University Senate
TRANSMITTAL FORM

Senate Document #:	09-10-46
PCC ID #:	09070
Title:	Establish a Master of Science Degree in Human-Computer Interaction
Presenter:	Alex Chen, Chair, Senate Programs, Curricula, and Courses Committee
Date of SEC Review:	April 20, 2010
Date of Senate Review:	April 29, 2010
Voting (highlight one):	1. On resolutions or recommendations one by one, or 2. In a single vote 3. To endorse entire report
Statement of Issue:	The College of Information Studies wishes to establish a new Master of Science degree in Human-Computer Interaction. Human-Computer Interaction is an emerging multidisciplinary field that bridges information technology design and development with user behavior and experience. As the world grows increasingly more dependent upon new technologies, the need to design technologies that are easy to use and meaningful for diverse populations of users increases and becomes more urgent. This MS degree program will offer the advanced, systematic study of the design, evaluation, and implementation of new information technologies that are understandable, usable, and appealing to a wide variety of people. This 30-credit program is designed to be completed in two years and is intended to admit 30 students per year. The market for this program is comprised of students from a variety of academic backgrounds but whose specific interests in understanding user behavior and technology is not easily accommodated in traditional computer science, psychology, education, or information management programs. The program will draw upon the college's traditional strengths in

	library science and information management as well as its considerable number of faculty who are nationally prominent in the area of Human-Computer Interaction research. In the first year, the curriculum will consist of coursework in human-computer interaction design and research methods, as well as usability, Human-Computer Interaction tool design, and policy study. Students may choose to specialize in one area of emphasis or take a variety of courses that offer a general understanding of the HCI field. Students are also required to complete an internship and complete either a thesis or a capstone design project. The Senate PCC committee approved the proposal at its March 26, 2010. The Graduate PCC approved the proposal at its meeting on March 11, 2010, and the Graduate Council approved the proposal on April 9, 2010. The Academic Planning Advisory Committee approved the proposal on March 8, 2010.
Relevant Policy # & URL:	N/A
Recommendation:	The Senate Committee on Programs, Curricula, and Courses recommends that the Senate approve this new degree program.
Committee Work:	The Committee considered the proposal at its meeting on March 26, 2010. College of Information Studies Dean Jennifer Preece and Associate Dean Diane Barlow were present to answer questions. After discussion, the Committee voted unanimously to recommend the proposal.
Alternatives:	The Senate could decline to approve the proposed program.
Risks:	If the Senate does not approve the proposed program, the University will lose an opportunity to establish a program that will attract a currently untapped student population. The University will also lose an opportunity to contribute a broader and deeper human-based education to those in the information technology profession.
Financial Implications:	The program will require resources from the College in its initial phase, but will be self-supporting after two years.
Further Approvals Required: *(*Important for PCC Items)*	If the Senate approves these proposals, they would still require further approval by the President, the Board of Regents, and the Maryland Higher Education Commission.

THE UNIVERSITY OF MARYLAND, COLLEGE PARK
PROGRAM/CURRICULUM/UNIT PROPOSAL

- Please email the rest of the proposal as an MSWord attachment to pcc-submissions@umd.edu.

- Please submit the signed form to the Office of the Associate Provost for Academic Planning and Programs, 1119 Main Administration Building, Campus.

> PCC LOG NO.
> 09070

College/School: College of Information Studies
College/School Unit Code-First 8 digits: 01203500
Unit Codes can be found at: https://hypprod.umd.edu/Html_Reports/units.htm

Department/Program:
Department/Program Unit code-Last 7 digits:

Type of Action (choose one):

☐ Curriculum change (including informal specializations)   X *New academic degree/award program*
☐ *Renaming of program or formal Area of Concentration*   ☐ New Professional Studies award iteration
☐ *Addition/deletion of formal Area of Concentration*   ☐ New Minor
☐ *Suspend/delete program*   ☐ Other
Italics indicate that the proposed program action must be presented to the full University Senate for consideration.

Summary of Proposed Action: The College of Information Studies proposes a Master of Science in Human-Computer Interaction degree program to be initiated in the 2010-2011 academic year.

APPROVAL SIGNATURES - *Please print name, sign, and date. Use additional lines for multi-unit programs.*

1. Department Committee Chair _____

2. Department Chair _____

3. College/School PCC Chair _____ Diane L. Barlow

4. Dean _____ JENNIFER PREECE

5. Dean of the Graduate School (if required) _____ 4/9/10

6. Chair, Senate PCC _____

7. University Senate Chair (if required) _____

8. Vice President for Academic Affairs & Provost _____

PROPOSAL FOR
NEW INSTRUCTIONAL PROGRAM
UNIVERSITY OF MARYLAND AT COLLEGE PARK, MARYLAND

Master of Science in Human-Computer Interaction

COLLEGE OF INFORMATION STUDIES

DEAN JENNIFER PREECE

I. OVERVIEW and RATIONALE

A. Briefly describe the nature of the proposed program and explain why the institution should offer it. [You may want to refer to student demand, market demand for graduates, institutional strengths, disciplinary trends, synergy with existing programs, and/or institutional strategic priorities.]

According to the University of Maryland's Strategic Plan:

> *The University's role is to anticipate and prepare for the opportunities that will enhance the State's economic well-being and social and cultural vitality ten, twenty, and forty years from now. The University must create new opportunities…that will reinforce and support Maryland as a state renowned for economic innovation and prosperity and acclaimed for a strong, culturally rich, and vital social fabric.[1]*

The proposed Master of Science described in this proposal will promote this vision for the University.

As the world grows increasingly more dependent upon new technologies, the need to design technologies that are easy to use and meaningful for diverse populations of users increases and becomes more urgent. Human-Computer Interaction (HCI), a new multidisciplinary field, has emerged to meet this need. This new field addresses the design, evaluation, and implementation of new technologies that are understandable, usable, and appealing to a wide variety of people.[2]

The College of Information Studies (the iSchool) proposes a Master of Science degree program in Human-Computer Interaction to educate well-qualified individuals in the theory and practices of HCI. The proposed program leverages existing University resources in a new, forward-looking academic program and advances the University's standing as a preeminent public research university by offering a graduate program that will advance knowledge and educate students in a vital and growing field.
The proposed program will strongly support the University's mission to "…foster the education, critical thinking, and intellectual growth of its students, the creation and application of new knowledge, the economic development of the State, and the effective engagement of its students, faculty, and staff with the surrounding world."[3]   The program is proposed to be financially self-supporting.

The Maryland State Plan states:

> *The advancement of knowledge, the development and implementation of technology, and the expansion of a highly trained workforce are essential to Maryland's economic vitality,*

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[1] http://www.sp07.umd.edu/StrategicPlanFinal.pdf, p. 2, accessed 1-4-10
[2] Hewett et al., 1992; Hix & Hartson, 1994; Sharp et al., 2007; Shneiderman et al., 2004
[3] http://www.sp07.umd.edu/StrategicPlanFinal.pdf, p. 4, accessed 1-4-10

especially in times of economic and environmental change. An educated citizenry that has the ability to adapt to the changes in the global market has become the number one resource in attracting new businesses and in maintaining a healthy economy.[4]

This general statement from the 2004 Plan can be refined and updated by reference to a recent article in *The Wall Street Journal*. The article cites the Bureau of Labor Statistics' forecast that more than two million new technology-related jobs will be created by 2019, but goes on to describe the types of technology-related jobs that will be in highest demand. User-experience design is named as one of the most important emerging field. Jobs for graduates in this field include experience specialists and product designers. The article states that individuals with a blend of knowledge and skills from a range of fields will be needed.[5] This blend is exactly what students in the proposed master's program in HCI will gain in an academic program that draws from a diverse set of instructional and research domains. Students will build their understanding of technology, research and evaluation, design, user needs and preferences, and the social impact of technology. They will develop skills in working with technology specialists on the one hand and various types of technology users on the other. They will possess the blend of experience and skills discussed in the newspaper article.

The University of Maryland's iSchool is the ideal interdisciplinary home for the proposed program because of its long history as a center for interdisciplinary study, the expertise of its faculty, and its prominent role in HCI research on campus. Information studies is an interdisciplinary field which draws scholars from many different fields to work collaboratively. The iSchool has been an interdisciplinary center since its founding. The current faculty includes individuals whose graduate education was in electrical engineering, history, library science, management, instructional design, instructional technology, information systems, linguistics, and computer science. Many of the faculty members research is in HCI or closely related areas. The iSchool hosts within its facilities in Hornbake Building and jointly administers the Human-Computer Interaction Laboratory (HCIL), an internationally known research center. Two members of the iSchool hold joint appointments in the University of Maryland Institute for Advanced Computer Studies (UMIACS), these include the Director of the Human-Computer Interaction Laboratory. The two most prominent textbooks in HCI are coauthored by faculty members associated with the iSchool.

Other relationships complement and expand the faculty expertise resident in the iSchool itself. The iSchool enjoys strong partnerships with other academic departments and research centers within the university, such as the History Department, School of Public Policy, Computer Science Department, the Maryland Institute for Technology in the Humanities (MITH), the Dingman Center for Entrepreneurship, Computational Linguistics and Information Processing (CLIP), Psychology Department, Public Health Informatics Research Laboratory, and the College of Education. The iSchool, in collaboration with the College of Education, has initiated joint appointments for faculty in the Learning Sciences, an interdisciplinary field that emphasizes the study and design of emerging educational technologies, an area that is broadly supported in HCI research. These existing and emergent partnerships offer ample potential for HCI-based research projects and teaching initiatives.

The proposed program should achieve national prominence at its inception because of the international reputation of the University in HCI research and the depth and breadth of faculty expertise in the

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[4] http://www.mhec.state.md.us/higherEd/2004Plan/JUNE_2009_FinalEdited.pdf, p. 41. Accessed 1-4-10.

[5] Middleton, Diana. "Landing a Job of the Future Takes a Two-Track Mind." *The Wall Street Journal*, December 28, 2009, http://online.wsj.com/. Accessed 12/28/09.

iSchool and its partners. We anticipate attracting talented students because of this reputation; evidence of student interest is discussed in the next section. The primary goal of the proposed master's program is to prepare HCI professionals who will become leaders in industry, government, education, and other sectors in an area that has been identified as one of greatest need. Thus, the Master of Science in HCI fits well within the University's planning priorities as stated in *Transforming Maryland: Higher Expectations*: to offer professional graduate programs that are nationally recognized for excellence, attract talented students, and meet local, regional, and national employment needs, as stated in the Strategic Plan. [6]

B. How big is the program expected to be? From what other programs serving current students, or from what new populations of potential students, onsite or offsite, are you expecting to draw?

We will begin the HCI master's program with 20 students in the first year and 25-30 additional students in the second year. From the third year forward, we expect 30 new students to matriculate each year. We expect the first 20 students to be awarded their degrees after the completion of their second year of the program. By the third year of the program, approximately 30 students will receive their degrees annually. The expected total enrollment of the program in the third year and after is 60 students.

There is strong student interest in an HCI program of study at the University of Maryland. Because of the University's national reputation for research in HCI, prospective students regularly contact faculty asking about graduate degree program opportunities. These students come from extraordinarily diverse backgrounds, for example having music, design, and technology experience, or cognitive psychology, humanities, and technology experience.

One student explained her dilemma, "I am at a standstill currently because I am contemplating transferring…into the Master of Arts in Interdisciplinary Studies (at George Mason University), but am not able to design a course of study in Human Computer Interaction…." Another student asked, "Is there a cognition-based-masters-program that you can recommend as an entry into the field of HCI? …I'm applying to Learning, Design, and Technology programs in education schools at Stanford, Harvard and Columbia. Is this the best approach I could be taking to get involved in HCI?" These students share a common interest in HCI but have encountered difficulties in identifying a graduate program that meets their intellectual and professional needs.   Each is what one might call a "non-traditional" student, not easily accommodated in traditional computer science, psychology, or education departments. Each is a student that the University of Maryland currently has difficulty serving.

The proposed HCI master's program will support the needs of these students and others like them. In the Washington DC area, students interested in HCI have few options. At the University of Maryland, programs in Computer Science, Psychology, and Information Studies are related to HCI, but HCI is not central to their concerns. Students can consider psychology degrees in Human Factors at George Mason University or an Industrial Engineering specialization, which is related to HCI, at either Virginia Tech or Penn State. There are also undergraduate and graduate degrees in Information Systems at UMBC and Towson University. The master's program in human-centered computing at UMBC shares some common ground with the proposed Master's in HCI, but the programs differ in these important aspects:

1. The foundations of each program are in different disciplines, which has deep ramifications on the perspectives and contents of the two programs. The proposed UMCP program will have a

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[6] http://www.sp07.umd.edu/StrategicPlanFinal.pdf, p. 15, accessed 1-4-10

strong library science and information management perspective, while the UMBC program has an information systems perspective.

2. The UMCP program offers a choice of research-oriented and practice-oriented options to suit the interests and goals of the individual student. This choice does not appear to be available through UMBC's more tightly structured teaching program.

3. The UMCP program will reflect the expertise of the iSchool faculty intechnology-mediated social participation, technologies for children, information visualization, information retrieval, library and information science, electronic government and information policy. The UMBC program reflects the emphasis of its home department in artificial intelligence/knowledge management, database/data mining, decision making support systems, software engineering/systems analysis and design, and e-commerce.

4. The programs will draw from geographically different areas of the State of Maryland and adjoining states.

Furthermore, given the growth of interest in design of digital technologies, citizens from the State of Maryland will benefit from having complementary programs: the proposed UMCP HCI program and the UMBC Human-Centered Computing program.

II. CURRICULUM
A. Provide a full catalog description of the proposed program, including educational objectives and any areas of concentration.

The iSchool's program of study leading to a Master of Science degree in Human-Computer Interaction (HCI) offers advanced, systematic study of design, evaluation, and implementation of new information technologies that are understandable, usable, and appealing to a wide variety of people. Students develop a fundamental understanding of the technology design process, tool-building technologies, evaluation techniques, application areas for users, and the social impact of technology on the individual and community. The principal objective of the program is to prepare students to become HCI leaders in industry, government, education, and other sectors. In addition, for some students this program will also be a strong preparation for future Ph.D. work in a particular specialization of HCI.

Program Requirements and Structure
The Master of Science in Human-Computer Interaction requires successful completion of 30 academic credits with a B minimum grade point average. The program has four required elements: (1) core courses, (2) elective courses, (3) internship, and (4) capstone design project (non-thesis option) or thesis.

Students in their first year of study take a set of core courses taught by faculty with diverse perspectives and experiences in HCI. Beginning in the second semester, students take elective courses selected to emphasize areas such as usability, HCI tool design, and policy study. Students may choose to specialize in one area of emphasis or take a variety of courses that offer a general understanding of the HCI field. Electives may be selected from among iSchool courses or from other courses offered at the University[7] . Students are required to complete an unpaid HCI internship; the usual time for the internship is the summer between the first and second years of the program. In the second year of the program students complete elective requirements and the capstone design project (non-thesis option) or thesis.

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[7] Up to six credits of electives may be taken outside the iSchool with approval of the student's faculty advisor. An additional three credits offered external to the iSchool may be taken with approval of the Master's Committee.

The course progression is structured so that most students will complete the program within a two-year period. In accordance with the University of Maryland Graduate School policy, all requirements for the master's degree must be completed within a five-year period (see University of Maryland Graduate Catalog, http://www.gradschool.umd.edu/catalog/).

Students are encouraged to attend monthly HCI research seminars in which faculty, staff, students, and HCI practitioners from industry and government present their work. The seminars are an opportunity to develop broader knowledge of HCI and are a source of ideas for their capstone design project (non-thesis option) or thesis.

HCI MASTER'S DEGREE REQUIREMENTS SUMMARY

Courses	Credits
Core Courses	9
Elective Courses	12
Internship	3
Thesis or Capstone Design Project (non-thesis option)	6
Required Credits	30

Admissions
Students are admitted through the Graduate School, University of Maryland. Admissions to the HCI Master's program are in full compliance with the procedures and requirements of the Graduate School; for information go to http://www.gradschool.umd.edu/admissions/. New students are admitted to the HCI Master's program in the fall term only. Admission decisions are based upon a thorough review of the applicant's admissions portfolio including personal statements and resume, undergraduate record, scores on the Graduate Record Exam General Test, and letters of recommendation. Other factors, such as other graduate degrees, major discipline, and work experience, may be considered, as well. The quality of the admissions portfolio is a very important factor in the admissions decision. The portfolio consists of a resume, personal statement addressing the role of graduate study in HCI to the applicant's career plans, and response to a question that requires the applicant to reflect upon an HCI problem.

B. List the courses (number, title, semester credit hours) that would constitute the requirements and other components of the proposed program. Provide a catalog description for any courses that will be newly developed or substantially modified for the program

New courses are indicated by the course number LBSC XXX and are labeled as such. All other courses are existing courses.

Prerequisite for students with limited technical experience:
- LBSC 790 Building the Human-Computer Interface (3)

This course does not count toward the 30 credit requirement for this master's program. Students will be notified upon admissions if they meet the technical prerequisites for this program based on the academic and professional experience presented in their application. Students who do not have some experience with programming or whose technical experience does not relate to HCI will work with their advisor to incorporate this requirement into their individual program of study.

Core Courses Required for All Students:
- LBSC 795 Principles of Human-Computer Communication (3)
- LBSC XXX Human-Computer Interaction Design Methods (3) (new course)
  Methods of user-centered design, including task analysis, low-tech prototyping, user interviews, usability testing, participatory design, and focus groups.
- Research Methods Course (3)
  Students will be required to take an advanced research methods class in qualitative methods, quantitative methods, or both. The course should be appropriate to the methodology to be used in the capstone design project (non-thesis option) or master's thesis. The iSchool offers two research methods courses:
  - LBSC 701 Research Methods in Library and Information Studies (3)
  - LBSC 802 Seminar in Research Methods and Data Analysis (3)
  Courses that could be appropriate for individual students are offered by other departments of the University, as well.

Elective Courses
- INFM 600 Information Environments (3)
- INFM 605 Users and Use Context (3
- INFM 702 User Interaction with Information Systems (3)
- INFM 706 Project Management (3)
- INFM 741 Social Computing Technologies and Applications (3)
- LBSC 625 Information Policy (3)
- LBSC 698 Children's Information Technology and Policy (3) (existing course)
- LBSC 708I Information Ethics
- LBSC 708P Communities of Practice (3)
- LBSC XXX Technology Design: Social, Cognitive, and Developmental Psychology, and Motivational Implications (3) (new course)
  Cognitive and social needs of users and design of new technologies. Methods for idea generation, task analysis, and iterative design.
- LBSC XXX Information and Universal Usability (3) (new course)
  Universal usability in terms of laws and standards, approaches and component concepts, access needs, and technologies, physical and online information environments. Universal usability as an approach to the design, implementation, and testing of information services and technologies.

These two courses could serve as electives depending upon the focus of the seminar:
- LBSC 758 Seminar in Information Access (3)
- LBSC 774 Seminar in Linguistic Topics (3)

With approval of the faculty advisor, a student may select an elective course from other courses offered at the University. [8]

Other Required Courses
- LBSC XXX Internship (3) (new course)

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[8] Examples of other courses taught in the university that are appropriate as electives for this program include, among others, CMSC 734 Information Visualization, and PSYC 779 Seminar on Human Performance Theory: Human/Computer Interaction.

> *Unpaid internship in industry, government, or an educational institution working on a problem in Human-Computer Interaction.*

A student with HCI work experience may petition the Master's Committee for a waiver of the internship requirement. A student receiving a waiver will be required to take an additional elective course.

- LBSC 799 Master's Thesis Research (6) **OR**
- (non-thesis option) LBSC XXX Capstone Design Project (6) (new course) *Design project in HCI. Description and defense of the design project in a scholarly paper and oral presentation are required.*

C. Describe any selective admissions policy or special criteria for students selecting this field of study.

Students will be admitted through the procedures and in accordance with the requirements of the Graduate School and the iSchool. New students will be admitted to the HCI Master's program in the fall term. Applicants will be evaluated for admission to the program using three criteria: excellence of an admissions portfolio, undergraduate GPA (a minimum GPA of 3.0 in undergraduate study), and scores on the Graduate Record Exam (at least 500 in both the verbal and the quantitative sections and 4.0 in the analytical section) .[9] Because the proposed Master's program emphasizes professional preparation in HCI, an excellent admissions portfolio will be required. This portfolio will consist of a resume, personal statement addressing the role of graduate study in HCI to the applicant's career plans, and response to a question that requires the applicant to reflect upon an HCI problem.[10] The applicant should have some experience with programming, such as a recently completed course, a job that required programming, or a special project accomplished for personal enjoyment .

Admissions will be granted in accordance with college policies, administered by the Master's Committee and the Student Services office (see Graduate School policy details, http://www.gradschool.umd.edu/admissions/faq.html-14 and the iSchool's admissions checklist, http://ischool.umd.edu/admissions/adm_master.shtml).

III. STUDENT LEARNING OUTCOMES AND ASSESSMENT

A. List the program's learning outcomes and explain how they will be measured.

The Learning Outcomes for the Master of Science in HCI are:

> A. *Students will be able to demonstrate fundamental knowledge of core aspects of HCI: technology design process, tool-building technologies, evaluation techniques, application areas for users, information and visual design, and the social impact of technology on the individual and community.*

Learning Outcome A will be assessed in the core courses Principles of Human Computer Interaction, Human-Computer Interaction Design Methods , and Research Methods. A series of assignments that

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[9] An applicant who has scores from the Miller Analogy Test may submit these in lieu of scores on the Graduate Record Exam.
[10] An example of a question is as follows: *What artifact do you regularly use that you like or you don't like, and why? Your answer must include a visual representation and a text description totaling no more than 5 pages.*

require application of fundamental knowledge in each of the six core aspects will be distributed among the three core courses. Assessment of this Learning Outcome will be done on the compiled results.

B. *Students will be able to conceptualize, design, and execute a technology design or evaluation project.*
C. *Students will be able to communicate the results of their work in written and oral presentations.*

Learning Outcomes B and C will be assessed upon completion of the thesis or capstone design project (non-thesis option). Learning Outcome B will be assessed through examination of the quality and completeness of the research or design project. Learning Outcome C will be assessed through evaluation of the effectiveness of the written document (thesis or capstone design project scholarly paper for the non-thesis option) and oral presentation.

B. Include a general assessment plan for the learning outcomes. (In lieu of a narrative for both IIIA and IIIB, you may attach the program's learning outcomes assessment forms.)

An assessment plan is shown on the following page. When the proposed program is approved and the program initiation date is set, specific calendar years will be indicated in the assessment schedule rather than the Year 1, Year 2 place-holder designations used at this point.

Student Learning Outcomes (list the three-to-five most important)	Assessment Measures and Criteria (describe one or more measures for each outcome and criteria for success)	Assessment Schedule (initial year, and subsequent cycle)
1. Students will be able to demonstrate fundamental knowledge of core aspects of HCI: technology design process, tool-building technologies, evaluation techniques, application areas for users, information and visual design, and the social impact of technology on the individual and community.	Measure: Number of successful completions of a series of assignments in the core courses. Criteria: Ninety percent of students will attain a rating of Proficient or Outstanding on each assignment.	Fall and Spring semesters of Year 1 and Year 2, then Fall and Spring of every second year beginning with Year 4.
2. Students will be able to conceptualize, design, and execute a technology design or evaluation project.	Measure: Number of successful completions of the capstone design project (non-thesis option) or thesis. Criteria: Ninety percent of students will attain a rating of Proficient or Outstanding on the conceptualization, design, and execution of the capstone design project (non-thesis option) or thesis.	May of Years 2 and 3, then May of every second year beginning with Year 5.
3. Students will be able to communicate the results of their work in written and oral presentations.	Measure: Number of successful completions of the capstone design project (non-thesis option) or thesis. Criteria: Ninety percent of students will attain a rating of Proficient or Outstanding on the written and oral presentation of the capstone design project (non-thesis option) or thesis.	May of Years 2 and 3, then May of every second year beginning with Year 5.

Learning Outcome A will be assessed in the fall and spring semesters of the first and second years of the program. Subsequent assessments will be conducted every second academic year beginning with the fourth year of the program. The years between assessments will be used to evaluate the assessment data and modify the program as necessary.

Learning Outcomes B and C will be assessed at the end of the second and third years of the program as students who entered in the first two years of the program are completing their thesis or capstone design project (non-thesis option) . Subsequent assessments will be conducted every second academic year beginning with the fifth year of the program. The years between assessments will be used to evaluate the assessment data and modify the program as necessary.

Learning Outcomes Assessment Schedule for the First Five Years

Learning Outcome	Year 1	Year 2	Year 3	Year 4	Year 5
Learning Outcome A	Data collection	Data collection	Data analysis & interpretation	Data collection	Data analysis & interpretation
Learning Outcome B		Data collection	Data collection	Data analysis & interpretation	Data collection
Learning Outcome C		Data collection	Data collection	Data analysis &interpretation	Data collection

The Master's Committee will analyze the assessment results and recommend refinements to the Master's program.

IV. FACULTY AND ORGANIZATION

A. Who will provide academic direction and oversight for the program? [This might be a department, a departmental subgroup, a list of faculty members, or some other defined group.]

The Master's program in HCI will be administered in the same manner that the iSchool's other Master's programs are administered. Direct responsibility for Master's programs resides with the Master's Committee, which is composed of faculty, administrators, staff, and a student representative. The Master's Committee has responsibility for oversight of academic programs and admissions at the master's level. Ultimate oversight rests with the Assembly, the iSchool's policy-making body. The Assembly is composed of faculty, academic administrators, staff representatives, and student representatives.

B. If the program is not to be housed and administered within a single academic unit, provide details of its administrative structure. This should include at least the following:

Not applicable

V. OFF CAMPUS PROGRAMS
A. If the program is to be offered to students at an off-campus location, with instructors in classrooms and/or via distance education modalities, indicate how student access to the full range of services (including advising, financial aid, and career services) and facilities (including library and information facilities, and computer and laboratory facilities if needed) will be assured.

Not applicable

B. If the program is to be offered mostly or completely via distance education, you must describe in detail how the concerns in Principles and Guidelines for Online Programs are to be addressed.

Not applicable

VI. OTHER ISSUES
A. Describe any cooperative arrangements with other institutions or organizations that will be important for the success of this program.

Not applicable

B. Will the program require or seek accreditation? Is it intended to provide certification or licensure for its graduates? Are there academic or administrative constraints as a consequence?

No

VII. COMMITMENT TO DIVERSITY
Identify specific actions and strategies that will be utilized to recruit and retain a diverse student body.

According to the Computing Research Association (CRA) (http://www.cra.org/), the number of women entering the computer science field and earning degrees is decreasing. The president of the CRA suggests that, "special and prominent attention be paid to programs that address the under representation of women and minorities in computing." We believe that the proposed HCI program of study could help bridge that gap. Females are more heavily represented in the iSchool than in many other technology environments.   At present, slightly over half of the faculty and staff and 70% of the students are female.   We believe that the iSchool environment will be very attractive to potential female students. Based on the admissions of other HCI programs and the demographics of faculty and staff in HCIL , we might expect 50% of the students to be female. Thus, the proposed program should contribute to increasing representation of females in the information technology field.
The racial and ethnic diversity of the current iSchool student body is 11% minority. The iSchool is working to increase its racial and ethnic diversity through a very active Diversity Committee. This committee is working with individuals in other offices on campus to devise new approaches to building a more diverse student body.

The iSchool's Student Services Office has developed and implemented recruit initiatives targeting diverse populations. The primary initiatives focus recruitment events at HBCUs in the Mid Atlantic Region: Bowie State, UMES, Howard University, Virginia State, Hampton University, Delaware State, and Morgan State. We also participate in the Atlanta University Consortium Graduate School Recruitment Fair (Spelman, Morehouse, and Clark Atlanta University). Annually we participate in the McNair Scholars Conference sponsored by the University of Maryland. These initiatives were initiated in 2008; their effectiveness is being carefully evaluated.

VIII. REQUIRED PHYSICAL RESOURCES
A. Additional library and other information resources required to support the proposed program. You must include a formal evaluation by Library staff.

A letter from Karen Patterson, Information Studies Librarian, was sent to the Provost's Office with the cover sheet.

B. Additional facilities, facility modifications, and equipment that will be required. This is to include faculty and staff office space, laboratories, special classrooms, computers, etc.

Offices – The iSchool will reassign space currently assigned to graduate assistants and doctoral students to provide additional faculty offices.   Student space will be consolidated, which will be a more efficient use of space. Additional staff will be accommodated through renovation of existing space on the fourth floor of Hornbake. One half of the estimated cost of the renovation is shown as a cost of the program in Year 2. The iSchool will fund one half of the cost by other means.

Laboratories – The financial model includes the cost of building out and equipping the Usability Lab on the second floor of Hornbake Building in Years 1 and 2. Funds for maintaining hardware and software are included in subsequent years. Other laboratory facilities are sufficient at this time and will be enhanced and updated from funds from the campus student technology fee program.

C. Impact, if any, on the use of existing facilities and equipment. Examples are laboratories, computer labs, specially equipped classrooms, and access to computer servers.

None anticipated because of the move to student use of personal laptops.

IX. RESOURCE NEEDS and SOURCES
Describe the resources that are required to offer this program, and the source of these resources. Project this for five years. In particular:

A. List new courses to be taught, and needed additional sections of existing courses. Describe the anticipated advising and administrative loads. Indicate the personnel resources (faculty, staff, and teaching assistants) that will be needed to cover all these responsibilities.

When the program is at full capacity (60 students), these seats in courses will be needed each academic year:

Core courses	90 seats
Elective courses	120 seats
Internship	30 seats
Thesis or Capstone Design Project (non-thesis option)	30 seats

The details by course are shown in the table on the following page.

Each student will be assigned a faculty advisor. In addition, the program will require student services capacity for marketing and recruitment, admissions, student activities and services, and internship placements.

Course Number and Title	Course Status	Additional sections or seats
New Courses		
LBSC XXX Human-Computer Interaction Design Methods	Required	1 annually
LBSC XXX Technology Design: Social, Cognitive, and Developmental Psychology, and Motivational Implications	Elective	1 alternate years
LBSC XXX Information and Universal Usability	Elective	1 alternate years
LBSC XXX Internship	Required	1 annually
LBSC 799 Master's Thesis Research (6) **OR** LBSC XXX Capstone Design Project (non-thesis option) (6)	Required	30 students annually
Existing Courses		
LBSC 790 Building the Human Computer Interface	Prerequisite for some students	1 alternate years
LBSC 795 Principles of Human-Computer Communication	Required	1 annually
Research Methods Course (LBSC 701 or LBSC 802)	Required	1 annually
INFM 600 Information Environments	Elective	1 alternate years
INFM 605 Users and Use Context	Elective	1 alternate years
INFM 702 User Interaction with Information Systems	Elective	1 alternate years
INFM 706 Project Management	Elective	1 alternate years
INFM 741 Social Computing Technologies and Applications	Elective	1 alternate years
LBSC 625 Information Policy	Elective	1 alternate years
LBSC 698 Children's Information Technology and Policy	Elective	1 alternate years
LBSC 708I Information Ethics	Elective	1 alternate years
LBSC 708P Communities of Practice	Elective	1 alternate years
LBSC 758 Seminar in Information Access	Elective	1 occasionally
LBSC 774 Seminar in Linguistic Topics	Elective	1 occasionally
SUMMARY OF REQUIREMENTS FOR ADDITIONAL SECTIONS AND SEATS	4 additional sections annually 12 additional sections alternate years 2 additional sections occasionally 30 additional seats in capstone design project (non-thesis option) or thesis annually	

B. List new faculty, staff, and teaching assistants needed for the responsibilities in A, and indicate the source of the resources for hiring them.

The proposed program will require these additional positions:
- 2.0 FTE faculty positions – 1.0 FTE position added in Year 2; 1.0 FTE position added in Year 3
- .5 FTE staff position in the iSchool's Student Services Office – Position added in Year 1 at .5 FTE
- 1.0 FTE staff position for general administration – Position added in Year 1
- .5 FTE staff position for technology support -- Position added in Year 1 at .35 FTE, increasing to .5 FTE in Year 2
- 3.0 FTE graduate assistant positions – 2.0 FTE positions added in Year 1, increasing to 3.0 FTE in Year 2

Resources from student tuition and fees will be used to support these positions. Details are given in the budget section. While a schedule for adding each of the positions is proposed, the actual hiring will be done only when resources become available.

C. Some of these teaching, advising, and administrative duties may be covered by existing faculty and staff. Describe your expectations for this, and indicate how the current duties of these individuals will be covered, and the source of any needed resources.

Teaching -- While existing faculty will teach in the proposed program, the financial model does not use any existing resources. The model includes the expense of new faculty and adjunct faculty to provide additional resources to meet the iSchool's instructional needs, including those created by existing faculty teaching in the proposed program. Resources for teaching sections of the capstone design project are included in the estimate of teaching responsibilities and required resources. It is anticipated that at least half of the students will select the non-thesis option.

Advising -- While existing faculty will advise students in the proposed program, the financial model does not use any existing resources. The model includes the expense of new faculty and an advisor in the Student Services Office to provide additional resources to meet the iSchool's advising needs, including those created by existing faculty advising students in the proposed program.

Administration – The financial model includes a .5FTE administrative position for the proposed program and indirect costs to the iSchool to support any additional administrative support that is needed.

D. Identify the source to pay for the required physical resources identified in Section VIII above.

The proposed program is an entrepreneurial program and will be funded through student tuition and fees. The proposed financial model with notes is included below.

E. List any other required resources and the anticipated source for them.

F. Provide the information requested in Table 1 and Table 2 (for Academic Affairs to include in the external proposal submitted to USM and MHEC).

HCI Masters Budget Years 1-5					
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Revenue					
# New Students	20	30	30	30	30
# Continuing Students	0	20	30	30	30
Total students	20	50	60	60	60
Proposed resident tuition rate per credit	$575	$598	$622	$647	$673
Proposed non-resident tuition rate per credit	$1,239	$1,288	$1,340	$1,393	$1,449
Credits generated per year	300	750	900	900	900
Total tuition	$232,220	$707,285	$882,691	$917,999	$954,719
Program fee per semester	$6,000	$15,600	$19,469	$20,248	$21,260
Total Revenue	**$238,220**	**$722,885**	**$902,160**	**$938,246**	**$975,979**
Costs					
Direct Costs					
Instruction					
Courses taught	7	12	12	12	12
Adjunct faculty	$35,000	$40,000	$25,000	$20,000	$20,000
New faculty (salary + benefits)		$115,200	$230,400	$239,616	$249,201
Graduate assistants	$60,000	$93,600	$97,344	$101,238	$105,287
Course development & instructional support	$10,000	$10,000			
Usability lab, software, server	$35,000	$40,000	$30,000	$25,000	$25,000
Technology staff	$31,360	$46,592	$48,456	$50,394	$52,410
Total Instruction	$171,360	$345,392	$431,200	$436,248	$451,898
Student Services					
Recruitment	$5,000	$10,000	$10,000	$10,000	$10,000
New student orientation	$2,000	$3,000	$3,000	$3,000	$3,000
Advisor	$22,500	$23,400	$24,336	$25,309	$26,322
Space modification		$47,500			
Total Student Services	$29,500	$83,900	$37,336	$38,309	$39,322
Administrative Support Staff	$22,500	$59,904	$62,300	$64,792	$67,384
Total Direct Costs	$223,360	$489,196	$530,836	$539,349	$558,603

Indirect Costs (35% of Direct Costs)	$78,176	$171,219	$185,793	$188,772	$195,511
Loan Repayment	$12,500	$12,500	$12,500		
Campus Revenue Sharing (15% of revenue)	$34,833	$106,093	$132,404	$137,700	$143,208
Total Costs	$348,869	$779,007	$861,532	$865,821	$897,322
Total Revenue	$238,220	$722,885	$902,160	$938,246	$975,979
Total Costs	$348,869	$779,007	$861,532	$865,821	$897,322
Total Revenue-Total Costs	($110,649)	($56,123)	$40,628	$72,425	$78,656

Notes

Revenue
New and Continuing Students – The model assumes that 20 new students will enroll during Year 1 of the program; 30 new students will enroll during each year following. Students will remain in the program for two years. The enrollment at full capacity will be 60 students each year.

Tuition Rates – Tuition is set at 15% above the current campus tuition rate (resident and non-resident). The projected tuition rates for Year 1 were calculated using $500 per credit hour resident tuition and $1077 per credit hour non-resident tuition for Fall 2010. An annual tuition increment of 4% is used to project tuition rates for Years 2-5.

Credits generated per year – The model assumes that each student will enroll for 15 credits in each of the student's two years in the program.

Total tuition – The financial model assumes that 70% of the students pay resident tuition rates.

Program Fee – A program fee of $100 per semester is proposed. This fee is in addition to the usual campus fees for graduate students which are not included in the financial model.

Costs

Adjunct Faculty—The stipend for adjunct faculty is set at $5000 per course; this amount is not incremented annually, although adjustments will be made as appropriate.

New Faculty – The financial model includes one new faculty member added in Year 2 and a second new faculty member added in Year 3. The costs are incremented by 4% each year.

Graduate Assistants – The financial model includes two graduate assistants in Year 1 and three graduate assistants in Years 2-5. The amounts include stipend and benefits.

Course development and instructional support – The amounts shown in Years 1 and 2 will be used to design and develop new courses for the program.

Usability lab, software, server – The amounts shown are estimates of costs associated with small physical modifications to the Usability Lab, additional hardware and software for the lab, and additional servers.

Technology staff – This is a new technology support position that is .35 FTE in Year 1 and .5 FTE in Years 2-5.

Recruitment and New Student Orientation--The financial model includes funds for both student activities.

Advisor—This is a new position in the iSchool's Student Services Office; the Advisor will have specific responsibility for the HCI students. The position is .5 FTE.

Space modification—Half of the estimated cost of remodeling the Student Services Office to accommodate additional staff is included in the financial model. The iSchool will cover the other half of the costs from other resources.

Administrative Support Staff – A new administrative position will be required to assist in administering the program, particularly in creating and maintaining relationships with internship sites. The position is 1.0 FTE.

Indirect Costs—This amount is equal to 35% of the Direct Costs and will cover indirect costs to the iSchool of administering the program.

Loan Repayment—The financial model includes repayment of one-half of a loan from the Provost's Office that was granted to cover the costs of planning new academic programs. The iSchool will repay the other half of the loan from other resources.
Campus Revenue Sharing—The financial model includes 15% of tuition and fees paid to the campus.

Total Revenue-Total Costs—The financial model shows costs exceeding revenue by $166,772 in Years 1 and 2 combined. Beginning in Year 3, the program Total Revenue exceed Total Costs.

DATE: January 15, 2010

TO: Dr. Allison Druin
Dr. Jennifer Golbeck

FROM:

Karen Patterson
Information Studies Librarian

Nevenka Zdravkovska
Head, Engineering and Physical Sciences Library

Gerri Foudy
Manager, Collections and Scholarly Communication

Desider Vikor
Director, Collection Management & Special Collections Division

RE: Library Resources to Support Master of Science in Human-Computer Interaction in the College of Information Studies

The University of Maryland (UM) Libraries currently support the graduate students of the College of Information Science. With this new proposal, the University of Maryland Libraries collections can adequately support the instruction and research needs of the newly proposed Master of Science in Human-Computer Interaction.

The Collection: Monographs and Serials

Human-Computer Interaction
The Engineering and Physical Sciences Library (EPSL) support the undergraduate and graduate students in the computer sciences. EPSL houses the major collection of monographs and serials relevant to human-computer interaction. A significant part of the collection is electronically accessible.

Monographs

The Libraries' current collection of human-computer interaction and related books is sufficient to meet the needs of the program. The ongoing acquisition of scholarly books is expected to be adequately covered through existing acquisition practices and budgeting.

The UM Libraries has access to the following conference proceedings:
CHI: Conference on Human Factors in Computing Systems
UIST: Symposium on User Interface Software and Technology

DIS: Designing Interactive Systems
CSCW: Computer Supported Cooperative Work
SIGIR: Annual ACM Conference on Research and Development in Information Digital Retrieval
HCI International
INTERACT
InfoVis: IEEE Information Visualization Conference

The libraries has *Lecture Notes in Computer Science series*, which include the proceedings of INTERACT, HCI International. *IEEE Xplore* database provides access to the proceedings of IEEE Information Visualization Conference. The other aforementioned conferences are available in *ACM Digital Library*.

Serials

The Libraries' current list of subscriptions includes both core and related journals that support research and teaching in human-computer interaction.

A search was performed in *Journal Citation Reports 2008*, a database that uses citation data to rank and determine the impact factor of journals in an academic field. To support the proposed courses, at the present time the Libraries provide access to the following top-ranked journals:
Behaviour and Information Technology
Human- Computer Interaction
IEEE Transactions on Visualization and Computer Graphics
International Journal on Human Computer Interaction
International Journal of Human-Computer Studies
Interacting with Computers

Other relevant titles in our collection are: *SIGCHI Bulletin, Interactions, ACM Transactions on Computer-Human Interaction*.

In the area of serials, our collection is adequate for human-computer interaction.

The Collection: Electronic Resources

UM Libraries subscribes to the following significant databases that will support the degree. *ACM Digital Library, IEEE Xplore Digital Library*, Elsevier's *Science Direct* and the *Web of Science*.

Interlibrary Loan
When resources are not part of our holdings within the sixteen University System of Maryland and Affiliated Institutions [USMAI] libraries, the Interlibrary Loan Office can obtain monographs, journal articles, dissertations, government documents and technical reports at no charge to the student or faculty. This service will support the instruction and research needs of the iSchool Faculty and students.

Conclusions

At the present time, library holdings are at least adequate to support the proposed set of courses. Journal collections, however, remain particularly vulnerable. As a result, the level of future support is dependent upon ongoing funding and other circumstances affecting journal subscriptions.

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Date: Thu 11 Mar 19:06:19 EST 2010
From: Jennifer Preece <preece@umd.edu> Add To Address Book | This is Spam
Subject: FW: Requesting a letter of support for the HCI Masters Proposal
To: <mcolson@umd.edu>
Cc: Jennifer Preece <preece@umd.edu>, Diane Barlow <dbarlow@umd.edu>

Hello Mike,

Here is the letter of support from Professor Larry Davis, Chair Dept of Computer Science.

Best wishes, Jenny Preece

------ Forwarded Message
From: Larry Davis <lsd@cs.umd.edu>
Date: Sun, 7 Mar 2010 10:24:23 -0500
To: Jennifer Preece <preece@umd.edu>
Subject: RE: Requesting a letter of support for the HCI Masters Proposal

Hi Jenny:

Sorry for the delay in replaying and I hope this reaches you in time to share with APAC on Monday. I think the proposal describes a very exciting program, and one which my department supports. I don't see any conflict or competition between the HCI masters that you describe and plans that CS has for expanding its MS program. Good luck with getting approval for the program.

Larry Davis