



Programme of Integrated course "Analisi Matematica A"

This course is composed of 2 Modules: 1) Analisi Matematica A mod. I, 2) Analisi Matematica A mod. II

Programme of Module "Analisi Matematica A mod. I"

- Code: DT0016
- Type of course unit: Compulsory (Bachelor Degree in Mathematics curriculum Generale)
- Level of course unit: Undergraduate Degrees
- Semester: 1

Number of ects credits: (Bachelor Degree in Mathematics) 6 (workload 150 hours)

Teachers: Cristina Pignotti (pignotti@univaq.it)

1	<b>Course objectives</b>	The aim of the course is to provide a knowledge of the differential calculus for functions of a real variable.
2	<b>Course content and learning outcomes (dublin descriptors)</b>	<p>Topics of the module include:</p> <ul style="list-style-type: none"> <li>• The Real Numbers Systems</li> <li>• Numerical sequences</li> <li>• Functions of a real variable</li> <li>• Limits and continuity</li> <li>• Differential Calculus</li> </ul> <p>On successful completion of this module, the student should :</p> <ul style="list-style-type: none"> <li>• Have profound knowledge of the basic theory of differential calculus for functions of a real variable. Understand the fundamental concepts of the basic theory for functions of a real variable and their connections and be aware of potential applications in other fields.</li> <li>• Have knowledge and understanding of differential calculus for functions of a real variable.</li> <li>• Demonstrate skill in mathematical reasoning and ability to conceive a proof.</li> <li>• Understand and explain the meaning of complex statements using mathematical notation and language.</li> <li>• Demonstrate capacity for reading and understand other texts on related topics.</li> </ul>
3	<b>Course prerequisites</b>	
4	<b>Teaching methods and language</b>	<p>Lectures and exercises</p> <p><b>Language:</b> Italian</p> <p><b>Reference textbooks</b></p> <ul style="list-style-type: none"> <li>• Giusti , <i>Analisi Matematica I</i>. Boringhieri ed.</li> <li>• Acerbi, Buttazzo, <i>Primo Corso di Analisi Matematica</i>. Pitagora ed.</li> </ul>
5	<b>Assessment methods</b>	Written and Oral exam (Mathematical Analysis A)

Programme of Module "Analisi Matematica A mod. II"

- Code: DT0017
- Type of course unit: Compulsory (Bachelor Degree in Mathematics curriculum Generale)
- Level of course unit: Undergraduate Degrees
- Semester: 1

Number of ects credits: (Bachelor Degree in Mathematics) 6 (workload 150 hours)

Teachers: Cristina Pignotti (pignotti@univaq.it), Bruno Rubino (bruno.rubino@univaq.it)

1	<b>Course objectives</b>	The aim of the course is to provide a knowledge of the integral calculus for functions of a real variable.
2	<b>Course content and learning outcomes (dublin)</b>	<p>Topics of the module include:</p> <ul style="list-style-type: none"> <li>• Taylor polynomials</li> <li>• Integral calculus</li> </ul>

	<b>descriptors)</b>	<ul style="list-style-type: none"> <li>• Numerical series</li> <li>• An outline of ordinary differential equations</li> </ul> <p>On successful completion of this module, the student should :</p> <ul style="list-style-type: none"> <li>• Have profound knowledge of the basic theory of integral calculus for functions of a real variable. Understand the fundamental concepts of the basic theory for functions of a real variable and their connections and be aware of potential applications in other fields.</li> <li>• Have knowledge and understanding of integral calculus for functions of a real variable.</li> <li>• Demonstrate skill in Mathematical reasoning and ability to conceive a proof.</li> <li>• Understand and explain the meaning of complex statements using Mathematical notation and language.</li> <li>• Demonstrate capacity for reading and understand other texts on related topics.</li> </ul>
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<b>4</b>	<b>Teaching methods and language</b>	<p>Lectures and exercises</p> <p><b>Language:</b> Italian</p> <p><b>Reference textbooks</b></p> <ul style="list-style-type: none"> <li>• Giusti, <i>Analisi Matematica I</i>. Boringhieri ed.</li> <li>• Acerbi, Buttazzo, <i>Primo Corso di Analisi Matematica</i>. Pitagora ed.</li> </ul>
<b>5</b>	<b>Assessment methods</b>	Written and Oral exam (Mathematical Analysis A)