TEACHING METHODOLOGIES USED:

- Monographic courses (during the firsts 3 months) held by experts in the various disciplines;
- Board meetings with plenary discussions.
- Seminars, video-lectures and use of innovating teaching tools (on-line-conferencing), technical visits to laboratories and construction sites;
- Detailed analysis of “study cases”, following step by step the development of projects, planning, tests, etc.
- Interactions with two other teachers of the two Institutions;
- Attending to scientific congresses, workshops, seminars;
- Promoting of own initiatives of dissemination activities for the visibility of the International Course of Research Doctorate;
- Implementation of a Web site of the Course where all the educational material is accessible on line.

PARTNER INSTITUTIONS:

Università di Firenze, Università “La Sapienza” di Roma, Università di Perugia, Università di Trieste, Università IUAV di Venezia, Università di Chieti-Pescara, Università Mediterranea di Reggio Calabria. TECHNICAL UNIVERSITY CAROLUS WILHLMINA ZU BRAUNSCHWEIG

“PROCESSES, MATERIALS AND CONSTRUCTIONS IN CIVIL AND ENVIRONMENTAL ENGINEERING AND FOR THE PROTECTION OF THE HISTORIC-MONUMENTAL HERITAGE” International PhD Course

DEADLINE FOR CANDIDATURES October, 11th 2010
12 CANDIDATES ADMITTED
6 SCHOLARSHIPS AVAILABLE

Information:
Scientific Secretariat:
Ms Serena Cartei +39.055.4796-596
e-mail dott-int@dicea.unifi.it

PLEASE CONSULT THE FOLLOWING WEB SITE FOR THE APPLICATION FORM
http://www.unifi.it/CMpro-v-p-6670.html
(in Italian)

FURTHER SCIENTIFIC INFORMATION:
http://dottint.dicea.unifi.it/
(in English)
DESCRIPTION

The Course is run jointly by the Univ. of Florence (Italy) and the TU Braunschweig (Germany) and leads to a joined Ph.D. degree in both countries. The language of any activity will be English; this requires the candidates to be fluent in English (both written and spoken); any other additional linguistic skill amongst French, Italian, German and Spanish will be positively considered for the selection. Candidates shall have absolvd a 5-years (min.) Graduate Course (Laurea Specialistica, Diploma, Master or equivalent); all those titles non consistent with the Italian regulation will have to be declared as equivalent by the evaluation board. Admission is awarded upon evaluation of a three-page research activity proposal (within the global theme of the course) and on the basis of the academic career. A letter of introduction/reference pointing out the research scientific attitude of the candidate, edited and signed by the academic teacher/tutor that has mostly influenced the scientific education of the candidate will have to be handed over on the day of the oral examination/interview.

12 candidates will be admitted, 6 of them supported by a scholarship by the Univ. of Florence.

DESCRIPTION OF THE GENERAL SUBJECT

The course will deal with the central and most innovative subjects of the Civil and Environmental Engineering as analysis methods, materials and constructions.

The topics are:

a) analysis, monitoring, control and reduction of the risk induced by the natural calamities and by the human actions on the built environment;

b) defense of single constructions and of the existing historical heritage in Europe.

The course is articulated in 4 educational directions:

- wind, earthquake, soil and waters action and their interaction with the structures and infrastructures;
- the seismic, wind, geotechnical, hydraulic and hydro-geotechnical risk;
- the climatic changes and their effects on the environment and on the atmosphere;
- the techniques and the tools for the defense, the analysis, the monitoring of the existing heritage: monumental, building, infrastructural, environmental, of the air and of the waters;
- the valorization, the innovation and the development of the analysis methods, forecast and assessment of the risk, the damages and the costs;
- the techniques and the statistical methods for the socio-economical aspects of the risk, the damages and costs;
- the large off-shore and on-shore structures and infrastructures for wind energy;
- the recovery and the conservation of the architecture of the 1900’s;
- optimization of the building processes and safety and construction management;
- the study of innovative materials for structural and non-structural elements.

DURATION AND PHASES OF THE PROJECT

Official beginning of the course: 01.01.11.

Official end: 31.12.13

The course lasts 3 years, (36 months) and they have been divided as follow:

- 1st year:
up to 6 months of intensive monographic courses (half in Italy and half in Germany);
- basic research and planning of the work (bibliography, visits, consultation, collection of instruments and tools….) at the home University.

- 2nd to 3rd year:
research work; thematic seminars & stages
9 to 12 months of exchange period

- 3rd year:
research work; thematic seminars & stages.
Final presentation to the board of teachers.

MEETINGS OF THE BOARD OF THE TEACHERS

Meetings between students and Board of the Teachers, at least every 6 months, for every year of course, are scheduled. Exchanges and interactions between students and teachers of different fields are promoted.