PROPOSAL FORM

____ NEW INSTRUCTIONAL PROGRAM

_X_ SUBSTANTIAL EXPANSION/MAJOR MODIFICATION

____ COOPERATIVE DEGREE PROGRAM

____ EXISTING RESOURCES or

_X_REQUIRING NEW RESOURCES

Notre Dame of Maryland University
Institution Submitting Proposal

Master of Science in Analytics   HEGIS: 070200 CIP: 11.0401
Title of Program, Proposed HEGIS and CIP Codes

Debra Franklin, Ph.D.   **Barbara Mento, Ph.D.**
Dean, School of Arts & Sciences   **Computer Information Systems**

Master of Science   **Fall 2016**
Award to be Offered   **Proposed Initiation Date**

_____ President/Chief Executive Approval
Signature/Date

_____ Date Endorsed/Approved by Governing Board

_____ Date Received by Secretary of Higher Education

Academic Program Proposal
Notre Dame of Maryland University
Substantial Modification to Existing Program

A. Centrality to institutional mission statement and planning priorities

Provide a description of the program, including each area of concentration and how it relates to the institution's approved mission.

Notre Dame of Maryland University has been a regional leader in educating part-time adult students since 1975. The University continues to respond to women and men returning to advanced studies by providing high-quality graduate programs in today's competitive fields.

In keeping with the values central to its mission, Notre Dame emphasizes professional development that stresses cutting-edge competencies and holistic professional development in the liberal arts tradition in its curricula for graduate students. Students in the current Analytics in Knowledge Management program learn to manage data strategically with utmost concern for personal privacy and protection of data. An emphasis on organizational security and ethics is incorporated into the curriculum. Moreover, the program focuses on competencies in areas of data management technologies and quantitative processes. Students will specialize in the creation, enhancement and use of big data through analytics informing planning and decision-making. The University seeks to build on the initial success of this traditional face-to-face program by a name change (Analytics) that reflects a single focus, through some modest curriculum updates and revisions, and most importantly, by offering the program entirely online to better reach interested and qualified students. Further, a full-time student completion option is proposed via 18 months of accelerated study.

Explain how the proposed program supports the institution's strategic goals and provide evidence that it affirms it as an institutional body.
The University currently devotes resources to growth in the knowledge economy. The master of science in Analytics program was developed in consultation with industry professionals who understand the need for and value of the enhancement of data knowledge assets. Maryland's health and educational organizations, businesses, and numerous government agencies will benefit from professionals who can develop knowledge within these organizations. Offering the program fully online with provide greater regional access to professionals in the field.

The University's new strategic plan, approved by the Board of Trustees in May 2105, includes an initiative to respond to market demand through innovative programs. At Notre Dame, Analytics is a multidisciplinary program incorporating computer studies and mathematics, enabling students to apply economic and mathematical principles to the computer analysis and synthesis of data for decision-making and knowledge management. This program has been effective in attracting students interested in careers in informatics and data/information management.

B. Adequacy of curriculum design and delivery to related learning outcomes consistent with Regulation .10 of COMAR.

Provide list of courses, educational objectives, intended student learning outcomes, general education requirements, specialized accreditation, and contracts with other institutions.
The master of science degree in Analytics stresses the development, organization, retention, mapping and mining of data resources that contribute to an organization's sustained success. The knowledge-based economy and the explosive growth of analytics have increased the need for the creative and effective use of data for planning and decision-making.

Both public and private organizations must now manage data from a variety of traditional and internet-based resources. To adapt and thrive in a fast-changing, competitive economic climate, organizations are hiring professionals who will enhance their ability to serve clients and realize strategic priorities. Notre Dame's program meets the need for organizations to manage "big data." One industry leader consulted, Tom Kuegler, General Partner at Wasabi Ventures LLC in Baltimore, advised, "Analytics in knowledge management is a field of study that I see being used every day by our portfolio companies. Any company that targets the health care, legal, or educational markets needs to have an understanding of KM."

Program of Study and Outcomes
Notre Dame's master of science in Analytics is a multidisciplinary program of computer studies and mathematics. Students will gain the knowledge and skills to:
- Design a conceptual prototype of data organization and apply the concept to physical designs in a variety of formats (covered in Data Design and Management)
- Synthesize and integrate data, through both structured databases and unstructured web input, using current applications (covered in Data Tools, Data Visualization)
- Use mathematics to apply data modeling techniques for data organization and knowledge research (covered in Data Design and Management, Data Mining and Warehousing)
- Develop systems to implement data storage and retrieval for multi-user levels (covered in Data Mining and Warehousing)
- Present and support the nature of the data-to-knowledge continuum in an organizational setting (Foundations, Risk Analysis)
- Demonstrate methodologies of project life-cycle, workflow, prototyping, time-management, and interpersonal relationships (covered in Project Management)
- Enforce the obligations for protection of individual privacy as well as organizational security and ethics (covered in Data Security)
- Take a leadership role in initiate, design, and implement a set of Work Effectiveness Principles that can be used to influence and drive strategy, structure, policy, and behavior in the organization for the use of knowledge assets

The Analytics in Knowledge Management program includes 36 credits of coursework. Students may take two courses each semester, including summers and Winter session, and finish within two years. A full-time option is also possible with completion in approximately 18 months.

Curriculum (36 Credits)
Computer Science Courses (21 Credits)
CST-530 Foundations of Data Analytics (3)
CST-531 Data Design and Management (3)
CST-532 DataTools (3)

CST-540 Data Visualization (3)
CST-550 Project Management (3)
CST-611 Data Mining and Warehousing (3)
CST-620 Data Security Capstone (3)

Statistics and Research Courses (9 Credits)
MAT-575 Applied Statistics and Programming (3)
MAT-576 Data and Decision Modeling (3)
CST-610 Critical Inquiry (3)

Electives in Business and Economics (6 Credits)
Courses listed below may be taken or any other courses in these disciplines approved by the program advisor
ECO-550 Managerial Economics (3)
ECO/BUS-560 Risk Analysis (3)

Course Descriptions
CST-530 FOUNDATIONS OF DATA ANALYTICS
Introduces fundamental principles of data analytics in the context of business examples. Topics covered include introductions to data mining, modeling, preparation, analysis, integration and discovery. [3 credits]

CST-531 DATA DESIGN AND MANAGEMENT
Covers fundamental concepts for the design, use and implementation of database systems. Concepts include basic database modeling and design, query optimization, concurrency control, recovery and integrity. [3 credits.]

CST-532 DATA TOOLS
Studies concepts for SQL procedures, functions, packages and Internet database connectivity. Web application development techniques based on client and server-side programming is introduced. Standard methods and protocol for data representation and exchange over the Internet such as XML, RDF, SOAP, WSDL and UDDI are discussed. [3 credits]

CST-540 DATA VISUALIZATION
Explores the field of data visualization, including data types and visualization categories such as time-series, statistics, maps, hierarchies, and networks. Includes a study of visualization tools, infographics, and other issues related to the display of "big data." Prerequisite: CST 531
[3 credits]

CST-550 PROJECT MANAGEMENT
Reviews the application of project management tools as they apply to the systems development life cycle, including planning, organizational structure, and control mechanisms. Research assignments relate to the design and implementation of knowledge construction and management. [3 credits]

MAT-575 APPLIED STATISTICS AND PROGRAMMING
Covers concepts of testing for use in professional sciences, including simple linear regression, correlation, multiple regression, fixed and random effects, analysis of variance, analysis of covariance, experimental design, multivariate methods and various statistical packages, including R. Prerequisite: MAT-576 [3 credits]

MAT-576 DATA ANALYSIS AND DECISION MODELING
Provides an application-oriented introduction to the modeling techniques used to structure the way we think about managerial decision situations. Methodologies considered include decision analysis, simulation, optimization and sensitivity analysis. Stochastic models are developed with applications to finance, operations management, logistics and resource allocation. Prerequisite: CST 531 [3 credits]

CST-610 CRITICAL INQUIRY
Studies the role of critical thinking, evaluation and research in information and knowledge work. The course will cover the steps in carrying out a research project: problem identification, theoretical framework, methodological design, data collection and analysis; developing a research proposal; communicating research results; and assessment and use of results of research studies. The course will also provide a critique and review of research studies, and discuss ethical concerns and issues associated with research. Prerequisites: MAT-575 and CST-540. [3 credits]

CST-611 DATA MINING AND WAREHOUSING
Provides an overview of the data mining and warehousing components of the knowledge discovery process. Data mining applications are introduced, and the application of statistical algorithms and techniques useful for solving problems are identified. Students will study development issues such as identification, selection, acquisition, processing, search and retrieval. [3 credits]

CST-620 DATA SECURITY CAPSTONE
Provides an overview of both the theory of and applications for providing privacy, ethics and security in database management systems. Concepts include discretionary and mandatory access control, data integrity availability and performance, secure database design, data aggregation, data inference, secure concurrency control and secure transactions processing. Prerequisite: CST-531 and CST-611. [3 credits]

Electives
ECO-550 MANAGERIAL ECONOMICS [possible elective]
Introduces economic methodologies to managerial decisions. Examines consumer demand, production costs, and output/price combinations that maximize firms' goals under different market structures. Applies basic math and statistics tools to evaluate business choices. All statistics and mathematics used in the class are explained in basic terms at the point of first usage. [3 credits]

ECO/BUS-560 RISK ANALYSIS [possible elective]
Covers risk analysis as an evolving paradigm for decision-making in uncertain situations. Risk

analysis consists of three tasks: risk management, risk assessment and risk communication. This course introduces the language, models and methodologies of risk management, assessment and communication with an emphasis on the need for addressing uncertainty in all phases of decision making. [3 credits]

There are no general education requirements for this graduate-level program, and no special accreditation or certification requirements. The program is accredited under NDMU's MSCHE umbrella for online program delivery.

C. Critical and compelling regional or statewide need as identified in the State Plan.

Demonstrate demand and need for the program in terms of meeting present and future needs of the region and the State.
There are currently no other Analytics graduate programs in Maryland, but the need is clear. For example, the BRAC process created a growing need for skilled technology professionals in fields such as knowledge management at Aberdeen Proving Ground. Additionally, agencies such as DISA (Defense Information Systems Agency) and the NSA have indicated their interest in educational opportunities for their employees in areas related to knowledge management.

Job categories in this field include Knowledge Manager, Knowledge Analyst, Knowledge Architect, Knowledge Content Manager, Knowledge Director, Research Analyst, Knowledge Project Leader, Knowledge Management Coordinator, and Knowledge Engineer. Many positions in these job categories require a master's degree in a relevant field, and others give preference to candidates with master's-level credentials. Specific job opportunities can be found at www.indeed.com. Approximately half of the currently posted positions indicate that a Master's degree is the preferred credential.

Provide evidence that the perceived need is consistent with the Maryland State Plan for Postsecondary Education.

Employment of database professionals nationwide is expected to grow by 20 percent from 2008 to 2018 (*Occupational Outlook Handbook 2010*, Bureau of Labor Statistics). In Maryland, computer and mathematical occupations are expected to grow 25.6%, from 99,880 in 2006 to 126,410 in 2016 (Maryland Department of Labor, Licensing and Regulation, Division of Workforce Development and Adult Learning, 2009). Demand for these workers is expected to increase as organizations need to store, organize, and analyze increasing amounts of data. In addition, as more databases are connected to the Internet, and as data security becomes increasingly important, a growing number of these workers will be needed to protect data.

According to *CyberMaryland: 2010 Report from the Maryland Department of Business and Economic Development*, Maryland IT firms are "engaged in IT technical consulting, application provisioning, business process management, data storage, data management and custom computer application design and development. Maryland has one of the highest concentrations of technology jobs in the country, with approximately 10 percent of jobs classified as technology related, and an estimated 9500 private sector technology businesses." To maintain its leading role as an innovator and employer in high-technology fields, Maryland needs a steady supply of

highly educated technology workers and managers. Notre Dame's Analytics in Knowledge Management program is designed to help meet this need.

D. Quantifiable and reliable evidence and documentation of market supply and demand in the region and state.

Present data and analysis projecting market demand and the availability of openings in in a job market to be served by the new program.
In February 2010, a focus group was held with alumni and other middle management professionals from local private, public and health industries to review the proposed Analytics in Knowledge Management program. Participants were instrumental in refining the curriculum to ensure that students gain relevant skills to most effectively develop and utilize the wealth of data resources now available in daily operations. Those in private businesses emphasized the need for organizing the data from today's internet-related resources. Those from health and pharmaceutical enterprises related the need to grow knowledge based on electronic medical information. All participants emphasized the importance of using ethical practices and ensuring information privacy and security.

Focus group participants asserted that the need for knowledge managers is so great their organizations would send current employees to the program, as well as pay tuition.

Discuss and provide evidence of market surveys that clearly provide quantifiable and reliable data on the educational and training needs and the anticipated number of vacancies expected over the next 5 years.
The Bureau of Labor Statistics (data.bls.gov) employment data for 2014 show the following information for positions in the computer and information industry in Maryland, suggesting a strong job market and high wages for these positions:

Industry	Employment	Percent of industry employment	Hourly mean wage	Annual mean wage
Computer Systems Design and Related Services	65,310	3.86	$67.32	$140,020
Management of Companies and Enterprises	31,810	1.49	$65.75	$136,760
Insurance Carriers	13,210	1.12	$61.94	$128,840
Management, Scientific, and Technical Consulting Services	11,430	0.99	$65.62	$136,490
Software Publishers	10,550	3.65	$72.35	$150,480

The Bureau also predicts a 14% growth in demand nationally for information services professionals between 2012-2022:

| Industry | | 2012 | | Projected 2022 | | Growth in Demand 2012-2022 | |
Title	Code	Employ (in thousands)	Percent of Occup.	Employ (in thousands)	Percent of Occup.	Number (in thousands)	%
Other information services	519000	0.3	1.0	0.3	1.0	0.0	14.0

Provide data showing the current and projected supply of prospective graduates.
Based on current enrollment in the face-to-face program and interest expressed by prospective students in the fully online program, it is anticipated that at least 20 students will enroll in the first year of the program, with a goal of enrolling 30 new students per year by the 4th year of the program. The retention rate from the first year to the second year of the program is estimated at 75%. Enrollment in the face-to-face program over the past five years is presented below:

	2014	2015	2016	2017	2018
Enrolled (face to face)	11	15	15*	15*	15*

Anticipated

	2014-15	2015-16	2016-17	2017-18	2018-19
Graduates (face to face)	7	12*	12*	12*	12*

Anticipated

NDMU anticipates enrollment to double with a fully online delivery option:

	2015-16	2016-17	2017-18	2018-19	2019-20
Enrollment (face to face and online)	14*	24*	24*	24*	24*

Anticipated

E. Reasonableness of program duplication

Identify similar programs in the state and/or same geographic area. Discuss similarities and differences between the proposed program and others in the same degree to be awarded.
There are programs in Health and Nursing Informatics at other state and regional institutions that are directly related to the medical field. However, there are no Analytics graduate programs in Maryland, which prepare professionals from any business or organization to specialize in the

creation, enhancement and utilization of knowledge assets, and no similar programs that are delivered fully online.

Provide justification for the proposed program.
Given the employment specifics provided earlier in this proposal and the lack of duplication with other programs, as well as the fact that this is a current NDMU program that will now be offered fully online, the approval of the program is justified from a workforce needs perspective as well as from an increased access to higher education perspective; the fully online delivery increases opportunity for those students not in the immediate NDMU market area to enroll in and complete a workforce-demand degree to which they would otherwise not have access. The fact that no similar programs exist in the state also supports approval in that the fully online program will not draw from the market pool of an existing similar program. The option to study full-time or part-time is responsive to the needs of the adult learner.

F. Relevance to Historically Black Institutions (HBIs)

Discuss the program's potential impact on the implementation or maintenance of high-demand programs at HBIs.
This program does not duplicate an existing program at a Maryland HBI.

Discuss the program's potential impact on the uniqueness and institutional identities and missions of HBIs.
This program does not duplicate a similar program at a Maryland HBI, there for approval of NDMU's fully online delivery of its existing AKM program will not have a negative impact on the uniqueness and institutional identity and mission of these HBIs. In fact, this program will increase access for minority graduate students interested in a career in knowledge management.

F. If proposing a distance education program, please provide evidence of the "Principles of Good Practice.

NDMU, a new member of Maryland Online, has adopted the Quality Matters standards as the guidelines for design, development and delivery of all online courses and programs at Notre Dame. Courses are developed under the criteria outlined in the QM rubric, and go through an internal peer review process (QM qualified reviewers) prior to delivery. Faculty wishing to teach online are required to complete two QM webinars that review best practice in design and delivery of online courses and programs.

G.   Adequacy of faculty resources.
Provide a brief narrative demonstrating the quality of program faculty. Include a summary list of faculty with appointment type, terminal degree title and field, academic title/rank, status, and the courses each will teach.

Faculty
Kyongil Yoon, Ph.D. Associate Professor of Computer Science (core courses)
Alexandra Chaillou, Ph.D. Associate Professor of Mathematics (math sequence)
Ademar Bechtold, Ph.D. Professor of Economics (economics electives)
Darcy Conant, Ph.D. Assistant Professor of Mathematics (mathematics sequence)

Charles Yoe, Ph.D. Professor of Economics (economics and risk electives)
Barbara Mento, M.E.S. Associate Professor of Computer Science (core courses) (half-time)

Current full time faculty will continue to devote 30% of their course load (6 courses) to implementation of the program in its new modality. As enrollment grows, courses can be taught by adjunct faculty as needed.

I. Adequacy of library resources.

The Maryland Interlibrary Consortium, from which students and faculty at the Loyola Notre Dame library can borrow, has a total of 932 books with a primary heading of Analytics in Knowledge Management. However, most of them are dated 2005 and earlier. The library staff acquired an additional 20 books during the first year of the face-to-face program, and have continued the update gradually.

The Loyola Notre Library's Online Journal holdings are more substantial, including sixteen titles specific to analytics, and a total of 95 titles related to data management. The journal holdings are sufficient, and will be updated as more publications become available. Students in the program will also have online access to all consortium and NDMU online resources available through the library.

J. Adequacy of physical facilities, infrastructure and instructional equipment.
No new physical space is needed for this fully online program. The NDMU LMS Joule (Moodle Rooms) will be the learning platform for the program.

K. Adequacy of provisions for evaluation of the program.

Discuss procedures for evaluating courses, faculty, and student learning outcomes.
The fully online Analytics program will be subject to the same requirements as the face-to-face program for course, faculty and program evaluation. All NDMU students complete course evaluations online at the end of each of their courses, and this will continue for the online Analytics courses. Faculty are evaluated annually by their department chairperson as provided for in the NDMU faculty handbook, and this will continue for full time faculty teaching in the Analytics program. Adjunct faculty teaching at NDMU are evaluated through peer observation and feedback during their two semesters at the university using criteria for best practice in teaching and learning.

The University Assessment Plan at NDMU guides the assessment of student learning outcomes at all levels of the institution. Every course syllabus must continue learning outcomes for the program and the course, and assess those outcomes every year. Departments prepare and submit an annual student learning outcomes assessment report, which is reviewed by the University Assessment Committee. Feedback for these reports is provided to the chairs and the faculty at department and individual meetings. All requests for resource allocation and budget change must be supported by assessment data, including coursed based outcomes results.

L. Consistency with the state's minority student achievement goals.

Discuss how the proposed program addresses minority student access and success, and the institution's cultural diversity goals and initiatives.

The recruitment and retention of minority students is a high priority for Notre Dame, which regards outreach to minority populations as an integral part of our mission. Notre Dame continues to serve approximately 28 percent of students of color in its overall student population. The cross-disciplinary approach of the Analytics program, and its openness to students from a variety of undergraduate backgrounds, will make the proposed degree accessible to a wide range of students. Additionally, Notre Dame's academic support resources, including the Academic and Career Enrichment Center, are designed to help bolster the retention of at-risk students, including minority students.

NDMU anticipates that the fully online delivery options for this program will reach a wider, more diverse group of students and, therefore, increase access to this program for students who are historically underrepresented in STEM programs.

M. Relationship to low productivity programs identified by the Commission.

If the proposed program is directly related to an identified low productivity program, discuss how the fiscal resources may be redistributed to this program.

The Computer Science undergraduate program in the NDMU College of Undergraduate Studies was placed on hiatus with the start of the Analytics program; funds were redistributed to the proposed Analytics program. Thirty percent of the computer science faculty course load is allocated to the program; one high-tech classroom and one multimedia classroom are used two evenings a week for the existing face-to-face program. However, no classroom space will be required for online delivery of existing courses. No existing funds will be reallocated for this program.

N.   Finance

Complete Tables 1 and 2 for the first five years of the program and provide a narrative rational for each resource and expense.

I.   Finance

TABLE 1: RESOURCES					
Resource Categories	**2015-2016**	**2016-2017**	**2017-2018**	**2018-2019**	**2019-2020**
1. Existing Funds	$56,700	$58,400	$60,153	$61,958	$63,817
2. Tuition/Fee Revenue (c+g below)	$115,992	$204,768	$210,816	$217,296	$223,776
a) # F/T Students					
b) Annual Tuition/ Fee Rate					
c) Total F/T Revenue (a x b)					
d) # P/T Students	14	24	24	24	24
e) Credit Hr. Rate	$460	$474	$488	$503	$518
f) Annual Credit Hr.	18	18	18	18	18
g) Total P/T Revenue (d x e x f)	$115,992	$204,768	$210,816	$217,296	$223,776
3. Grants, contacts, & other external sources					
4. Other Sources					
TOTAL (add 1-4)	$172,692	$263,168	$270,969	$279,254	$287,593

Table 1: Resources Narrative

Allocated Funds

Three full-time faculty will continue to allocate 30% of their course load from the discontinued Computer Science program to the Analytics program. Thirty percent of their salaries are therefore listed as funds allocated from teaching in the Computer Science program. An average yearly raise of 3% is projected. One of the faculty will receive release time to develop the courses in online format.

The discontinuation of the Computer Science program has not had a significant impact on the institution or students since there are currently very few current majors completing the degree.

Tuition and Fee Revenue

Tuition is based on 14 part-time students entering the program in the first year with an expected 75% annual retention rate. The second year of the program will admit a new group of first-year students, with gradual growth in enrollments leading to 24 new students per year by the 4th year of the program. The projection of the number of students who will enroll in the program is derived from work with the focus group, as discussed earlier in this proposal. The attrition rate reflects current trends in our existing master's programs.

The program is designed with students taking 18 credits annually for 2 years. The tuition rate is $460 per credit in year one, with an expected 3% annual increase.

TABLE 2: EXPENDITURES					
Expenditure Categories	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
1. Faculty (b + c below)	$69,741	$85,632	$162,794	$167,677	$172,708
a) # FTE	1	2	2	2	2
b) Total Salary	$56,700	$72,200	$132,353	$136,323	$140,413
c) Total Benefits	$13,041	$13,432	$30,441	$31,354	$32,295
2. Admin. Staff (b + c below)	0	0	0	0	0
a) # FTE					
b) Total Salary					
c) Total Benefits					
3. Support staff	0	0	0	0	0
4. Equipment	0	0	0	0	0
5. Library	$2000	$600	$600	$600	$600
6. New or Renovated Space	0	0	0	0	0
7.Other Expenses Software, marketing, faculty development, and course development	$24,999	$20,000	$7500	$7500	$7500
8. TOTAL (add 1-7)	$96,740	$106,232	$170,894	$175,777	$180,808

Table 2: Expenditures Narrative

1. Faculty (# FTE, Salary, and Benefits):
The equivalent of one full-time faculty member teaches in the program the first year (this represents the allocated time of three full-time faculty members, each of whom will contribute a portion of their workload to the Analytics program). A full time faculty member will also receive a course release to develop the courses for fully online delivery.

In the second year, the equivalent of one full-time faculty member will continue to teach in the program (representing the allocated time of the three full-time faculty members as noted above). In addition, six courses will be taught by adjunct faculty, at a cost of $13,800 ($2,300 per course). These six courses are roughly equivalent to another FTE, so the number of FTEs for the second year is noted as two.

In the third year of the fully online program, a new faculty member will be hired to teach in the program, taking over the courses taught in the 2nd year by adjunct faculty. The number of FTEs will thus remain at two in year three and beyond, representing the continued reallocated time of the three full-time faculty members, plus the new faculty member. The projected salary for the new faculty member is based on average salary information for new assistant professors of Computer Science/Computer Information Science as listed in the University and University Professional Association for Human Resources 2010 Survey.

Raises for full-time faculty members of 3% per year are projected. Benefits are projected at 23% of salary.

2 & 3. Support and Admin Staff (# FTE, Salary, and Benefits):
No additional support staff is expected in the first 5 years of the program.

4. Equipment:
No additional equipment is expected in the first 5 years of the program.

5. Library:
To accommodate the needs of the Analytics program, the library is expected to need $2000 to supplement the online collection the first year, and $600 each following year.

6. New and/or Renovated Space:
No new or renovated space needs are expected in the first 5 years of the program.

7. Other Expenses (continuing license and product updates):
- KnowledgeBase Management Pro (at the lower level to include 100 staff, 5000 client accounts): $3000 first year, annual updates $1500
- MySQL Enterprise Silver: $1999 first year, annual updates approximately $1000
- Marketing: $5000 is expected to market the program each year.
- Faculty development: Faculty development to include conference attendance and workshops is expected to be $2000 annually. However, this money is not included in the

budget because it will be covered through an existing fund (the Pangborn Fund) that provides support for faculty development.

- Course development: Eleven new courses will be developed for online delivery in the first 2 years (six in year one, five in year two), at a cost of $2500 per course.

OTHER EXPENSES					
	Year 1	Year 2	YEAR 3	Year 4	Year 5
KnowledgeBase	$3000	$1500	$1500	$1500	$1500
MySQL	$1999	$1000	$1000	$1000	$1000
Marketing	$5000	$5000	$5000	$5000	$5000
Online course development	$15,000	$12,500			
Total	**$24,999**	**$20,000**	**$7500**	**$7500**	**$7500**