

Nova Southeastern University
Graduate School of Computer and Information Sciences

Course Syllabus

MMIS 680 Human-Computer Interaction (3 credits)

2009 Fall Term, August 24, 2009 – December 13, 2009, Online Format

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Class Location and Format: Online using WebCT tools. Please note that some files and information resources are posted on my HCI website. Course Internet address:
<http://scis.nova.edu/nova/hci/top.html>

Course Description:

The dynamics of human-computer interaction (HCI) are examined with a blend of theory and practice pertaining to the study of information systems. Provides a broad and comprehensive overview and offers specific background relating to user-centered approaches in the design and evaluation of information systems applications. Areas to be addressed include the user interface and software design strategies, user experience levels, interaction styles, usability engineering, web site usability, and collaborative systems technology. Students will perform formal interface evaluations and usability tests applied to current information systems technology.

Required Textbooks and Selected Article Readings:

Rubin, J. & Chisnell, D. (2008). *Handbook of usability testing. How to plan, design, and conduct effective tests*. Second Edition. Indianapolis, IN: Wiley Publishers. ISBN: 9780470185483.

Note to the student: If you have difficulty getting the Rubin text, you may select any general text on usability, especially any of those indicated with a * in the bibliography section of this syllabus. (Barnum or Nielsen, for example). There are several usability texts that will suffice for this course.

Note to the student: A general text on HCI is required. Choose **ONE** of the following texts:

Shneiderman, B. & Plaisant, C. (2010). *Designing the user interface. Strategies for effective human-computer interaction*. Fifth Edition. Pearson/Addison-Wesley. ISBN-10: 0321537351; ISBN-13: 9780321537355.

Sharp, H., Rogers, Y., & Preece, J. (2007). *Interaction Design. Beyond human-computer interaction*. Second edition. Somerset, NJ: John Wiley & Sons. ISBN: 9780470018668.
Note to the student: A general HCI text is required.

Selected ACM articles. See Course Schedule in the syllabus. ACM articles can be accessed online through the NSU Electronic Library, the ACM Digital Library Database.

See the Course Schedule in the syllabus for specifics on reading assignments throughout the term.

Learning Objectives:

Upon completion of the MMIS 680 course, the student will:

1. Gain insight into the field of human-computer interaction and its role in the study of information systems.
2. Understand how information systems design practices and methods can be integrated with human factors principles and methods.
3. Identify interfaces and components of systems.
4. Gain a conceptual foundation for the HCI design process, including design principles and goals, models of user knowledge, interaction styles, design guidelines, and assessment of user interface design.
5. Understand the difficulties and pitfalls of translating theory and principles derived from research findings, into practical advice on user interface design.
6. Apply metaphorical reasoning and conceptual models to user interface design.
7. Describe the major aspects of usability engineering.
8. Apply usability and design principles to the evaluation of current interfaces.
9. Apply suitable methods for collecting users' requirements and analyzing users' tasks.
10. Perform usability analyses and evaluate product design.
11. Synthesize HCI and information systems research literature effectively.
12. Integrate effectively the current and recognized HCI literature, including papers from SIGCHI conference proceedings and from various HCI peer-reviewed publications.
13. Understand how computer systems can enhance collaboration in the context of work organization.
14. Assess societal impacts of information systems.

Possible Course Topics (summary): Human-Computer Interaction as an emerging field; user experience levels; interaction design strategies; interface metaphors and conceptual models; HCI and the Web; HCI, the Internet and user behavior; HCI and security; usability concepts; usability evaluation and user testing; accessibility; and HCI Research in HCI.

MMIS 680 HCI Course Requirements:

Course Activities: Students will conduct independent research and produce scholarly projects. In addition, students will contribute to the asynchronous discussion forums in WebCT, throughout the term. Contributions will count as points toward the class participation grade. See the section on Student Forums in the addendum Course Guide for instructions/expectations on contributing to the online conference discussions.

In addition to the required asynchronous discussions in WebCT, the major course requirements will consist of two assignments. Instead of the typical midterm and final examinations, two assignments or projects are required that will enable the student to synthesize the major issues and relevant research currently being examined in the field of human-computer interaction.

Assignment #1: An objective and scholarly interface evaluation paper. Due date is: **Sunday, October 4, 2009.**

Assignment #2: Conduct and report a usability evaluation. Due date is: **Sunday, November 29, 2009.**

IMPORTANT: Specific instructions for completing these assignments are contained in the addendum Course Guide. Assignments must be submitted according to the due dates specified in this syllabus. Late assignments must be **pre-approved** by the professor and will likely result in point reduction. **ALL ASSIGNMENTS REQUIRE OUTSIDE LITERATURE RESEARCH AND ACTIVITY.** Assignments **must** be submitted online through the assignment submission link in WebCT. Do not email or fax assignments.

Grading Scale and Criteria:

A	.....	192-200 points
A-	.....	186-191 points
B+	.....	180-185 points
B	.....	174-179 points
B-	.....	168-173 points
C+	.....	162-167 points
C	.....	156-161 points
F	.....	0-155 points

Grading Criteria for the 680 course:

Assignment #1	75 points
Assignment #2	100 points
Class Participation (Forums)	25 points

	200 points total

School and University Policies and Procedures:

Students must comply with the policies published in the school's *Graduate Catalog* and the *NSU Student Handbook*, some of which are included or referenced below. The catalog is at http://www.scis.nova.edu/NSS/pdf_documents/Catalog.pdf. The handbook is at <http://www.nova.edu/cwis/studentaffairs/forms/ustudenthandbook.pdf>.

1. Standards of Academic Integrity For the university-wide policy on academic standards, see the section Code of Student Conduct and Academic Responsibility in the *NSU Student Handbook*. Also see the section Student Misconduct in the GSCIS catalog.

Each student is responsible for maintaining academic integrity and intellectual honesty in his or her academic work. It is the policy of the school that each student must:

- Submit his or her own work, not that of another person
- Not falsify data or records (including admission materials and academic work)
- Not engage in cheating (e.g., giving or receiving help during examinations; acquiring and/or transmitting test questions prior to an examination; and using unauthorized materials, such as notes, during an examination)
- Not receive or give aid on assigned work that requires independent effort
- Properly credit the words or ideas of others according to accepted standards for professional publications (see *Crediting the Words or Ideas of Others*)
- Not use or consult paper writing services, software coding services, or similar services for the purpose of obtaining assistance in the preparation of materials to be submitted for course assignments or for theses or dissertations
- Not commit plagiarism (*Merriam-Webster's Collegiate Dictionary* (1996) defines plagiarism as "stealing or passing off ideas or words of another as one's own" and "the use of a created production without crediting the source.") (see *Crediting the Words or Ideas of Others* below)

Crediting the Words or Ideas of Others

When using the exact words of another, quotation marks must be used for short quotations (fewer than 40 words), and block quotation style must be used for longer quotations. In either case, a proper citation must also be provided. The *Publication Manual of the American Psychological Association, Fifth Edition*, (2001, pp. 117 and 292) contains standards and examples on quotation methods.

When paraphrasing (summarizing, or rewriting) the words or ideas of another, a proper citation must be provided. (*Publication Manual of the American Psychological Association, Fifth Edition* (2001) contains standards and examples on citation methods (pp. 207–214) and reference lists (pp. 215–281)). The *New Shorter Oxford English Dictionary* (1993) defines paraphrase as “An expression in other words, usually fuller and clearer, of the sense of a written or spoken passage or text...Express the meaning (of a word, phrase, passage, or work) in other words, usually with the object of clarification...” Changing word order, deleting words, or substituting synonyms is not acceptable paraphrasing—it is plagiarism, even when properly cited. Rather than make changes of this nature, the source should be quoted as written.

Addendum by this professor: Additional requirement for this course -- overuse of direct quotes will not be acceptable in papers for this course. Direct quotes should be used sparingly, if only necessary. Points will be reduced in papers where excessive direct quoting is used. It is better instead to paraphrase and properly cite the work.

Original Work

Assignments, exams, projects, papers, theses, dissertations, etc., must be the original work of the student. Original work may include the thoughts and words of another author but such thoughts or words must be identified utilizing quotation marks or indentation and must properly identify the source (see the previous section *Crediting the Words or Ideas of Others*). At all times, students are expected to comply with the school’s accepted citation practice and policy.

Work is not original when it has been submitted previously by the author or by anyone else for academic credit. Work is not original when it has been copied or partially copied from any other source, including another student, unless such copying is acknowledged by the person submitting the work for credit at the time the work is being submitted, or unless copying, sharing, or joint authorship is an express part of the assignment. Exams and tests are original work when no unauthorized aid is given, received, or used before or during the course of the examination, reexamination, and/or remediation.

2. Writing Skills

Students must demonstrate proficiency in the use of the English language. Grammatical errors, spelling errors, and writing that fails to express ideas clearly will affect their grades and the completion of their academic programs. The faculty will not provide remedial help concerning grammatical errors or other writing difficulties. It is the student’s responsibility to proofread and edit his or her work which, in both form and content, should be letter-perfect. Work that is not properly edited will be rejected. It is university policy that students must submit their own work, not that of another person. Consequently, they should refrain from using outside editors to redo their work.

3. Disabilities and ADA

NSU complies with the American with Disabilities Act (ADA). The university's detailed policy on disabilities is contained in the NSU *Student Handbook*. Student requests for accommodation based on ADA will be considered on an individual basis. Students with disabilities should discuss their needs with their academic advisors before the commencement of classes if possible.

4. Communication by Email

Students must use their NSU email accounts when sending email to faculty and staff and must clearly identify their names and other appropriate information, e.g., course or program. When communicating with students via email, faculty and staff members will send mail only to NSU email accounts using NSU-recognized usernames. Students who forward their NSU-generated email to other email accounts do so at their own risk. GSCIS uses various course management tools that use private internal email systems. Students enrolled in courses using these tools should check both the private internal email system and NSU's regular email system. NSU offers students web-based email access. Students are encouraged to check their NSU email account daily.

5. The Temporary Grade of Incomplete (I)

The temporary grade of Incomplete (I) will be granted only in cases of extreme hardship. Students do not have a right to an incomplete, which may be granted only when there is evidence of just cause. A student desiring an incomplete must submit a written appeal to the course professor at least two weeks prior to the end of the term. In the appeal, the student must: (1) provide a rationale; (2) demonstrate that he/she has been making a sincere effort to complete the assignments during the term; and (3) explain how all the possibilities to complete the assignments on time have been exhausted. Should the course professor agree, an *incomplete contract* will be prepared by the student and signed by both student and professor. The *incomplete contract* must contain a description of the work to be completed and a timetable. The completion period should be the shortest possible. In no case may the completion date extend beyond 30 days from the last day of the term for master's courses or beyond 60 days from the last day of the term for doctoral courses. The *incomplete contract* will accompany the submission of the professor's final grade roster to the program office. The program office will monitor each *incomplete contract*. If a change-of-grade form is not submitted by the scheduled completion date, the grade will be changed automatically from I to F. No student may graduate with an I on his or her record.

Addendum by the professor: *Incompletes will NOT be granted for MMIS 680.*

6. Grade Policy Regarding Withdrawals

Course withdrawal requests must be submitted to the program office in writing by the student. Requests for withdrawal must be received by the program office by the calendar midpoint of the course (see dates in the academic calendar in the catalog and program brochures or at: http://www.scis.nova.edu/NSS/pdf_documents/AcadCal.pdf). Withdrawals sent by email must be sent from the student's assigned NSU email account. Requests for withdrawal received after 11:59 p.m. EST on the withdrawal deadline date will not be accepted. Failure to attend class or participate in course activities will not automatically drop or withdraw a student from the class or the university. Students who have not withdrawn by the withdrawal deadline will receive letter grades that reflect their performance in the course. When a withdrawal request is approved, the transcript will show a grade of W (*Withdrawn*) for the course. *Students with four withdrawals will be dismissed from the program.* Depending on the date of withdrawal, the student may be eligible for a partial refund (see the appropriate catalog section Refund Policy Regarding Withdrawals).

7. Acceptable Use of Computing Resources

Students must comply with the university's *Policy on Acceptable Use of Computing Resources* (see *NSU Student Handbook*).

8. Academic Progress, Grade Requirements, and Academic Standing

Students must be familiar with the school's policies which are contained in its catalog.

9. Student Research Involving Human Subjects

Students must be familiar with the university's policy (see paragraph in catalog).

10. Responsibility for Payment of Tuition and Fees

Once registered, students are personally responsible for the payment of their tuition and fees. Returned checks, cancelled credit cards, employer or agency refusal to pay, ineligibility for financial aid, and other reasons for non-payment may result in a direct bill to the student, and/or referral to a collection agency.

Payment and refund policies are based on the view that a student registering for a class is reserving a place in that class and that tuition and fees cover the opportunity to secure that place in the class. Since no other person can purchase that place, the student is responsible for the tuition and fees associated with it. Simply not attending does not constitute a reason for non-payment.

11. Miscellaneous rules: (1) A student may neither do additional work nor repeat work to raise their grade. (2) Literature research is required for all work in this course. (3) Follow NSU IRB policy on Student Research (see Instructions for Completing Assignment #2). (4) Adhere to all deadlines – late arrivals will likely result in point reduction. (5) To receive full class participation points, every student must make steady contributions to the online Student Forums in order to keep a healthy communication going throughout the term. (6) No work from another course may be used in MMIS 680. (7) There will be no incompletes given for MMIS 680.

Prepared by Laurie P. Dringus, Ph.D. and Maxine Cohen, Ph.D.
Bibliography and Suggested Texts:

* Recommended texts on usability evaluation and testing

Note to the student: It is highly suggested that you investigate these sources as reference materials for your assignment/project work. Also, master's students may refer to the Reading Assignments Addendum list for articles to be used as reference materials.

In addition, it is highly suggested that you visit the ACM SIGCHI Web site, publications page, for other available journals and conference proceedings. Some journals and proceedings are available full-text online. Check it out: www.acm.org/sigchi/publications/

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- *Dumas, J.S., & Loring, B. (2008). *Moderating usability tests. Principles & practices for interacting*. Burlington, MA: Morgan Kaufmann Publishers/Elsevier.
- *Dumas, J.S., & Redish, J.C. (1999). *A practical guide to usability testing*. Revised Edition. Portland, OR: Intellect Books.
- Erickson, T., MacDonald, D. (Eds.) (2008). *HCI remixed: Reflections on works that have influenced the HCI community*. MIT Press, Cambridge, MA.
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- *Galitz, W.O. (2007). *The essential guide to user interface design. An introduction to GUI design principles and techniques*. 3rd Edition. New York: John Wiley Publishers.
- Hackos, J.T., & Redish, J.C. (1998). *User and task analysis for interface design*. New York: John Wiley Publishers.
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Course Schedule for MMIS 680 Human-Computer Interaction

This schedule is based on the Shneiderman et al . (2010) 5th edition, the Sharp, et al. (2007) 2nd edition text, and the Rubin and Chisnell, (2008) 2nd edition text. See Instructions on Following the Course Schedule below.

<u>Week</u>	<u>Topic</u>	<u>Activities, Assignments, and Due Dates</u>
1	Introduction to Human-Computer Interaction and Interaction Design	Shneiderman: Ch.1, 2 Sharp: Ch.1,6 Rubin: Ch. 1 Read articles Discussion Forum: post your bio in <i>Class Bios</i> thread
2	ACM SIGCHI Resources and various links; Understanding Interaction; HCI Concepts and Principles	Visit HCI Exploration Links and also the SIGCHI website Shneiderman: Select 2 chapters from Part III Sharp: Ch. 2 Rubin: Ch. 2 Read articles Discussion Forum: <i>Practice Theme</i> thread
3-4	Understanding Users; Human Aspects of HCI; Usability Concepts	Shneiderman: Ch. 3 Sharp: Ch. 3-5 Rubin: Ch. 14 Read articles Discussion Forum: <i>HCI Concepts and Terms</i> thread, <i>Interface Evaluation</i> thread
5	Usability Concepts continues; Intro to Usability Evaluation and Testing	Shneiderman: Ch. 4 Sharp: Ch. 12-13 Rubin: Ch. 3-4 Read articles Discussion Forum: <i>Usability Concepts</i> thread
6	Assignment #1 Due end of weekend (Sunday)	Assignment #1 Interface Evaluation Due in WebCT on or before 10/4/09
7	HCI and the Web; HCI and Security	Shneiderman: Ch: 11, 13 Read articles Discussion Forum: <i>HCI and Security</i> thread starts
8	Data Gathering, User-Centered Approaches	Shneiderman, Ch. 10 Sharp: Ch. 9, 10

		Rubin: Ch. 5 Read articles Discussion Forum: <i>Usability Evaluation</i> thread starts
9-10	Observing Users; Usability Evaluation Methods	Sharp: Ch. 7,8, 15 Rubin: Ch. 6 Read articles Discussion Forum: <i>Usability Evaluation</i> thread continues; <i>Usability Task List</i> thread starts
11-12	Usability Test Planning	Rubin: Ch. 7, 8, 13 Discussion Forum: <i>Usability Evaluation</i> thread continues; <i>Usability Task List</i> thread continues
13	Testing and Modeling Users; Reporting User Data	Sharp: Ch. 14 Rubin: 9, 10, 11, 12 Discussion Forum: <i>Usability Evaluation</i> thread continues; <i>Usability Task List</i> thread continues
14	Assignment #2 Due end of weekend (Sunday)	Assignment #2 Usability Evaluation Due in WebCt on or before 11/29/09
15-16	HCI, Accessibility and designing for special populations The Future of HCI (wrap up)	Read articles Discussion Forum: <i>Evaluate this Interface</i> Shneiderman: Afterword Discussion Forum: <i>The Future of HCI</i>

Instructions on Following the Course Schedule:

A weekly schedule is organized of recommended readings from the required texts, required article readings (below), and activities such as discussion forums and assignment due dates. The general pattern for discussion forum threads is that I will post new topic threads on certain weeks, but discussions will continue on all threads (as needed) through the remainder of the term. Some threads like Usability Evaluation and Usability Task List are likely to sustain over several weeks because of the number of issues to be covered within them. See the Course Guide for *About Student Forums – Class Participation* as steady participation is expected throughout the term. Depending on class size and other course dynamics, our online discussions will include many themes, but may not necessarily follow the exact order or timing of the course schedule.

On recommended readings from the required texts: For your convenience, I have organized text chapter readings into manageable units, attempting to follow related topics as discussion forum activities commence. This schedule is only a guide to help you read the texts in an organized

way. You may read ahead or read several chapters concurrently. Finally, please note that for your convenience, I offer chapter readings based on Sharp et al. *and* Shneiderman et al., due to the popularity of these texts. You may acquire the Shneiderman text **or** the Sharp text. (Only one is required.) In addition to the Sharp or Shneiderman text, the Rubin and Chisnell text is also required reading for the course.

On required article readings: Follow the selected article readings (below) in conjunction with the Course Schedule. These articles extend breadth and depth on many issues and topics that the required texts only generally cover. Read the articles and be prepared to discuss them in our discussion forum threads as appropriate and as applicable.

Also, lecture notes and some audio files will be posted in several threads.

Assignment Due Dates must be strictly adhered to. (See Syllabus and Course Guide for instructions.) Assignments are due on a Sunday, considered the last day of the course week.

**MMIS 680 HUMAN-COMPUTER INTERACTION
ADDENDUM TO THE COURSE SCHEDULE IN SYLLABUS
READING ASSIGNMENTS -- SELECTED ACM ARTICLES**

Note: A variety of articles from publications of the Association of Computing Machinery (ACM) have been selected for reading during the term. Use this reading schedule in conjunction with the course schedule. You may use these sources as reference material for assignments.

IMPORTANT! READ ME! -- While full citations are given below on all required articles to read, you must access them through the NSU Electronic Library.

To Access the ACM Digital Library through NSU's Electronic Library, go to our library at <http://www.nova.edu/library/main/>

Currently, the static link to the ACM Digital Library is:

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Week #1 and Week #2:

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Raskin, J. (1997, February). *Looking for a humane interface. Will computers ever become easy to use? Communications of the ACM*, 40, 2, 98-101.

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