MEE520 Sustainable Built Environment

Course Title	Sustainable Built Environment				
Course Code	MEE 520				
Course Type	Compulsory				
Level	Masters (2nd Level)				
Year / Semester	1st year / Fall Semester				
Teacher's Name	Dr. Byron Ioannou, Ms. Funda Zaim				
ECTS	10	Lectures / week	1	Laboratories/week	2
Course Purpose	The aim of the course is to introduce the students to the theory and concepts of sustainable built environment. Also, to deepen in the holistic approach of accessing the built environment sustainability performance. The course uses BREEAM methodology as the practical application of the theoretical part.				
Learning Outcomes	By the end of the course, students must be able to: 1. Analyze the theoretical foundations of sustainability in the built environment. 2. Describe the basic process and tools for implementing sustainable urbanism in the framework of the society and the local/ global environment. 3. Identify the role and the impact of the main parameters determining the environmental performance of urban areas and buildings. 4. Become familiar with both the BREEAM process and the technical details of the BREEAM International New Construction Scheme. 5. Implement buildings' sustainability assessment tool; namely the BREEAM Methodology.				
Prerequisites	Prior taught experience on building physics issues or instructor's approval		Corequisites		None
Course Content	**1. Sustainability and the built environment** - Basic concepts, current situation and the case for sustainable urbanism. - Climate change impact: the role of urban planning and architectural design. **2. Low carbon urbanism** - Urban heat island phenomenon. - Urban density and environmental approaches. Sustainable neighborhoods. **3. Social sustainability and the right to the city** - Socio and healthy urban psychology. - Environmental design for public open space. - The role of green. **4. Building Sustainability Assessment Schemes - BREEAM** - General Introduction to BREEAM and Sustainable Construction - An Introduction to BREEAM, Scope of the Scheme, BREEAM Principles, Role of an Assessor - The BREEAM Processes, the Operation of the Scheme and the Bespoke Process: Assessment Process, Demonstrating Performance, Quality Assurance (QA) and Queries - Operational Questions, Bespoke Process, Assessor Resources - Management Category, Health & Wellbeing Category, category questions - Energy Category, Transport Category, category questions - Water Category, Materials Category, Waste Category, category questions - Land Use & Ecology Category, Pollution Category, Innovation Category, category questions - Integrating BREEAM throughout the design process. Skills for assessing BREEAM Issues: Case study example 1 - Integrating BREEAM throughout the design process. Skills for assessing BREEAM Issues: Case study example 2				
Teaching Methodology	The course is delivered to students through lectures, demonstration of BREEAM methodology and examples of good practice. Scheduled interim evaluations of student progress. One to one teaching, face-to-face collaboration with teachers and fellow students, group reviews and final evaluations of project work.				

Bibliography	**Textbook:** Drilling, M. (2013), Planning Sustainable Cities: Why Environmental Policy Needs Social Policy, at Wallimann, I. (ed), (2013) Environmental Policy is Social Policy – Social Policy is Environmental Policy Toward Sustainability Policy, p.p. 103-119, New York: Springer. **References:** 1. 1. Policy, at Wallimann, I. (ed), (2013) Environmental Policy is Social Policy – Social Policy is Environmental Policy Toward Sustainability Policy, p.p. 103-119, New York: Springer. 2. Gutiérrez, F. R. (2013). City, Urbanism, Social Sustainability and the Right to the City. In D. Henckel et al. (Eds.), Space–Time Design of the Public City, Urban and Landscape Perspec-tives (2013, pp. 217-225). Dordrecht: Springer. 3. Woodcraft, S., Bacon, N., Caistor – Arendar, L., Hackett, T. (2012), Design for social sustain-ability. A framework for creating thriving new communities. Lon-don: Social Life. 4. Farr, D., 2008, Sustainable Urbanism, Boston: Wiley. 5. Gutiérrez, F. R. (2013). City, Urbanism, Social Sustainability and the Right to the City. In D. Henckel et al. (Eds.), Space–Time Design of the Public City, Urban and Landscape Perspectives (2013, pp. 217-225). Dordrecht: Springer. 6. BREEAM online user's manual
Assessment	Course Work 70% Final Exams 30%
Language	English