| General Information | |
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| Academic subject | **Equipment, structures and modelling for sustainable buildings in urban agriculture** |
| Degree course | **Choice exam for three-year degrees of the L-25 degree class** |
| Curriculum | |
| ECTS credits | **6 ECTs** |
| Compulsory attendance | **No** |
| Language | **Italian**<br>**Didactic material in English will be given to foreign students if requested** |

| Subject teacher | Name Surname | Mail address | SSD |
|---|---|---|---|
| | **Evelia SCHETTINI** | **evelia.schettini@uniba.it** | **AGR/10** |
| | **Giuliano VOX** | **giuliano.vox@uniba.it** | **AGR/10** |

| ECTS credits details | | | |
|---|---|---|---|
| 4 | **4 ECTs Lectures [L]** | **2 ECT Lab & field cl [L&Fcs])** | |

| Class schedule | |
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| Period | I semester |
| Year | II and III year |
| Type of class | Lectures, 4 ECTS (32 hours)<br>Laboratory classroom, working groups, study case: 2 ECTS (28 hours)<br>E-learning using public (eg Teams) and dedicated (Agripodcast) platforms can be used, on demand as learning facilities for students with disabilities and for working students, student athletes and students with babies |

| Time management | |
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| Hours | **150** |
| In-class study hours | **60** |
| Out-of-class study hours | **90** |

| Academic calendar | |
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| Class begins | |
| Class ends | |

| Syllabus | |
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| Prerequisites/requirements | Knowledge of principles of Mathematics<br>Knowledge of principles of Physics: Principles of Heat Transmission. |
| Expected learning outcomes (according to Dublin Descriptors) (it is recommended that they are congruent with the learning outcomes contained in A4a, A4b, A4c tables of the SUA-CdS) | *Knowledge and understanding*<br>• Knowledge and understanding of urban green infrastructures applied to buildings<br>• Knowledge and understanding of a software for the visual simulation of green systems applied to buildings<br>• Knowledge and understanding of the energy exchanges in the green systems applied to buildings<br><br>*Applying knowledge and understanding*<br>• Capacity to create a visual simulation project for green systems applied to buildings |

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| | *Making informed judgements and choices*<br>• Ability to plan a green system applied to buildings<br>• Evaluation of the energy aspects in a green system integrated in a building<br><br>*Communicating knowledge and understanding*<br>• Ability to communicate information, ideas, problems and solutions to specialist and non-specialist interlocutors<br>• Ability to use information technology to support one's work: use of calculation software and PC presentations<br><br>*Capacities to continue learning*<br>• Ability to continue learning by consulting books, papers and computerized catalogues.<br><br>Expected learning outcomes in terms of knowledge and skills are listed in Annex A of the Study Guide Course Guidelines (expressed through the European Degree Program Title) |
| Contents | Classification of urban agriculture.<br>Environmental, social, economic and human well-being benefits.<br>Design criteria for vertical green factories.<br>Design criteria for green walls and roofs for buildings.<br>Energy exchanges in green systems applied to building.<br>Visual modeling by software of green systems applied to buildings. |
| Course program | |
| Bibliography | • Notes of the lectures and tables distributed during the course<br>• F. Orsini, M. Dubbeling, H. de Zeeuw, G. Gianquinto (Eds) Rooftop Urban Agriculture - Springer International Publishing 2017<br>• Pearlmutter, D., Calfapietra, C., Samson, R., O'Brien, L., Krajter Ostoić, S., Sanesi, G., Alonso del Amo, R. (Eds.). The Urban Forest: Cultivating Green Infrastructure for People and the Environment. Springer International Publishing 2017 |
| Notes | |
| Teaching methods | The teacher will use PowerPoint presentations. Sample materials of building materials will be shown during lessons.<br><br>The practical exercises will take place with the use of software for the visual simulation of green systems.<br><br>Each student is advised to also install the software on their PC.<br><br>In order to apply their knowledge, students will develop simulation projects. |
| Assessment methods (indicate at least the type written, oral, other) | For students attending the course there will be a partial exam after the first part of the course. This partial exam consists of an oral test on the subjects developed during the hours of lecture and exercise. The outcome of this test contributes to the evaluation of the examination of profit and is valid for one academic year. The test is passed with a vote of at least 18/30.<br><br>The exam consists of an oral exam on the topics developed during the course. During the oral examination, a visual simulation project for green systems applied to buildings is also discussed.<br>The test is passed with a vote of at least 18/30.<br><br>For students who have stood the first part of the exam, the final vote is |

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| | expressed by the average of the votes obtained in the two oral tests.<br><br>The oral examinations are public.<br><br>For foreign, the exam can be done in English |
| Evaluation criteria (Explain for each expected learning outcome what a student has to know, or is able to do, and how many levels of achievement there are. | ***Knowledge and understanding skills***<br>• Knowledge and understanding skills of the urban agriculture.<br>• Knowledge and understanding skills on the principle green systems applied to buildings<br>• Knowledge and understanding skills on energy exchanges in green systems applied to buildings<br>• Knowledge and understanding skills of a software for modelling green buildings<br><br>***Knowledge and understanding skills applied***<br>• Design of a green system applied to buildings<br>• Visual modelling of green building systems<br><br>***Autonomy of judgment***<br>• Ability to make different choices in the design of green systems in relation to the different characteristics of the project<br>• Ability to evaluate the effectiveness of green systems for buildings, in relation to the visual aspect<br><br>***Communicative Skills***<br>• Ability to communicate clearly the knowledge to specialists and non specialists<br>• CAD design capabilities<br><br>***Ability to learn***<br>• Ability to learn and deepen in a self-directed and autonomous way |
| Further information | **Visiting hours**<br>Official visiting hours: Day and time are agreed according to an established appointment requested by phone or e-mail. Tutoring could be also on e-learning platforms. |