 EDIT 773 Section C01: Human-Computer Interface Design for Teaching and Learning

DAYS / TIME / LOCATION	INSTRUCTOR: Wanda Mally
June 28 – August 3 Monday / Wednesday / Friday 7:20 p.m. – 10:00 p.m. Robinson A350	Email Address: wmally@gmu.edu Phone Number: (207) 738-2414; (207) 738-2449 (FAX) Online Office Hours: Mondays and Wednesdays 6 p.m. to 7 p.m. and by appointment

Online Course Delivery
EDIT 773 Section C01 Summer 2004 will be delivered primarily online. The course will
be conducted using an asynchronous format consisting of the following:

- Instructor-provided lecture notes
- Assigned readings & research
- Instructor-Student discussion threads (based on readings & research)
- Online group activities

To successfully participate in the course, Students are required to have access to and use
WebCT and GMU email accounts.

Although this class meets primarily online, two formal classroom meetings between the
Instructor and Students will be held twice during the semester—the first night (June 28)
and last night (August 2) of the class. (These classroom meeting dates are also noted in
the detailed course schedule of this syllabus.) Instructor online office hours are held on
Monday and Wednesdays from 6 p.m. to 7 p.m. and by appointment.

Each week we will cover a different topic relating to HCI. (Exception: The first week of
the semester will cover two lecture topics.) The Instructor-provided lecture notes for
these topics are available at anytime for your review, download and/or reference
throughout the semester. At the beginning of each week, the Instructor will post the
discussion questions and activities for that week's lecture topics. It is the student's
responsibility to keep track of the weekly course schedule of topics, readings,
discussions, activities, and assignments due.

Course Description
This course uses a discussion and practical application approach to allow the student to
experience *and* practice techniques used in designing a human-computer interface. The
course begins by addressing cognitive, technological and physiological/human factors
issues that influence interface design, followed by a detailed look at aspects of design
specifications that must be considered when designing any computer interface. This
course builds on the systems approach to instructional design and applies this approach to
human-computer interface design. Therefore, the student is provided a review of common
steps within instructional design models and steps used in interface design. The student
then uses selected steps from these processes to identify and document a requirement for
a human-computer interface solution. Because evaluation is a critical component of any
system design and delivery process, the student is required to develop a comprehensive

on-line evaluation tool that is the embodiment of design characteristics taught in the course then use the tool to evaluate a human-computer interface.

Course Objectives

- Identify the types and modes of user interfaces
- Define interactivity and describe the levels of interactivity used in designing multimedia instruction
- Describe cognitive, technological and physiological issues impacting user interface design
- Recall the basic steps of a systematic design process when considering the steps required for designing a user interface
- Use the necessary steps of a given design process to identify the user, tasks, and general design requirements of a user interface
- Review the process used to identify media/mode requirements for a user interface
- Apply interface design standards in the design of a simple on-line form
- Recognize examples and non-examples of good interface design through observation, hands-on testing, and evaluation
- Identify specialized devices used in some user interfaces
- Recognize and/or apply standards used in the design of screens, windows, menus, colors, icons, feedback and guidance when developing or creating specifications for a user interface
- Use interface design specifications to create a "quick reference" for web-based and instructional product design and development
- Identify and reference some of the experts in the field of HCI design as well as discuss their views on user-centered design

Resources Required by Students

- WebCT Account
  (go to http://www.irc.gmu.edu/coursetools/webct/IRC_Quickguide2_IET.pdf to review system requirements for running WebCT from your home)
- GMU Email Account

Course Texts
(Required)
- Kruse, Kevin and Keil, Jason. (1999). Technology-Based Training: The Art and Science of Design, Development, and Delivery. San Francisco: Jossey-Bass Pfeiffer (ISBN 0-7879-4626-5) $39.00

(Optional)
- Norman, Donald A. (2002). The Design of Everyday Things. New York: Perseus Books Group (ISBN 0-465-06710-7) $16.95

- Pearrow, Mark. (2000). Web Site Usability Handbook. Rockland, MA: Charles River Media, Inc. (ISBN 1-58450-026-3) $49.95

Class Schedule for Week 1

Session	Lecture / Discussion Topic	Readings / References	Activities and Assignments Due
Monday June 28 **CLASS MEETS IN ROBINSON A350**	Course Introduction: Human computer interface vs. human computer interaction and why they are important in teaching and learning	Referenced: Kruse & Keil, Chapter 1 (Pages 1 through half of page 24) Also referenced: Pearrow, Chapter 1 Handouts	Student/Instructor introductions; Attendance/Collect contact information Review course information, syllabus and access to WebCT Course Intro Lecture and In-class exercise Confirm head-count for Assistive Technology Lab tour for Friday July 2 at 7:30, Thompson Hall Room 221 (The lab's web site is http://ttac.gmu.edu/atlab/website/index.shtml)
Wednesday June 30	Topic 1: Human Interface Design Characteristics and Principles: Cognitive, Technological, and Physiological Issues Relating to Interface Design Sub-topic 1a: Assistive Technology and Related Applications	Referenced: Kruse & Keil, Chapter 5; Handouts / On-line resources Also referenced: Pearrow, Chapters 4, 5, 6 and 9	Start online Discussion / Activity for Week 1: Assistive Technology and Related Applications
Friday July 2	Continue Sub-topic 1a: Assistive Technologies and Related Applications		Tour of Assistive Technology Lab at 7:30 P.M., Thompson Hall Room 221 Continue online Discussion / Activity for Week 1: Assistive Technology and Related Applications **Due: Email your design project topic to Instructor**

Class Schedule for Week 2

Session	Lecture / Discussion Topic	Readings / References	Activities and Assignments Due
Monday July 5	**Holiday**	Holiday	Instructor will wrap up and post summary remarks for online Discussion / Activity for Week 1
Wednesday July 7	Topic 2: Overview of the Design Process • Systematic Approach • In-depth Look at Key Design Steps for a User-Centered Interface including the user and task analyses • Hardware selection • Delivery Modes and Methods	Referenced: Kruse & Keil, Chapters 2, 3 and 4; Handouts / On-line resources Also referenced: Pearrow, Chapter 2; and Norman, Chapters 1, 2, 3 and 7	Start online Discussion / Activity for Week 2: The Design Process
Friday July 9	Sub-topic 2a: Simple metrics models for collecting analyzing user feedback as input to the interface product improvement process		Continue online Discussion / Activity for Week 2: The Design Process

Class Schedule for Week 3

Session	Lecture / Discussion Topic	Readings / References	Activities and Assignments Due
Monday July 12	Topic 3: Electronic Performance Support Systems (EPSS) and Job Aids	Handouts and Online references will be posted; Also referenced: Norman, Chapters 4, 5 and 6	Instructor will wrap up and post summary remarks for online Discussion / Activity for Week 2 Start online Discussion / Activity for Week 3: Designing for Performance Support
Wednesday July 14	Sub-topic: More on simple metrics models for collecting analyzing user feedback as input to the interface product improvement process		**DUE: Post Draft Assignment 1 in WebCT for Instructor Review and Feedback** Continue online Discussion / Activity for Week 3: Designing for Performance Support
Friday July 16			Continue online Discussion / Activity for Week 3: Designing for Performance Support

Class Schedule for Week 4

Session	Lecture / Discussion Topic	Readings / References	Activities and Assignments Due
Monday July 19	Topic 4: Best-Practices (Interface Specifications Part 1) • Screen style and layout • Windows and Menus • Use of Color and Icons	Referenced: Handouts / On-line Resources Also referenced: Pearrow, Chapters 5, 6, 7, 8 and 9; and Norman, Chapters 1 - 7	Instructor will wrap up and post summary remarks for online Discussion / Activity for Week 3 Start online Discussion / Activity for Week 4: Heuristics of Good Interface Design (Screen style & layout, windows & menus, color & icons)
Wednesday July 21			**DUE: Post Final Assignment 1 in WebCT** Continue online Discussion / Activity for Week 4: Heuristics of Good Interface Design (Screen style & layout, windows & menus, color & icons)
Friday July 23			Continue online Discussion / Activity for Week 4: Heuristics of Good Interface Design (Screen style & layout, windows & menus, color & icons)

Class Schedule for Week 5

Session	Lecture / Discussion Topic	Readings / References	Activities and Assignments Due
Monday July 26	Topic 5: Best-Practices: Interface Specifications Part 2 • Software (screen) Controls • Use of Feedback and Guidance	Referenced: Pearrow, Chapters 5, 6, 7, 8 and 9	Instructor will wrap up and post summary remarks for online Discussion / Activity for Week 4 Start online Discussion / Activity for Week 5: Heuristics of Good Interface Design (Software controls, feedback & guidance)
Wednesday July 28	Sub-topic 5a: Tips on Designing Forms for Feedback		Continue online Discussion / Activity for Week 5: Heuristics of Good Interface Design (Software controls, feedback & guidance) **DUE: Post draft of Assignment 2 in WebCT for Instructor Review and Feedback**
Friday July 30			Continue online Discussion / Activity for Week 5: Heuristics of Good Interface Design (Software controls, feedback & guidance)

Class Schedule for Week 6

Session	Lecture / Discussion Topic	Readings / References	Activities and Assignments Due
Monday August 2 **CLASS MEETS IN ROBINSON A350**			Instructor will wrap up and post summary remarks for online Discussion / Activity for Week 5 **DUE: Post Final Assignment 2 in WebCT** **DUE: Student presentations for Design Project** **Course Evaluations**

Summary of Course Assignments

There are 3 assignments for this course. The following table is a summary of the due date, description, and point value (towards the final grade) for each assignment.

Assignment and Due Date	Assignment Description	Grading (Points)
ASSIGNMENT 1 **"Design a User Interface"** (Develop a design document; prepare presentation for final class) • **Draft Paper Due 7/14** • **Final Paper Due 7/21** • **PowerPoint Presentation Due 8/2**	**Part I**: Use your talent and imagination to design a user interface for your home or workplace fitting for today's modern technology. This portion of the assignment requires 1) identifying a requirement; 2) conducting a user/task analysis; 3) defining a solution to meet the requirement; 4) designing the system to meet the usability goals. The interface must involve computer technology and not be something that already exists. The final document should be between 8 and 10 pages typed, using 1.5 line spacing where appropriate. Post the paper in the "Design Projects" WebCT discussion area so that your classmates and instructor may access and download. **Part II**: Present your Interface Design project to the class on August. You may use construction paper to present a draft model of your ideas, but a summary of your design solution must be presented using PowerPoint. For purposes of sharing your design idea with the class, the presentation must include a brief description of the requirement, summary of the outcome of the user/tasks analysis, and how your design meets the requirement.	**50** **50**
ASSIGNMENT 2 **"Browser-based Product Design Guidelines Quick Reference"** (Create a style guide) • **Draft Guide Due 7/28** • **Final Guide Due 8/2**	Develop a Design Guidelines quick reference (style guide) based on "best practices" for the software-related interface design standards covered in the course. The scope of the quick reference should include standards for use and placement of graphics, text, audio, video; interactivity and feedback; schemes/choices for color, fonts, font sizes; standards for buttons and menus. One recommended approach to this assignment is to identify/organize your categories and their respective criteria, then use checklists to present the guidelines. In your approach, assume an organization that you work for is in the business of designing and developing/maintaining courseware or internal web sites. Use what we have covered in this course to establish a comprehensive set of design guidelines for the Designers and Programmers to follow when creating such products. The final document should be between 8 and 10 pages typed, using 1.5 line spacing where appropriate. Post the paper in the "Design Reference" WebCT discussion area so that your classmates and instructor may access and download.	**100**
ATTENDANCE AND PARTICIPATION IN DISCUSSIONS Students are required to attend the two class meetings and participate in the five threaded discussions. Criteria for participation in each threaded discussion and activity will be based on Dr. Dabbagh's Protocols and Rubrics for Online Discussions (found at http://mason.gmu.edu/~ndabbagh/wblg/online-protocol.html). However, please note that for this course, participation in each threaded discussion and activity is worth up to 20 points.		100

Grading

For the detailed breakdown of assignments and associated point values, refer to the
"Summary of Course Assignments" in the previous section of this syllabus.

Final grades will be based on a 300-point system using the following scale:

A = 300 – 269 B = 268 – 239 C = 238 – 209 D = 208 – 179 F = 178 - 0	Note: Incompletes will only be given under extenuating circumstances and if arranged with the instructor <u>prior</u> to the end of the semester.

Student Pointers from the Graduate School of Education

1. The IT program website is at: http://it.gse.gmu.edu/
Check this website periodically for course descriptions, program requirements,
applications requirements, and other useful information.

2. All students must subscribe to the IT listserve. Instructions on how to subscribe can be
found at: http://it.gse.gmu.edu/itlist.shtml (or from the IT homepage, click on Resources
and then on the IT listserve icon). The IT listserve keeps you informed about course
schedule changes, program announcements, special topics courses, important deadlines,
job announcements, internships, etc.

3. If you are an Extended Studies student, you must submit a formal graduate application
in order to qualify for the multimedia development certificate. Check the IT website for
information on how to obtain a graduate application and what the admission requirements
and procedures are.

4. If you are an Extended Studies student, you can only take up to 12 credits under this
status. Once you submit a graduate application and you are accepted into one of our IT
programs, you can transfer up to 12 credits to your degree program.

5. A student who is pursuing a multimedia development certificate (or any certificate)
should follow all procedures for graduation. This includes activating your intent to
graduate and meeting with your advisor to get appropriate signatures and paperwork
submitted. Information about graduation processes can be found at:
http://registrar.gmu.edu/grad/graduation.html

6. Every student must consult with their advisor periodically to make sure that they are
registering for the right courses and in the right sequence. Adjunct faculty are not
responsible for advising students on programmatic issues.