

Training project  
PhD course in Biomedical Sciences and Biotechnology

The Teaching Board approves the training project for each PhD student.

The PhD student's training project consists of:

a) developing an **individual research program** referring to a specific disciplinary field among those on which the Course is focused, under the guidance of the Supervisor or/and of a Co-Supervisor/Tutor. The individual research program and the relative Supervisor/Co-Supervisor are indicated in the call for application

b) attending teaching activities at doctoral level complementary to the research not lower than 20 CFU. The recognition of the CFU, which can be acquired by attending courses and other educational activities, is carried out by the Teaching Board and/or the Supervisor/Co-supervisor, which authorize the attendance and assess the results. Educational activities, which can also be organized in common between more than one PhD course, also include training activities aimed at supporting research activities and providing tools to outline the professional identity of future research doctors.

The PhD course in Biomedical Sciences and Biotechnology set out the acquisition of

At least 13 CFU	<ul style="list-style-type: none"> <li>- with attendance (and passing possible final tests) of courses in the area and in the related discipline, chosen among those scheduled annually by the Teaching Board. Theoretical courses, seminars, annual reports and Journal clubs will be conducted in telematic mode in connection with the CRO of Aviano.</li> <li>-</li> <li>- List of planned activities:</li> <li>- <b>First year courses</b></li> <li>- "Biosafety in Biomedical Laboratories: the biosafety practice and policy" 0.25 CFU</li> <li>- "An introduction to Confocal microscopy" 0.25 CFU</li> <li>- "An introduction to Cytofluorimetric analysis" 0.25 CFU</li> <li>- "Live-cell Metabolic Assay: The Seahorse" 0.25 CFU</li> <li>- Bioinformatics entry level: "What I could do by knowing the genome browser" 2 CFU</li> <li>- Bioinformatics entry level: "What I could do by knowing the cBIOportal" 2 CFU</li> <li>- Practical course in exercise physiology: "Pulmonary gas exchanges (breath-by-breath); near infrared-spectroscopy; electromyography; measurements of muscle strength and power". 2 CFU</li> <li>- BLS course: basic life support and defibrillation. 1 CFU.</li> <li>- Residential course: "High-resolution respirometry on permeabilized muscle fibers". 3 CFU</li> <li>- NMR Course: "Relaxation in NMR. From of spectroscopic data to protein dynamics information." 2CFU</li> <li>- <b>Summer Journal Club Course</b> "Recent advancements in biomedicine". 2 CFU SSD BIO/13 must be attended each year (2CFUx3=6CFU total). Alternatively, students of the exercise physiology area will attend to the Summer Journal Club Course "Recent advancements in exercise physiology (1CFUx3=3CFU total).</li> </ul>
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	<p>With the participation and frequency of the <b>Annual reports</b>. Students must report and participate in all the presentations, in the presence of the Board of Teachers. They will present and discuss about the experimental results obtained during the year. This activity is scheduled for 4 Fridays between September and October. 1 CFU, 0.25 CFU/day.</p> <ul style="list-style-type: none"><li>- By attending to the <b>Scientific Invited Seminars</b>. These seminars are generally planned in Spring and Fall. These seminars are provided by leading edge international scientists on cutting edge topics in biomedical sciences such as Epigenetics, DNA damage, Transcriptional control, Exercise Physiology, Bioenergetics, Proteins structure and function, the Immune System. 10 seminar/year are planned. 0.2 CFU/seminar.</li><li>- With the <b>telematic attendance</b> to congresses /seminars organized by other research institutes or scientific associations of reference for the topics of the course. As an example, the DNA REPAIR INTEREST GROUP VIDEOCONFERENCE (<a href="http://videocast.nih.gov">http://videocast.nih.gov</a>.) 0.2 CREDITS will be acquired for each seminar attended.</li><li>- By discussing with the <b>External Reviewer</b> the advancement of the research project. Each PhD student will be joined by an external Reviewer that cannot belong to the University of Udine. The Reviewer is an expert of the PhD student's research topic. The PhD student will meet the Reviewer each year to discuss, after presenting his experimental data, about weaknesses and possible developments of the research project. The meeting can also be managed through telematics such as Skype. The Reviewer is appointed by the Board of Teachers and will provide an assessment of the project, of the student and of the research activity. (0.5 CFU).</li><li>- With the participation and frequency of the <b>Lab meetings</b>. 0,1 CFU/lab-meeting until to 2CFU/year max.</li><li>- By attending to <b>national or international scientific congresses</b>. There are 1CFU/day (8 hours) for the participation in conferences or training courses related to doctoral studies. Attending at least one congress over the three-year period is mandatory.</li><li>- With attendance (and passing possible final tests) of courses/seminars in the area and in the related discipline of the PhD program, organized by other universities/research institutes/companies. The Board of Teachers and/or the Supervisor/Co-supervisor assess the suitability of these activities with respect to the student's training and research objectives and establishes the number of credits to be awarded.</li></ul>
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	<ul style="list-style-type: none"> <li>- With dissemination activities towards a non-specialist community, in particular towards last years' students of high schools. Highly innovative issues in the biomedical field will be the subject of the dissemination. This activity, will be organized at first as a supervised literature search and discussion in teams of PhD students mindful of their own research experience; secondly with dissemination to the department community and finally to high school students and to population in events organized by the University. This will help increasing the awareness of the PhD students on important biomedical issues with strong social implications (for example genome editing, artificial intelligence) and allow them to develop communication skills also towards a non-specialist public.</li> <li>- All the training activities organized and/or suggested by the doctoral course will be scheduled at the dedicated web site. The same activities will be also communicated to students and board members via email.</li> </ul>
At least 7 CFU	<ul style="list-style-type: none"> <li>- with attendance (and passing possible final tests) of Cross-cutting activities courses/seminars, chosen among those scheduled annually by the Research Services Area in the Research, Career development, Communication Cognitive and Interpersonal, Digital, Enterprise, Mobility. areas. The courses planned for the current year, with indication of the credits assigned, will be available at the ARIC website.</li> <li>- Concerning the Mobility course: English language proficiency. Students must have a B2 level of English proficiency to access the course. The accreditation of a C1 level of language proficiency, or alternatively, having students attended (with passed exams/evaluations) for at least one year at high school or an academic year in an English-speaking country or in institutions with official English language, guarantee the acquisition of the CFUs.</li> <li>- - with attendance (and passing possible final tests) of courses/seminars/conferences organized by the University. The Board of Teachers and/or the Supervisor/Co-supervisor assess the suitability of these activities with respect to the student's training and research objectives and establish the number of credits to be awarded.</li> <li>- by attending (and passing possible final tests) cross-cutting activities courses organized by other universities/ research entities/companies. The Board of Teachers and/or the Supervisor/Co-supervisor assess the suitability of these activities with respect to the student's training and research objectives and establish the number of credits to be awarded.</li> </ul>

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The individual research program ends with the writing of the thesis. The thesis, written in English language, must contribute to the advancement of knowledge or methodologies in the chosen field of investigation.

The Board of Teachers annually evaluates the training and research activities carried out by each PhD student for the admission in the following year and to the thesis assessment stage.