

课程编号 课程名称  
健康蓝绿空间设计专业课程营

1. 课堂讲授学时 **Lecture Hours: 8 学时 / 8 Hours**
2. 课堂实验学时 **Laboratory Hours: 32 学时 / 32 Hours**
3. 课下研讨学时 **Colloquia Hours: 5 学时 / 5 Hours**
4. 学生课下投入学时 **Individual Study Hours: 27 学时 / 27 Hours**
5. 学分 **Credits: 2 学分 / 2 Credits**
6. 开课学年学期 (如果有强制性的要求则必须填, 否则可以不填) **Occurrence: 1<sup>st</sup> year, 2<sup>nd</sup> year, 3<sup>rd</sup> year, 4<sup>th</sup> year; Autumn, Spring: 暑期夏令营 / Summer School**
7. 先修课程 **Prerequisite(s):** 必须先修的课程直接写课程编号和课程名称, 建议先修的课程在课程名称后用\*号标注, 并在下一行注明: **\*Recommended, not required as prerequisite: 无 / None**
8. 课程概要 **Course Description:** 100 字以内, 学习内容以学术关键词出现。  
 公园、湿地等蓝绿空间作为非药物干预手段, 为应对心理健康危机提供了创新解决方案, 凸显人居环境设计在公共卫生领域的重要作用。因此, 开设“健康蓝绿空间设计”课程, 对培养国际一流创新设计人才具有战略意义。  
 Blue-green spaces such as parks and wetlands serve as non-pharmacological interventions, offering innovative solutions to address mental health crises and highlighting the crucial role of environmental design in public health. Therefore, establishing the "Healthy Blue-Green Space Design" course holds strategic significance for cultivating world-class creative design talents.
9. 课程预期学习成果 **Course Outcomes:** 用数字 1 到 9 列出每一项主要学习成果  
 (1) 知识学习: 了解蓝绿空间设计的理论基础和最新技术, 并在不同环境中应用实际应用。**Knowledge learning:** Understanding the theoretical basis and latest technology of blue-green space design and applying the practical application in different environments.  
 (2) 国际视野: 深入了解欧盟在蓝绿健康领域的最新研究、理念和理念, 培养学生的全球视野。  
**International perspective:** In-depth understanding of the latest research, concepts and ideas of the European Union in the field of Blue-green Health, to cultivate students' global perspective.  
 (3) 蓝色健康工具箱: 教授 BBAT、BEAT 等最新的蓝色健康评估工具, 探索蓝绿空间的设计与应用。  
**Blue Health Toolbox:** Teaching the latest assessment tools of blue health such as BBAT and BEAT and exploring the design and application of blue-green space.  
 (4) 循证设计: 根据评估结果进行循证设计和优化, 以提高项目质量。**Evidence-based Design:** Evidence-based design and optimisation based on evaluation results to improve the quality of projects.  
 (5) 国际合作: 与爱丁堡大学合作开展平行课程, 并通过健康空间联合实验室保持长期交流与合作, 以扩大学生的实践经验和专业视野。  
**International cooperation:** To carry out parallel courses aligning with the University of Edinburgh and keep long-term exchanges and cooperation through the Joint Laboratory of Healthy Space to expand students' practical experience and professional vision.
10. 教学内容与学时分配 **Course Content, Laboratories and Laboratory Hours** (有则填, 没有则不填), **Colloquia Hours** (有则填, 没有则不填): 各章节目录与学时, 实验内容与学时, 研讨内容与学时

Dates/ 日期	Hours/ 学时	Teaching content/ 教学内容
7.6	8 hours	Project Introduction & Group formation.

7.7	8 hours	Desktop research & Fieldwork preparation.
7.8	Student design hours	Site visit, fieldwork and group tutorials in the field.
7.9	8 hours	Studio working in groups.
7.10	8 hours	Studio Tutorials.
		Project Reviews.

### 11. 考核与成绩评定 Grading:

Homework: 15%

Inclass Quizzes: 10%

Group Presentation: 10%

Design Project / Portfolio Evaluation: 65%

### 12. 教材, 参考书 Text & Reference Book: 作者, 书名, 版本, 年份, 国际标准书号 ISBN

Simon Bell, Lora E. Fleming, James Grellier, Friedrich Kuhlmann, Mark J. Nieuwenhuijsen, Mathew P. White. Urban Blue Spaces: Planning and Design for Water, Health and Well-Being. 1st Edition, 2021, ISBN 9780429056161

Uexkull, J V. (2010). A Foray into the World of Animals and Humans. Minnesota

Gibson, J. J. (1979). The Ecological Approach to Visual Perception. Boston: Houghton Mifflin

Mostafavi, M. 2010. Ecological Urbanism. Lars Muller

Zumthor, P. (2006) Atmospheres: Architectural Environments, Surrounding Objects. Birkhauser

Pallasmaa, J. (1996) The Eyes of the Skin: Architecture & the Senses. J. Wiley & sons.

Video Built Ecologies: Architecture and Environment | MoMA  
<https://www.moma.org/research/ambasz/built-ecologies>,

### 13. 编写教师 Course Lecturer:

Simon Bell and Iain Scott with Ziwen

Sun (孙子文)

编写教师 Course Lecturer (签字):

Iain Scott

Simon Bell

孙子文



## Joint Laboratory of Healthy Space International Summer School Studio Project Brief

Tutors: Professor Simon Bell, Iain Scott, Dr. Ziwen Sun & Dr. Mo Han



C. Darwin mappings of

edges in the natural environment Circa 1826

## Blue-Health: SOAK

### Edge Structures: An Ecological Pavilion for the Senses

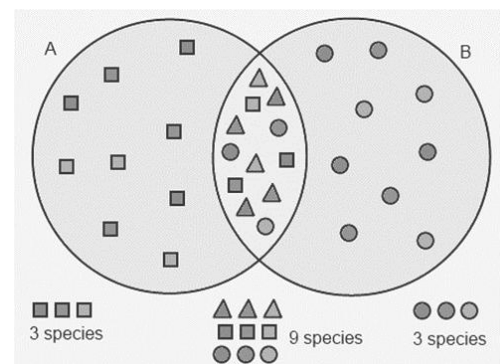
Baishu (White Water) Temple Park, Beijing

#### Synopsis

This week-long, summer-school studio will invite students to propose a series of **architectural and landscape projects** which we will term **Edge Structures or Ecological Pavilions**. The site for the project will be Baishu (White Water) Temple Park, Beijing. We will employ the 'Blue-Health, Environmental Assessment tool' BEAT, and other bespoke fieldwork techniques in analysing the sites of our ecological and sensory pavilions. [BlueHealth Environmental Assessment Tool – BEAT](#)  
Our activities will include **group working**.

#### Introduction

The core idea for the studio is to research and investigate 'edge effects' (changes in environmental condition that occur at the boundary of two or more habitats) and the 'in-between' they generate, referred to in ecology as the 'eco-tone'. (A region of transition between two biological communities). The edge effect is an ecological concept that describes how there is a greater diversity of life in the region where the edges of two adjacent ecosystems overlap, such as land/water, or forest/grassland. At the edge of two overlapping ecosystems, you can find species from both ecosystems, within the ecotone, as well as unique



Eco-tone diagram

species that aren't found in either ecosystem but are specially adapted to the conditions of the transition zone between the two. The transition from one ecosystem to the other can be a very gradual or a very sharp one.

We will operate propositionally from the premise that we as a species can no longer construct our human world without considering the other species our own 'built' environment have historically 'inconvenienced'.

Architecture and the Senses is a well-established environmental paradigm. Elicited in a poetic way in the book '**Eyes of the Skin: Architecture & the Senses**' by Juhani Pallasmaa. Architecture can be seen as a container which 'gathers the world into itself' and can through a careful manipulation of the elements of ground, water, air, physical elements and materials, choreograph or present a sensorial experience. Our Edge Structures will be invited to present both an architectural moment which permits an 'encounter' between human and non-human species (botanical and/ or animal) but which also affords a heightened appreciation of the natural world through the creation of 'atmosphere'.

### Site: Temple Park Beijing.



Googlemaps: Baishui Temple Forest Park, Beijing. I.Scott

Baishuisi Forest Park is our chosen field site for this summer's BlueHealth workshop. Conveniently located, it's approximately **15 kilometers (about 9.3 miles) northeast of the Beijing Institute of Technology (BIT) Liangxiang Campus**. The journey typically takes **around 35 minutes by car or taxi**. Public transport options (combining bus/subway and walking) are also available, taking roughly 60-75 minutes.

Further information on the site will be provided in the form of a site handout.

### A Physical, Immersive process

A physical process will be central to our field trip activities, and prior to going to Temple Park we will ask students to prepare and assemble techniques and tools for your work in the field. Decisions of paper type, texture, level of transparency and size of sheet will be critical to the research and design process by setting parameters. To physically record field observations you will need to consider materials and techniques which are appropriate for use in an external environment, material sources and tools prepared in advance combined with materials *in the field*.

These decisions will become the equivalent of your instrument if you were a musician, or canvas if



you were a painter. They will become deeply entangled with individual cognitive process. By asking you to work in this way, we are asking you to slow down, take an immersive route and focus on the limits presented by the scale, material, and tools you are using. By having these limits, a calm often enters the creative space evoking a certain creative freedom and atmosphere.

**The Blue-Health Assessment Tool (BEAT)**, should be used in the field to assess all relevant domains related to 'blue spaces' (any outdoor space that prominently features water, and which individuals may experience, whether by direct contact in, on or by the water, or by indirect means such as seeing it). The tool is designed primarily for identifying the extent to which a particular blue space provides opportunities for obtaining exposure to water but also what impacts there might be on the environment itself. It can be used as a means of collecting data for monitoring purposes, as a starting point in a planning and design project for upgrading, restoring or providing new access to water-based landscapes, or as a post-occupancy evaluation of a built project.

As part of your field work you will manually survey potential contexts for your 'edge structure' and create your initial **field drawings** and notations, using manual methods such as quadrat and transect survey, field measuring, sampling, photography, filming, recording sounds and phenomena.



Rubbing-Moville Point. (Still from 'Lenses into Thin Places') J. Maidment. Derry 2022

This immersive process of having you stop and become closely engaged with your place on the edge, at different times of day allows you to become a contextual ephemeral event, recording the material and environmental circumstance. You will inevitably encounter others, who may look or ask questions.

### **Edge Structure: Ecological Pavilion for the Senses**

Following our field-trip we will in groups consider more carefully the selected edge where we will propose an architectural intervention or 'ecological pavilion', the central premise being that through a careful manipulation of the site, ground, and a selected set of architectural elements and material components we can enhance, subvert or transform the existing edge-effect previously uncovered and accommodate both human and non-human activities as part of a shared constructed and natural habitat. In considering how to elaborate an environment for both human and non-human species we will refer to the theories of Jacob van Uexkell and JJ. Gibson. According to the zoological theory of van Uexkell the environment of the animal is represented by a series of signs of marks called 'carriers of significance'. These marks or 'signifiers'

constitute everything that carries interest and meaning for that species. According to the perceptual theories of James Gibson, principally set-out in 'The Ecological Approach to Visual Perception' a '**niche**' is the sum of a set of signifying marks that together constitute an animal's 'world'. A niche is that place into which an animal quite simply *fits* and it is made up of features of terrain, significant objects, shapes, textures, colours, boundaries and other animals.

We will carefully construct and draw thoughtfully crafted models and drawings of the critical context related to the proposal, including the surroundings or 'niche' of a particular form of animal life. Supporting micro-vegetal ecologies may also be recorded and represented. The 'edge structure' is not to be imbued with any pre-determined programme, beyond some form of human and non-human activity. The structure should harness some form of environmental element or habitat. The form, structure and materiality of the edge structure should respond in a clear and considered way to the construction of atmosphere(s).



*Edge Structure: Rossville flats, Derry 22-23 - H. Jackson*

### Film as tool for design & communication

It is undeniable that film has a marked influence on architecture. In turn, architecture has a huge bearing on the staging of film in the projection of its characters, narratives, and atmosphere.

We would like you to use film to not merely record your context, process, and outputs, but also to use it to its fullest effect to explore the edges you find in the site, establish narratives, and reveal constructed atmospheres and ecologies within the context of your edge structures.

As an exploratory tool, you may use it to capture both the material constructs of the edge as well as the ephemeral events which occur within it, during the field trip.

Film and recording can be used to convey precise and structured narratives and, with equal validity, highly experimental ways to collage and carve out ideas and stories.

To this end, we will ask you to create a short, group film of no more than 3 minutes duration as part of your final submission to capture and elevate the understanding of your research and design process throughout the project.

For final submission, individuals may also wish to use film to communicate in greater depth the constructed atmosphere of your edge structure, and how architectural elements and materials can generate atmosphere,



*Reflecting Conflict Infrastructures. H. Jackson Derry 22-23*

### Drawings

Our principal method of research and propositioning will be drawing. We will anchor our physical investigations through iterative **hand-based** and digital drawing at a series of scales throughout

the project. These scales will include **City-scale** (1:10,000), **Location scale** (1:1,000), **Site scale** (1:500/ 1:100), **Edge Structure scale** (1:50/ 1:20). Groups may also choose to make small, maquette type models of developing proposals in context.

### **Project Timeline**

The full project will run from Monday 6<sup>th</sup>-Friday 10<sup>th</sup> July. The project will be introduced with talks by Iain Scott & Simon Bell followed by a group discussion on Monday. Group tutorials will be held on Tuesday 8<sup>th</sup> (on site) & Thursday 10<sup>th</sup> July. Developing work can be presented both physically and digitally, using slides.

Wednesday will be a working studio day.

Reviews of work will take place on Friday 10<sup>th</sup> July in the studio in the afternoon. These reviews will require students to carefully curate and present their work from the week. Review conversations will seek, at all times to be supportive, and respectful. The only aim in this situation is to help students nurture and develop their own creative practice.

### **Readings**

As part of the Edge Effects summer-studio there will be a series of readings, which given the short and intensive nature of the project cannot be read in full. Students may find it useful to be aware of these texts in their further study. These principal texts relate to ecological urbanism, the worlds of animals and humans, design for the senses and the production of atmospheres.

The principal texts are as follows:

Uexkull, J V. (2010). A Foray into the World of Animals and Humans. Minnesota

Mostafavi, M. 2010. Ecological Urbanism. Lars Muller

Zumthor, P. (2006) Atmospheres: Architectural Environments, Surrounding Objects. Birkhauser

Pallasmaa, J. (1996) The Eyes of the Skin: Architecture & the Senses. J. Wiley & sons.

Ni Dochartaigh, K. (2021) Thin Places. Canongate.

**BH1**

## **FIELD-WORK**

### **Exercise**

The **field trip** to Temple Park will occur on the morning of Tuesday 8<sup>th</sup> July and will invite students to fully **immerse** themselves in the temple and its surrounding landscape and waterways. Students will employ bespoke, place-specific techniques and tools for their work in the field. Groups should consider what techniques, tools and methods will be used and how responsibilities will be shared amongst the group members.

### **Essential Fieldwork Technique:**

#### **The Blue Health Environmental Assessment Tool**



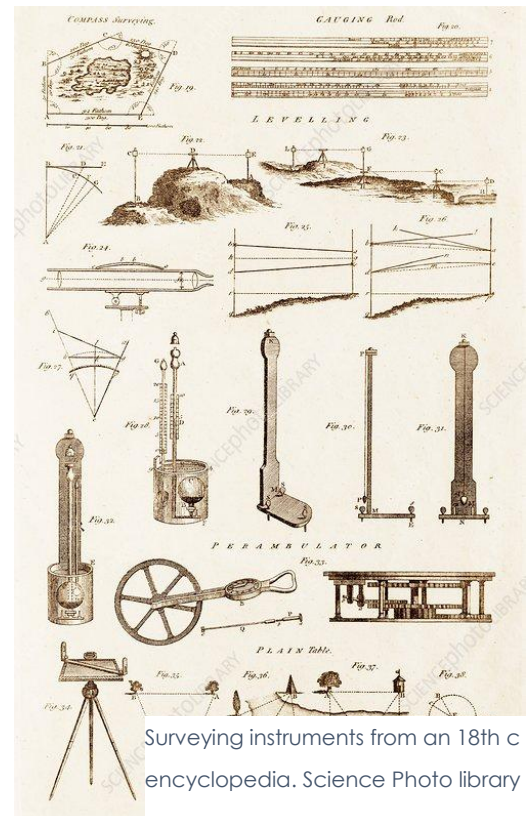
We will use the 'Community version' of the BEAT tool sections 1 and 2. The pre-site visit desktop survey and the site survey section. Groups should attempt to complete section 1 prior to visiting the site.

Guidance on completing and using the data generated by the tool will be given by Professor Simon Bell on Monday at the Introductory session.

Possible Fieldwork Techniques:

### **Surveying the Physical environment**

Carefully measuring your selected edge(s) will be the foundation for a successful design, and your process of survey will be key to establishing your context both materially and philosophically. Consider very carefully your methods of





---

physical survey. Consider embodied techniques, effects and boundaries between habitats.

### **The Quadrat & Transect Method**

The transect method is used to survey edge effects and boundaries between habitats. It is a way of measuring the abundance of species related to a particular line taken through a specific environment. In a biodiversity survey you can widen the transect line by using a *belt transect*, which is achieved by applying a quadrat on the line and taking a broader measurement of not just species but their abundance.

### **Embodied techniques**

Traditionally when conducting a level survey, a spirit level would be used. Place the level onto a straight piece of timber of known length. Hold the piece of timber level and measure the drop from the bottom of the timber to the ground. Measure the rise and fall in different areas of the site. Plot the changes of level onto your drawing. See illustration of ESALA MA students employing this technique.

### **Survey of the less tangible**

Light, sound, wind and what lies below the ground is somewhat less tangible to measure in a physical process without the aid of technology. Consider what devices you will need to bring to measure these. Equally, explore and invent physical methods to make the recording of your observations more personal.

### **Behavioural observation**

You may wish to record people on the site, who they appear to be, where they are going and what they are doing there.

### **Digital techniques (LiDAR)**

LiDAR is a digital technique which can be used for constructing representations of the surrounding physical environment. It has many other applications. It works by emitting many millions of laser photons into the environment, each photon, upon meeting a surface, rebounds back to the LiDAR machine, calculating a point in three-dimensional space. It does have representational limitations but can be extremely useful in appropriate situations when employed critically.



AD Tectonics: Constructing Atmospheres - The Gathering Place. Field Survey Dalkeith.

---

### **Submission**

Fieldwork along with developing proposals will be presented in studio on the morning of Thursday 10<sup>th</sup> July.

---

The following work should be presented:

- Blue Health Assessment Tool findings along with an explanation of how they have helped generate the conceptual and design response.
- Contextual maps at City and Location scale. (1:10,000 & 1:1,000)
- Context drawings at 1:500, 1:200 & 1:50 scale. A 'long section' through the site is encouraged. Along with a 'long plan' of the site, including rendering of ground cover, water, trees, flora and fauna.
- Concept drawings and maquette models.
- Drawings of developing proposals in context.

**BH2**

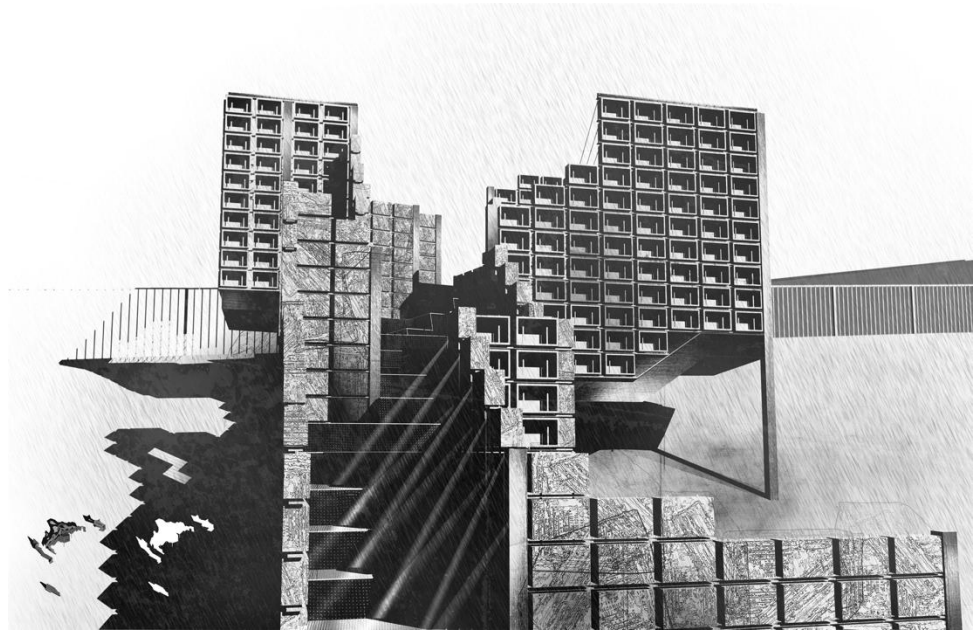
**EDGE-STRUCTURE/**

**ECOLOGICAL**

**PAVILION**

**Exercise**

Following our field trip and rendering of context we will begin the design an 'edge structure' / 'Pavilion for the Senses', the central premise being that through a careful manipulation of the site, ground, and a selected set of architectural elements and components we can enhance, subvert or transform the existing edge-effect previously uncovered and accommodate both human and non-human activities as part of a shared and constructed natural habitat. The spatial experience of the structure should engage the senses in particular ways and heighten the inhabitant's appreciation of the natural environment. Each group of students will produce a single edge structure, including a careful and creative manipulation and rendering of context. The edge structure may carefully harness one form of environmental element or force, particularly water. The use pattern of the structure for both human and non-human inhabitants, or participants should be defined by each group of students. The edge structure should be given a name, particular to the concept of the proposal.



Edge Structure - Lecky Road Derry 22-23 Becky Whitehead

### **Submission**

- The edge structure should be modelled and drawn in context at a series of scales, including 1:500 and 1:50. **Drawings** which present your physical proposition in context, two dimensionally, three dimensionally and in sketch perspective. Ensure drawings clearly represent the atmosphere & '**experience**' of your edge structure.
- Little development models of the structure, presented as a series of maquettes is also encouraged. Drawings MUST Clearly indicate the surrounding context, material, formal and spatial arrangements, relationship to landscape and natural habitat.
- Drawings and models can be presented physically in studio and digitally on a slideshow presentation.
- A 3-minute film of the work of the week, including final propositions.

All final work will be presented for review in studio on Friday 11<sup>th</sup> July.

## Project Timetable

<b>Day 1</b>	Project Introduction & Group formation. Desktop research & Fieldwork preparation.	Monday 6 <sup>th</sup> July am. Monday pm.
<b>Day 2</b>	Site visit, fieldwork and group tutorials in the field.	Tuesday 7 <sup>th</sup> July.
<b>Day 3</b>	Studio working in groups.	Wednesday 8 <sup>th</sup> July
<b>Day 4</b>	Studio Tutorials.	Thursday 9 <sup>th</sup> July
<b>Day 5</b>	Project Reviews.	Friday 10 <sup>th</sup> July

## References

- Uexkull, J V. (2010). A Foray into the World of Animals and Humans. Minnesota  
Gibson, J. J. (1979). The Ecological Approach to Visual Perception. Boston: Houghton Mifflin  
Mostafavi, M. 2010. Ecological Urbanism. Lars Muller  
Zumthor, P. (2006) Atmospheres: Architectural Environments, Surrounding Objects. Birkhauser  
Pallasmaa, J. (1996) The Eyes of the Skin: Architecture & the Senses. J. Wiley & sons.

**Video** [Built Ecologies: Architecture and Environment | MoMA](https://www.moma.org/research/ambasz/built-ecologies)  
[https://www.moma.org/research/ambasz/built-ecologies,](https://www.moma.org/research/ambasz/built-ecologies)

**Iain Scott, Simon Bell, Ziwen Sun & Jie Xiong** - Summer 2026