

## COURSE DESCRIPTION – ACADEMIC YEAR 2023/2024

<b>Course title</b>	<b>High Performance Buildings: Seismic Design and Fire Resistance</b>
<b>Course code</b>	42326
<b>Scientific sector</b>	ICAR/09
<b>Degree</b>	Bachelor in Wood Engineering
<b>Semester</b>	1
<b>Year</b>	3
<b>Credits</b>	6
<b>Modular</b>	No
<b>Total lecturing hours</b>	36
<b>Total lab hours</b>	24
<b>Attendance</b>	Strongly recommended
<b>Prerequisites</b>	None
<b>Course page</b>	<a href="https://ole.unibz.it/">https://ole.unibz.it/</a>
<b>Specific educational objectives</b>	The course belongs to the type "attività formativa affine o integrativa". This course has two objectives. The first is to give the students a theoretical background on seismic design and fire resistance. The other goal is to give the students practical skills in earthquake resistant planning and design, as well as fire behavior and fire resistance of timber buildings.
<b>Lecturer</b>	Thomas Schrentewein, Dipl.Ing. Dipl.Ing. Ph.D.
<b>Contact</b>	thomas.schrentewein2@unibz.it
<b>Scientific sector of lecturer</b>	Timber engineering
<b>Teaching language</b>	German
<b>Office hours</b>	By agreement
<b>Lecturing Assistant (if any)</b>	None
<b>Contact LA</b>	None
<b>Office hours LA</b>	None
<b>List of topics</b>	Construction systems and basics of multi-storey wooden buildings, seismic basics and terms, seismic loads and load-bearing capacity, earthquake resistant planning and design, introduction into seismic calculation and assessment, legal basics and terms of fire prevention, fire behavior and fire resistance of timber components, fire prevention of multi-storey wooden buildings, introduction into Fire Safety Engineering (FSE)
<b>Teaching format</b>	Frontal lectures, exercises, discussions and small group projects
<b>Learning outcomes</b>	The learning outcomes need to refer to the Dublin Descriptors: <u>Knowledge and understanding</u> 1. Knowledge of essential wooden construction systems 2. Understanding of earthquake resistant planning and design 3. Understanding of fire behavior of wood materials and fire resistance of timber components <u>Applying knowledge and understanding</u>

	<p>4. Applying knowledge of theoretical skills of lectures into practical exercises  <u>Making judgements</u></p> <p>5. Critical reviewing of the results of examples of practical exercises  <u>Communication skills</u></p> <p>6. Discussion in the group of the obtained results of examples of practical exercises  <u>Ability to learn</u></p> <p>7. Development of abilities and strategies to apply the learned skills into professional life</p>
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<b>Assessment</b>	<p>Formative assessment:</p> <table border="1"> <thead> <tr> <th>Form</th> <th>Length /duration</th> <th>ILOs assessed</th> </tr> </thead> <tbody> <tr> <td>Collaboration at exercises</td> <td>24 h (total length of exercises)</td> <td>4 - 7</td> </tr> </tbody> </table> <p>Summative assessment/final exam:</p> <table border="1"> <thead> <tr> <th>Form</th> <th>%</th> <th>Length /duration</th> <th>ILOs assessed</th> </tr> </thead> <tbody> <tr> <td>Written test</td> <td>60</td> <td>120 min.</td> <td>1 - 7</td> </tr> <tr> <td>Oral exam</td> <td>40</td> <td>20 min.</td> <td>1 - 7</td> </tr> </tbody> </table>	Form	Length /duration	ILOs assessed	Collaboration at exercises	24 h (total length of exercises)	4 - 7	Form	%	Length /duration	ILOs assessed	Written test	60	120 min.	1 - 7	Oral exam	40	20 min.	1 - 7
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<b>Assessment language</b>	German																		
<b>Assessment Typology</b>	Monocratic																		
<b>Evaluation criteria and criteria for awarding marks</b>	<p>Evaluation criteria of the written test: correct and complete response of individual questions and calculating examples          Evaluation criteria of the oral exam: correct response of oral questions          The final grade is a result of the parts from the written and the oral examination</p>																		

<b>Required readings</b>	<p>Lecture notes.          Subject Librarian: David Gebhardi, <a href="mailto:David.Gebhardi@unibz.it">David.Gebhardi@unibz.it</a> and Ilaria Miceli, <a href="mailto:Ilaria.Miceli@unibz.it">Ilaria.Miceli@unibz.it</a></p>
<b>Supplementary readings</b>	Is provided during the course
<b>Software used</b>	None