creating conditions for positive change to happen, improving the industry outlooks & these groups' quality of life.

Open Education Resources

The FEMCON Open Education Resources (OER) aim to equip VET trainers to provide specialist learning content to women working or interested in a career in the construction to help career progression & development of females in this industry.

The resources target the needs of women in the industry but through VET organizations & wider education providers across Europe as an online resource.

They cover industry-specific issues putting attention to the needs and conditions to entering this field, role of women in construction industry, the career progression possibilities, communication and assertiveness, as well as understanding new technology solutions & trends in construction and opportunities to develop innovative businesses based on the knowledge and experience gained.

The TRIPPLE "I"

The course concept is based on the TRIPPLE "I" idea, which means that the materials aim to:

INSPIRE women to work in construction industry and businesses to hire women,

IMPROVE professional skills, managerial and soft skills,

INNOVATE within the working possibilities and in the construction business.

Each module was designed to inspire woman to take on new challenges in construction industry, improve personal skills and thinking about carrier in construction industry and create innovative attitude to start working and developing career in construction industry.

The course aims also to inspire business owners on how women can be better engaged in the industry and contribute to its development.

The course structure

The course covers the topics like new chellanges in the construction, problems of managing construction projects, and soft skills needed to work effectively in construction.

Specifically there are 5 modules available:

MODULE 1: Stereotypes affecting woman in construction

MODULE 2: Working in construction industry)

MODULE 3: Assertive and workplace communication

MODULE 4: Future of construction

MODULE 5: Disruptive business (Innovation)

How to use

The resources are dedicated mainly for classrom learning to facilitate VET training sessions. They can be however regarded with flexibility for self-paced use or adapted to the needs of specific training pragrams.

Module introduction

The why

The construction sector is in a process of change. The COVID-19 crisis, both the quantitative and qualitative labour shortage, has highlighted the need to look to the future and to understand the needs of the sector.

On the one hand, this lack of qualified workforce highlights the importance of training in **digital skills**. On the other hand, European regulations and policies on the environment have expanded employment options in terms of **Green Jobs** or **sustainability** and to improve the construction sector, which is one of the most polluting sectors in Europe.

That is why it is important to know the trends and options presented by the construction sector in order to be prepared, to train and to improve the sector hand in hand with sustainability to build a **competitive**, **green** and **digital Europe**.

Learning objectives

At the end of this module learners will:
- To understand the main European guidelines, policies and plans about **digital skills, green skills** and **sustainability** in the EU.
- To know the different **future trends** in the construction sector and discover **new market opportunities for women.**
- To understand the differences between **green jobs**, **jobs related to digital skills** and sustainability in order to train in the area and develop new skills.

"

90% of CEOs believe the digital economy will impact their industry, but less then 15% are executing on a digital strategy.

MIT SLOAN NAD CAPGEMINI
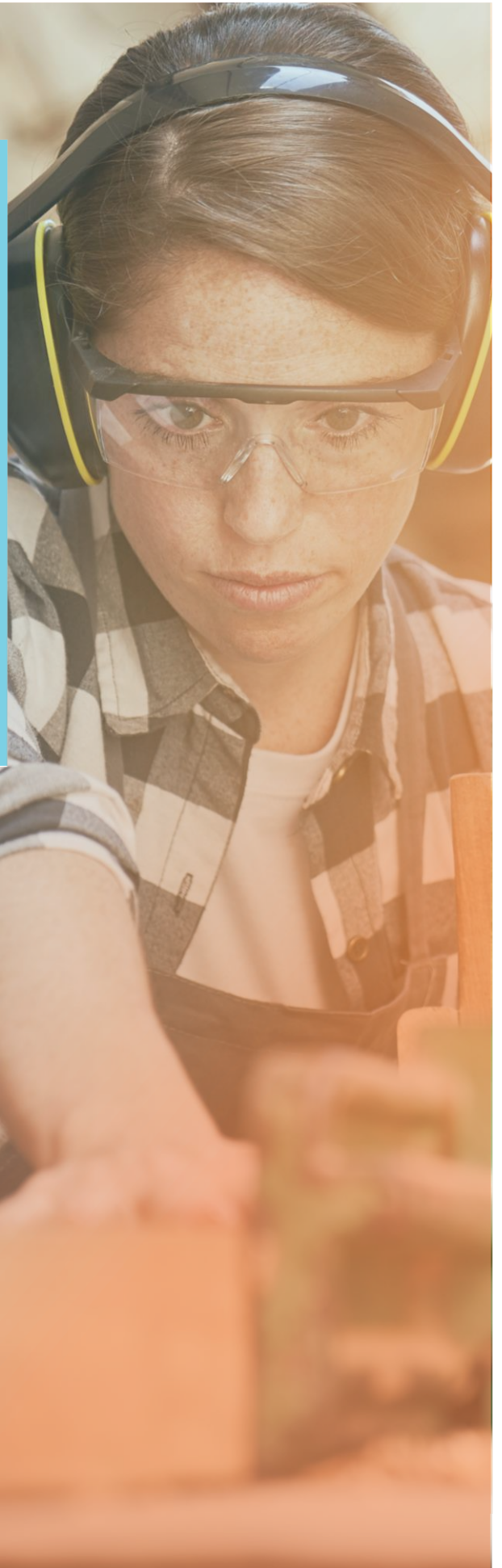
03

Module information

Time needed to deliver

Total: 4 hours
- theoretical introduction: 1 hour
- collaborative learning, workshop activities: 2 hours
- feedback and discussion: 1 hour

Delivery mode

Group learning (workshop-specific group size)
Relevant for women only, or mixed groups

Pedagogical methods

Teaching and learning activities: Jigsaw/ Fishbowl (Collaborative learning)
Assesment and feedback practices: Intervision/ supervision
Educational technologies: -

Module resources

PPT presentation for class delivery
Additional support materials

Empowering Women in Construction

> Women in the industry can lay a solid foundation for those interested in pursuing a career in construction.

04 Facilitators guide

The aim

This module seeks to engage learners in the future of construction through the development of green and digital skills that can empower women to enter new professions.

The Construction sector is responsible for almost 40% of global CO_2 emissions. Thanks to policies such as the Green Deal, the European Industrial Strategy, or the Construction Products Regulation (CPR) new career opportunities are possible to make the construction sector greener. New career opportunities are appearing on the job horizon in the construction sector and therefore, it is important to know the differences between green skills and digital skills to be able to keep up with the market needs and to offer new career opportunities to women who want to enter the labour market..

Pedagogical methods explanation

In this module the following pedagogical methods will be facilitated:

- **In the news**: To introduce the lesson, the teacher will present a video that relates to the subject of this lesson.
- Jigsaw or FishBowl:

  Jigsaw (<10 students): a collaborative learning method in which the students are split into groups with one member assigned to each topic.

  Intervision: smaller groups of participants with similar backgrounds exchange experiences without the guidance of a facilitator.

  FishBowl (>10 students): is a form of dialog that it allows the entire group to participate in a conversation. Several people can join the discussion.

  Supervision: A large group of participants exchange experiences with each other under the guidance of a facilitator.

> Women in the industry can lay a solid foundation for those interested in pursuing a career in construction.

Training scheme

1. Based on the PPT materials the trainer introduces the concepts of Green and Digital Skills, as well as the trends of the future of construction in Europe, highlighting trends in employment. The trainer should facilitate the discussion on new market opportunities in Construction.
2. Before Learning Activity: Before starting the lesson, a 3-minute video developed by the European Training Foundation will be shown to introduce the subject to the students.
3. Collaborative learning activity. Depending on the number of students a JIGSAW or a FISHBOWL will take place.

4.1. **Option 1 (<10 students) JIGSAW**
   - Group 1: Groups receive information about regulatory, political and economic policies that will influence the future of the construction sector and discuss together xxx;
   - Group 2: Groups receive information about green and environmental skills that will influence the future of the construction sector and discuss together how xxx;
   - Group 3: Groups receive information about technological skills and Digitalisation that will influence the future of the construction sector and discuss together how xxx
   (The leading questions are provided – see PPT slides to the module)
4.2. The trainer pick one person from each group and create groups of 3. One person from each group act as an expert in a new team in a field that he/she explored in the previous exercise; now the group work on ideas of XXX. Learners are asked to choose one strong idea, and to write it down using

the worksheet form provided. Learners are instructed that every person makes his/her own notes – those will be needed to the next exercise.
4.3. Students come back to the initial groups (3 groups) and discuss/compare ideas to review lessons learnt (INTERVISION). They are provided with instructions on how to structure the discussion.

5.1. **Option 2 (>10 students) FISHBOWL**
   Four to five chairs are arranged in an inner circle (the fishbowl). The remaining chair are arranged in concentric circles outside the fishbowl.
   A few participants are selected to fill the fishbowl, while the rest of the group sit on the chairs outside.
   - Fishbowl 1: Groups receive information about regulatory, political and economic policies that will influence the future of the construction sector and discuss together how xxx;
   - Fishbowl 2: Groups receive information about green and environmental skills that will influence the future of the construction sector and discuss together ;
   - Fishbowl 3: Groups receive information about technological skills and Digitalisation that will influence the future of the construction sector and discuss together how xxx
   (The leading questions are provided – see PPT slides to the module)
      - In a "open fishbowl", one chair is left empty; any member at any time, can occupy the empty chair and join the fishbowl.
      - The moderator introduces the topic, and the students start discussing that topic. The rest of the audience (outside the fishbowl) listen on the discussion.
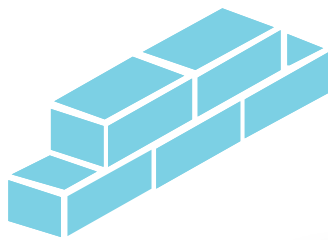
INTERACTIVE AND INNOVATIVE

- Training materials are developed in PowerPoint. They can be adjusted to the particular training needs, as they are editable.
- Videos and external articles are used to explain certain sections of the training content and to present case studies for discussion
- Exercises encourage both group and individual learning and give a practical tone to all the context
- Activities invite learners to investigate certain content such as articles, podcasts, books and more
- Case studies help bring thematics to life
- All of these can be replaced with the suitable, localised examples, by the educators, that best suit the needs of a particular target group, making these resources highly transferable.

06 Links to additional resources

What is the Green Deal Industrial Plan?"
https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/green-deal-industrial-plan_en

The New European Bauhaus
https://new-european-bauhaus.europa.eu/about/about-initiative_en

The EU Emissions Trading System
https://www.youtube.com/watch?v=yfNgsKrPKsg&t=68s

Digital Skills & Jobs Platform
https://digital-skills-jobs.europa.eu/en

What are the Digital Skills?
https://www.oitcinterfor.org/en/digitalizacion/digital-skills

The importance of Green Jobs
https://www.youtube.com/watch?v=3pjr86ie_EE

Future of Construction
https://www.futureofconstruction.org/practice/

Digitalisation for a sustainable Future
https://www.youtube.com/watch?v=PRKloMMOyrc

Empowering Women in Construction

Data is only available about the past.
But you can use the lenses the of theory
to look into the future.

07 Worsheets *(small groups)*

For small groups

Worsheet 4.1.1. Future skills demands and trends – Regulatory skills

Worsheet 4.1.2. Future skills demands and trends – Green and environmental skills

Worsheet 4.1.3. Future skills demands and trends – Technological skills

For large groups

Worsheet 4.2.1. Future skills demands and trends – Regulatory skills

Worsheet 4.2.2. Future skills demands and trends – Green and environmental skills

Worsheet 4.2.3. Future skills demands and trends – Technological skills

Worksheet 4.1.1. Future trends and skills demand – Regulatory skills

Read information about regulatory skills and discuss in your reference group how these policies and regulations can generate a demand for training in this respect.

What intervening plans, policies or guidelines will influence construction? (e.a. European Green Deal, Green Pact Industrial Plan, NWB…)

What technologies could make women's participation in construction more accessible – select at least 2 technologies

Your notes. Additional comments

Worksheet 4.1.2. Future trends and skills demand – Green and environmental skills

Read information about green skills and discuss in your reference group how the environmental skills and green jobs can generate a demand for training in this respect.

What kind of green skills will influence the Construction sector the most?

Can green Jobs influence in a positive way the introduction of women in the Construction sector?

What kins of green Jobs are related to green skills that will have a growth in the sector? – Name at least 2

Worksheet 4.1.3. Future trends and skills demand – Technological skills

Read information about technological skills and discuss in your reference group how the digitalisation can generate a demand for training in this respect.

What kind of digital skills will grow the most in the Construction sector? – Name at least 2

Can Digitalisation help women in their inclusión in the Construction sector?

Your notes. Additional comments

Worksheet 4.2.1. Future trends and skills demand – Regulatory skills

Read information about regulatory skills and discuss in an inner circle how these policies and regulations can generate a demand for training in this respect.

What intervening plans, policies or guidelines will influence construction? (e.a. European Green Deal, Green Pact Industrial Plan, NWB…)

What technologies could make women's participation in construction more accessible – select at least 2 technologies

Your notes. Additional comments

Worksheet 4.2.2. Future trends and skills demand – Green and environmental skills

Read information about green skills and discuss in an inner cirle how the environmental skills and green jobs can generate a demand for training in this respect.

What kind of green skills will influence the Construction sector the most?

Can green Jobs influence in a positive way the introduction of women in the Construction sector?

What kins of green Jobs are related to green skills that will have a growth in the sector? – Name at least 2

Worksheet 4.2.3. Future trends and skills demand – Technological skills

Read information about technological skills and discuss in an inner circle how the digitalisation can generate a demand for training in this respect.

What kind of digital skills will grow the most in the Construction sector? – Name at least 2

Can Digitalisation help women in their inclusión in the Construction sector?

Your notes. Additional comments

Stay creative and purposeful in your training!
Add new methods to your training scenario. Here some useful and interesting examples are proposed.

Teaching and learning activities

Carousel brainstorm: Small groups of students rotate around the classroom, stopping at various "stations" for a designated period of time (usually 1-2 minutes). At each station, students activate their prior knowledge of a topic or concept and share their ideas with their small group. Each group posts their ideas at each station for all groups to read.

Pretest: To activate students' prior knowledge, a pretest can be given to students that consists of questions related to new content for the students. The students are instructed to make the test without preparation. The test can contain one or two comprehension questions or a number of multiple choice questions.

Focused freewriting: Focused freewriting is writing about a particular subject or question which has been posed. It simply means putting pen to paper and writing whatever comes into your head. It is a useful tool for generating ideas and discovering attitudes. A pre-lesson brain dump: Writing-to-learn activities can be used before a learning experience to get students to 'warm up' by thinking about what they know or think they know or feel about a new topic.

Fishbowl discussion - A fishbowl conversation is a form of dialog that can be used when discussing topics within large groups. The advantage of fishbowl is that it allows the entire group to participate in a conversation. Several people can join the discussion. Four to five chairs are arranged in an inner circle. This is the fishbowl. The remaining chairs are arranged in concentric circles outside the fishbowl. A few participants are selected to fill the fishbowl, while the rest of the group sit on the chairs outside the fishbowl. In an open fishbowl, one chair is left empty; any member of the audience can, at any time, occupy the empty chair and join the fishbowl. In a closed fishbowl, all chairs are filled. The moderator introduces the topic and the participants start discussing the topic. The audience outside the fishbowl listen in on the discussion.

Assessment and feedback practices

Intervision sessions - Smaller groups of participants with similar backgrounds exchange experiences without the guidance of a facilitator

Supervision sessions - A group session after a training where a (large) group of participants are able to exchange experiences with each other. This happens under the guidance of a facilitator who has the required expertise in that field.

Peer assessment - Activities that require students to assess their peers' performances against applicable criteria; extend to offer specific suggestions for improvement.

Co-assessment - Both the lecturer and the students have a role in the assessment process.

Educational technologies

Mobile response systems - In order to actively involve all individuals of a group of students during class, you can ask questions by means of personal response systems. Students are able to respond simultaneously and individually with digital (e.g., Mentimeter, Kahoot) or analogue clickers.

Wiki - A collaborative tool that allows students to contribute and modify one or more pages of course related materials. Essentially, a wiki is a web page with an open-editing system.

"

The biggest part of our digital
transformation is changing
the way we think.

Simeon Preston