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1563



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The Institute of Mathematics and Informatics of the Bulgarian Academy of Sciences and Fondazione 1563 per l'Arte e la Cultura announce **the course “Computer Science Essentials for Digital Humanities” with the workshop “Information systems and cultural institutions”**, which will be focused on the digital photo library (<https://fototeca.fondazione1563.it/>) of Fondazione 1563.

Description

The course consists of **five online modules** that introduce students to some basic concepts and essentials of computer science such as cryptography, steganography, accessibility, databases and user experience, followed by a practical experience with working on digital historical databases. **It will be followed by a hands-on workshop at the premises of Fondazione 1563 in Torino**, presenting case studies from the foundation.

Language of instruction

English

General learning objectives for PhD students

The aim of the course is to provide the basic skills knowledge and competences to PhD students in order to understand the computing background of digital archival databases, so that they can develop, modify and administrate them.

During the final workshop the candidates will work on actual databases with images and text, provided by Fondazione 1563 per l'Arte e la Cultura and will have their own personal projects to complete.

Further, the course emphasizes development of skills related to STEM, and in particular computer science and software engineering.

Learning outcomes

On completion of the course the candidate should have the following learning outcomes defined in terms of knowledge, skills and general competence:

Knowledge

After completion of the course, the candidate:

- Has broad understanding of the principles behind security, accessibility, and resilience;
- Has knowledge about cryptographic and steganographic primitives and their application in practice;
- Has insight into the importance of accessibility;
- Can judge the appropriateness of archival resources;
- Has good understanding on the leading contemporary technologies for development of databases for software information systems.

- Has specific knowledge about UX concepts;

Skills

After completion of the course, the candidate:

- Can develop, maintain and administrate archival databases;
- Can discuss issues of accessibility and open access;
- Can evaluate security and resilience of databases;

General competence

After completion of the course, the candidate:

- Can identify issues with accessibility of archival resources;
- Can identify threats to database integrity;
- Can understand cryptographic and steganographic principles;
- Can understand database structures;

Credits (ECTS)

7.5

Specific terms

Pre-requirements

Master Degree or equivalent in disciplines relevant to STEM, digital humanities or historical sciences.

Compulsory Requirements

English language, Basic computer competences

Useful pre-requisite knowledge

- Basic linear algebra, modular arithmetic and basic Matlab experience would be an advantage.
- Basic understanding on propositional logic and the mathematical concepts for functions, sets, graphs and trees.
- Basic understanding on some computer systems concepts such as client-server architecture, TCP/IP computer networks (how the Internet works), layered and modular software information systems.
- Basic understanding on the programming concepts for objects, methods and attributes.

Compulsory assignments:

- Completion of a personal or team project

Form of assessment

Grading of a personal project, developed over the course and reviewed for both applicability and engineering soundness.

Who may participate

The course is primarily for PhD candidates. Post-doctoral and Masters students **may** be considered upon the discretion of the organizers.

How to participate

Fill in a form on tinyurl.com/35ht87x5

The **workshop “Information systems and cultural institutions”** at Fondazione 1563, in Torino (Italy) will be open to a **maximum of 20 participants**. The participants will be international and will come from the four universities that are partner of the ISPAS project (Institute of Mathematics and Informatics, University of Stavanger, University of Girona, University of Torino).

The participants will be selected by the Institute of Mathematics and Informatics of the Bulgarian Academy of Sciences and Fondazione 1563, based on the presentation of a motivational letter, where they will be asked to include:

- why they are interested in participating in the workshop
- what they expect from the workshop and how they will contribute to it
- their interest in and experience with digital tools applied to research
- their cv and a short description of their research

All the travel and room and board expenses while in Torino will be borne by Fondazione 1563, Fondazione 1563 will be in charge of arranging the details of the travel and accommodation of the participants.

The participants will be requested to work on their own laptop.

Important dates

Deadline for application – 10.01.2022

Announcement of selected participants – 17.01.2022

Online course – 24-30.01.2022

Workshop – 7-9.02.2022 (from 9.00 AM to 5.00 PM), the workshop will be held in presence at Fondazione 1563 in Torino, Italy.