1) Studio objective

The objective of Superstudio is to provide final-year students with an opportunity to experience multidisciplinary design within a data-rich work environment. Over the course of 14 weeks, Superstudio participants will learn, firstly, how to relate specialist knowledge to a particular context; secondly, how to integrate numerous technical dimensions into a complex whole.

In implementing this agenda, Superstudio also seeks to provide a reflective counterpoint to those parts of the architectural curriculum within many schools that stress the value of disciplinary autonomy in architectural thinking. What would happen to architecture in a world characterised by absolute lack of autonomy? What could the function of architects and the tools of the discipline become then?

2) Subject matter

The suggested combination of complexity and constraint could have been tested by exploiting different locales as alternative rehearsing grounds for the exercise. We have, however, decided to focus on Rapa Nui, the remote legendary island in the middle of the Pacific Ocean, home to the Moai sculptures and also known as Easter Island.

The reasons are multiple. There is a symbolic dimension, reflected in the island’s world heritage status, which makes it familiar to the largest number of people across the globe whilst tying it to its past. There is both an historical and contemporary relationship with Swiss culture and technology, which makes its study align with the educational spirit and institutional mandate of the Swiss Federal Polytechnic. There is ‘isolation’ – a spatial quality that enables environmental dynamics of all kinds to be examined with a certain clarity. And there is also a need for circularity of resources, dictated by scarcity and remoteness, which is made both more interesting and trying by socio-political complexity.

With all its ordinary extra-ordinary features, Rapa Nui is a veritable testbed for the ability and the power of architecture to imagine and implement ecological strategies of great import that challenge conventional notions of form as well as our very understanding of the discipline we associate ourselves with.

3) Overall approach

The preceding paragraph should have clarified that Superstudio Rapa Nui seeks to be an architectural exercise, rooted in landscape, building and space-making in defiance of all odds. Superstudio Rapa Nui does not focus on exegesis, metaphors or representation, but rather on the informed construction of physical territory in three- as well as multiple dimensions.

The scale, however, cannot be architectural in the way the term is conventionally used. Building (or rebuilding) Rapa Nui requires the setting up of institutional tectonics cutting across dimensional scales.
It is for this reason that, as part of an agreement with the multiple seats of relevant government in Chile, Superstudio Rapa Nui will be the subject of a multi-year engagement with the island – one enabling the exploration of three scales of intervention: systemic / policy planning (2018), environmental / typological definition (2019), infrastructural / building design (2020).

4) Superstudio 2018 / System Rapa Nui

As such, this year we will be focusing on the development of a regional policy vision for Rapa Nui, capable to consider and integrate all the issues affecting the future sustenance of the territory at macro level. The idea is to arrive at proposing a conceptual morphology for the system of relations likely to define proper life and inhabitation on the island, as well as an agenda for the physical implementation of such system.

5) Organization of the work

The work throughout the semester is organised, both conceptually and operatively, according to a simple matrix: two distinct parts, each incorporating four types of activity. A first part of analysis, running from Week 1 to Week 6; and a second part of synthesis, running from Week 7 to Week 12.

Each week, the program features four time slots that remain constant throughout: 1) one for lectures (Tuesdays, 9:15 to 12:00); 2) one for seminars (Tuesdays, 14:15 to 17:00); 3) one for communications (Tuesdays, 18:00 to 20:00); and 4) one for students’ own work time (Wednesdays, 8:00 to 18:00).

The Lectures slot is divided in three parts that are functionally different: Sustainability (9:15-10:00), Superstudio (10:15-11:00), and Rapa Nui (11:15-12:00).

Sustainability is about the introduction of concepts that are related to and define the characteristics of the problem at bay. These are provided as a way of generating an intellectual framework for the overall discussion.

Superstudio is about the operational requirements of the subject throughout the semester. The work to be done and the rationale for doing it are clarified each week in this segment.

Rapa Nui is about the specific instance providing an opportunity for the application of the Superstudio method.

Seminars are where the students discuss, with a group leader and themselves, both the work to be done and the work carried out. As explained further down, the organisation of this time band is organised differently in the two parts.
Communications is an open slot, where particular issues are introduced and discussed with the idea of raising the level of the conversation, the level of understanding of the work being developed, and the level of skills required for the production of Superstudio’s final output.

Student time is where subject coordination expects students to work for Superstudio. The program is organised in such a way as to minimise the need to spill over other times in the calendar that are not allocated to this subject. At the same time, several discussion items in the program have been introduced in the attempt to provide conceptual skills for the enoncé théorique and the projet de diplôme.

6) Analysis

The Analysis section of the class is aimed at 1) introducing specialist knowledge; 2) showing how to relate it to the particular context under observation; and 3) establishing a base of needs to be met or requirements to be satisfied for each and every dimension.

In order to achieve these goals, Rapa Nui has been conceptualised as a ‘system’ comprising 14 dimensions of analysis: 1) governance; 2) identity; 3) population; 4) economic base; 5) land; 6) water; 7) waste; 8) energy; 9) natural resources; 10) natural hazards; 11) health; 12) construction materials; 13) human settlements; 14) flows. (The meaning of each label is specific, and will be introduced in Week 1, together with the reasons for their selection.)

Two of these dimensions – human settlements and flows – will be analysed during lecture time by the instruction team. The other 12 will be analysed by the students, divided in topic-specific seminar groups led by tutors.

FAR has prepared a comprehensive document that summarizes basic data about the island for each of those dimensions. This document constitutes the collective reference at the start of semester. Additional information is available on the relevant MOODLE site.

Teaching-wise, Analysis is organised as follows:

The Sustainability Lectures slot focuses on terms of reference that are considered important theoretically for the case-study. As such, they are there to provide support to the construction of the argument;

Superstudio clarifies what needs to take place and be discussed each week in the seminars. This section is followed by Rapa Nui, where the instruction team will show the class how to deal with the weekly tasks by using ‘human settlements’ (13) and ‘flows’ (14) dimensions as examples.

Seminars has an allotted time that permits two series, one from 14:15 to 15:25, and one from 15:50 to 17:00. Each student has to join two groups in sequence, so as to develop expertise on at least two specific subject matters. Group composition is assigned by the coordination of the subject.
7) Aim of Analysis

The main aim of the Analysis phase is to determine the type of specific ‘needs’, if any, a comprehensive ecological view of Rapa Nui should take into consideration when developing a blueprint for an optimal future. A derivative result of this objective is the development, in the student, of the capacity to undertake such analysis, and to undertake it from an architectural perspective – one, that is, concerned with the construction ‘fabric’ involved in the evolutionary process eventually envisioned.

In order for this view to form, Supertudio has adopted a set of instrumental beliefs. The most important of these is that every element of the analysis – i.e., the 14 topics – is a particular type of ‘public good’: something, that is, the presence or the consumption of which is necessary in a well-functioning society, and should thus be available without exclusions and without rivalries.

Put in these terms, the availability of each of these goods (or, else, the response to their natural demand) is a matter of ‘supply’: in other words, the way in which one does, or can, organise to produce, to distribute, or simply to consume them. The ‘organization’ embedded in this argument is the organization of physical space and the structures that enable it to operate in line with explicit goals.

At this point, students are asked to determine: a) whether the availability of each good is in line with the needs of the territory of reference; b) whether there is a gap between demand and supply; and c) what physical actions are required to close this gap (or to maintain existing equilibrium).

For each topic, then, the questions to answer in the course of the first six weeks are:

a) What are the principles determining the appropriate supply of the good under analysis?
b) Is the supply of that good appropriate under local circumstances (i.e., is there enough of it)?
c) If not, what is the distance between needs and availability?
d) How can that distance be closed?
e) What is required in order to do it?

Obviously, these questions require an explicit value proposition capable of acting as a gauge for the determination of supply and demand levels. The value proposition for Superstudio Rapa Nui is ‘sustainability’ – understood, however, as “the ability of a locale to endure in a balanced fashion, by exploiting resources, directing investments, orientating technological development and implementing institutional change, in ways that enhance the potential of its territory to meet the needs and the aspirations of its society”.

Within the context of Rapa Nui, it is likely that this agenda will draw attention to the possibility of minimizing the consumption of external resources that could be put to alternative geographic uses, and maximizing the value of what can be done locally, thus allowing the island to remain ‘diverse’ and ‘productive’.
8) Output of Analysis

The output of this phase will consist in multiple reports amplifying the sectoral information provided by Superstudio coordination by doing three things: 1) connecting available specialist technologies with documented needs on the island; 2) articulating / quantifying the factors of production required to bring about the change desired; 3) linking the satisfaction of specific demand to determinate supply chains.

Superstudio coordination will show how to generate this material in the course of Rapa Nui sessions.

9) Synthesis

The Synthesis section of the class is aimed at integrating the technical dimensions examined in the first six weeks of the semester into a complex and strategically cohesive whole, in line with the idea of sustainability as outlined above.

The accomplishment of this pedagogical ambition has been combined with a classic social architectural device – an idea competition open to groups of Superstudio-enrolled students. These will be formed by the explosion and recomposition of the pockets of expertise created through the topic groups.

Each competition team will have at least one person from each specialty group and, with the help of an architectural leader, will work from Week 7 to Week 12 at the creation of a visionary plan for connecting, socially and physically, the issues affecting the full sustenance of the territory at macro level. Unlike the work carried out within the analytical phase, each group will have the full seminar slot, from 14:15 to 17:00. Sessions within this slot are going to be organised according to a notional development sequence facilitated by the group leader but also articulated in class.

Production requirements for the competition are moderate given the size of each group: 3 A0 plates showing: 1) a map-like representation of the ‘territorial system’ imagined; 2) a narrative explaining the rationale for the morphology suggested; 3) a time-based list of the actions required to implement the vision.

The full details of this task will be communicated at the beginning of Week 7. For the moment it may be useful to know that the type of mapping envisioned in the course of this process presents many affinities with the Affinity Map produced by ENAC in the last two years with the collaboration of the Department of Digital Humanities at EPFL. In fact, discussions are currently in place with Digital Humanities to verify the possibility of relying on their students’ expertise for Superstudio.

The organization of the Lectures component remains the same as before time-wise, yet it changes content focus. The Sustainability segment becomes much more practical, i.e., project-specific, although it is still there to illustrate conceptual design issues. Superstudio remains as a guide for weekly tutorial sessions. Rapa Nui, by contrast, gets out of Rapa Nui, to investigate instances of like ecological
developments around the world, from Vrin to Gujarat, Jura to Arnhem Land. The objective, here, is to demonstrate how, at the end of the day, Rapa Nui is a useful concept, not just an exotic place.

10) Assessment and Debate

Whilst the production of the competition material concludes the second stage of Superstudio, the centerpiece of System Rapa Nui resides in the assessment of such material and the debate in support of specific positions. On December 18, a jury consisting of ENAC faculty members and external experts will review the proposals submitted by the student groups ‘in absentia’, by focusing exclusively on the materials produced and not on the students’ presentations. Then, on December 19, a general meeting modelled after the plenary session of the United Nations will be organised on the EPFL campus. Each competing group will have the possibility of convincing the other groups of the value of their proposal (and viceversa) through structured ‘motions’ and the diplomatic debate following them. The winner of the competition will result out of the combined assessment of the submitted documentation and its public rhetorical defense.

11) Feedback and continuity

Since Superstudio is a multi-year / multi-dimensional project carried out in collaboration with other academic institutions and distant local government, continuity between years, analytical dimensions and proposals-and-responses constitutes a critical variable of the overall endeavour. For this reason, the results of each year’s work must be shared, discussed and, if necessary, modified with the other actors in the process, from bureaucracy to community members, policy-makers to scholars. To this end, System Rapa Nui is set to travel to Santiago de Chile and Rapa Nui to lay out the vision articulated in the competition-winning proposal and receive feedback from its communities. This very task will take place in January 12-20, 2019, when the members of the winning group will travel to the island at the expense of Superstudio, and present their ideas in public fora. The result of the ensuing discussions will work as the basis for the work to be carried out in 2019: the definition of environmental building models that can facilitate the performance imagined at territorial level.

12) Grading

Student grading will be the result of three components: 1) individual participation in the working groups; 2) group performance in the two topic reports; and 3) group performance in the competition proposal.
1) Individual participation to working groups  
Each student is expected to contribute to three groups: two in the analytical stage, and one in the actual competition in the second stage. Each group can generate up to 10% of the final mark, for a total of 30%. The tutor of each group will assess individual performance based on students’ actual participation in discussion and activities.

2) Group performance in topic reporting  
The second component is connected exclusively to the quality of the analysis developed in the first half of the semester. Each report focusing on a specific dimension of the Rapa Nui ecology is worth up to 20% of the total mark. Since each student is part of two groups, the contribution to the final mark can total 40%. For each group, work assessment comprises 4 categories: a) articulation of supply-and-demand conditions (5%); b) identification of related factors (5%); c) gap analysis (5%); d) mapping of supply chains (5%).

3) Group performance in competition proposal  
The group proposal for System Rapa Nui concerns 30% of the final mark. As for the previous components, there are 4 assessment categories, this time with different weight allocations: a) content – i.e., response to the brief, internal logics, actual feasibility (10%); b) understanding of the issue (10%); c) format of the work – i.e., graphic appropriateness and quality (5%); d) clarity of explanation – i.e., communicative power (5%). Category b) can be also assessed during the plenary session.

13) Learning outcomes
By the end of the Superstudio program, students are expected to show familiarity with the:

1) interpretation of socio-technical outcomes / contexts;
2) assessment of technological applicability;
3) integration of analytical dimensions;
4) establishment of problem hierarchies;
5) formulation of strategic plans;
6) assessment / evaluation of the viability of proposals.
(As per university stipulations, this will be likely to reflect their ability to: a) make optimal use of available time and other resources; b) set objectives and design an action plan to reach those objectives; c) communicate effectively with professionals from other disciplines; d) demonstrate capacity for critical thinking; e) access and evaluate appropriate sources of information; f) process data; g) interpret technical reporting.)

14) Resources

System Rapa Nui relies on a vast array of documentary sources and resources in multiple languages and media. Those without confidentiality clauses have been made available to the students in their original format within Moodle. Confidential documents have been summarised by Superstudio and either provided as memoranda or inserted into lecture content.

15) Contact

The coordination of Superstudio can be contacted within Moodle or at the following digital and physical addresses:

Ricardo Serpell (ricardo.serpell@epfl.ch); Carola Beovic (carolina.beovic@epfl.ch)
EPFL Smart Living Lab, Blue Factory (Halle Bleue), Passage du Cardinal 13b, Fribourg, +41 21 6957212;
EPFL ENAC IA-FAR BP 4241 (Bâtiment BP) Station 16 CH-1015 Lausanne.

Every Tuesday morning, from 8:15 to 9:00, Superstudio coordinators will be in class (AAC231) to answer questions from students.
# 16) Calendar

## Weeks 1 to 6 - ANALYSIS

<table>
<thead>
<tr>
<th>Week</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>Tuesday</td>
<td>September 18</td>
<td>September 25</td>
<td>October 2</td>
<td>October 9</td>
<td>October 16</td>
</tr>
<tr>
<td>Meeting hour</td>
<td>08:15 - 09:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lectures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustainability</td>
<td>09:15 - 10:00</td>
<td>Problems intro</td>
<td>Ecology</td>
<td>Island/cities</td>
<td>Needs, Public goods</td>
<td>Development</td>
</tr>
<tr>
<td>Sesquileolar</td>
<td>10:15 - 11:00</td>
<td>Subject intro</td>
<td>Fundamentals</td>
<td>Application</td>
<td>Gap analysis</td>
<td>Capacity options</td>
</tr>
<tr>
<td>Atacama</td>
<td>11:15 - 12:00</td>
<td>Contact intro</td>
<td>Settlements/Floors</td>
<td>Settlements/Floors</td>
<td>Settlements/Floors</td>
<td>Settlements/Floors</td>
</tr>
<tr>
<td>Seminars</td>
<td>14:15 - 15:15 (A)</td>
<td>Topics intro (AAC 321)</td>
<td>Topic fundamentals</td>
<td>Application to context</td>
<td>Gap analysis (demand/analysis)</td>
<td>Capacity maintenance/building alternatives</td>
</tr>
<tr>
<td></td>
<td>15:50 - 17:00 (B)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public lecture slot</td>
<td>18:00 - 20:00</td>
<td>Categories</td>
<td>Ideal types</td>
<td>Experience, Site</td>
<td>Costs and benefits</td>
<td>Action frameworks</td>
</tr>
<tr>
<td>Wednesday</td>
<td>September 19</td>
<td>September 26</td>
<td>October 3</td>
<td>October 10</td>
<td>October 17</td>
<td>October 24</td>
</tr>
<tr>
<td>Student work time</td>
<td>08:00 - 12:00 (A)</td>
<td>Review of materials, study of context</td>
<td>Definition terms of reference, local declaration</td>
<td>Factor identification and analysis</td>
<td>Needs satisfaction requirements/capacity review</td>
<td>Assessment technologies and sub-systems</td>
</tr>
<tr>
<td></td>
<td>14:00 - 18:00 (B)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Weeks 7 to 12 - SYNTHESIS

<table>
<thead>
<tr>
<th>Week</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>Tuesday</td>
<td>October 30</td>
<td>November 6</td>
<td>November 13</td>
<td>November 20</td>
<td>November 27</td>
</tr>
<tr>
<td>Meeting hour</td>
<td>08:15 - 09:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lectures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustainability</td>
<td>09:15 - 10:00</td>
<td>Problems intro (system design)</td>
<td>Territorial data and strategies</td>
<td>Culture and heritage</td>
<td>Industry and infrastructure</td>
<td>National planning</td>
</tr>
<tr>
<td>Sesquileolar</td>
<td>10:15 - 11:00</td>
<td>Subject intro</td>
<td>Complementary</td>
<td>Topic交汇</td>
<td>Topic hierarchies</td>
<td>System morphologies</td>
</tr>
<tr>
<td>Atacama</td>
<td>11:15 - 12:00</td>
<td>Contact intro</td>
<td>Pampas Verde Valley</td>
<td>Pampas, Torres Inland or Inland</td>
<td>Pampas East Archeological Valley</td>
<td>Pampas, Jura Valley</td>
</tr>
<tr>
<td>Seminars</td>
<td>14:15 - 17:00</td>
<td>Subject intro</td>
<td>Local topology</td>
<td>Positioning effects</td>
<td>Action plan and feasibility</td>
<td>Competitiveness</td>
</tr>
<tr>
<td>Public lecture slot</td>
<td>18:00 - 20:00</td>
<td>Topic summaries</td>
<td>Can we adapt to new climate?</td>
<td>Communication tools</td>
<td>Communication tools</td>
<td>Communication tools</td>
</tr>
<tr>
<td>Wednesday</td>
<td>October 31</td>
<td>November 7</td>
<td>November 14</td>
<td>November 21</td>
<td>November 28</td>
<td>December 5</td>
</tr>
<tr>
<td>Student work time</td>
<td>08:00 - 12:00 (A)</td>
<td>Discussion of work/design analysis of context</td>
<td>Discussion of work/design analysis of context</td>
<td>Strategy discussions, sustainability</td>
<td>System analysis, review and finalization</td>
<td>System analysis, review and finalization</td>
</tr>
<tr>
<td></td>
<td>14:00 - 18:00 (B)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>