Missouri Department of Higher Education

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NEW PROGRAM PROPOSAL FORM

Sponsoring Institution(s): Lindenwood University

Program Title: Information Technology

Degree/Certificate: Bachelor of Science

Options: None

Delivery Site(s): St. Charles

CIP Classification: 110301

*CIP code can be cross-referenced with programs offered in your region on MDHE's program inventory highered.mo.gov/ProgramInventory/search.jsp

Implementation Date: October 1, 2014

Cooperative Partners: Click here to enter text.

*If this is a collaborative program, form CL must be included with this proposal

AUTHORIZATION:

Jann Weitzel	[signature]	7/25/14
Name/Title of Institutional Officer	Signature	Date

Jann Weitzel	636-949-4846	Click here to enter text.
Person to Contact for More Information	Telephone	

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STUDENT ENROLLMENT PROJECTIONS

Year	1	2	3	4	5
Full Time	**56**	**112**	**168**	**224**	**280**
Part Time	**0**	**0**	**0**	**0**	**0**
Total	**56**	**112**	**168**	**224**	**280**

BS in Business Systems Development

Please provide a rationale regarding how student enrollment projections were calculated:

14 new enrollees per quarter (a maximum cohort size)

Provide a **rationale** for proposing this program, including **evidence of market demand and societal need supported by research**:

Information Technology is one of the fastest growing fields in technology. There is currently a shortage of IT professionals and the gap is widening. IT Professionals provide a wide array of skills to support business functions. They bring business and information technology (IT) together by understanding the needs and limitations of both. The median annual wage for computer systems analysts was $79,680 in May 2012. Employment of IT professionals is projected to grow 25 percent from 2012 to 2022, much faster than the average for all occupations. Growth in cloud computing, cyber-security, and mobile networks will increase demand for these workers.*

* From Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2014-15 Edition

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Saint Louis Companies Now Hiring IT Professionals

NetEffects, Inc. (95)
Enterprise Rent-A-Car (84)
Best Buy (62)
Boeing (53)
PDS Technical Services (52)
Target (49)
General Dynamics - IT (48)
Charter Communications (46)
MasterCard (45)
CSC (44)
World Wide Technology, Inc. (44)
Washington University in St. Louis (41)
Express Scripts (39)
CenturyLink Technology Solutions (23)
Belcan TechServices (11)
Express Scripts (11)
Lumeris (8)
United States Army (8)

Saint Louis Locations Where Open Jobs Exist

St. Louis, MO (2219)
Scott AFB, IL (147)
Chesterfield, MO (94)
Maryland Heights, MO (73)
O'Fallon, MO (62)
Fairview Heights, IL (58)
O'Fallon, IL (57)
Bridgeton, MO (55)
Creve Coeur, MO (54)
Arnold, MO (54)
Saint Charles, MO (50)
Saint Peters, MO (45)
Clayton, MO (44)
Hazelwood, MO (43)
Earth City, MO (35)

PROGRAM STRUCTURE

A. Total credits required for graduation: 128

B. Residency requirements, if any: None

C. General education: Total credits: 46

Courses (specific courses OR distributions area and credits):

Communications Cluster (required)
ICM10100 Communications I (3)
ICM10200 Communications 2 (3)
ICM 20000 Introductions to Literature

Humanities Cluster
IPH 10000 Survey of Philosophy (3)
IEN 201000 World Literature I (3)
IRT 21000 Concepts of Visual Arts (3)

Social Science Cluster
IPY 10000 Principles of Psychology (3)
ISC 10200 Basic Concepts of Sociology (3)
IPS 15500 American Government: The Nation (3)

Cross Cultural Cluster
HIS 10100 20th Century World History (3)
FOCUS (3) – Acts as Free Electives
FOCUS (3) – Acts as Free Electives

Natural Sciences Cluster
INS 10500 Chemistry in Society (3)
INS 11400 Principles of Environmental Biology (3)
INS 21400 Ethical Problems in Science (3)
INS 11500 Environmental Biology Lab (1)

Mathematics/Statistics Cluster
*Pre-requisite for Natural Sciences Cluster
IHM 13200 Quantitative Methods for Business (3)
IHM 14200 Basic Statistics (3)
IMH 22000 Research Design and Methodologies (3) – Acts as Free Electives

D: Major requirements: Total credits: **57**

Foundations in Information Technology Cluster
IIT 21100 The IT Professional (3)
IIT 21200 Database Basics (3)
IIT 21400 Introduction to Networks (3)

Project Management Cluster

IIT 33100 Project Cost and Schedule Estimating (3)
IIT 43200 Project Management Process (3)
IIT 43300 Cost and Scheduling Applications (3)
Prerequisites: IIT 21100, IIT 21200, IIT 21400

Capstone

IIT 48900 Information Technology Capstone (3)
Prerequisites: Completion of all 54 hours in major or permission of the program director

ELECTIVE CLUSTERS (CHOOSE 4)

Networking Cluster

IIT 32100 Networking Essentials (3)
IIT 32200 Network Applications (3)
IIT 32300 Network Implementation – A Case Study & Simulation (3)
Prerequisites: IIT 21100, IIT 21200, IIT 21400

Advanced Networking Cluster

IIT 42100 General Network Administration (3)
IIT 42200 Network Applications – Client/Server (3)
IIT 42300 Problem Solving – Network Applications (3)
Prerequisites: IIT 32100, IIT 32200, IIT 32300

Web Design Cluster

IIT 37700 Fundamentals of HTML (3)
IIT 37800 Applications in Web Development (3)
IIT 37900 Applications in Web Site Publishing (3)
Prerequisites: IIT 21100, IIT 21200, IIT 21400

Advanced Web Design Cluster
IIT 47700 Fundamentals of User Interface Design (3)
IIT 47800 Applications in Object-Oriented Web Development (3)
IIT 47900 Applications in Multi-Tiered Web Programming (3)
Prerequisites: IIT 37700, IIT 37800, IIT 37900

Database Analysis and Design Cluster
IIT 35100 Database Analysis and Design (3)
IIT 45200 Database Application Implementation (3)
IIT 45300 Database Project Implementation (3)
Prerequisites: IIT 21100, IIT 21200, IIT 21400

Cybercrime Cluster
ICJ 35100 Investigating Cybercrime (3)
ICJ 35200 Digital Evidence (3)
ICJ 35300 Case Studies in Cybercrime (3)
Prerequisites: 27 credit hours in IIT

Cyber Security Cluster
IIT 33200 Fundamentals of Cyber Security (3)
IIT 33300 Secure Social Interactions in a Digital World (3)
IIT 33400 Ethical Issues in Cyber Security (3)
Prerequisites: IIT 21100, IIT 21200, IIT 21400

Digital Forensics Cluster
IIT 43500 Computer Forensics and Ethical Hacking (3)
IIT 43600 Security Analysis and Penetration Testing (3)
IIT 43700 Report Writing for Security Analysts (3)
Prerequisites: IIT 33200, IIT 33300, IIT 33400

Virtualization Cluster – Fundamentals
IIT 36600 Fundamentals of Data Center Virtualization (3)
IIT 36700 Fundamentals of Cloud Computing (3)
IIT 36800 Fundamentals of Desktop and Mobility Virtualization (3)
Prerequisites: IIT 32100, IIT 32200, IIT 32300

Virtualization Cluster – Administration
IIT 42400 Data Center Virtualization Administration (3)
IIT 42500 Cloud Computing Administration (3)
IIT 42600 Desktop and Mobility Virtualization Administration (3)
Prerequisites: IIT 36600, IIT 36700, IIT 36800

Virtualization Cluster – Design

IIT 42700 Data Center Virtualization Design (3)
IIT 42800 Cloud Computing Design (3)
IIT 42900 Desktop and Mobility Virtualization Design (3)
Prerequisites: IIT 42400, IIT 42500, IIT 42600

Elective Three Semester Hour Courses

The following courses may be incorporated into the undergraduate information technology degree. They are taught as individual courses but are offered in the quarter term. ***Prerequisites: IIT 21100, IIT 21200, IIT 21400***

IIT 34020 Mobile Applications Programming (3)
IIT 34030 Java Programming (3)
IIT 34040 C++ Programming (3)
IIT 34050 C# Programming (3)
IIT 34400 Introduction to Linux Programming (3)
IIT 49200-49600 Special Topics in Information Technology (3)

E. Free elective credits:
25
(Sum of C, D, and E should equal A.)

F. Requirements for thesis, internship or other capstone experience:
ITT 48900 Information Technology Capstone (3)

Prerequisites: Must be taken in last quarter or concurrent with last cluster.

G. Any unique features such as interdepartmental cooperation:
There are not any unique features requiring cooperation with other departments.

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PROGRAM CHARACTERISTICS AND PERFORMANCE GOALS

Institution Name Lindenwood University
Program Name Information Technology
Date 7/25/14

(Although all of the following guidelines may not be applicable to the proposed program, please carefully consider the elements in each area and respond as completely as possible in the format below. Quantification of performance goals should be included wherever possible.)

1. Student Preparation

- Any special admissions procedures or student qualifications required for this program which exceed regular university admissions, standards, e.g., ACT score, completion of core curriculum, portfolio, personal interview, etc. Please note if no special preparation will be required.
  No special preparation is required beyond those of the LCIE requirements.

- Characteristics of a specific population to be served, if applicable.
  LCIE students are adults age 23 and above who are working adults.

2. Faculty Characteristics

- Any special requirements (degree status, training, etc.) for assignment of teaching for this degree/certificate.
  Faculty must hold a terminal degree in the discipline taught, or be professionally qualified with a Master's degree in the discipline taught and have teaching 2 years teaching experience at the college level or 10 years professional experience in the discipline taught.

- Estimated percentage of credit hours that will be assigned to full time faculty. Please use the term "full time faculty" (and not FTE) in your descriptions here.
  Full time faculty teach 27 credit hours annually.

- Expectations for professional activities, special student contact, teaching/learning innovation.
  Full time faculty are expected to attend professional development workshops delivered by the university and outside agencies multiple times annually, serve on college and university level committees, advise students in academic and professional matters, and develop and maintain the quality and rigor of the academic offerings.

3. Enrollment Projections

- Student FTE majoring in program by the end of five years.
  The FTE projection at the end of 5 years will be 280.

- Percent of full time and part time enrollment by the end of five years.
  Percent of full time and part time enrollment by the end of five years.LCIE traditionally does not have part time enrollees as students are enrolled by cluster in a quarter format. Therefore, the expectation would near 100%, except in rare situations.

4. Student and Program Outcomes

- Number of graduates per annum at three and five years after implementation.
  The expectation for graduation at the three year mark would be limited due to the program being a four year degree. At five years, the projection would be approximately 56.

- Special skills specific to the program.
  Students will be required to solve problems by critically observing their environment, communicate professionally in all written, oral, and electronic formats, and work efficiently in teams to solve problems and create solutions.

- Proportion of students who will achieve licensing, certification, or registration.
  The program is not designed to prepare students for licensing, certification, or registration, but, to work effective and productively in a professional environment.

- Performance on national and/or local assessments, e.g., percent of students scoring above the 50th percentile on normed tests; percent of students achieving minimal cut-scores on criterion-referenced tests. Include expected results on assessments of general education and on exit assessments in a particular discipline as well as the name of any nationally recognized assessments used.
  Assessments will be developed to include portfolio review, graduate surveys and assessments, and employer surveys.

- Placement rates in related fields, in other fields, unemployed.
  With the extensive growth of the industry expected a high number (possibly over 90%), students will be placed in related fields upon graduation; yet, others will pursue a Masters degree.

- Transfer rates, continuous study.
  LCIE experiences a high number of transfers from the local community colleges and other colleges/universities. Very few transfer out. Man of our graduate return to pursue a Masters degree at some point.

5. Program Accreditation

- Institutional plans for accreditation, if applicable, including accrediting agency and timeline. **If there are no plans to seek specialized accreditation, please provide a rationale.**
  No specialized accredition will be sought at this time.

6. Alumni and Employer Survey

- Expected satisfaction rates for alumni, *including timing and method of surveys.*
  LCIE surveys Alumni at a minimum of annually. It also holds alumni focus groups to gauge quality and applicability of degrees.

- Expected satisfaction rates for employers, including timing and method of surveys.
  LCIE surveys Employers at a minimum of annually. It also holds employer focus groups to gauge quality and applicability of degrees. An advisory group will be developed to ensure quality and applicability of the program.

7. Institutional Characteristics

- Characteristics demonstrating why your institution is particularly well-equipped to support the program.
  The faculty, administration, and staff of Lindenwood University are dedicated to sustaining excellent educational programs and learning environments. Therefore, the university is committed to mission-based, comprehensive, and data-driven assessment for the purpose of continuous institutional improvement and effectiveness. The university is continually updating technology to stay on the cutting edge of the industry. For this program, a new, dedicated virtualization lab is being implemented by Fall 2014 to meet the demands of the new program.