

GREEN SKILLS FOR CITIES

Long-Term Programme Resources

Report

WU, IAAC & UNIGE

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1. FOREWORD

The Short-Term Programme develops a one week training aimed at creating lifelong learning. The aim is to introduce participants to the key concepts related to urban sustainability and the implementation of nature-based solutions. Through practical exercises, the learners will gain a greater understanding of the theory. The learners firstly take part in a transdisciplinary theoretical module and then a practical module, developing a project addressing local urban challenges. This programme involves three educational institutions (Institute for Advanced Architecture of Catalonia, University of Genoa and Vienna University of Economics and Business) and one cities network (ALDA - European Association for Local Democracy).

The resources include one theoretical presentation and one practical exercise for the workshop developed by each HEI. Flip teaching was used as a joint teaching method across the HEIs and applied for the theoretical module, where the students were asked to learn the material before participating in workshop activities to address doubts. Thus, the theoretical module was shared before the workshop and they were asked to take the first day to revise the content and submit a self-assessment questionnaire. The practical module focused on learning by doing through project-based learning, giving the students activities to help test their understanding.

2. IAAC

2.1. CONTENT

The resources produced by IAAC focus on designing nature-based solutions, parameters to consider, prototyping and a number of case studies. The presentation begins with a general overview of concepts and strategies that can be used when designing by nature. This is to help non-design students understand the basic terminology. The prototyping section outlines methods of digital fabrication as well as the opportunities presented through the use of digital fabrication. Concluding the presentation, the case studies presented have been developed by both students and researchers at IAAC using the concepts, strategies and digital fabrication technologies outlined in the previous slides. In addition, the presentation is accompanied by a list of additional resources that the learners can read and watch to learn more about the topic. These include TED talks as well as papers.

2.2. TEACHING METHODS

Learning by doing is used as the methodology for the activities while flip teaching is used to present the resources. Designing with parameters through computational design is used by many designers today. The workshop activity transforms a digital tool into an analogue tool to test the students' understanding of designing with nature, while applying parameters to an urban challenge and nature-based solution.

2.3. RECOMMENDATION FOR USE

The resources should first be given to the students to review. Following the review, the activities should be completed in the workshop to test the students' understanding. Papers and Videos can be used for further reading.

3. UNIGE

3.1. CONTENT

The resources produced by UNIGE include one study-at-home presentation on the design of nature-based solutions from the perspective of both Botany and Technology disciplines accompanied by two TED talks on how Nature-based Solutions (NBS) can contribute to climate change mitigation and adaptation. In addition, four open-access papers were provided, with the goal to deepen the following topics: vertical greenery systems, the implementation of NBS in mediterranean area, the relationship between biodiversity and psychological well-being, and the design of NBS to mitigate urban heat island effect effects in cities. During the STP, an invited expert on patents gave a presentation on “Intellectual Property and Innovation in Research”.

3.2. TEACHING METHODS

For the in class activity, a prior state of the art search exercise was applied. This allowed students to test their understanding of what makes an innovation “novel” with respect to the state-of-the art. This activity was done in groups.

3.3. RECOMMENDATION FOR USE

The study at home material should be handed to the students before the in class activities. Adequate time should be provided to the students for understanding and reviewing the resources. Self-assessment before the beginning of the in class activities is recommended. Working in a group is mandatory for the in class activities. To test the knowledge of students in class, the planned activity can be used.

4. WU

4.1. CONTENT

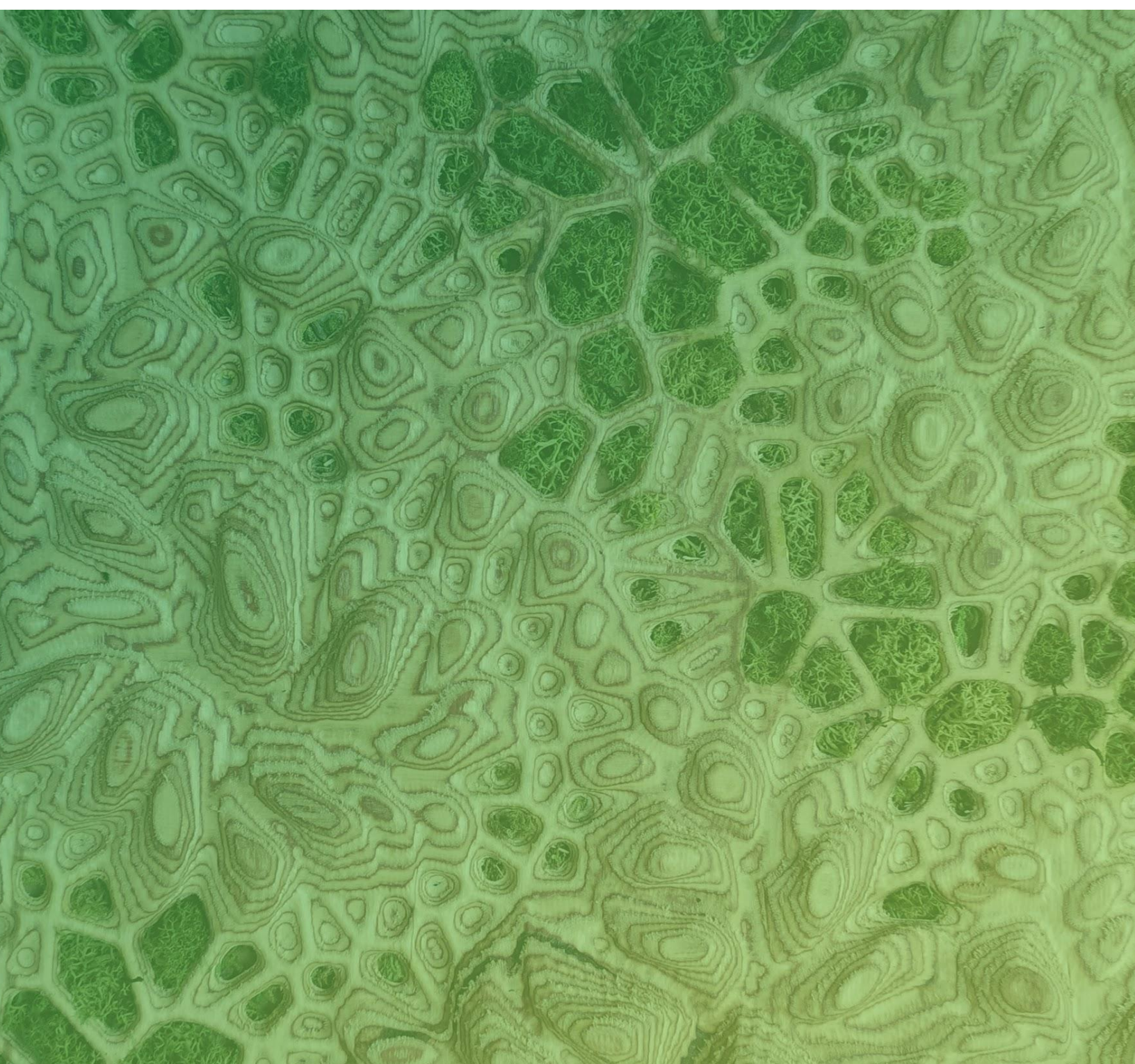
The resources produced by WU introduces students to Business Sustainability and using a Business Model Canvas for NbS, financing NbS and pitching. Additionally the students received Videos & TED talks on how to successfully pitch in a short time looking at “Three Minute Thesis Winners” from UCL and how body language influences the way they can present themselves by Amy Cuddy. Also “Start with Why” by Simon Sinek was shared to create an understanding of the motivation behind innovations. The papers extended the resources produced by WU to dive deeper into the topics and highlighted the value and limits of NbS, the state-of the art of business models in NbS and approaches to financing NbS in cities.

4.2. TEACHING METHODS

For the in class activity, a pitching exercise is applied. This lets students test their understanding of how a pitch is structured and also gives them the opportunity to test their skills in a safe space. Flip teaching is used to present the resources before the class.

4.3. RECOMMENDATION FOR USE

The resources should be handed to students before the in class activities to ensure that they have prior knowledge on the topics. Papers and Videos can be used for further reading. To test the knowledge of students in class, the planned activity can be used.



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