UNIVERSITÀ
DEGLI STUDI DI TRIESTE

Area dei Servizi Istituzionali
Settore Servizi agli studenti e alla didattica
Ufficio Dottorati di ricerca

ATTACHMENT 6 LAST REVISED 18/05/2017

PhD IN INDUSTRIAL AND INFORMATION ENGINEERING OVERVIEW

IN BRIEF

Lines of research	**CURRICULUM: Information engineering**	
	1	automation
	2	electronic bioengineering and Informatics
	3	electromagnetic fields
	4	signal and image processing
	5	informatics
	6	measures and electronic instruments
	7	operational research
	8	telecommunication
	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
	7	converters, machines and electric drives
Administrative location	University of Trieste	
Organizing Department	Department of Engineering and Architecture	
Duration	3 years	
Attendance abroad that entitles to a scholarship increase - min. max. of months for each PhD student (over 3 years)	0 - 12	
Official language	Italian	
Language (alternative to Italian) partially used in PhD activities	The following activities will be held in English: seminars and courses with foreign teachers, direct interaction teachers - foreign students. Almost all the scientific bibliographic material is available in English.	
Subject Areas	01	MATHEMATICS AND INFORMATICS
	08a	CIVIL ENGINEERING
	09	INDUSTRIAL AND INFORMATION ENGINEERING
Macro Research Fields *(in alphabetical code order)*	01/A	MATHEMATICS
	08/A	LANDSCAPE AND INFRASTRUCTURAL ENGINEERING

	09/A	MECHANICAL AND AEROSPACE ENGINEERING AND NAVAL ARCHITECTURE
	09/B	MANIFACTURING, INDUSTRIAL AND MANAGEMENT ENGINEERING
	09/C	ENERGY, THERMOMECHANICAL AND NUCLEAR ENGINEERING
	09/E	ELECTRICAL AND ELECTRONIC ENGINEERING AND MEASUREMENTS
	09/F	TELECOMMUNICATIONS ENGINEERING AND ELECTROMAGNETIC FIELDS
	09/G	SYSTEMS ENGINEERING AND BIOENGINEERING
	09/H	COMPUTER ENGINEERING
Scientific Disciplinary Sectors *(in alphabetical code order)*	ICAR/05	TRANSPORTATION
	ING-IND/01	NAVAL ARCHITECTURE
	ING-IND/02	SHIP STRUCTURES AND MARINE ENGINEERING
	ING-IND/08	FLUID MACHINERY
	ING-IND/09	ENERGY SYSTEMS AND POWER GENERATION
	ING-IND/10	THERMAL ENGINEERING AND INDUSTRIAL ENERGY SYSTEMS
	ING-IND/13	APPLIED MECHANICS
	ING-IND/14	MECHANICAL DESIGN AND MACHINE CONSTRUCTION
	ING-IND/17	INDUSTRIAL MECHANICAL SYSTEMS ENGINEERING
	ING-IND/32	POWER ELECTRONIC CONVERTERS, ELECTRICAL MACHINES AND DRIVES
	ING-INF/01	ELECTRONIC ENGINEERING
	ING-INF/02	ELECTROMAGNETIC FIELDS
	ING-INF/03	TELECOMMUNICATIONS
	ING-INF/04	SYSTEMS AND CONTROL ENGINEERING
	ING-INF/05	INFORMATION PROCESSING SYSTEMS
	ING-INF/06	ELECTRONIC AND INFORMATICS BIOENGINEERING
	ING-INF/07	ELECTRICAL AND ELECTRONIC MEASUREMENT
	MAT/09	OPERATIONS 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
	PE1	MATHEMATICS: ALL AREAS OF MATHEMATICS, PURE AND APPLIED, PLUS MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE, MATHEMATICAL PHYSICS AND STATISTICS

WHO'S WHO	
Chair	Prof. Diego Micheli - Department of Engineering and Architecture – University of Trieste – phone +39 040.558.3809; email micheli@units.it
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Learning outcomes	The PhD course prepares culture-oriented and high scientific profile researchers to engineering applications, and enable them to develop knowledge, new methods of investigation, design and research activity in public or private bodies, along with managerial competences. The available curricula are: Information Engineering - Mechanical, Naval Architecture, Energy and Production Engineering. 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, 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 study will be identified. The second and third year will be devoted to the individual themes, and a stay in a research body of international relevance will be proposed. Common features are a multidisciplinary theoretical-experimental approach and interaction with the territory, the industrial and professional world. The main objective is the enhancement of skills and professionalism of the PhD students, with reference to the international job market. Correspondence of the planned activities to the course objectives will be evaluated during the planned meetings of the body of teachers.
Job placement opportunities	The PhD Course will prepare professional figures of different researchers to work in various fields of job market: from the business to the research and educational world (university, research centres…), to public administration (municipalities, government offices…), to freelance jobs. The title of Doctor of Philosophy is also particularly valued in foreign scientific and industrial fields, with important benefits for employment and career at international level.
Main cooperating international Universities and Research Institutions	