



UNIVERSITÀ DEGLI STUDI DI TRIESTE

Rettorato e Direzione Generale
Sezione Ricerca e Dottorati
Ripartizione Dottorati

LAST REVISED 22/08/2012

DOCTORAL SCHOOL IN ENGINEERING AND ARCHITECTURE

NOTE: This attachment provides only partial information. Exhaustive information, including how to register for the selection, is published in the Admission Announcement posted in the web page <http://www2.units.it/dottorati/> >> Admission Announcement.

Deadline for online application

31 August 2012 at 11.30 a.m. CET

GENERAL DESCRIPTION

LOCATION: Trieste

ORGANIZING DEPARTMENT: Dipartimento di Ingegneria e Architettura

DURATION: 3

OFFICIAL LANGUAGE OF THE SCHOOL: Italian

CONTACT INFORMATION

DIRECTOR OF THE SCHOOL: Prof. Diego Micheli - Dipartimento di Ingegneria e Architettura - Università degli Studi di Trieste - tel. 040/5583809, email: micheli@units.it

VICE-DIRECTOR: Prof. Claudio Amadio - Dipartimento di Ingegneria e Architettura - Università degli Studi di Trieste - tel. 040/5583833, email: amadio@univ.trieste.it

SCIENTIFIC PROJECT: The PhD School in Engineering and Architecture is finalized to the formation of researchers with a high scientific preparation and a culture oriented towards the engineering and architecture applications in the sectors of competence, able to conceive and to develop knowledge and innovative methodologies of investigation and design and to develop, with technical-scientific and managerial competences, a highly qualified research activity in public or private bodies.

The Doctors formed by the School will develop their professional activity in the sectors defined by the official research themes of the two Doctorate branches, in which the School is organized:

- CIVIL ENGINEERING AND ARCHITECTURE
- INFORMATION ENGINEERING
- MECHANICAL ENGINEERING, NAVAL ARCHITECTURE, ENERGY AND PRODUCTION ENGINEERING.

The School aims to favour the collaboration and the synergies in teaching and research among the different branches. To this end, the present structure must be intended as a proposal open also to other sectors of the engineering,

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architecture and applied sciences that could take advantage from this opportunity of mutual development in future applications for PhD Schools.

The activities of the PhD students will be oriented to the planning, theoretical analysis, soft-computing and advanced experimentation. The first year of the formative project includes the participation to courses of lectures, common to all the branches of the School and partly common to other Doctorate Schools of the University of Trieste and of other Universities (in order to build shared advanced research paths), on basic scientific subjects and organizational aspects of the scientific search. These courses will be integrated by courses belonging to postgraduate (Laurea Magistrale) studies, selected in base to the needs and weaknesses identified in the individual initial preparation, also taking into account the specificities of the selected research themes.

During the first year an analysis of the state of the art will be carried out in the discipline of interest, and the main theme of study will be identified. The second and third year will be devoted to the development of the individual themes of research, and in this frame it will be proposed to the student, preferably during the second year, a period of permanence in a research body of international relevance specialized in the selected sector.

Important common features to the scientific formation that the School intends to transmit to the PhD students are an open and multidisciplinary approach to the problems of engineering and architecture. Particular attention will also be devoted to the interaction with the territory, industrial and professional productive world and the theoretical-experimental approach as qualifying aspects of the advanced research.

The whole scientific project will be therefore oriented to the valorisation of the abilities and individual professionalism of the PhD students, with whom the School assumes a precise responsibility of addressing and collocation of the given formation in the international job market. The correspondence of the planned activities to the obtainment of such objective will be carefully evaluated by the body of teachers and by the Scientific Council, constituted by external experts of known experience and high scientific profile.

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CURRICULUM: CIVIL ENGINEERING AND ARCHITECTURE

GENERAL DESCRIPTION

SUBJECT AREAS COVERED BY THE CURRICULUM:

- main area: ICAR/14
- others areas ICAR/22; GEO/11; ICAR/01; ICAR/10; ICAR/04; ICAR/08; ICAR/02; ICAR/07; ICAR/09; ICAR/14; ICAR/17; ICAR/19; ICAR/21; ICAR/05; ICAR/06; GEO/10; AGR/01

RESEARCH FIELDS:

1. Technical architecture of buildings and infrastructures
2. Architectural design, restoration and representation of architecture
3. Urban design and sustainability evaluation
4. Environmental and georesources engineering
5. Structures, roads and transportation engineering
6. Civil engineering and architecture

LOCATION: Trieste

ORGANIZING DEPARTMENT: Dipartimento di Ingegneria e Architettura

PARTICIPATING DEPARTMENTS (PADOVA):

- Dipartimento di Costruzioni e trasporti

ITALIAN PARTNER UNIVERSITIES:

- Università degli Studi di Padova

OTHER PARTICIPATING INSTITUTIONS (Italian):

- INOGS - Istituto Nazionale di Oceanografia e di Geofisica Sperimentale

MAXIMUM NUMBER OF MONTHS TO BE SPENT ABROAD: 6

ADMISSION INFORMATION

NUMBER OF PLACES AVAILABLE:6

- SCHOLARSHIPS: 2

FUNDING BODY/IES (preceded by the scholarship code):

- [cod D/1/4.1] Dip di Ingegneria e Architettura funded by the Department itself (Project title "Architecture and urban planning")1
- [cod G/2/4.1] MIUR "Progetto Giovani Ricercatori" on the action of "Transportation and advanced logistics, info mobility of persons and goods"1

N.B: This scholarship does not provide extra funding for eventual periods of study abroad within the duration of the doctorate, unless the organizing Department decides to make these funds available.

Candidates who accept an earmarked scholarship are committed to the pre-assigned topic

EXTRA PLACES WITHOUT SCHOLARSHIP:

- [code S/1] research grant holders carrying out their activities in the Departments

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- involved in the Doctoral course2
- [code S/3/2] research grant-holders funded by the Italian Ministry of Foreign Affairs (MAE) required to sit the entrance examination in Trieste2

ACADEMIC QUALIFICATIONS REQUIRED: See Announcement (Art. 1.1 - Requirements)

- Degrees required for this curriculum (or equivalent degrees awarded by non-Italian institutions):
 - Lauree specialistiche/magistrali:
 - 28/S INGEGNERIA CIVILE
 - 34/S INGEGNERIA GESTIONALE
 - 36/S INGEGNERIA MECCANICA
 - 31/S INGEGNERIA ELETTRICA
 - 20/S FISICA
 - 35/S INGEGNERIA INFORMATICA
 - 38/S INGEGNERIA PER L'AMBIENTE E IL TERRITORIO
 - 45/S MATEMATICA
 - 50/S MODELLISTICA MATEMATICO-FISICA PER L'INGEGNERIA
 - 82/S SCIENZE E TECNOLOGIE PER L'AMBIENTE E IL TERRITORIO
 - 85/S SCIENZE GEOFISICHE
 - 86/S SCIENZE GEOLOGICHE
 - 3/S ARCHITETTURA DEL PAESAGGIO
 - 4/S ARCHITETTURA E INGEGNERIA EDILE
 - 54/S PIANIFICAZIONE TERRITORIALE URBANISTICA E AMBIENTALE
 - LM-3 ARCHITETTURA DEL PAESAGGIO
 - LM-4 ARCHITETTURA E INGEGNERIA EDILE-ARCHITETTURA
 - LM-10 CONSERVAZIONE DEI BENI ARCHITETTONICI E AMBIENTALI
 - LM-23 INGEGNERIA CIVILE
 - LM-24 INGEGNERIA DEI SISTEMI EDILIZI
 - LM-32 INGEGNERIA INFORMATICA **the amendment added 22/08/2012**
 - LM-35 INGEGNERIA PER L'AMBIENTE E IL TERRITORIO
 - LM-48 PIANIFICAZIONE TERRITORIALE URBANISTICA E AMBIENTALE
 - Lauree vecchio ordinamento
 - INGEGNERIA CIVILE
 - INGEGNERIA CIVILE PER LA DIFESA DEL SUOLO E PIANIFICAZIONE TERRITORIALE
 - INGEGNERIA DELLE TECNOLOGIE INDUSTRIALI
 - INGEGNERIA EDILE
 - INGEGNERIA EDILE-ARCHITETTURA
 - INGEGNERIA ELETTRONICA
 - INGEGNERIA ELETTROROTECNICA
 - INGEGNERIA GESTIONALE
 - INGEGNERIA INDUSTRIALE
 - INGEGNERIA INFORMATICA
 - INGEGNERIA MECCANICA
 - INGEGNERIA NAVALE
 - INGEGNERIA NAVALE E MECCANICA

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INGEGNERIA PER L'AMBIENTE E IL TERRITORIO
INGEGNERIA DEI MATERIALI
INGEGNERIA ELETTRICA
INGEGNERIA MINERARIA
INGEGNERIA NUCLEARE
SCIENZE GEOLOGICHE
MATEMATICA
FISICA
ARCHITETTURA
CONSERVAZIONE DEI BENI CULTURALI
PIANIFICAZIONE TERRITORIALE, URBANISTICA ED AMBIENTALE
URBANISTICA

DEADLINE FOR COMPLETION OF DEGREE: **23.10.2012**

ASSESSMENT CRITERIA: Qualifications + Interview

- MAXIMUM FINAL SCORE (the final score is based on the sum of marks obtained in the interview plus the points given for qualifications and publications):100/100
- MINIMUM FINAL SCORE REQUIRED:70/100
- MAXIMUM NUMBER OF POINTS AWARDED FOR QUALIFICATIONS+ PUBLICATIONS:20

QUALIFICATIONS REQUIRED/RELATIVE WEIGHT:

- Art. 11 Rules for Doctorates: all candidates are required to present the following documents, regardless of whether or not a score is assigned to them (see below):

- a. a detailed curriculum vitae et studiorum: 5/20
- b. a copy of the Master's degree thesis: 5/20

For students with a degree awarded by a non-Italian university, an abstract of the thesis in English or Italian is sufficient.

as well as

1. degree score: max 5/20
2. publications: max 5/20

- Qualifications Assessment Form (unless this form is presented, qualifications and publications CANNOT be assessed by the Examining Board)

MINIMUM SCORE REQUIRED FOR QUALIFICATIONS/PUBLICATIONS:no

- ORAL EXAMINATION MARK OUT OF:80

MINIMUM SCORE REQUIRED FOR INTERVIEW:60/80

ABSOLUTE DEADLINE FOR RECEIVING CERTIFICATES: **26.10.2012**

ADDRESSES TO WHICH CERTIFICATES SHOULD BE SENT: by mail to Segreteria del Dipartimento di Ingegneria e Architettura – edificio C8 (C8 building) – P.le Europa,1 - 34127 TRIESTE – in person at the same address from Monday to Friday from 9:00 am to 1:00 pm. after booking an appointment, please ring: +39 040/558.3582 – 3830

EXAMINATION SCHEDULE:

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- ORAL INTERVIEW: **30.10.2012 at 9.30 am** at Dipartimento di Ingegneria e Architettura – piazzale Europa, 1 – building C8 – Biblioteca Sezione Strade Trasporti e Topografia – second floor

NOTE FOR ORAL INTERVIEW: The interview will deal with the candidate education and research activities, his/her qualifications and the research topics of the PhD programme.

ALTERNATIVE LANGUAGE TO ITALIAN FOR THE INTERVIEW: English, French, German
CEFR LEVEL: --

CONTACT INFORMATION

CURRICULUM SUPERVISOR: Prof.ssa Paola Di Biagi - Dipartimento di Ingegneria e Architettura - Università degli Studi di Trieste - e-mail pdibiagi@units.it

VICE: Prof. Claudio Amadio - Dipartimento di Ingegneria e Architettura - Università degli Studi di Trieste - tel. 040/558.3833, e-mail: amadio@univ.trieste.it

WEB SITE: <http://www.dicar.units.it/dottingarc>

EDUCATIONAL AIMS AND RESEARCH TOPICS: The Doctorate aims to develop skills in scientific research and education, promoting a multidisciplinary and integrated approach in the frame of the assessment of the environmental sustainability of interventions. The goal of the Doctorate is to train designers and researchers who have the skills to deal, with competence and awareness, with specific issues of design and planning, such as:

- the classical fields of Civil Engineering, Planning of Transports, Technique of Construction, the broader issues of the survey and management of the territory and the environment (Geomathics, Geotechniques, Environmental Engineering);
- fields of intervention, methods and forms of Architectural, Urban and Spatial, Landscape Planning and Design, in a frame of environmental coherence favouring the use of renewable energy resources;
- further important fields of research and training deal with the issues of Representation and Communication of projects, of their Economic Evaluation, of the enhancement of Environmental Resources, of History of Architecture City and Territory.

In particular, in structural engineering researches is developed on calculation of steel, reinforced concrete and wood structure both in static and dynamic conditions.

In the design and management of infrastructure and transportation systems are addressed first the issues of geometric and physical characteristics, with particular reference to the effects on road safety.

Furthermore are deepened methods for planning the transportation systems, with particular reference to road and rail, and for their technical and economic evaluation.

Within the environment and earth resources engineering, researches are detailed

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on methods and techniques for subsoil characterization, new raw materials and energy sources research and exploitation and their sustainable management in different geological and environmental contexts.

In the geomatics field the research activities are relative to GNSS surveying technologies applications to environmental monitoring, terrestrial and aerial real time navigation and integrated GIS (Geographic Information Systems).

In specific fields of architecture and urbanism, the Doctorate focuses on: - The reflection on the existing city and architecture: approaches, tools, processes that planning and architectural design can adopt to face, in an innovative way, the renewal of the assets of single parts composing urban territories (social housing districts, open spaces and terrains vagues, disused areas, rural areas and unbuilt spaces that spread in-between settlements);

- Theories, techniques, technologies, tools and procedures that can direct the renewal, reuse and “recycling” of buildings for living and producing towards new assets, ecological and environmental performances;

- The re-signification of contemporary landscapes: ways to interpret and enhance landscape areas and resources that elude criteria of exceptionality; places that, being near to dispersed living spaces and able to activate new – slow and local – development processes, spur the project to draw innovative tools for the interpretation and design of transformations;

- The adjustment of infrastructural framework: sustainable accessibility and mobility can be interpreted as generators of projects aimed to reorganize into a hierarchy, redesign, complete infrastructural texture and to interact, in a fertile and innovative way, both with the rearrangement of existing settlement situations, and with the enhancement of crossed landscapes.

Developing new forms of collaboration with the Doctorate School of the University luav in Venice and with the Faculty of Architecture of Ljubljana, the Doctorate will deal with strategic issues in order to offer to a plurality of addressees - local institutions, social and economic actors, research and training institutions – competences and products which are able to give answer to new demands of quality for living spaces.

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