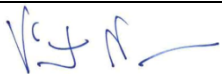




**SENATE LEGISLATION APPROVAL**

<b>Date:</b>	March 7, 2014
<b>To:</b>	Wallace D. Loh
<b>From:</b>	Vincent Novara Chair, University Senate 
<b>Subject:</b>	PCC Proposal to Establish a Post-Masters Certificate in the Curation and Management of Digital Assets
<b>Senate Document #:</b>	13-14-25

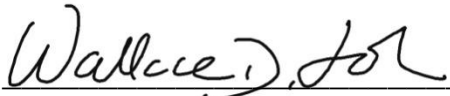
I am pleased to forward for your consideration the attached legislation entitled, "PCC Proposal to Establish a Post-Masters Certificate in the Curation and Management of Digital Assets." Marilee Lindemann, Chair of the Programs, Curricula, and Courses (PCC) Committee, presented the proposal. The University Senate approved the proposal at its March 6, 2014 meeting.

We request that you inform the Senate Office of your decision as well as any subsequent action related to your conclusion.

Enclosure: PCC Proposal to Establish a Post-Masters Certificate in the Curation and Management of Digital Assets  
Senate Document # 13-14-25

VN/rm

Cc: Mary Ann Rankin, Senior Vice President for Academic Affairs & Provost  
Reka Montfort, Executive Secretary and Director, University Senate  
Juan Uriagereka, Associate Provost for Faculty Affairs  
Terry Roach, Executive Assistant to the President  
Janet Turnbull, President's Legal Office  
Elizabeth Beise, Associate Provost for Academic Planning & Programs  
Sylvia B. Andrews, Academic Affairs  
Jennifer Preece, Dean, College of Information Studies  
Diane Barlow, Assistant to the Dean, College of Information Studies  
Tricia Donovan, Coordinator, College of Information Studies

Approved:   
Wallace D. Loh  
President

Date: 03-10-2014



**University Senate  
TRANSMITTAL FORM**

<b>Senate Document #:</b>	13-14-25
<b>PCC ID #:</b>	13036
<b>Title:</b>	Establish a Post-Master's Certificate in the Curation and Management of Digital Assets
<b>Presenter:</b>	Marilee Lindemann, Chair, Senate Programs, Curricula and Courses Committee
<b>Date of SEC Review:</b>	February 18, 2014
<b>Date of Senate Review:</b>	March 6, 2014
<b>Voting (highlight one):</b>	<ol style="list-style-type: none"> <li>1. On resolutions or recommendations one by one, or</li> <li>2. In a single vote</li> <li>3. To endorse entire report</li> </ol>
<b>Statement of Issue:</b>	<p>The College of Information Studies proposes to establish a Post-Master's Certificate in the Curation and Management of Digital Assets. The certificate focuses on the creation, management, use, and long-term preservation of digital assets in a variety of disciplines and sectors of the economy. Digital assets are a central and ever-growing component of today's economy and society. Rapidly evolving technology, obsolete data formats, and the sheer volume of digital material make the management, use and long-term preservation of digital assets increasingly challenging.</p> <p>This certificate is designed for professionals who have already received a Master's degree but are in need of training for next-generation cloud computing technologies, tools, and resources that help them evaluate, select, and implement digital curation solutions. The target student population will be those in archival, library preservation, or other digital management positions.</p> <p>The curriculum will consist of four courses: INST640 Principles of Digital Curation; INST641 Policy Issues in Digital Curation; INST742 Implementing Digital Curation; and INST XXX (number to be determined) Solving Problems in Digital Curation. The program will be entirely online and students will progress through and</p>

	<p>complete the program as a cohort. The funding used to convert the three existing courses to an online format and to design the Solving Problems in Digital Curation course was acquired through a grant from the Institute of Museum and Library Services (IMLS). Additional grant funding from IMLS will be used to provide full-tuition scholarships for the entire first cohort of this program. The first cohort would start their program in June 2015. The enrollment for each cohort will be limited to 15 students.</p> <p>This program will be funded through tuition revenue.</p> <p>This proposal received the unanimous support of the Graduate PCC committee on January 27, 2014. The proposal also received unanimous support from Senate Programs, Curricula, and Courses committee at its meeting on February 7, 2014.</p>
<b>Relevant Policy # &amp; URL:</b>	N/A
<b>Recommendation:</b>	The Senate Committee on Programs, Curricula, and Courses recommends that the Senate approve this new certificate program.
<b>Committee Work:</b>	The committee considered this proposal at its meeting on February 7, 2014. Diane Barlow and Tricia Donovan of the College of Information Studies presented the proposal. After discussion, the committee voted unanimously to recommend the proposal.
<b>Alternatives:</b>	The Senate could decline to approve this new certificate program.
<b>Risks:</b>	If the Senate declines to approve this new certificate program, the University will lose an opportunity to offer structured, advanced training in a technological field of growing importance.
<b>Financial Implications:</b>	There are no significant financial implications with this proposal. Grant funding was used for the initial design of the program, and the College of Information Studies anticipates that tuition from the program will be sufficient for the expenditures on the faculty, staff, and infrastructure needed to operate the program.
<b>Further Approvals Required:</b>	If the Senate approves this proposal, it would still require further approval by the President, the Chancellor, 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](mailto:pcc-submissions@umd.edu).

PCC LOG NO.

# 13036

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

**College/School:**Please also add College/School Unit Code-First 8 digits: **01203500**Unit Codes can be found at: [https://hypprod.umd.edu/Html\\_Reports/units.htm](https://hypprod.umd.edu/Html_Reports/units.htm)**Department/Program:**Please also add Department/Program Unit Code-Last 7 digits: **1350101****Type of Action (choose one):**

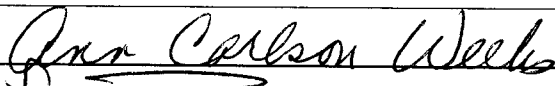
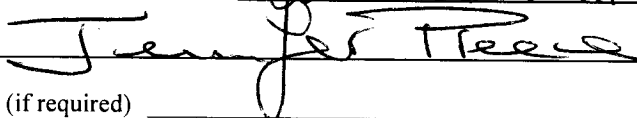
- |   |   |
|---|---|
| <input type="checkbox"/> Curriculum change (including informal specializations)     | <input checked="" type="checkbox"/> <i>New academic degree/award program</i>        |
| <input type="checkbox"/> Curriculum change for an LEP Program                       | <input type="checkbox"/> New Professional Studies award iteration                   |
| <input type="checkbox"/> <i>Renaming of program or formal Area of Concentration</i> | <input type="checkbox"/> New Minor  |
| <input type="checkbox"/> <i>Addition/deletion of formal Area of Concentration</i>   | <input type="checkbox"/> Request to create an online version of an existing program |
| <input type="checkbox"/> <i>Suspend/delete program</i>                              |   |

*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 (Maryland's iSchool) plans to offer a post-master's certificate on the curation and management of digital assets (CMDA). The CMDA certificate focuses on the creation, management and use; long-term preservation; and current and future access to digital assets in a variety of disciplines and sectors of the economy. It is a four-course, post-master's certificate designed for professionals who need training on using next-generation cloud computing technologies, tools, and resources that help them evaluate, select, and implement digital curation solutions. The certificate program will be fully online and will use a cohort model to foster virtual interaction among students. The proposed certificate is a self-funded, entrepreneurial program.

**Departmental/Unit Contact Person for Proposal:** College of Information Studies/ Ann C. Weeks

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

- Department Committee Chair \_\_\_\_\_
- Department Chair \_\_\_\_\_
- College/School PCC Chair Ann Carlson Weeks 
- Dean Jennifer Preece 
- Dean of the Graduate School (if required) \_\_\_\_\_
- Chair, Senate PCC Manice J. [Signature] 2/7/14
- University Senate Chair (if required) \_\_\_\_\_
- Senior Vice President and Provost \_\_\_\_\_

PROPOSAL FOR  
NEW INSTRUCTIONAL PROGRAM  
UNIVERSITY OF MARYLAND AT COLLEGE PARK, MARYLAND  
GRADUATE CERTIFICATE IN THE CURATION AND MANAGEMENT  
OF DIGITAL ASSETS

COLLEGE OF INFORMATION STUDIES  
DEAN JENNIFER PREECE

KIND OF DEGREE POST-MASTER'S CERTIFICATE

Award to Be Offered Proposed Initiation Date SPRING 2015

## I. OVERVIEW and RATIONALE

The College of Information Studies (iSchool) on the College Park campus has long been noted as one of the leading institutions for archival specialization in the country. Ranked #7 in 2013 by *US News and World Report* for its archival and preservation program, the iSchool expects to strengthen its leadership role in the field by expanding its programs to also address the challenges inherent in digital libraries and curation. In the last few years, students specializing in archives, records, and information management in the Master of Library Science (MLS) program have looked to the iSchool for more opportunities to learn about digital curation. In fall 2013, MLS and Master in Information Management (MIM) students began to have the opportunity to specialize in Curation and Management of Digital Assets. However, individuals whose positions already focus on archival and digital assets have also expressed interest in receiving additional training. Thus, the iSchool plans to offer a post-master's certificate in this area.

The Curation and Management of Digital Assets (CMDA) Certificate focuses on instruction about and research into the creation, management, and use, long-term preservation, and current and future access to digital assets in a variety of disciplines and sectors of the economy. It is a four-course, post-master's certificate designed for professionals who need training on using next-generation cloud computing technologies, tools, and resources that help them evaluate, select, and implement digital curation solutions. The certificate program will be fully online and will utilize a cohort model to foster virtual interaction amongst students. Also, built entrepreneurially, the proposed certificate is a self-funded program.

The curriculum builds from the CMDA specialization in the MLS and MIM degree programs. Three of the four classes required for the certificate were first developed for the CMDA specialization, which was approved in 2012 and began fall 2013. Funds have been allocated from an Institute for Museum and Library Services (IMLS) grant awarded in 2012 to adapt the three specialization courses for online delivery, create the fourth course, and to fund 15 scholarships to the first cohort of students.

Digital information is at the very heart of a modern society's ability to learn, conduct business, recreate, and manage complex scientific, technological, industrial, and information infrastructures. The field of digital assets curation and management is a relatively new and rapidly evolving area for research and practice. This professional education certificate reaffirms the continued focus of the iSchool and its mission to prepare individuals to help the public connect with information that will transform society.

### ***Market Demand***

By 2018, the US will have a shortage of 140,000 to 190,000 individuals with the deep analytical skills needed to manage large holdings of digital assets.<sup>1</sup> In fact, in September

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<sup>1</sup> Manyika, et al. (2011) Big data: The next frontier for innovation, competition, and productivity. McKinsey Global Institute. [http://www.mckinsey.com/insights/business\\_technology/](http://www.mckinsey.com/insights/business_technology/)

2012, twenty percent of the 267 job announcements in the American Library Association Jobsite were either specifically seeking digital resource managers/archivists or listed the expectation that successful candidates would have knowledge, skills, and abilities in managing, preserving, curating, and cataloging digital resources.

In the Washington, DC-Baltimore metropolitan region, the need for professionals to curate and manage digital assets is acute. Corporations, government contractors, Federal agencies, the State of Maryland, international organizations, universities and other not-for-profit entities, and cultural institutions (i.e., National Archives, Library of Congress) urgently need skilled professionals in the digital assets arena. Similar needs also exist in the extensive Federal scientific and military research community, which are developing and exploiting digital information that is particularly complex in nature.

Additionally, in February 2013, the White House Office of Science and Technology Policy issued a directive that Federal agencies with more than \$100 million dollars in research and development expenditures must develop plans to make the published results of federally funded research freely available to the public within one year of publication; in most cases, agencies will be doing so digitally. The directive also requires researchers to better account for and manage the digital data resulting from federally funded scientific research. This directive has pushed both Federal agencies and public and private research institutions to more efficiently manage their data; now, more than ever, data managers and archivists throughout the country are being asked to curate large sets of digital data and make them more easily accessible to the public.

Online programs that focus on the curation of digital assets exist at other universities throughout the country. Some programs, including those at the University of North Texas, the University of Maine, and Syracuse University, do not require a Master's degree. Universities with programs that are specifically geared to individuals with a Master's degree, such as the University of Illinois Urbana-Champaign, require more credits than the proposed CMDA certificate or focus on digital assets in museums rather than in archives and libraries, such as the certificate offered by Johns Hopkins University. The CMDA certificate is unique amongst certificates offered by similar colleges and universities in both its focus and program length. None of the HBCUs in Maryland offers a certificate program in the curation and management of digital assets.

### ***Student Demand***

Current graduate students and recent graduates in the MLS and MIM programs have expressed the need for more course offerings focused on developing an in-depth understanding of digital information management. The CMDA specialization, upon which this certificate is built, is in very high demand amongst MLS and MIM students; twenty-seven students have already declared the specialization, which was introduced in fall 2013. Another indication of demand among current students is that classes in the specialization filled completely in the fall 2013 semester without any special promotion among students. In fact, all classes offered for the specialization were filled to capacity.

In an ever-changing digital environment, continuing education will be necessary for all those whose careers focus on the management and curation of digital information. Business schools and technology programs focus on data analysis but do not emphasize digital curation, management, and preservation. Thus, the iSchool is fulfilling a current and future need by creating a certificate that stems from an in-demand set of classes in an important subject area.

Individuals who receive the CMDA certificate will have enhanced technical, practical, and experiential skills to work in diverse organizational settings such as the business/commercial sector, in cultural organizations, in the digital arts and humanities, and in scientific research and development. The College anticipates strong interest in the CMDA certificate, specifically from professionals who need to update their current skills in the digital assets arena if they are to sustain and enhance their career prospects. In a survey conducted by the iSchool in May 2013, librarians and archivists were asked which topics in continuing education were of most interest, and curation and management of digital assets was among the top three. In addition, a majority of those surveyed were interested in an advanced certificate, particularly if offered online.

With both the market demand and student demand showing an active interest in a post-master's, online certificate focused on digital curation and management, we believe there will be significant enrollment for future cohorts.

### *The First Cohort*

The first cohort of certificate students will receive full tuition remission through scholarships provided by an Institute of Museum and Library Services (IMLS) award for "Curate Cloud: Building Digital Curation Excellence Through Professional Education, Cloud Computing, and Community Outreach," a grant awarded in spring 2013. The first online cohort will be capped at 15 students, who will together take all four courses beginning May 2015. Potential students will be recruited from diverse ethnic backgrounds, as well as from cultural heritage institutions of underrepresented groups. Future cohorts, which are expected to begin annually, will be limited to 15 students, to maximize collaboration and online learning opportunities.

## **II. CURRICULUM**

### *Certificate Description*

The CMDA certificate focuses on the creation, management and use; long-term preservation; and current and future access to digital assets in a variety of disciplines and sectors of the economy. The certificate is based upon the CMDA specialization within the MLS and MIM graduate programs. Three of the classes required for the certificate were developed for the CMDA specialization; however, while the content for the courses is fundamentally the same, degree-seeking students and certificate students will not share the same section. Degree-seeking students take the specialization courses in-person; courses offered in the certificate program will be adapted for online delivery. The fourth class required for the certificate, a capstone course, was developed specifically for the certificate and will not be available to degree-seeking students. Students taking this



certificate course will be post-master's professionals in archival, library preservation, or digital management positions.

### *Certificate Cohort Model*

Students enrolled in the CMDA certificate will complete their coursework together as a cohort. Cohorts begin their instruction at the same time and proceed through their program as a cohesive unit, building a networked community. This cohort model has been successful in the iSchool's online MLS program.

Certificate cohort students will take the required classes over the course of twelve months, beginning June 1. Unlike the online degree programs that follow the university's regular academic schedule, the certificate program will run in four, 12-week segments. A sample schedule is below in Table 1.

**Table 1**

<b>Dates of Courses</b>	<b>Course Numbers</b>
June 1–Aug 21	INST 640
Aug 31–Nov 20	INST 641
Nov 30–Feb 19	INST 742
Feb 29–May 19	INST xxx

### *Required Courses*

The following are the four courses required to complete the certificate:

- **INST 640: Principles of Digital Curation, 3 credit hours**  
Description: Principles for the design and implementation of long-term curation of digital data and formation assets, including born-digital and digitized assets. Framework for analysis of technical, practical, economic, social, and political factors affecting digital curation decisions. Case studies of specific digital curation scenarios.
- **INST 641: Policy Issues in Digital Curation, 3 credit hours**  
Description: Discussion of strategies to address intellectual property, privacy, security, and other policy concerns raised by the curation of digital records and data.
- **INST 742: Implementing Digital Curation, 3 credit hours**  
Description: Management of and technology for application of digital curation principles in specific settings. Characteristics, representation, conversion, and preservation of digital objects. Application of standards for digitization, description, and preservation. Planning for sustainability, risk mitigation and disaster recovery.
- **INSTXXX: Solving Problems in Digital Curation, 3 credit hours**  
Restricted to Curation and Management of Digital Assets Certificate students only.  
Description: Integrating the theory and practice of digital curation gained in the first three courses of the Digital Curation Certificate Program and from the student's personal and professional experience. Capstone projects may follow the

design, prototyping, and evaluation process from end-to-end or may focus on a subset of elements in that process, such as formative study and design. (*New course under development. To be submitted to VPAC for approval in Spring 2014.*)

### ***Admissions Requirements***

The following list represents the specific criteria for admission to the certificate program, based upon the admissions criteria for the Graduate School and the iSchool at the University of Maryland.

- *Graduate School Requirements*
  - The Graduate School requires as a minimum standard an average of 3.0 on a 4.0 scale in all undergraduate courses taken at a regionally accredited college or university.
  - The TOEFL is required of international applicants who are not native speakers of English.
- *iSchool Requirements*
  - Master's degree in library or information science; or master's degree in a related area and relevant experience.
  - Certificate must be pertinent to applicant's career.

The Professional Education Committee (PEC) will oversee the admissions process in conjunction with the Student Services Office (SSO) at the iSchool. To apply, an applicant will submit a completed Graduate School application, as well as the following:

- A current resume or CV.
- A personal statement about the applicant's interest and how the certificate will affect the applicant's career.
- One (1) letter from a supervisor or someone who can speak to the applicant's capacity for successfully completing the certificate program.

### **III. STUDENT LEARNING OUTCOMES AND ASSESSMENT**

The degree to which the CMDA certificate program is meeting its goals will be assessed by means of the program's Graduate Learning Outcomes Assessment plan. The Certificate Learning Outcomes Assessment Subcommittee, appointed by PEC, will direct the assessment process and report to the full committee. The subcommittee will include a representative from the iSchool Student Services Office, the CMDA specialization director (or one co-director), and a member of PEC. Assessments will be conducted biannually, beginning in the second year of the program, and will be reported to PEC in the spring semester. The report will contain the results of the assessment and recommendations for program improvement based on the results. The expectation is that 95% of certificate students will perform at the "Meets Expectation" level or above on all indicators.

The two Learning Outcomes for the certificate program are given below. Learning Outcome 1 will be assessed at the end of the first course, INST 640. Learning Outcome 2 will be assessed at the end of the fourth and final course, INST XXX.

**Learning Outcome 1:** *Use basic principles and concepts relating to the cultural, technical, practical, economic, legal, and political factors that may affect digital curation for a specific collection.*

The assessment of Learning Outcome 1 will be based on a digital repository plan constructed by students in INST 640. Students will develop a digital repository plan for a given collection, including identifying a collection and the corresponding cultural institution that will be responsible for the collection. The plan will be assessed using the matrix provided in Table 2.

**Table 2**

Indicators	Outstanding	Exceeds Expectations	Meets Expectations	Below Expectations	Unsatisfactory
1. The student identifies a significant digital curation problem.					
2. The level and detail of analysis are appropriate.					
3. The recommendations are creative and appropriate.					
4. The student uses relevant digital curation concepts and principles.					
5. The presentation is clear and well written.					

The program will have successfully met Learning Outcome 1 if at least 85% of students attain a rating of Outstanding, Exceeds Expectations, or Meets Expectations across the indicators in the matrix.

**Learning Outcome 2:** *Integrate and apply relevant digital curation theory and practice in managing digital assets.*

Assessment of Learning Outcome 2 will be based on the capstone project developed by students in INST XXX. Students will identify a specific digital curation problem faced by their organization, propose a plan to address the problem, describe the consequences of not addressing the problem, identify the most cost-effective and feasible strategy for success, implement the strategy, and evaluate the efficacy of the project. The project must address both management and technology issues, and include interaction with stakeholders. The plan will be assessed using the matrix shown in Table 3.

**Table 3**

Indicators	Outstanding	Exceeds Expectations	Meets Expectations	Below Expectations	Unsatisfactory
1. The student identifies an appropriate problem.					
2. The proposal is appropriate for the problem identified.					
3. The student identifies appropriate strategies for addressing the problem.					
4. The student implements strategies on-site.					
5. The student evaluates the efficacy of the project.					

The program will have successfully met Learning Outcome 2 if at least 90% of students attain a rating of Outstanding, Exceeds Expectations, or Meets Expectations across the indicators in the matrix.

#### **IV. FACULTY AND ORGANIZATION**

Management of the certificate program will be the responsibility of the Professional Education Committee (PEC) at the University of Maryland's iSchool. The director of the CMDA specialization will provide academic direction and oversight. Currently, Dr. Michael Kurtz and Dr. Katie Shilton are co-directors of the specialization. The Director of Online Programs for the iSchool will assist the co-directors of the specialization in providing support for the online students; Dr. Mary Choquette is Director of Online Programs at present. Academic support will also be provided by the academic advisors in the iSchool's Student Services Office.

Courses will be taught by regular or adjunct members of the faculty who have been approved for teaching and appointment to the Graduate Faculty. Full-time faculty will be given the option to teach in the certificate program as an overload, or during the summer, for extra compensation.

#### **V. OFF CAMPUS PROGRAMS**

##### ***Student Services***

Student services will be provided through the iSchool's Student Services Office. Advisors will work with online certificate students in the same way they work with other iSchool students. They will be responsible for working with applicants and assisting students with registration and other problems. Advisors maintain regular office hours, which are published on the iSchool website, in the student handbook, and through periodic emails to student listservs. Students may access these services in the same way students access these services: through web chat, email, telephone, or in person.

***Financial Aid***

The first cohort of 15 students in the online certificate program will be given full tuition remission through an IMLS grant awarded in 2013. Future cohorts will not receive financial aid from the iSchool.

***Library and Other Instructional Resources***

The University Library System's collection of journals and other resources in electronic format is sufficient to support the certificate program. Most courses currently taught in the CMDA specialization rely heavily or exclusively on these materials. The iSchool is working with the library to provide additional access for online students. Amazon.com and other online bookstores are the most commonly used source for purchasing textbooks. Therefore, students in the online certificate program should not encounter any difficulty in obtaining remote access to the necessary materials.

***Technology***

The iSchool will rely on and benefit from the installed base of technology provided by the Department of Information Technology. The ELMS Canvas platform will serve as the foundation for the online program. Many of its ancillary products will be incorporated to provide the interactivity required in a high-quality online course. Adobe Connect will also be used to bring virtual guest speakers to the online courses, as well.

***Virtual Research Learning Environment***

In addition to traditional online learning tools, this online certificate program will utilize an innovative cloud-based digital curation Virtual Research and Learning Environment (VRLE). The VRLE is being developed from funds awarded through the 2013 IMLS grant. Created by a former iSchool faculty member and now managed by Dr. Jimmy Lin, Associate Dean for Research, and David Baugh, Technology Officer at the iSchool, the VRLE will allow online certificate students with modest computers and internet connections to work with powerful technology. The VRLE will also allow students and instructors to collaborate via shared computational resources, and will enable exploration via an open computer lab framework. The VRLE will allow integration of real-world tools into the curriculum and will enable students to design and deploy their own digital curation environments during their capstone experience. Both on-campus and online students will utilize the VRLE, and the technology staff of the iSchool will sustain the virtual environment through funds generated by the certificate program. The goal of developing the VRLE is to provide the iSchool with a sustainable virtual learning environment that can be utilized in both in-person and online programs.

Initially, one administrative server will be used as a launch platform to the Amazon Cloud Environment (EC2), which hosts the VRLE. The server, donated to the iSchool by Yahoo!, will be housed in the Research Data Center in the A.V. Williams building. OIT provides this free service to colleges for dedicated research use.

***Intellectual Property***

The iSchool works with appropriate university personnel to develop agreements and other documents to assure compliance with the University's Policy on Intellectual Property.

**VI. COMMITMENT TO DIVERSITY**

The iSchool at the University of Maryland is dedicated to supporting non-traditional students, students from diverse ethnic backgrounds, as well as those working for organizations that support underrepresented groups. As a requirement of the grant awarded through IMLS, the first cohort of online certificate students will be recruited from diverse groups, and special consideration will be made to award funding to them. Additionally, each course will feature content important in understanding diversity issues in digital curation, including serving underrepresented groups and institutions, meeting unique curation needs for diversity promotion, and developing capacity in all sizes and types of libraries and cultural heritage institutions.

**VII. RESOURCE NEEDS AND RESOURCES**

The IMLS funding is sufficient to enable three of the courses to be converted into an online format (INST640, INST 641, INST741), as well as to create the fourth online course (INSTXXX: Capstone) by regular faculty in the iSchool. Revenue from the certificate program will be used to pay all program expenses, including instructors, additional support for the iSchool SSO, and the administrators of the certificate. Current regular and adjunct faculty approved for teaching and appointment to the Graduate Faculty will teach the four courses required for the certificate, with full-time faculty given the option to teach in the certificate program as an overload or during the summer for extra compensation. No additional resources are needed for new staff.

Students in the first certificate cohort will receive a full tuition remission through grants awarded by IMLS. The following certificate cohorts will then be offered annually on a cost-recovery basis as an entrepreneurial program.

**VIII. CONCLUSION**

Digital assets curation and management is a new and rapidly evolving field, and career professionals in archives and information management are looking for additional education and support as they build their knowledge and skill set in an ever-changing digital arena. The CMDA certificate offered by the University of Maryland's iSchool is designed to meet this need for professional continuing education. This post-master's, fully online certificate will prepare students by using next-generation cloud computing technologies and tools to better provide individuals with digital curation solutions for their own organizations.

## **BUDGET JUSTIFICATION**

### **Revenue**

As an entrepreneurial program, the CMDA certificate will generate the revenue required to cover the cost of administering the program. Student tuition will cover the costs of instruction, student services, and program support, and under the current budget will generate a net revenue beginning in the third year of the program.

### *Tuition Rate*

The iSchool is proposing a non-standard tuition rate for students in the online certificate program. The \$800 per credit hour will be the same for both instate and out of state students, and the iSchool anticipates adjusting the tuition for inflation by 4% each year. The iSchool also will charge a yearly program fee of \$95 fee per student to offset technology and program costs. That fee also will be adjusted by 4% each year. The College asks that the University's on-campus fees be waived because the certificate program is entirely online and the students will use none of the campus's services.

### *Cohort Size and Schedule*

Tuition for the first cohort of the certificate will be covered under a 2013 IMLS grant. The grant, however, does not cover the program fee, and students will be expected to pay that fee for the year. It is anticipated that one cohort of 15 students per year (June–May) will participate in the program.

### **Expenses**

Direct costs to administer the program can be broken down into three sections: instruction, student services, and program support. Due to the certificate program start date (June 1) and the financial dates of the proposed budget (fiscal years beginning July 1 and ending June 30), the first year of the program includes only one of the first cohort's courses. Years two through five indicate a more accurate version of an entire yearly budget for the certificate program.

### *Instruction*

Because the fiscal year begins during a cohort, the first-year budget includes only one faculty member teaching one course. In years two through five, four faculty members will teach one course apiece. Faculty for the certificate will include both full-time, regular faculty as well as adjunct faculty that have been approved for teaching by the Graduate College. The full-time faculty will not have the certificate courses included on-load, but will have the option of teaching them for additional compensation. Currently, the budget reflects two full-time, regular faculty members and two adjuncts teaching courses each year. No additional faculty members are needed. The iSchool has also included funds each year for online course development and instructional support (\$15,000 for years one and two, and \$5,000 for each year thereafter) to enable both full-time and adjunct faculty to engage in curriculum development and professional development to support online teaching.

In addition, the budget also includes support for a 10-hour graduate assistant to provide administrative assistance for the program every year.

### *Student Services*

The Student Services Office (SSO) at the iSchool will provide support to students throughout the certificate program. The iSchool has budgeted for one advisor at 8% for the first year and 12% for each year thereafter. In addition, \$5,000 has been included in the budget for recruitment materials and general SSO services for each year of the certificate program.

### *Online Program Support*

Program support for the CMDA certificate includes resources allocated to the Director of Online Programs (at 5% for the first year and 10% for each year thereafter), as well as a program assistant (12% the first year and 20% thereafter) who will work with all professional development activities offered by the iSchool. In addition to program staff, the budget includes funds for maintenance of the Virtual Learning Resource Environment (VRLE) by the Technology Officer at the iSchool (7.5% the first year and 12% for each year thereafter). Equipment, software, and additional direct costs have been included in the budget, as well.

### **Administration and Support**

The University's F&A rate is included as 22% for year one (six months) and 42.5% in subsequent years. The percentage will change as directed by the University.



**Curation and Management of Digital Assets—Budget Years 1-5**

	7/1/14-6/30/15		7/1/15-6/30/16		7/1/16-6/30/17		7/1/17-6/30/18		7/1/18-6/30/19			
	Total		Total		Total		Total		Total			
<b>Revenue</b>												
# New Students <sup>1</sup>		15		15		15		15		15		
# Continuing Students				15		15		15		15		
Total students		15		30		30		30		30		
Proposed online tuition rate per credit		\$800		\$832		\$865		\$900		\$936		
Proposed nonresident tuition rate per credit												
Credits generated per year	45		45		45		45		45			
Total tuition		\$36,000		\$149,760		\$155,750		\$161,980		\$168,460		
Program Fee	\$95	\$1,425	\$97	\$1,454	\$99	\$1,483	\$101	\$1,512	\$103	\$1,542		
<b>Total Revenue</b>		\$37,425		\$151,214		\$157,233		\$163,493		\$170,002		
<b>Revenue to Campus</b>	10%	\$3,743	10%	\$15,121	10%	\$15,723	10%	\$16,349	10%	\$17,000		
<b>Revenue to iSchool</b>	90%	\$33,683	90%	\$136,092	90%	\$141,510	90%	\$147,143	90%	\$153,002		
<b>Costs</b>												
<b>Direct Costs</b>												
<b>Instruction</b>												
Courses taught per Academic Year		1		4		4		4		4		
Regular faculty	1	\$9,000	\$9,000	2	\$9,270	\$18,540	2	\$9,548	\$19,096	2	\$10,130	\$20,259
Adjunct faculty		\$0	\$0	2	\$5,000	\$10,000	2	\$5,150	\$10,300	2	\$5,464	\$10,927
Faculty Benefits		\$720	\$720		\$1,483	\$1,483		\$1,528	\$1,528		\$1,621	\$1,621
Graduate assistants	0.5	\$8,114	\$8,114	0.5	\$8,357	\$8,357	0.5	\$8,608	\$8,608	0.5	\$9,132	\$9,132
Graduate assistants Benefits		\$1,136	\$1,136		\$1,170	\$1,170		\$1,205	\$1,205		\$1,279	\$1,279
Course development & instructional support	3	\$5,000	\$15,000	3	\$5,000	\$15,000	1	\$5,000	\$5,000	1	\$5,000	\$5,000
<b>Total Instruction</b>		\$33,970	\$33,970		\$54,551	\$54,551		\$46,959	\$46,959		\$48,218	\$48,218
<b>Student Services</b>												
Recruitment materials and services		\$5,000	\$5,000		\$5,000	\$5,000		\$5,000	\$5,000		\$5,000	\$5,000
Advisor	8%	\$42,000	\$3,360	12%	\$43,680	\$5,242	12%	\$45,427	\$5,451	12%	\$47,244	\$5,669
Advisor Benefits		\$11,760	\$941		\$12,230	\$1,468		\$13,228	\$1,587		\$13,758	\$1,651
<b>Total Student Services</b>		\$9,301	\$9,301		\$11,709	\$11,709		\$12,257	\$12,257		\$12,547	\$12,547
<b>Online Program Support</b>												
Program Director	5%	\$90,000	\$4,500	10%	\$93,600	\$9,360	10%	\$97,344	\$9,734	10%	\$101,238	\$10,124
Program Director Benefits		\$25,200	\$1,260		\$26,208	\$2,621		\$27,256	\$2,726		\$28,347	\$2,835
Telephone, postage, copying, supplies			\$1,000			\$1,000			\$1,000			\$1,000
Program assistant	12%	\$42,000	\$5,040	20%	\$43,260	\$8,652	20%	\$44,558	\$8,998	20%	\$45,895	\$9,358
Program assistant Benefits		\$11,760	\$1,411		\$12,113	\$2,423		\$12,476	\$2,495		\$12,850	\$2,570
Technology support staff	7.5%	\$70,000	\$5,250	12%	\$72,100	\$8,652	12%	\$74,263	\$8,912	12%	\$76,491	\$9,179
Technology support staff Benefits		\$19,600	\$1,470		\$20,188	\$2,423		\$20,794	\$2,495		\$21,417	\$2,570
Equipment and software			\$15,000			\$12,500			\$12,500			\$12,500
<b>Total Online Program Support</b>		\$244,000	\$34,931		\$252,640	\$47,630		\$261,592	\$48,860		\$270,867	\$50,136
<b>Total Direct Costs</b>		\$78,202	\$78,202		\$113,890	\$113,890		\$109,352	\$109,352		\$112,223	\$112,223
<b>Administration and Support<sup>2</sup></b>	22.0%	\$17,204	\$17,204	42.5%	\$48,403	\$48,403	42.5%	\$46,474	\$46,474	42.5%	\$47,695	\$47,695
<b>Total Costs</b>		\$95,406	\$95,406		\$162,293	\$162,293		\$155,826	\$155,826		\$159,918	\$159,918
<b>Gross Revenue</b>		\$37,425	\$37,425		\$151,214	\$151,214		\$163,493	\$163,493		\$170,002	\$170,002
<b>Total Expenses</b>		\$95,406	\$95,406		\$162,293	\$162,293		\$155,826	\$155,826		\$159,918	\$159,918
<b>Gross Revenue-Total Expenses</b>		-\$57,981	-\$57,981		-\$11,080	-\$11,080		\$7,667	\$7,667		\$10,085	\$10,085

[1] Each new cohort begins June 1

[2] Six months of support in Year 1

**TABLE 1: RESOURCES**

<b>Resources Categories</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
<b>1. Reallocated Funds<sup>1</sup></b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
<b>2. Tuition/Fee Revenue<sup>2</sup> (c+g below)</b>	<b>\$36,000.00</b>	<b>\$149,760.00</b>	<b>\$155,750.40</b>	<b>\$161,980.20</b>	<b>\$168,460.20</b>
a. #F.T Students	0	0	0	0	0
b. Annual Tuition/Fee Rate	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
c. Annual Full Time Revenue (a x b)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
d. # Part Time Students	15	15	15	15	15
e. Credit Hour Rate	\$800.00	\$832.00	\$865.28	\$899.89	\$935.89
f. Annual Credit Hours	3	12	12	12	12
g. Total Part Time Revenue (d x e x f)	\$36,000.00	\$149,760.00	\$155,750.40	\$161,980.20	\$168,460.20
<b>3. Grants, Contracts, &amp; Other External Sources<sup>3</sup></b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
<b>4. Other Sources</b>	<b>\$1,425.00</b>	<b>\$1,455.00</b>	<b>\$1,483.00</b>	<b>\$1,512.00</b>	<b>\$1,542.00</b>
<b>TOTAL (Add 1 - 4)</b>	<b>\$37,425.00</b>	<b>\$151,215.00</b>	<b>\$157,233.40</b>	<b>\$163,492.20</b>	<b>\$170,002.20</b>

**TABLE 2: EXPENDITURES**

<b>Expenditure Categories</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
<b>1. Total Faculty Expenses</b>	<b>\$9,720</b>	<b>\$30,023</b>	<b>\$30,924</b>	<b>\$31,852</b>	<b>\$32,807</b>
(b + c below)					
a. # FTE	0.10	0.40	0.40	0.40	0.40
b. Total Salary	\$9,000	\$28,540	\$29,396	\$30,278	\$31,186
c. Total Benefits	\$720	\$1,483	\$1,528	\$1,574	\$1,621
<b>2. Total Administrative Staff Expenses (b + c below)</b>	<b>\$23,232</b>	<b>\$40,841</b>	<b>\$42,337</b>	<b>\$43,892</b>	<b>\$45,504</b>
a. # FTE	0.05	0.20	0.20	0.20	0.20
b. Total Salary	\$18,150	\$31,906	\$33,095	\$34,330	\$35,611
c. Total Benefits	\$5,082	\$8,935	\$9,242	\$9,562	\$9,893
<b>3. Total Support Staff Expenses (b + c below)</b>	<b>\$9,250</b>	<b>\$9,527</b>	<b>\$9,813</b>	<b>\$10,107</b>	<b>\$10,411</b>
a. # FTE	0.50	0.50	0.50	0.50	0.50
b. Total Salary	\$8,114	\$8,357	\$8,608	\$8,866	\$9,132
c. Total Benefits	\$1,136	\$1,170	\$1,205	\$1,241	\$1,279
<b>4. Equipment</b>	<b>\$15,000</b>	<b>\$12,500</b>	<b>\$12,500</b>	<b>\$12,500</b>	<b>\$12,500</b>
<b>5. Library</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>6. New or Renovated Space</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>7. Other Expenses</b>	<b>\$38,204</b>	<b>\$69,403</b>	<b>\$56,294</b>	<b>\$57,474</b>	<b>\$58,695</b>
<b>TOTAL (Add 1 - 7)</b>	<b>\$95,406</b>	<b>\$162,294</b>	<b>\$151,868</b>	<b>\$155,825</b>	<b>\$159,917</b>