MAR-E1025 Green Urban Planning_ FINNISH URBAN GREEN-BLUE INFRASTRUCTURES (7credits)
USP_362 Green Urban Ssytems _ FINNISH URBAN GREEN-BLUE INFRASTRUCTURES (5 credits)

INTRODUCTION:
The definition of meaningful and multifunctional **GREEN-BLUE INFRASTRUCTURES and the increase of the associated ECOSYSTEM SERVICES** in urban areas will be the central objectives of this course.

Apart from the formal definition of Green-Blue Infrastructures, the course will study their performance, assessing with the adequate indicators their environmental, ecological and social functions, making objective and transmittable the benefits that they can provide, and showing how all the scales and contexts can contribute to the **CREATION OF MORE SUSTAINABLE REGIONS AND CITIES**.

In order to apply the acquired knowledge, the course will include a set of **CASE STUDIES IN DIFFERENT FINNISH CITIES**, in which the defined Green-Blue infrastructures will be expected to fully express their ecological, social and sustainable potentials, both at the domestic and regional scales.

CREDITS: 7 credits in MAR-E1025 course, 5 credits in USP-362 course

TEACHING PERIOD and SESSIONS: I, II (12.9.2019-19.12.2019, session Thursdays 9:15-13:00)

WORKLOAD (1 credit = 27 hours):

- MAR-E1025 course (7 credits): Tutored studies 40 hrs (lectures, tutoring of assignments, seminars, review of assignments, etc.), independent study 150 hrs (including teamwork for the assignments and individual work), in total 190 hrs.
- USP-362 course (5 credits): Tutored studies 40 hrs (lectures, tutoring of assignments, seminars, review of assignments, etc.), independent study 95 hrs (including teamwork for the assignments and individual work), in total 135 hrs

LEARNING OUTCOMES:
After completing the course, students know the basics of strategic green area planning. They are able to identify and integrate in planning the key spaces and functions of urban green infrastructures, their associated ecosystem services as well as the basic conditions for their sustainable management. In addition, the course contributes to the acquisition of competences for independent research on the topic and for further learning.
Specific Learning Outcomes 2019: During the autumn term 2019, the students will develop their work around the Green-Blue Infrastructure and Ecosystem Service concepts and will understand and become competent in the definition, functioning, management and performance assessment of Green-Blue Infrastructures in different urban contexts. Optionally, students can specialize in some specific aspects or dimensions of urban Green-Blue Infrastructures (e.g. storm water management, advanced management, participative design and planning, urban agriculture, carbon sequestration, etc.)

CONTENTS and METHODOLOGY:
On the course, the development and significance of urban nature, green areas, green-blue infrastructures and ecosystem services in the landscape and urban areas are explained. Students learn about green strategies, green area programmes and green area types and their use and maintenance.
Firstly, the course provides a general knowledge of the key concepts in Green Urban Planning. This part includes a historical review of green areas in cities, a study of the main typological green areas as well as their main assigned functions.

Secondly, the course adds contemporary concepts in Green Urban Planning and explores their interconnections: Green Infrastructures, Ecosystem services, Urban metabolisms, Nature based solutions, etc.
Thirdly, the course integrates the acquired knowledge in the analysis, diagnosis and improvement of cities and specific urban areas. This planning work is developed in teams during the whole course and covers different scales (city > district > site).
In addition and by analyzing different international references and multidisciplinary works, the course provides a good understanding of the global and expanding role of landscape architecture, its potential contribution in complex and multidisciplinary challenges as well as the importance of regional or local condition

The course will be organized in the following chapters and will combine theoretical lectures, seminars and a set of Case Studies to be developed in teams:

- **GREEN URBAN PLANNING: Basic Concepts and advanced interpretations**
  - Green Urban Spaces: A historical review
  - Typological green areas: from private gardens to public parks, from boulevards to natural reserves
  - Functions of Green Areas
  - Assignment: Analysis Of Green Urban System in the selected Finnish City (team work)
  - Reading Seminar: Urban Nature and new planning paradigms
- **TOWARDS GREEN INFRASTRUCTURES: key new concepts**
  - Green Infrastructures
  - Ecosystem services
  - Urban metabolisms
  - Assignment: A diagnosis about: Green Infrastructure, Ecosystem Services, Sustainability and Urban Metabolisms in the selected City (team work)
- **A FINNISH GREEN URBAN INFRASTRUCTURE**
  - OBJECTIVES AND STRATEGIES (environmental, societal, cultural and visual)
  - Assignment: Towards a Green Urban Infrastructure in the selected Finnish City (team work)
  - DEFINITION
  - Assignment: Proposed Green Infrastructure for the selected City (team work)

  FINAL DELIVERABLES

MATERIALS: Course material will be distributed during the course

STUDENTS:

Master & PhD Students_Landscape Architecture
Master & PhD Students_Architecture
Master Students_USP Programme
Students of the Creative Sustainability programme
Master & PhD Students_School of Engineering & School of Business (with experience or education in Planning, Public Participation or Socio economics)
Master & PhD Students_Geography & Environmental Sciences (with experience or education in Environmental assessment, Physiographical and Human Geography, Planning or Socio economics)

ASSESSMENT (Grading Scale: 0-5):
The final works will be assessed by the responsible teacher with the possible help of external experts. In order to pass the course, **all the required assignments will have to be submitted and passed**.

- DIAGNOSTIC ASSESSMENT: Preliminary self-assessment of each students according to the learning outcomes and assessment criteria of the course (see tables of rubrics) + Identification of their main interests and expectations.
- FORMATIVE ASSESSMENT: mid-reviews and open discussions with peers and teacher
- SUMMATIVE ASSESSMENT: Mainly in the final review
- FINAL ASSESSMENT: by teacher with the possible collaboration of invited experts (70%) and Peer-Self Assessment (30%). The assessment will be based on the level of achievement of the intended learning outcomes, the level of understanding of the course contents and the capacity to generate consistent, innovative and well-presented proposals. In addition, the critical, effective and constructive participation in the discussions of the course and the advance in transversal learning outcomes will be positively valued.
- EMPHASIS ON THE FINAL GRADE: The assessment considers the process during the course and the final review is mainly connected to the capacity to communicate and to incorporate the feedback received during the mid-reviews and discussions.
- SELF AND PEER ASSESSMENT SKILLS The mid-reviews and the final review will support the development of self and peer assessment skills. The assessment of the level of achievement of the general and specific Learning Outcomes of the course and the advance in the acquisition of transversal Learning Outcomes will be based in a table of rubrics presented by the teacher at the beginning of the course and approved/adjusted after a collective discussion.
- In the course MAR-E-1025, the assignments will have the following weight in the final grade:
    - Assignment 1 (5%)
    - Assignment 2 (30%)
    - Assignment 3 (20%)
    - Assignment 4 (20%)
    - Final Assignment (20%)
    - Final assessment of Transversal skills (5%)
- In the course USP-362, the assignments will have the following weight in the final grade:
    - Assignment 1 (10%)
    - Assignment 2 (30%)
    - Assignment 3 (30%)
    - Final Assignment (25%)
    - Final assessment of Transversal skills (5%)
- NOTE1: The assessment will be based in the proposed LEARNING OUTCOMES and in the ASSESSMENT CRITERIA (Tables of Rubrics as discussed and adjusted with the students). In a general level, the assessment will value positively the consistent use of the concepts introduced in each assignment and in the generation of complete, innovative and well-presented solutions for the proposed tasks. The assessment of the final assignment will also consider the quality of the final deliverables (graphic, narrative and conceptual). The final grade will also consider the evolution of the student during the whole course, her/his level of involvement and his/her capacity to generate relevant discussions and to provide constructive feedback to peers.
- NOTE2: Students will be guided by tutors and peers during the tutoring sessions and mid-reviews to improve their performance in each assignment. Due to the continuous character of the course, students will be able to improve their work in the following assignments and in the final one.

The delay of submitted course work (assignments, etc.) affects its assessment:

- If the work is delayed but submitted by the FIRST official submission date of the Department (1. jälkipalautuspäivä), the grade is lowered with one point (i.e. 3 becomes 2),
- If the work is delayed but submitted by the SECOND official submission date of the Department (2. jälkipalautuspäivä), the grade is lowered with two points. (i.e. 3 becomes 1)
- In the end of the course the instructor may also accept unsubmitted work which is almost accomplished, but the unfinishedness of the work is taken into consideration in the grading and the earned credits.

REGISTRATION: WebOodi. For the registration period see WebOodi and MyCourses
LANGUAGE OF INSTRUCTION: English.
RESPONSIBLE TEACHER: Juanjo Galan

SCHEDULE

12.09.19 (building R037/ classroom TU6)

- **Introduction to the course+ Discussion about potential Case Studies (Finnish Cities) + Creation of groups + Delivery of Readings on Basic or New Key Concepts**
- **Diagnostic Assessment: How familiar am I with the contents of the course? What are my expectations?**
- **Discussion about the Table of Rubrics for Peer-self assessment**
- **Lecture 1.1: A historical review of Green Urban Spaces**
- **Creation of Teams (3-4 people)**
- **Workshop1: "A FINNISH CITY…": Historical evolution, Region/City/Districts + Main structural systems (transport, green, blue, culture, services + Discussion**
- **Final selection of cities**

19.09.19 (building R037/ classroom TU6)

- **Lecture 1.2.: Typological Green Urban Areas**
- **Lecture 1.3.: Functions & Uses of Green Urban Areas**
- **VOLUNTARY Practical session: Tutored development of Assignment1: "A FINNISH CITY…"**
    - **Urban Analysis (morphology, history and society)**
    - **Environment, Ecology and Hydrology**
    - **The existing System of Open or Green Spaces (typologies, functions, use, etc.)**

26.09.19 (building R037/ classroom TU6)

- **REVIEW ASIGNMENT1: "A FINNISH CITY…":**
    - **Urban Form/Structure, Evolution, Land uses and future Strategic Plans**
    - **Social, cultural and demographic issues**
    - **Mobility and transport**
    - **Environment, ecology and hydrology**
    - **The existing system of Open and Green spaces**
    - **Main potentials and problems**

03.10.19 (building R028 (Väre) / classroom F101)

- **Lecture 2.1.: Green Infrastructures and Sustainable metabolisms in regional and city planning:**
- **READING discussion GROUP1 (each student will present a summary of the selected article or book chapter)**
- **VOLUNTARY workshop session: Tutored development of Assignment2: AN EXISTING GREEN INFRA IN A FINNISH CITY:**
    - **Green infrastructure**
    - **Ecosystem services**
    - **Sustainability & Urban metabolisms**
    - **Develop a conceptual model (1 diagram will be enough) explaining how the concepts above can be interconnected or complement each other, and how they can contribute to Urban Sustainability**

10.10.19 (building R002/ classroom R5)

- **Lecture 2.2.: Ecosystem services**
- **READING discussion GROPU2 (each student will present a summary of the selected article or book chapter)**
- **VOLUNTARY workshop session: Tutored development of Assignment2: AN EXISTING GREEN INFRA IN A FINNISH CITY:**
    - **Green infrastructure**
    - **Ecosystem services**

- Sustainability & Urban metabolisms
- Develop a conceptual model (1 diagram will be enough) explaining how the concepts above can be interconnected or complement each other, and how they can contribute to Urban Sustainability

17.10.19 (building R002/ classroom R5)

- **WORKSHOP SESSION**
- **REVIEW ASIGNMENT2: AN EXISTING GREEN INFRA IN A FINNISH CITY: After making a general analysis of your Finnish City and a study of the typical green areas, students will be invited to extend their analysis using 3 concepts: Green Infrastructure, Ecosystem Services and Urban Metabolism:**
  - **Green Infrastructure (nature in the City): New existing spaces and elements to add to the conventional Green Areas System + some findings or ideas (consider aspects like ownership, management, connection with water, services, culture, etc.)**
  - **Ecosystem Services (benefits provided by nature or Green Infrastructure): Differentiate between provisioning / regulating-supporting / cultural services. Try to locate them in a map and use a graphic system to quantify how intense the benefits are + some findings or ideas**
  - **Urban Metabolism: Identify the main flows of matter, water, energy, waste, etc. in your City and represent them in a diagram, conceptual map, etc. + some findings or ideas**
  - **Develop a conceptual model (1 diagram will be enough) explaining how the concepts above can be interconnected or complement each other, and how they can contribute to Urban Sustainability**
  - **You can display your findings in plan drawings, schematic sections, pictures, diagrams, etc.**

18.10.16 – 20.10.19 (VOLUNTARY, travel and accommodation costs partially covered by Aalto University)

- **VISIT to the FINNISH CITY (the travel plan needs to be approved in advance by the responsible teacher in order to get a partial or total reimbursement of the travel costs)**
  - **Meeting with local people and authorities, Public Surveys, etc…**
  - **Field work and Field observations (verification and adjustment of the Assignment 1 and Assignment 2 + generation of ideas for the Assignment 3)**

24.10.19 (building R037/ classroom TU6)

- **Lecture 3.1.: STRATEGIC PLANNING in Green Infrastructures + Ecosystems Services + Sustainable metabolism**
- **VOLUNTARY workshop session: Tutored development of Assignment3: STRATEGIC PLAN FOR A NEW GREEN INFRASTRUCTURE IN A FINNISH CITY**

31.10.19 (building R037/ classroom TU5)

- **Lecture 3.2.: STRATEGIC PLANNING in Green Infrastructures + Ecosystems Services + Sustainable metabolisms**
- **VOLUNTARY workshop session: Tutored development of Assignment3: STRATEGIC PLAN FOR A NEW GREEN INFRASTRUCTURE IN A FINNISH CITY**

07.11.19 (building R001 (Otakaari 1)/ classroom U356)

- **REVIEW ASIGNMENT3: STRATEGIC PLAN FOR A NEW GREEN INFRASTRUCTURE IN A FINNISH CITY**
  - **Green Infrastructure & Ecosystem services: CONCEPTUAL DEFINITION of spaces, functions, management, assessment (Try also to explain how your strategy uses the conceptual model defined in the Assignment2 and feel free to modify it)**
  - **The Green Infrastructure in a Sustainable Metabolic Urban Concept**

14.11.19 (building R001 (Otakaari 1)/ classroom U351a)

- **Lecture 4.1: SITE DESIGN AND MANAGEMENT in Green Infrastructures + Ecosystems Services + Sustainable metabolisms_CASE STUDY_1**
- **VOLUNTARY workshop session: PILOT PROJECTS FOR A NEW GREEN INFRASTRUCTURE IN A FINNISH CITY**

21.11.19 (building R028 (Väre) / classroom Q202)

- **VOLUNTARY workshop session: PILOT PROJECTS FOR A NEW GREEN INFRASTRUCTURE IN A FINNISH CITY**

- Green Infrastructure & Ecosystem services: CONCRETE DEFINITION of spaces, functions, management, assessment

28.11.19 (building R028 (Väre) / classroom Q201)

- REVIEW ASIGNMENT4: PILOT PROJECTS FOR A NEW GREEN INFRASTRUCTURE IN A FINNISH CITY
  - Detailed analysis of a Pilot Site or Pilot topic (spatial qualities, ecosystem services, management, public use, etc.)
  - Objectives, Concepts and Conceptual Design (consider the role of the Pilot Project in the envisioned new Green Infrastructure)
  - Advanced Design (spatial definition, new functions & ecosystem services, new management, performance assessment)

05.12.19 (building R037/ classroom TU6)

- VOLUNTARY Workshop: Preparing the final Presentation

12.12.19 (building R037/ classroom TU6)

- VOLUNTARY Workshop: Preparing the final Presentation

19.12.19 (building R037/ classroom TU6)

- FINAL DOCUMENTS (INCLUDING THE RESULTS OF THE ASSIGNMENTS 1, 2, 3 and 4): 4-6 A1 posters (use template provided by the teachers) + 1 powerpoint:
  - Analysis of the Finnish City and its Green Urban System
  - Green infrastructure, ecosystem services, sustainability and urban metabolisms: a diagnosis of a Finnish city
  - Towards a Green Urban Infrastructure in XXX (Finnish city): Strategic Plan + Conceptual design for the Pilot Site or Pilot Topic