**PG Diploma in Digital Humanities and Cultural Informatics**

**SCHOOL OF CULTURAL TEXTS AND RECORDS**

**2 semester (1 year) full-time course**

**40 credits**

**Introduction**

This syllabus is for a 2 semester PG Diploma course in digital humanities and cultural informatics within the larger context of the application of computational tools to humanities research. The course will serve

(a) to orient students in the ways in which the study of the humanities today has been transformed by the inevitable presence of digital technology, to the extent that the very understanding of the method and aims of the “humanities” has to come to terms with new technological and economic compulsions. This critical and reflective component of digital humanities lies at the heart of the proposed course. This would provide theoretical insights into the most important changes taking place in the very definition and scope of the humanities as digital humanities brings the arts and technology into integration.

(b) to familiarize students with the basic rationale, objectives, possibilities and processes of digital record-keeping and data processing; and engaging with new forms of textuality.

(c) to develop practical skills in electronic archiving, processing, editing and on-screen presentation of cultural material on a variety of platforms and for diverse communities of users;

(d) to train students to apply principles of textual, editorial and communication theory to technical situations, so that they can produce high quality work in a digital environment.

Besides formal instruction through lectures, practical classes, workshops and demonstrations, the course will comprise a series of readings, discussions, and projects that will familiarize the students with some of the areas and disciplines shaping the field.

The first semester will provide a theoretical grounding in the field of digital humanities and cultural informatics. Students will go on in semester 2 to study in detail the problems and prospects of the application of digital technology to book history and publishing, archives, literature, music, images and film through case studies, discussions and demonstrations.

The course is being proposed by the School of Cultural Texts and Records in collaboration with the core departments of the Faculty of Arts, Jadavpur University and other interdisciplinary schools and centres of the university. A feasibility study has been conducted and it has been concluded that the course may be implemented within six months of the receipt of funds and appointment of staff.

**Overview**

The course will incorporate the basic steps essential to all work in digital humanities:

* Conceptualizing humanities research in the context of new digital technology
* Acquisition and processing of material (digitization, metadata, tagging, mark-up)
* Organization (system and platform architecture, information structure, systems of classification etc.)
* Data mining and processing (creating and optimizing search engines, performing programming operations, querying data, generating results)
* Communication and presentation (user/community interaction, interface, front-end applications, standards).

The PG Diploma in Digital Humanities and Cultural Informatics will help students develop firstly, a critical sense of the problems of the humanities in an age of digital technology, and secondly, the analytical and practical skills to understand and apply computing to the source materials and problems of the humanities. With the proliferation of digital technology and its use in every field of cultural activity, there is a growing need to impart key skills in digital content management – creation, preservation, delivery and study – to individuals who will thereafter be in a position to use them in a wide of variety of employment contexts. As the requirements of study in the humanities are often not met by proprietary software packages driven by the market, there is an urgent need for humanities scholars to learn how to use open source platforms to design and tweak the packages that will serve them best. This course uses both formal methods and techniques and hands-on practice in applying them to real-world situations. A representative selection of case-studies drawn from a number of disciplinary areas will be used to exemplify typical problems and the combination of technical means needed to approach them successfully. Because of the range and depth of these problems, the programme is able to equip students not only for further research at the doctoral level but also for work in publishing, museums, libraries, business and the public services.

At the core of the programme is the attempt to use digital technology and computational methods to enhance the study of the imaginative variety of cultural expression. The challenge for the humanities is to use machine language and capacities to deal with cultural material that is not easily quantified or processed. By creating structured models out of the irregular and disparate data of the humanities, the students will learn to judge how the application of computing can be made to produce interesting results and also to learn how these analytical and practical processes can throw new light on the object of study.

While the digital storage and presentation of cultural material is becoming increasingly important, there is no degree course anywhere in India offering a comprehensive training in its basic principles and methods. At best, students are trained in the limited skills needed for a particular job such as data entry or database management. More often than not, even this is not done, leaving workers in this field to pick up the skills as they go. Alternatively, students from a technical background are hired to work on humanities data, but because of their unfamiliarity with the needs and tools of the discipline, the results they produce are often not user-friendly, efficient or sometimes even correct.

There is urgent need for courses that will (a) cover the range of basic notions and skills needed for cultural informatics and, more fundamentally, in the entire field of digital humanities; and (b) offer an integrated conceptual and methodological overview of the entire field, relating practical skills to their intellectual basis. Such a course can only be offered at the degree level; optimally, at or after the Master's level, after students have acquired basic training in a traditional humanities discipline (literature, history, art history, music etc.) or a broad-based scientific or technological field.

Of all institutions in India, Jadavpur University may be the best equipped to offer such a course, as it has a rare combination of a strong Faculty of Arts and an equally strong Faculty of Engineering and Technology, existing side by side. There is thus unique scope for a synergy of cultural and technological perspectives. Moreover, the university is located in the vibrant cultural centre of Kolkata, and can draw upon the collections, expertise and ambience of its many galleries, museums, libraries and archives, and its intensive programme of cultural activities.

**Course Description and Syllabus**

**Semester 1:**

**Compulsory Module I**

**Optional Module I**

**Semester 2:**

**Compulsory Module II**

**Optional Module II**

**Compulsory Module I**

**DHCI/01 Conceptualizing the Digital Humanities (10 credits)**

The course will take up the major conceptual and critical issues of Digital Humanities and Cultural Informatics.

**Course components:** A history of theHumanities in an age of digital computing; Database as form and its function in knowledge, art and governance; Open Networks, Digital Commons and New Legalities; Ethics and the Digital Community: The Representation of Knowledge.

**Compulsory module II**

**DHCI/02 Dissertation/Project (10 credits)**

In this module students will be able to design and carry out a practical project if they wish, or they may write only a dissertation. In either case it will be important that a clearly identified research question is being addressed, and in both cases the critical reflection of the student will be of paramount importance.

**Modules to the value of 20 credits from the following:**

**DHCI/03 Material Culture of the Book: Digital Models (10 credits)**

How do we make new, digital objects from old, physical ones? The focus of this module is on medieval manuscript books and late 19th to early 20th century printed books. How might a digital version or edition of such objects not only represent as much of their physical characteristics as possible but also capture the circumstances of original use?

**DHCI/04 Digital Publishing in the Humanities (10 credits)**

This module studies numerous digital publications and evaluates their design and usability. It builds on initial impressions and personal experience by considering more general principles of design and construction and by exploring specific techniques for analyzing publications.

**DHCI/05 Scholarly Editions Online (10 credits)**

The module will study digital editions, hypertexts, multiversion editions and collation software packages with emphasis on their architecture and design as well as the editorial practice embodied in them.

**DHCI/06 Digital Preservation of Moving Images (10 credits)**

This module will look at the unique problems associated with digital archives of moving images, examine the existing methods and explore new ones.

**DHCI/07 Software Studies as the New Humanities (10 credits)**

This course explores the concepts, methods, and tools of computational cultural analysis, with a particular focus on the analysis of visual and interactive media.

**DHCI/08 Digital Music Archiving (10 credits)**

The aim of the modules is to provide both an overview and a practical understanding of audio archiving. Emphasis will be given on technologies of conversion from analogue to digital formats.

**DHCI/09 The Photograph and its Digital Surrogates (10 credits)**

This module will look at the various protocols for archiving and organizing still images and their pros and cons. A large body of research is currently being carried out in the field of image recognition, and students will study the methodologies adopted in this field. The importance of constructing appropriate databases for visual material

**DHCI/10 Advanced Text Technologies (10 credits)**

This module is a practically-oriented introduction to technologies used in scholarly text editing and digital publication, notably XML and XSLT. These technologies support a dynamic view of text: where word processors create static texts that are identical to their presentation, dynamic texts can be presented in many ways, and lend themselves better to querying and mining. This approach requires new ways to create the texts themselves and specialized tools for processing them.

**DHCI/11 Theory of Digital Texts (10 credits)**

This course will look at the logical basis of digital text and explore ways to unlock the full potential of digitally readable text. The course will teach the use, handling and analysis of (born)-digital texts and examine the philosophical implications of the digital text.

**DHCI/12 Quantitative Methods in Humanities Research (10 credits)**

Digital technology allows for quantitative analysis of large corpora of textual material. This enables forms of textual study hitherto impossible, or at any rate, difficult to pursue. This course examines existing technologies of quantitative analysis and trains participants in the development of specific software tools.

**Other courses may be added from time to time**.

**Consolidated Bibliography**

**(Specialised course-specific readings and web resources will be made available to students)**

Bailey, Charles.*Scholarly Electronic Publishing Bibliography* [[X](http://epress.lib.uh.edu/sepb/sepb.html)].

Besser, Howard and Jennifer Trant. 1995. *Introduction to Imaging*. Santa Monica, CA: The Getty Art History Information Program. . [CCH Library]

*Blackwell Guide to the Philosophy of Computing and Information*

Bradley, John. 2004. “Text Tools”, in Schreibman, Siemens and Unsworth 2004 (II.3, above).

Busa, Roberto. 1980. “The Annals of Humanities Computing: The Index Thomisticus”, in *Computers and the Humanities* 14:83-90.

Chaudhuri, S. (2010) *The Metaphysics of Text*. Cambridge University Press.

Date, C.J. *Database: A Primer*. Addison-Wesley, 1983. Greenstein, D.I. 1994. *A Historian's Guide to Computing*. Oxford: Oxford University Press.

Deegan, M. and Tanner, S. (2006) “Digital Preservation”. London, Library Association Publishing.

Dreyfus, Hubert L. 2001. *On the Internet*. London: Routledge.

*Ejournal SiteGuide: a Metasource*. Ed. Joseph Jones. [[X](http://www.library.ubc.ca/ejour/)]. *NewJour: Electronic Journals and Newsletters*. Ed. Ann Shumelda Okerson and James J. O'Donnell. [[X](http://library.georgetown.edu/newjour/)].

Franchi, Stefano and Güven Güzeldere, eds. 1996. “Constructions of the Mind: Artificial Intelligence and the Humanities”. *Stanford Humanities Review* 4.2.

Fraser, Michael, et al., eds. *Humbul Humanities Hub*, Research and Discovery Network (U.K.) [[X](http://www.humbul.ac.uk/)

Gitelman, Lisa. (2006) *Always Already New: Media, History, and the Data of Culture* . NY: MIT.

Graham, Gordon. 1999. *The Internet: a philosophical inquiry*. London: Routledge.

Graham, Ian S. 2001. *The XHTML 1.0 Language and Design Sourcebook*. John Wiley & Sons.

Hughes, L. (2004). “Digitizing Collections, Strategic Issues for the Information Manager”. London, Facet.

Kenney, A. and Reiger, O. (2000) "Moving Theory Into Practice, Digital Imaging for Libraries and Archives". RLG.

Kirschenbaum, Matthew, ed. 2002. *Image-based Humanities Computing*. A special issue of *Computers and the Humanities* 36.1, including an extensive bibliography.

Lynch, Patrick J. and Sarah Horton. 2002. [*Web Style Guide*](http://www.webstyleguide.com/). 2nd edn. New Haven: Yale University Press.

Macdonald, L.W. (2006). “Digital Heritage: applying digital imaging to cultural heritage”. Elsevier

Manovich, Lev. 2001. *The Language of New Media*. Cambridge MA: MIT Press..

McCarty, Willard. 1993. “Handmade, Computer-Assisted, and Electronic Concordances of Chaucer”. In *Computer-Based Chaucer Studies*, ed. Ian Lancashire. Vol 3 of *CCH Working Papers*. Toronto: Centre for Computing in the Humanities. 49-65.

McCarty, Willard. 2005. *Humanities Computing*. Basingstoke: Palgrave.

Meninger, Karl. 1958/1969. *Number Words and Number Symbols: A Cultural History of Numbers*. Paul Broneer, transl. Boston MA: MIT Press.

Moretti,Franco . (2005) *Graphs, Maps, Trees*. London: Verso

Naughton, J. (2000) “A Brief History of the Future: Origins of the Internet”. Phoenix.

Poovey, Mary. 1998. *A History of the Modern Fact: Problems of Knowledge in the Sciences of Wealth and Society*. Chicago: University of Chicago Press.

Schreibman, S., and Siemens, R., (Eds) (2008). *A Companion to Digital Literary Studies. Blackwell Companions to Literature and Culture*. Available freely online at [http://www.digitalhumanities.org/companionDLS](http://www.digitalhumanities.org/companionDLS/)

Schreibman, S., Siemens, R., Unsworth, J. (Eds). (2007) *A Companion to Digital Humanities Blackwell Companions to Literature and Culture*. Paperback Edition, 2007. Available freely online at <http://www.digitalhumanities.org/companion/>

Shillingsburg, Peter. (2006) *From Gutenberg to Google. Electronic Representations of Literary Texts*. Paperback. Cambridge University Press.

Sinclair, John. 1991. *Corpus Concordance Collocation*. Describing English Language. Oxford: Oxford University Press.

Sperberg-McQueen, C. M. 1991. “Text in the Electronic Age: Textual Study and Text Encoding with Examples from Medieval Texts”. *Literary and Linguistic Computing* 6.1: 32-46

Stemler, Steve. 2001. “An overview of content analysis”. *Practical Assessment, Research & Evaluation* 7.17

Susan Hockey. (2000). *Electronic Texts in the Humanities: Principles and Practice*. Oxford: Oxford University Press.

Townsend, Sean, Cressida Chappell and Oscar Struivjé. *Digitising History: A Guide to Creating Digital Resources from Historical Documents*. AHDS Guides

Tufte and Press,  *Visual and Statistical Thinking: Displays of Evidence for Making Decisions*, 1997 (ISBN 0961392134).

Tufte, Edward. 2001. *The Visual Display of Quantitative Information*. 2nd edn. Cheshire CT: Graphics Press

[W3 Schools XHTML Reference](http://www.w3schools.com/tags/default.asp).

[W3C Markup Validation Service](http://validator.w3.org/). The validator for XHTML documents recommended for this course.

Web Resources

Winograd, Terry and Fernando Flores. 1986. *Understanding Computers and Cognition*. Boston MA: Addison-Wesley..

[XHTML standard](http://www.w3.org/TR/xhtml1/) from the World Wide Web Consortium: *Humanist*. 1984--. Ed. Willard McCarty