



UNIVERSITÀ
DEGLI STUDI DI TRIESTE

Rettorato e Direzione Generale
Sezione Ricerca e Dottorati
Ripartizione Dottorati

ATTACHMENT 5

LAST REVISED 12/06/2015

**PhD IN
ENGINEERING AND ARCHITECTURE
OVERVIEW**

IN BREVE

CURRICULUM: Architecture

- 1 study and design of the city, territory and landscape
- 2 methods and forms of architectural and spatial, landscape planning and design
- 3 forms and techniques of architectural restoration project
- 4 representation and communication of project
- 5 enhancement of the environment and its resources
- 6 history and theory of architecture, urban and territory

CURRICULUM: Civil engineering

- 1 structural design
- 2 functional and architectonic design
- 3 design and management of infrastructure and transport systems
- 4 environmental engineering and earth resources
- 5 geomatics

CURRICULUM: Information engineering

- 1 electromagnetic fields
- 2 signal and image processing
- 3 informatics
- 4 measures and electronic instruments
- 5 operational research
- 6 telecommunication
- 7 converters, machines and electric drives

CURRICULUM: Mechanical engineering, naval architecture, energy and production

- 1 design and optimization of fluid machines and power plants
- 2 rational use of Energy in civil and industrial fields
- 3 inverse problems and functional and shape optimization in heat transfer
- 4 design, synthesis and mechanical construction
- 5 theoretical and experimental methodologies for the analysis and design of ships and ocean structures
- 6 product development, process modeling and optimization, design, management and logistics of industrial plants

Lines of research

Administrative location

University of Trieste

Organizing Department	Department of Engineering and Architecture		
Duration	3 years		
Maximum number of months to be spent abroad by each PhD student	12		
Official language	Italian		
Language (alternative to Italian) partially used in PhD activities	The PhD activity may be partly carried out in English, either upon request of the lecturer or if there are non-Italian speaking students		
Subject Area	<i>main</i>	09	INDUSTRIAL AND INFORMATION ENGINEERING
	<i>others</i>	08A	CIVIL ENGINEERING
		08B	ARCHITECTURE
Macro Research Fields	<i>main</i>	09/C	ENERGY, THERMOMECHANICAL AND NUCLEAR ENGINEERING
	<i>others</i>	01/A	MATHEMATICS
		04/A	EARTH SCIENCES
		08/A	LANDSCAPE AND INFRASTRUCTURAL ENGINEERING
		08/B	STRUCTURAL AND GEOTECHNICAL ENGINEERING
		08/C	DESIGN AND TECHNOLOGICAL PLANNING OF ARCHITECTURE
		08/D	ARCHITECTURAL DESIGN
		08/E	DRAWING, ARCHITECTURAL RESTORATION AND HISTORY
		08/F	URBAN AND LANDSCAPE PLANNING AND DESIGN
		09/A	MECHANICAL AND AEROSPACE ENGINEERING AND NAVAL ARCHITECTURE
		09/B	MANUFACTURING, INDUSTRIAL AND MANAGEMENT ENGINEERING
		09/E	ENERGY, THERMOMECHANICAL AND NUCLEAR ENGINEERING
		09/F	TELECOMMUNICATIONS ENGINEERING AND MEASUREMENTS
	09/G	SYSTEMS ENGINEERING AND ELECTROMAGNETIC FIELDS	
	09/H	COMPUTER ENGINEERING	
Scientific Disciplinary Sector	<i>main</i>	ING-IND/08	FLUID MACHINES
	<i>others</i>	GEO/10	GEOPHYSICS OF SOLID EARTH
		ICAR/02	MARITIME HYDRAULIC CONSTRUCTION AND HYDROLOGY
		ICAR/05	TRANSPORT
		ICAR/09	CONSTRUCTION TECHNIQUES
		ICAR/10	TECHNICAL ARCHITECTURE
		ICAR/14	ARCHITECTURAL AND URBAN COMPOSITION
		ICAR/17	DESIGN
		ICAR/19	RESTORATION
		ICAR/21	URBAN STUDIES
		ICAR/22	CADASTRAL SURVEYING
		ING-IND/01	NAVAL ARCHITECTURE
		ING-IND/02	NAVAL AND MARINE CONSTRUCTION AND INSTALLATION
		ING-IND/09	ENERGY AND ENVIRONMENTAL SYSTEMS
		ING-IND/10	TECHNICAL PHYSICS
		ING-IND/13	APPLIED MECHANICS FOR MACHINERY
		ING-IND/14	MECHANICAL DESIGN AND MACHINE BUILDING
	ING-IND/16	PRODUCTION TECHNOLOGIES AND SYSTEMS	
	ING-IND/17	INDUSTRIAL AND MECHANICAL PLANTS	
	ING-IND/32	ELECTRICAL CONVERTORS, MACHINES AND SWITCHES	

	ING-INF/01	ELECTRONICS
	ING-INF/02	ELECTROMAGNETICS FIELDS
	ING-INF/03	TELECOMMUNICATIONS
	ING-INF/04	AUTOMATICS
	ING-INF/05	DATA PROCESSING SYSTEMS
	ING-INF/06	ELECTRONIC AND INFORMATION BIOENGINEERING
	ING-INF/07	ELECTRIC AND ELECTRONIC MEASUREMENT SYSTEMS
	MAT/09	OPERATIONAL RESEARCH
Domain European Research Council	PE	PHYSICAL SCIENCES AND ENGINEERING
ERC Panels	PE6	COMPUTER SCIENCE AND INFORMATICS: INFORMATICS AND INFORMATION SYSTEMS, COMPUTER SCIENCE, SCIENTIFIC COMPUTING, INTELLIGENT SYSTEMS
	PE7	SYSTEMS AND COMMUNICATION ENGINEERING: ELECTRONIC, COMMUNICATION, OPTICAL AND SYSTEMS ENGINEERING
	PE8	PRODUCTS AND PROCESSES ENGINEERING: PRODUCT DESIGN, PROCESS DESIGN AND CONTROL, CONSTRUCTION METHODS, CIVIL ENGINEERING, ENERGY SYSTEMS, MATERIAL ENGINEERING
	PE10	EARTH SYSTEM SCIENCE: PHYSICAL GEOGRAPHY, GEOLOGY, GEOPHYSICS, ATMOSPHERIC SCIENCES, OCEANOGRAPHY, CLIMATOLOGY, ECOLOGY, GLOBAL ENVIRONMENTAL CHANGE, BIOGEOCHEMICAL CYCLES, NATURAL RESOURCES MANAGEMENT
	PE1	MATHEMATICS: ALL AREAS OF MATHEMATICS, PURE AND APPLIED, PLUS MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE, MATHEMATICAL PHYSICS AND STATISTICS
Erasmus Subject Area Codes	02.1	ARCHITECTURE
	02.3	URBAN PLANNING
	02.4	REGIONAL PLANNING
	02.5	LANDSCAPE ARCHITECTURE
	02.6	TRANSPORT AND TRAFFIC STUDIES
	06.1	MECHANICAL ENGINEERING
	06.2	ELECTRICAL ENGINEERING
	06.5	ELECTRONIC ENGINEERING, TELECOMMUNICATIONS
	06.6	MANUFACTURING SCIENCES (including CAD, CAM, CAE)

WHO'S WHO	
Chair	Prof. Diego Micheli - Department of Engineering and Architecture – University of Trieste – phone N. 040.558.3809; email micheli@units.it
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Learning outcomes	<p>The PhD course prepares researchers with high scientific profile and culture oriented to the engineering and architecture applications, able to develop knowledge, new methods of investigation and design and research activity in public or private bodies, also with managerial competences. Curricula are active in: Architecture - Civil Engineering - Information Engineering - Mechanical, Naval Architecture, Energy and Production Engineering.</p> <p>Activities are oriented to advanced design, theoretical analysis, soft-computing and experimentation. The first year includes courses or lectures on basic scientific subjects and organizational aspects of research, selected according to the weaknesses of the individual initial preparation and the selected research themes. An analysis of the state of the art will be also carried out, and the main theme of</p>

	<p>study identified. The second and third year will be devoted to the individual themes, and it will be proposed a stay in a research body of international relevance. Common features are a multidisciplinary theoretical/experimental approach and the interaction with territory, industrial and professional world.</p> <p>Main objective is the enhancement of skills and professionalism of the PhD students, with reference to the international job market. The correspondence of the planned activities to the course objectives will be evaluated during the planned meetings of the body of teachers.</p>
<p>Job placement opportunities</p>	<p>The PhD program will train various professionals of researchers capable of be placed in many areas of the labor market: the business world, that of research and education (universities, research institutions), public administration (local public authorities ...), or the professions. The title of Doctor of Philosophy is also particularly valued in the academic and industrial communities abroad, with important benefits for the employment and career prospects in the international field.</p>
<p>Main cooperating international Universities and Research Institutions</p>	<p>1 Osaka University - Department of Naval Architecture and Ocean Engineering</p>