

Brothers, Sheila C

From: Hippisley, Andrew R
Sent: Friday, April 19, 2013 12:04 PM
To: Brothers, Sheila C
Subject: BA/BS ICT
Attachments: ICT Undergraduate Proposal 04192013.pdf

This is a recommendation that the University Senate approve, for submission to the Board of Trustees, the establishment of a new BA/BS program: Information Communication Technology in the School of Library & Information Sciences within the College of Communication and Information.

Note: revised version attached, 4.19.2013

NOTE: The proposal has been modified to represent a proposal for consideration of an undergraduate Information Communication Technology (ICT) program only. The proposals for a 3+2 and master's program will proceed separately.



School of Library and
Information Science
320 Little Library Building
Lexington, KY 40506-0224
859 257-8876
fax 859 257-4205
www.uky.edu/CommInfoStudies/SLIS/

To: H. Dan O'Hair

From: Jeff Huber

A handwritten signature in blue ink, appearing to be 'JH', written over the name 'Jeff Huber'.

Date: August 27, 2012

Re: Information Communication Technology Program Proposal

Attached please find a proposal for a new Information Communication Technology (ICT) Program to be housed in the School of Library and Information Science. The proposal outlines plans for a new ICT undergraduate major and new ICT master's degree program with 3+2 options to matriculate from the undergraduate major through the master's program. The undergraduate major can be completed without pursuing the master's degree; the master's degree can be completed without having completed the undergraduate major. Two emphasis areas in the undergraduate major include:

- Commercialization
- Technology Management

Three emphasis areas for the standalone master's degree program and 3+2 options include:

- Health
- Policy and Regulation
- Technology and Analytics

The proposed ICT curriculum includes courses from all academic units in the College of Communication and Information as well as courses from the College of Education, College of Health Sciences, and College of Public Health.

NEW UNDERGRADUATE PROGRAM FORM
 (Attach completed "Application to Classify Proposed Program"¹)

1. General Information:

College:	<u>College of Communication and Information</u>	Department:	<u>School of Library and Information Science</u>
Major Name:	<u>Information Communication Technology</u>	Degree Title:	<u>BA, BS</u>
Formal Option(s), if any:	_____	Specialty Field w/in Formal Options, if any:	_____
Date of Contact with Assoc. Provost for Academic Administration ¹ :	<u>7/30/2012</u>	Today's Date:	<u>9/17/2012</u>
Accrediting Agency (if applicable):	_____		
Requested Effective Date:	<input type="checkbox"/> Semester following approval. OR <input checked="" type="checkbox"/> Specific Date ² : <u>Fall 2013</u>		
Contact Person in the Dept:	<u>Dr. Jeff Huber</u>	Phone:	<u>7-2334</u> Email: <u>jeffrey.huber@uky.edu</u>

2. General Education Curriculum for this Program:

The new General Education curriculum is comprised of the equivalent of 30 credit hours of course work. There are, however, some courses that exceed 3 credits & this would result in more than 30 credits in some majors.

- There is no foreign language requirement for the new Gen Ed curriculum.
- There is no General Education Electives requirement.

General Education Area	Course	Credit Hrs
I. Intellectual Inquiry (one course in each area)		
Arts and Creativity	_____	<u>3</u>
Humanities	_____	<u>3</u>
Social Sciences	_____	<u>3</u>
Natural/Physical/Mathematical	_____	<u>3</u>
II. Composition and Communication		
Composition and Communication I	CIS or WRD 110	3
Composition and Communication II	CIS or WRD 111	3
III. Quantitative Reasoning (one course in each area)		
Quantitative Foundations ³	_____	<u>3</u>
Statistical Inferential Reasoning	_____	<u>3</u>
IV. Citizenship (one course in each area)		
Community, Culture and Citizenship in the USA	_____	<u>3</u>
Global Dynamics	_____	<u>3</u>
Total General Education Hours		<u>30</u>

¹ Prior to filling out this form, you MUST contact the Associate Provost for Academic Administration.

² Programs are typically made effective for the semester following approval. No program will be made effective unless all approvals, up through and including Board of Trustees approval, are received.

³ Note that MA 109 is NOT approved as a Gen Ed Quantitative Foundations course. Students in a major requiring calculus will use a calculus course (MA 113, 123, 137 or 138) while students not requiring calculus should take MA 111, PHI 120 or another approved course.

NEW UNDERGRADUATE PROGRAM FORM

3. Explain whether the proposed new program (as described in sections 4 through 12) involve courses offered by another department/program. Routing Signature Log must include approval by faculty of additional department(s).

Courses from other departments are included. Programs included Instructional Communication, School of Journalism and Telecommunications, Clinical Leadership and Management and Education.

4. How will University Graduation Writing Requirement be satisfied?

<input checked="" type="checkbox"/> Standard University course offering	Please list: _____
<input type="checkbox"/> Specific course	Please list: _____

5. How will college-level requirements be satisfied?

<input checked="" type="checkbox"/> Standard college requirement	Please list: <u>For the BA, either the 202 level of a foreign language or 6 credits in LIN; STA 210. For the BS, 9 credits in MA, STA or CS beyond the UK Core, of which 3 credits must be in STA; 60 credits of science courses, with at least 48 of those credits outside the College of Communication and Information.</u>
<input type="checkbox"/> Specific required course	Please list: _____

6. List pre-major or pre-professional course requirements, including credit hours (if applicable):

N/A

7. List the major's course requirements, including credit hours:

ICT 200, Information Literacy & Critical Thinking (3); ISC 201, General Information Sources (3); ICT 202, Technology for Information Services (3); ICT 205, Issues in Information and Communication Technology Policy (3); ICT 300, Information and Communication Technology in Society (3); (3); ICT 301, Introduction to Databases (3); ICT 330, Information Retrieval (3); ISC 497, Consumer Behavior (3); ICT 496, Internship in ICT (3).

8. Does program require a minor?

Yes No

If so, describe, including credit hours. _____

9. Does program allow for an option(s)?

Yes No

If so, describe option(s) below, including credit hours, and also specialties and subspecialties, if any: Students will choose one of two emphasis areas, either ICT Commercialization or Technology Management. The Commercialization emphasis has two required courses, ISC 161, Introduction to Integrated Strategic Communication (3) and ISC 361, Media & Database Management (3), plus two 3-credit elective courses chosen from a group of 7 possibilities. The Technology Management and Economics emphasis has two required courses, ICT 202, Technology for Information Services (3) and ICT 303, Systems Analysis (3), plus two 3-credit elective courses chosen from a group of 13 possibilities.

10. Does the program require a certain number of credit hours outside the major subject in a related field?

Yes No

If so, describe, including credit hours: _____

11. Does program require technical or professional support electives?

Yes No

NEW UNDERGRADUATE PROGRAM FORM

11. Does program require technical or professional support electives? Yes No

If so, describe, including credit hours: _____

12. Is there a minimum number of free credit hours or support electives? Yes No

If so, describe, including credit hours: _____

13. Summary of Required Credit Hours.

a. Credit Hours of Premajor or Preprofessional Courses:	_____	Not Applicable <input checked="" type="checkbox"/>
b. Credit Hours for Major Requirements:	<u>42</u>	
c. Credit Hours for Required Minor:	_____	Not Applicable <input checked="" type="checkbox"/>
d. Credit Hours Needed for Specific Option:	<u>12</u>	Not Applicable <input type="checkbox"/>
e. Credit Hours Outside of Major Subject in Related Field:	_____	Not Applicable <input checked="" type="checkbox"/>
f. Credit Hours in Technical or Prof. Support Electives:	_____	Not Applicable <input checked="" type="checkbox"/>
g. Minimum Credit Hours of Free/Supportive Electives:	<u>24</u>	Not Applicable <input type="checkbox"/>
h. Total Credit Hours Required by Level:		
100:	<u>0-3</u>	200: <u>15-21</u>
300:	<u>18-24</u>	400-500: <u>6-12</u>
i. Total Credit Hours Required for Graduation:	<u>120</u>	

14. Rationale for Change(s) – if rationale involves accreditation requirements, please include specific references to those.

15. List below the typical semester by semester program for a major. If multiple options are available, attach a separate sheet for each option.

YEAR 1 – FALL: (e.g. "BIO 103; 3 credits")	_____	YEAR 1 – SPRING:	_____
YEAR 2 - FALL :	_____	YEAR 2 – SPRING:	_____
YEAR 3 - FALL:	_____	YEAR 3 - SPRING:	_____
YEAR 4 - FALL:	_____	YEAR 4 - SPRING:	_____

NEW UNDERGRADUATE PROGRAM FORM
Signature Routing Log

General Information:



Major Name and Degree Title: Information Communication Technology

Proposal Contact Person Name: Jeffrey T. Huber Phone: 7-2334 Email: jeffrey.huber@uky.edu

INSTRUCTIONS:

Identify the groups or individuals reviewing the proposal; note the date of approval; offer a contact person for each entry; and obtain signature of person authorized to report approval.

Internal College Approvals and Course Cross-listing Approvals:

Reviewing Group	Date Approved	Contact Person (name/phone/email)	Signature
Library Science Faculty	8/24/2012	Dr. Jeffrey T Huber / 7-2334 / jeffrey.huber@uky.edu	
College of Communication and Information	9/24/2012	Dean O'Hair / 218-0290 / ohair@uky.edu	
College of Education	8/14/2012	Dean O'Hair / 7-2813 / mjohair@uky.edu	See attached letter
College of Public Health	8/14/2012	Dean Wyatt / 8-2247 / swwyat2@uky.edu	See attached letter
College of Health Sciences	8/14/2012	Dean Stewart / 323-1100 / sharon.stewart@uky.edu	see attached letter

External-to-College Approvals:

Council	Date Approved	Signature	Approval of Revision ⁴
Undergraduate Council	12/19/12	Joanie Ett-Mims	
Graduate Council			
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

⁴ Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.

PROPOSAL FORM

General Information

1. Degree Level and Designation: Bachelor of Science
(Ex. Master of Arts, PhD, Bachelor of Science, etc.)
2. Title of Proposed Major: Information Communication Technology
(Ex. Linguistic Theory, International Finance, Rhetoric and Writing, etc.)
3. CIP Code: _____
4. College and Educational Unit Proposing This Program: College of Communication / School of Library and Information Science
5. Effective Date: Sem following approval OR Other Fall 2013
6. Anticipated Date for Granting First Degree: Spring 2018

Contact Information

7. Who is submitting this proposal and overseeing its completion?

Name: Dr. Jeffrey Huber Title: Director

Email: jeffrey.huber@uky.edu Phone: 859-257-2334

8. Who will be the Program Director for this Degree?

Name: Jeffrey Huber Title: Director

Email: jeffrey.huber@uky.edu Phone: 859-257-2334

MISSION

9. **Provide a brief description of the program:** (130 word limit)

The Information Communication Technology (ICT) program strives to educate students to assume leadership roles where the application of information technology is concerned with the ultimate goal of connecting people, organizations, and communities to enhance their ability to succeed.

10. **List the Objectives of the Proposed Program:** Note: this is not the place to list student learning outcomes. The question refers to the program itself. Program objectives should deal with the specific institutional and societal needs that this program will address. (200 word limit)

Information Communication Technology (ICT) programs strive to educate students to assume leadership roles where the application of information technology is concerned with the ultimate goal of connecting people, organizations, and communities to enhance their ability to succeed. The broad cluster of occupations that fall within the ICT arena include software and applications programmers, computer network professionals, database and systems administrators, IT security officers, ICT business and systems analysts, telecommunications engineering professionals, multimedia specialists, Web developers, technical support, and quality assurance and testing. The objectives of the proposed program educating and preparing students for a successful career in the ICT field in a global economy ever more dependent upon technology. This will be accomplished by exposing students to theoretical underpinnings of ICT as well as practical applications of technology.

11. **Does this program allow for academic options?** __Yes__ (NOTE: be aware of the new CPE naming conventions) If yes, list below:

Undergraduate options = Tracks

Master's options = Concentrations

Doctoral options = Specializations

a. Name: Commercialization

Description: Emphasis in commercialization related to ICT (20 word limit)

b. Name: Technology Management and Economics track

Description: Emphasis in technology and economics (20 word limit)

(include more options as needed)

QUALITY

12. **Describe how the proposed curriculum will achieve the program objectives.** (100 word limit)

Broadly stated, students will learn how to use technology to enhance communication and the use of information in organizations. Using an interdisciplinary curriculum, students will gain an understanding of the application of ICT in a variety of settings. Students at the undergraduate level will have the option to focus their studies in two areas – *commercialization or technology management and economics*.

13. What are the intended student learning outcomes of the proposed program? (100 word limit)

- Understand the history of ICT and define its importance in contemporary society.
- Locate ICT within the overall context of the client information environment.
- Recognize, evaluate, and determine emerging policy issues.
- Develop skills to critically evaluate information retrieval sources.
- Develop best practices relating to human interaction with, and processing of, information.
- Understand current issues and best practices related to data security.
- Understand the basic ICT hardware and software technologies.
- Develop practical skills to manage Web sites.
- Apply principles, concepts, and skills within a particular emphasis area.

14. Is there a specific accrediting agency related to this program? If so, identify and indicate if you plan to seek accreditation: No

15. How will the program support or be supported by other programs within the institution? (50 word limit) (Ex. shared faculty, shared courses, collaborative research, etc.) This program will share courses across the College of Communication and Information and the colleges of Education, Public Health and Health Sciences.

16. Will this program replace or enhance any existing program(s) or options within an existing program? If so, please specify. No

17. Give an estimated faculty/student ratio in the major: .054

18. Highlight any distinctive qualities of this proposed program. (150 word limit)

- Are any of your faculty nationally or internationally recognized for expertise in this field?
- Does this program build on the expertise of an existing locally, nationally or internationally recognized program at your institution?
- Do you have any specialized research facilities or equipment that are uniquely suited to this program?

This program will be the only one of its kind in the state. It will build on existing strengths within the School of Library and Information Science and the College of Communication. This program will be interdisciplinary, including courses from the colleges of Education, Public Health and Health Sciences. Whereas existing programs in the state focus on the development of IT

resources, the proposed ICT program will focus on the application of IT within a variety of settings reflective of today's global workplace.

19. Clearly state the admission, retention, and completion standards designed to encourage high quality.

Admission to the University is sufficient for admission to the School of Library and Information Science as an Information Communication Technology premajor for students who have completed less than 45 semester hours. Students will be assigned an advisor upon acceptance into the program. This program will require students to maintain a 3.0 GPA. Students who earn a second C (or lower) will be dismissed from the program. Students will have to complete an internship and program portfolio.

20. Clearly state the degree completion requirements for the program, other than completion of coursework. (Ex. projects, presentations, internships, capstone projects, etc.) Students will be required to complete an internship their final semester in the program. All students will be required to complete a program portfolio as well.

21. Provide the following information for the program and for each option (some categories may not apply to all programs):

- a. Total number of hours required for degree: _____ (If this number exceeds 120, please explain) 120
- b. Number of hours in degree program core: 42
- c. Number of hours in concentration: 30
- d. Number of hours in guided electives: 0
- e. Number of hours in free electives: 24
- f. Total number of hours required by level:

100 _0-3_ 200 _15-21_ 300 _18-24_ 400 _6-12_ 500 ____ 600 ____ 700 ____ 800 ____ 900 ____

22. Will this be a 100% distance-learning program?

No

23. Does a significant portion of this program use distance-learning technologies? If so, please describe. Students will be able to take 9 hours in online courses.

24. Will there be any collaboration with other institutions required or utilized in this program? No

DEMAND, NEED, and RATIONALE FOR PROGRAM

25. Show evidence to support the need and demand for this proposed program. (Ex. student demand, career opportunities, recent trends in the discipline, etc.) The U.S. Department of Labor (USDL) projected growth rates for employment in the ICT sector trends favorably for the

ten-year forecast period. Employment projections in most job categories reflect double-digit percentage increases over that term. Employment availability in two categories (Information Security Analysts, Web Developers, and Computer Network Architects (107%); Media and Communication Workers, All Other (148%)) already exceeds the projected numbers for 2020.

- 26. Are you aware of any similar programs already being offered in Kentucky?** There are very few similar programs in the state. Other Kentucky based programs are highly computer science focused. Our proposed program will emphasize the practical application of technology, in a variety of settings, to connect people, organizations, and communities to enhance their ability to succeed
- 27. Identify the applicant pool, primary feeders, and how potential students will be recruited.** It is believed that this program will recruit new undergraduate students who may not have previously considered the University of Kentucky. Prospective students will be recruited through traditional means – web site, UK student recruitment events, direct mail. In addition, the department may explore the possibility of online advertising as well.

REVIEW AND ASSESSMENT

- 28. How will the Student Learning Outcomes for the program be assessed?** Artifacts from the program portfolio will be assessed compared to student learning outcomes.
- 29. What are the plans to evaluate students' post-graduate success?** The program faculty will administer surveys to graduates to assess student success (employment or further graduate study). Employers will also be surveyed to determine how well the program prepares students for employment.
- 30. What are the plans for evaluating achievement of the Program Objectives, consistent with the institutional mission?**
Faculty will survey ICT program alum to determine how well the ICT curriculum prepared them to either work or continue their education in a technology driven global economy. Faculty will also survey employers to determine how employers view the effectiveness of the ICT curriculum in preparing graduates to enter the workforce. The survey results will then be used for iterative refinement of ICT curriculum.
-

NOTE: In addition to these questions, please complete the indicated portions of the appropriate form posted at the Senate web site :

NEW UNDERGRADUATE PROGRAM FORM – Please include Questions 2-13, and 15.

NEW MASTERS DEGREE PROGRAM FORM – Please include Questions 1-11.

NEW DOCTORAL DEGREE PROGRAM FORM – Please include Questions 1-12.

NEW GRADUATE AND PROFESSIONAL CERTIFICATE FORM: Questions 1-11 of the New Master's Degree Program Proposal form.



School of Library
& Information Science

**INFORMATION COMMUNICATION
TECHNOLOGY (ICT):
PROGRAM PROPOSAL**

Table of Contents

ICT OVERVIEW.....	3
INTRODUCTION.....	4
SWOT Analysis.....	6
Employment Outlook.....	7
ICT Competitive Analysis.....	12
Programs in Surrounding States	14
CURRICULUM	16
ICT Learning Outcomes	17
Undergraduate.....	17
Learning Outcomes Mapping.....	18
ICT Curriculum.....	19
Microsoft Competency Certifications	19
SUGGESTED COURSE MAP	20
Information Communication Technology — Undergraduate Program	21
COURSE	23
DESCRIPTIONS.....	23
ICT Course Descriptions	24
RESOURCES AND STAFFING	30

ICT OVERVIEW

INTRODUCTION

Information Communication Technology (ICT) programs strive to educate students to assume leadership roles where the application of information technology (IT) is concerned, with the ultimate goal of connecting people, organizations, and communities to enhance their ability to succeed. The proposed program focuses on providing students with the knowledge and skills needed to effectively apply, use, and manage technology when solving problems specifically related to information and communication. It provides a human and organizational focus on technology – teaching students how to be effective users of technology, as opposed to teaching students how to program in C++. While other Kentucky-based programs exist, they are either based largely on computer science or are discipline specific, rather than focusing on the application of information technology across disciplines. In general, the proposed ICT program focuses on the intersection of technology, the people who use that technology, the policies and regulations governing or affecting use of that technology, and the community or environment in which that technology is used, in order to facilitate communicating information in meaningful ways.

The proposed ICT program enhances the University's existing initiatives related to Science, Technology, Engineering, and Mathematics (STEM) by providing the opportunity for students to pursue academic degrees focused on the application of information technology. It reflects sentiments expressed by the National Conference of State Legislatures suggesting that education systems consider strategies that prepare students for jobs in a 21st Century workforce. In a knowledge-driven global economy, the ability to apply, use, and manage technology is key to the success of the 21st Century workforce. The broad cluster of occupations that fall within the ICT arena include software and applications specialists, computer network professionals, database and systems administrators, IT security officers, ICT business and systems analysts, telecommunications engineering professionals, multimedia specialists, Web developers, technical support, and quality assurance and testing.

The ICT program proposal was developed in consultation with the other units in the College, including the School of Journalism and Telecommunication (JAT), the Department of Communication (COM) and the Division of Instructional Communication (CIS). The proposed ICT program has met with a great deal of interest on campus with multiple units agreeing to include their courses in the ICT curriculum (College of Education, College of Public Health, College of Health Sciences). Additionally, other units contacted have expressed no objection to this program (including Business and Economics and Computer Science). Furthermore, College support is extremely strong with funding already set aside for two new faculty lines (one at the Associate level in the Regular Title series, one at the Assistant level in the Regular Title series) beginning Fall 2013. In addition, Dean O'Hair has dedicated funding to build new faculty offices. For more details, see the "Resources and Staffing" section below.

Dean O’Hair was part of the UK delegation to China last month. While there, he spoke with representatives from two colleges who were primarily interested in the proposed ICT program. Similarly, in a recent conversation, the CEO of the National Association of State Chief Information Officers expressed his interest to Dean O’Hair in the proposed ICT program due to the large (and growing) number of jobs in state governments requiring applied IT skills. The 2012 State CIO Survey “Advancing the C4 Agenda: Balancing Legacy and Innovation” considers such issues as IT mobility, transparency and accountability, IT consolidation, health information exchange, big data, cloud computing, IT personnel, IT procurement, public safety broadband, and the use of social media.

SWOT Analysis

Undergraduate Major in Information Communication Technology

(Emphases in ICT Commercialization and Technology Management)

Strengths

-Little true competition in-state; with exception of NKU, all are either highly computer-focused or don't deal in the range of theory and application proposed for our program:

- **NKU:** Business informatics, Computer Information Technology, Library Informatics, Media Informatics, Health Informatics master's. Looks impressive from outside, but questions remain on quality of product.
- **KSU:** Applied Information Technology
- **Murray:** Minor in Computer Information Systems
- **WKU:** Business Informatics
- **Asbury:** Multimedia (competition for commercialization emphasis only)
- **Bellarmine:** Design, Arts and Technology

-Broad range of faculty expertise.

-Much stronger research foundation than any other KY program

-Opportunity for collaboration across campus (At master's level, proposing inclusion of courses from Health Sciences, Statistics, Education, Biomedical Sciences and Public Administration. At undergrad, B&E's Analytics program is on hold.)

-Limited competition in surrounding states: Most are more technology focused and less about application/use of technology

Weaknesses

-Real and perceived infrastructure limitations: We don't "look" high tech; increasing concerns about ability of campus computing infrastructure to support growing demands

-Limited capacity to add courses with current faculty: Coming budget cuts/personnel reductions will exacerbate this. Need a minimum of four new lines (two senior, two junior) within first two-three years of program.

Opportunities

-Career prospects for students with this expertise:

The U.S. Department of Labor (USDOL) projected growth rates for employment in the ICT sector trends favorably for the ten-year forecast period. Employment projections in most job categories reflect double-digit percentage increases over that term. Employment availability in two categories (Information Security Analysts, Web Developers, and Computer Network Architects (107%); Media and Communication Workers, All Other (148%)) already exceeds the projected numbers for 2020.

Threats

-Limited knowledge of this field among prospective students and parents: But, strong interest in the IS minor during most recent summer registration sessions.

Employment Outlook

The U.S. Department of Labor, Bureau of Labor Statistics does not include a code specific to ICT. Rather it is necessary to glean this data from other categories such as those related to *Computer and Mathematics, Media and Communications, and Education, Training, and Library Occupations*.

*Table 1. Employment Projections, U.S. Department of Labor, Bureau of Labor Statistics**

2010 National Employment Matrix title	Number* 2010	Number* 2020	Job openings due to growth and replacement
Computer and Information Research Scientists	28.2	33.5	10.6
Computer Systems Analysts	544.4	664.8	222.5
Database and Systems Administrators and Network Architects	458.0	588.5	207.9
Computer Support Specialists	607.1	717.1	269.5
Information Security Analysts, Web Developers, and Computer Network Architects	302.3	367.9	110.3
Technical Writers	49.5	58.0	18.3
Media and Communication Workers, All Other	32.5	36.2	12.4
Media and Communication Equipment Workers, All Other	18.2	18.2	3.3
Instructional Coordinators	139.7	166.9	58.1
Education, Training, and Library Workers, All Other	112.3	126.7	39.2

*Numbers in thousands

Table 2. Analysis of U.S. Department of Labor Projections

Job Categories	2010 ('000)	2020 ('000)	Projected 10-Yr Growth Rate (%)	Projected Average Annual Growth Rate (%) ¹
Computer and Information Research Scientists	28,2	33,5	19	2
Computer Systems	544,4	664,8	22	2
Database and Systems Administrators and Network Architects	458,0	588,5	28	3
Computer Support	607,1	717,1	18	2
Information Security Analysts, Web Developers, and Computer Network Architects	302,3	367,9	22	2
Technical Writers	49,5	58,0	17	2
Media and Communication Workers, All Other	32,5	36,2	11	1
Media and Communication Equipment Workers, All Other	18,2	18,2	0	0
Instructional Coordinators	139,7	166,9	19	2
Education, Training, and Library Workers, All Other	112,3	126,7	3	1

¹ Growth rate relative to base year (2010), non-compounded.

The U.S. Department of Labor (USDOL) projected growth rates for employment in the ICT sector trends favorably for the ten-year forecast period. Employment projections in all but one of the identified ICT job categories reflect double-digit percentage increases over that term. The projected average annual growth rate, relative to the base year, is positive across all the major job categories (approximately 2%). These optimistic projections suggest that the Federal Government anticipates a stable, expanding ICT job market over the forecast horizon.

Table 3. Comparison of U.S. Department of Labor Statistics with Job Advertisements on Commercial Jobs Databases

Job Categories	2010 ('000)	2020 ('000)	Aggregate Snapshot of Job Ads: Feb 14, 2012 ¹	Comparative Ratio ² (%)
Computer and Information Research Scientists	28,2	33,5	20,6	61
Computer Systems and Business Analysts	544,4	664,8	211,3	32
Database and Systems Administrators and Network Architects	458,0	588,5	211,2	36
Computer Support Specialists	607,1	717,1	49,4	7
Information Security Analysts, Web Developers, and Computer Network Architects	302,3	367,9	391,9	107
Technical Writers	49,5	58,0	10,8	19
Media and Communication Workers, All Other	32,5	36,2	53,5	148
Media and Communication Equipment Workers, All Other	18,2	18,2	7,3	40
Instructional Coordinators	139,7	166,9	37,3	22
Education, Training, and Library Workers, All Other	112,3	126,7	61,6	49

¹. The snapshot is derived from the analysis of three commercial jobs databases: *oodle.com*, *simplyhired.com*, and *indeed.com* accessed on February 14, 2012. Details of the number of jobs advertised in each database for the respective categories may be found in Appendix A.

². The comparative ratio is computed as a percentage of the 2020 projected value in each job category.

A snapshot of current ICT sector job advertisements was compared to the USDL employment projections for 2020 to evaluate actual current market performance against forecasts. Current employment opportunities in all categories are significantly outperforming USDL projections, which bodes well for current and future ICT graduates. Employment availability in two categories (Information Security Analysts, Web Developers, and Computer Network Architects (107%); Media and Communication Workers, All Other (148%)) already exceeds the projected numbers for 2020. Employment opportunities for Computer and Information Research Scientists, Education, Training, and Library Workers, and Media and Communication Equipment Workers have reached 61%, 49%, and 40%, respectively, and are discernibly on track to surpass the USDL projections prior to 2020.

This expansion in the ICT sector-job market can be attributed to a variety of robust initiatives being undertaken in the public and private sectors. Retailers are aggressively shifting more of their business online to circumvent high operating costs (e.g., facilities costs, staffing) and to expand customer reach. The accelerated pace at which the Government is introducing regulatory mandates is serving as a catalyst for increased IT spending by organizations to ensure compliance. The financial and banking industry serves as an example of a sector that has come under heightened government scrutiny since its collapse, resulting in increased government mandates and regulations. And finally, social media continues to exert extensive influence in the public and private sector. Trained professionals are constantly in demand to integrate evolving social media tools into the organization's IT ecosystem, and to leverage and optimize social media presence online.

Appendix A¹

Individual Job Titles	Monster .com	dice.com*	Careerbuilder .com*	Job Central	indeed .com	oodle .com	simply hired.com
Computer Scientists	1000+	202	500	500+	6,200	4,760	8,713
Information Research Scientists	9	85	336	500+	5,200	1,498	11,836
		287	836		11,400	6,258	20,549
Computer Systems Analyst	936	4,266	10,815	500+	36,005	34,746	55,038
Business Analyst	1000+	11,969	18,735	500+	110,208	87,577	156,261
		16,235	29,550		146,213	122,323	211,299
Database Administrator	881	2,757	2,466	500+	16,886	51,528	43,174
System Administrator	1000+	5,468	6,635	119	47,088	147,183	88,849
Network Architects	152	2,449	1,271	500	11,500	12,442	24,892
		10,674	10,372		75,474	211,153	156,915
Computer Support Specialists	248	1,181	6,040	40	29,310	26,098	49,432
Information Security Analyst	196	1,916	4,589	173	21,827	9,160	49,144
Web Developers	1000+	13,913	7,764	349	69,913	173,233	330,254
Computer Network Architects	127	989	1,111	500	5,296	7,550	12,586
		16,818	13,464	1,022	97,036	189,943	391,984
Technical Writers	271	592	1,055	322	7,132	6,484	10,776
Media and Communication Worker	49	4,079	319	89	53,481	3,998	2,412
Media and Communication Equipment	49	253	111	17	7,269	569	553
Instructional Coordinators	9	17	134	57	1,653	37,301	8,087
IT Training Specialist	23	1,119	6,975	175	26,472	83,529	61,625

¹. Monster.com, dice.com, and careerbuilder.com were excluded from the sample because they limit the amount of information they provide in the search results.

¹ U.S. Department of Labor, Bureau of Labor Statistics. Employment Projections Employment by occupation. Table 1.2 Employment by detailed occupation, 2010 and projected 2020. http://www.bls.gov/emp/ep_table_102.htm. Accessed February 6, 2012.

ICT Competitive Analysis

Programs within Kentucky that prospective students might consider as options:

State schools

Northern Kentucky

Programs in College of Informatics

College of Informatics <http://informatics.nku.edu/>

Business Informatics (B and M): AACSB-accredited.

<http://informatics.nku.edu/bis/undergraduate/index.php> Largely programming and structure based.

Computer Information Technology major: <http://informatics.nku.edu/departments/computer-science/programs/bscit.html> “By choosing one of two tracks, [Web development](#) or [network/system administration](#) and security, you will be prepared to enter the workforce with a broad array of skills applicable to an ever-increasing variety of jobs.” Programming based.

Library Informatics. <http://nkuonline.nku.edu/undergraduate/libraryinformatics/index.php>

The Bachelor of Science in Library Informatics (BSLI) program at NKU is designed for those students who want to better understand the relationships among people, information, and technology. The program provides a strong foundation in the knowledge base and professional philosophy of information and library science.

Media Informatics: <http://informatics.nku.edu/departments/communication/programs/min.html>

“Media Informatics brings together skills in writing, audio, interactive Web design, 3d animation and virtual worlds to create a rich life on the screen.”

Health Informatics master’s. 18 credit core; electives in three areas: policy, business process management, knowledge management. <http://informatics.nku.edu/departments/business-informatics/programs/mhi.html>

Kentucky State

Applied Information Technology program

Computer science/hardware based.

<http://www.kysu.edu/academics/collegesAndSchools/collegeofmathematicssciencestechnologyandhealth/computerandtechnicalsciences/bsAppliedInformationTechnology.htm>

Murray State

Minor and “area” in Computer Information Systems

Area: “The emphasis is on business computing. Students take all the business classes (marketing, management, accounting) that form the business "core" and enhance that education with a variety of technical courses commonly used in a wide variety of businesses. Inter-personal and group communication is stressed in most of the upper level classes. One way of distinguishing this discipline from the others in the CSIS department is to view these people as Analysts - they analyze Business requirements, evaluate alternative technologies and present optimal solutions to Business managers. Their strength lies in their ability to apply state of the art "technologies" to help people become more productive.”

<http://www.murraystate.edu/Academics/CollegesDepartments/CollegeOfBusiness/Programs/CSIS/CSISprograms/AreaInComputerInformationSystems.aspx>

Western Kentucky

Business informatics: <http://www.wku.edu/information-systems/bachelor-of-science-in-business-informatics.php>

Private Schools**Asbury**

Multimedia program

Multimedia program: "Our multimedia program is not just an emphasis that focuses solely on learning new computer programs. Our goal is to teach students how to think creatively. It is also as much about problem-solving as it is about creative design. Students gain real studio experience, working individually and in teams with actual clients to design, organize, and create interactive multimedia that visually tell a story." <http://www.asbury.edu/academics/departments/mediacom/learning/multimedia>

Facilities: <http://www.asbury.edu/academics/departments/communication-arts/facilities>

Bellarmine

Design, Arts and Technology program

<http://www.bellarmino.edu/cas/DAT.aspx>

Upon completion of the BA in Design, Arts and Technology, graduates will have demonstrated the ability to:

Apply a wide variety of contemporary multimedia technologies.

Create original multimedia work that demonstrates an understanding of aesthetic principles and meets professional standards of craft, content and presentation.

Collaborate in the production of a capstone multimedia product.

Integrate the theory and skills of the disciplines of art, communication, music and technology into a cohesive body of knowledge.

Pikeville

MIS Program only

Programs in Surrounding States

OHIO

Bowling Green

Visual Communication Technology:

<http://www.bgsu.edu/colleges/technology/undergraduate/vct/home.html>

Learning Outcomes:

Upon completion of the baccalaureate degree, students in the visual communication technology major are expected to:

- Demonstrate critical-thinking skills as they relate to solving visual problems;
- Conceptualize and implement a visual solution in several media modes;
- Demonstrate operational level skill ability in each of the visual media areas of VCT;
- Research and produce an organized written rationale for using a specific medium to solve a specific visual problem;
- Apply knowledge of industrial applications to visual communication related technologies.

Kent State

M.S. in Information Architecture and Knowledge Management: <http://iakm.kent.edu/>

School of Digital Sciences: <http://www.kent.edu/dsci/undergraduate/index.cfm>

Ohio University

McClure School of Information and Telecommunication Systems:

<http://www.ohio.edu/mcclure/index.html>. Primary focus is voice and data. UG and G.

Dept. of Management Information Systems. <http://aspnet.cob.ohio.edu/isms/cobContent.aspx?1411>

University of Toledo

Information Systems: <http://www.utoledo.edu/business/COBI/AcademicPrograms.html>

WEST VIRGINIA

Marshall University

College of Information Technology and Engineering: Master's in Technology Management with emphasis options in environmental management, information security, information technology, manufacturing systems or transportation systems and technologies

<http://www.marshall.edu/cite/academics/Programs/PDescTmGCur.htm>

INDIANA

Ball State University

Center for Information and Communication Science; master's program

<https://sitecorecms.bsui.edu/Academics/CollegesandDepartments/CICS.aspx> ; also has a 4-course certificate:

<https://sitecorecms.bsui.edu/Academics/CollegesandDepartments/Distance/Academics/Programs/Graduate/Certificates/ICS.aspx>

Indiana University

BS, MS, PhD Informatics <http://www.soic.indiana.edu/prospective/informatics.shtml>

Grad certificate, Information Architecture <http://www.slis.indiana.edu/degrees/arch.php>

MPA Information Systems

http://www.indiana.edu/~spea/prospective_students/masters/masters_degrees/mpa/Information%20Systems.shtml

TENNESSEE**University of Tennessee Knoxville**

Minor in Information Studies and Technology <http://www.sis.utk.edu/minor>

M.S. Information Sciences <http://www.sis.utk.edu/programs/masters>

NORTH CAROLINA**University of North Carolina at Chapel Hill**

B.S. Information Science <http://sils.unc.edu/programs/undergraduate/bsis>

M.S. Information Science <http://sils.unc.edu/programs/graduate/msis>

University of North Carolina at Charlotte

M.S. Information Technology with concentrations in advanced data and knowledge discovery, human-computer interaction, information security and privacy, information technology management, software systems design and engineering <http://sis.uncc.edu/?q=content/graduate-msit>

Grad certificates in Management of Information Technology <http://sis.uncc.edu/?q=content/certificate-management-information-technology>; Information Security and Privacy

<http://sis.uncc.edu/?q=content/certificate-information-security-and-privacy>; Healthcare Information Technology, <http://hit.uncc.edu/hit/healthIT/requirements/>

VIRGINIA**George Mason University School of Engineering**

B.S. Information Technology https://ait.gmu.edu/student/it_major

M.S. Applied Information Technology https://ait.gmu.edu/student/ms_degree

ILLINOIS**University of Illinois Champaign-Urbana**

Minor in Informatics <https://www.informatics.illinois.edu/display/infminor/Home>

MISSOURI**University of Missouri-Columbia**

B.S. in Information Technology <http://engineering.missouri.edu/cs/degree-programs/bs-it/>

MICHIGAN**Michigan State**

ICT for Development emphasis <http://www.egr.msu.edu/ICT>

Information Technology specialization <http://tism.msu.edu/specialization-information-technology-it>

B.S. Media and Communication Technology, concentrations in media management and research, ICT <http://tism.msu.edu/tism/bachelor-science-media-and-communication-technology>

CURRICULUM

ICT Learning Outcomes

Undergraduate

1. Identify the history of ICT and define its importance in contemporary society with emphasis on its role within the business and technology sectors.
2. Locate ICT within the overall context of the client information environment as well as within the student's particular emphasis area.
3. Recognize, evaluate, and determine emerging policy issues and how they impact the ICT landscape.
4. Demonstrate skills to critically evaluate both public and commercially available information retrieval sources.
5. Demonstrate best practices relating to human interaction with, and processing of, information, with particular attention paid to the application of technology resources to business problems.
6. Identify current issues and best practices related to maintaining customer data integrity and security.
7. Identify the basic hardware and software technologies which enable users to access, store, transmit, and manipulate information.
8. Identify practical skills to help clients manage information on their Web sites, including site development, maintenance, and database construction.
9. Identify practical skills to help clients analyze traffic on their Web sites, including the use of audience analytics and social media applications.
10. Demonstrate applying principles, concepts, and skills within a particular emphasis area.

Learning Outcomes Mapping

Core course	Learning Outcomes									
	1	2	3	4	5	6	7	8	9	10
ICT 200	✓	✓	✓	✓						
ICT 201	✓	✓		✓						
ICT 202	✓	✓	✓		✓	✓	✓	✓	✓	
ICT 205			✓			✓				
ICT 300	✓	✓						✓		
ICT 301					✓		✓	✓		
ICT 330				✓			✓			
ICT 496	✓	✓						✓		
ISC 497		✓						✓	✓	

Note that learning outcome #10 will be addressed within electives in the student's focus area.

1. Identify the history of ICT and define its importance in contemporary society with emphasis on its role within the business and technology sectors.
2. Locate ICT within the overall context of the client information environment as well as within the student's particular emphasis area.
3. Recognize, evaluate, and determine emerging policy issues and how they impact the ICT landscape.
4. Demonstrate skills to critically evaluate both public and commercially available information retrieval sources.
5. Demonstrate best practices relating to human interaction with, and processing of, information, with particular attention paid to the application of technology resources to business problems.
6. Identify current issues and best practices related to maintaining customer data integrity and security.
7. Identify the basic hardware and software technologies which enable users to access, store, transmit, and manipulate information.
8. Identify practical skills to help clients manage information on their Web sites, including site development, maintenance, and database construction.
9. Identify practical skills to help clients analyze traffic on their Web sites, including the use of audience analytics and social media applications.
10. Demonstrate applying principles, concepts, and skills within a particular emphasis area.

ICT Curriculum

The ICT curriculum is delivered primarily face-to-face. Students pursuing the undergraduate degree program may emphasize *ICT Commercialization* or *Technology Management* in their program of study. The ICT curriculum includes courses from other Colleges to support these areas of specialization as well as those courses offered within the College of Communication and Information.

Undergraduate Admission

Admission to the University is sufficient for admission to the School of Library and Information Science as an Information Communication Technology premajor for students who have completed less than 45 semester hours.

Required courses in this major are

ICT 200 Information Literacy & Critical Thinking

ICT 201 General Information Sources

ICT 202 Technology for Information Services

ICT 205 Issues in Information and Communication Technology

ICT 300 Information and Communication Technology in Society

ICT 301 Introduction to Databases

ICT 330 Information Retrieval

ICT 496 Internship in ICT

ISC 497 Consumer Behavior

Microsoft Competency Certifications

ICT undergraduate students will be required to complete Microsoft Competency Certifications for Word, Access, Excel, and PowerPoint via third party testing centers. These certifications must be completed prior to declaring the major.

SUGGESTED COURSE MAP

Information Communication Technology — Undergraduate Program

Fall Year One

IS 200, Information Literacy & Critical Thinking

Composition & Communications I
Inquiry in Nat/Phys/Math Sciences
Inquiry in Arts & Creativity
 Open elective

Fall Year Two

IS 202, Technology for Information Services

Inquiry in Social Sciences
Global Citizenship
 Minor course
 LIN 211 (B.A.)

Fall Year Three

ICT 300, Information and Communication Technology in Society

Emphasis area course
Emphasis area course
 Minor course
 Open elective

Fall Year Four

ISC 497, Special Topics

Emphasis area course
 Minor course
 Open elective
 Open elective

Currently a special topics course; when proposed as regular course, will have new title.

Spring Year One

IS 201, General Info Sources

Composition & Communications II
Inquiry in Humanities
Statistics I
 Open elective

Spring Year Two

ICT 205, Issues in Information and Communication Technology Policy

Statistics II
U.S. Citizenship
 Minor course
 LIN 212 (B.A.)

Spring Year Three

ICT 301, Introduction to Databases JOU 330, Web Publishing and Design

Emphasis area course
 Minor course
 Open elective

Spring Year Four

ICT 596, Internship in ICT

Emphasis area course
 Minor course
 Open elective
 Open elective

Courses in italics are UK core courses (30 credits).

Courses in bold are required for the pre-major/major.

30 credits of General Education; 42 credits of major requirements; 6 credits of LIN; 18 credits of minor; 24 credits of open electives. 20% of curriculum is open.

College requirements:

B.A. – Either 202-level of a foreign language or 6 credits in Linguistics; STA 210.

B.S. – 9 credits in MA, STA and CS beyond the UK Core, of which 3 credits must be in STA; 60 credits of sciences courses, with at least 48 of those credits outside the college.

College requirements:

B.A. – Either 202 level of a foreign language or 6 credits in Linguistics; STA 210.

B.S. – 9 credits in MA, STA and CS beyond the UK Core, of which 3 credits must be in STA; 60 credits of science courses, with at least 48 of those credits outside the college.

Emphasis areas:***ICT Commercialization***

ISC 161, Introduction to ISC – req.

ISC 361, Media & Database Management – req.

Then, choose 2 courses from the following:

IS 402, Competitive Intelligence

ICT 406, e-Commerce Regulation

JOU 330, Web Publishing and Design

JOU 430, Media Management and Entrepreneurship

MAS 322, Multimedia I

MAS 422, Multimedia II

Technology Management

IS 202, Technology for Information Services – req.

IS 303, Systems Analysis – req.

Then, choose 2 courses from the following:

ICT 351, Technology Security

ICT 550, Security Informatics

ICT 560, Information, Information Technology and Strategy

JOU 330, Web Publishing and Design

MAS 355, Communication & Information Systems in Organizations

MAS 404, Media Organizations

MAS 535, Telecommunications Network Management

**COURSE
DESCRIPTIONS**

ICT Course Descriptions

Undergraduate

ISC 161, Introduction to ISC

An introductory course in all phases of integrated strategic communication and its role in contemporary business and society. Includes an historical and socio cultural overview of advertising, public relations, sales promotion and direct response marketing as well as an exploration of their interrelationships. Covers strategic planning for integrated communication, message approaches and their foundations in theories of persuasion and information processing, and characteristics of message delivery systems. Provides a discussion of ethics and regulation, and the economic and social impact of the industries.

Prereq: ISC pre-majors only or consent of instructor.

IS 200, Information Literacy & Critical Thinking

This course provides an introduction to the concepts and practices of information literacy. It explores how to effectively and ethically find, evaluate, analyze, and use information resources in academic and everyday-life situations. Emphasizing critical inquiry and critical thinking, this course will explore the theories and definitions surrounding the term “information literacy.” Students will put this theory into practice by developing problem-solving skills that allow them to meet information needs throughout their lifetimes. Students will gain a better understanding of how information and knowledge function in society and will discover methods of finding, accessing, evaluating, and using different information sources in an effective and ethical manner.

IS 201, General Info Sources

Information professionals play a major role in the information life cycle by facilitating the process of finding what others have created and accumulated. Their role is: to amass collections of information resources; to develop services to help people identify and articulate their information needs; and to enable people to find evaluate and use items of relevance. This course provides students with a basic understanding of the information environment, as well as an understanding of the differences in the information behavior, needs, and uses of various user groups. Upon completion of this course, students will be able to critically evaluate and employ information sources in different formats, and be able to communicate with users to identify and address their information needs.

IS 202, Technology for Information Services

This course is designed to teach the fundamental concepts of information technology in ways relevant to professional practice in informatics and the information professions. It explores applications of computers and networks to information problems. Included are features of hardware, types of software, commercial systems and search engines.

*ICT 205, Issues in Information and Communication Technology Policy

This course introduces students to the legal, political, and ethical issues confronting today’s information professionals and the subsequent impact of these issues on information and communication technology (ICT) policy and law development. The rapidly evolving ICT infrastructure and the global shift to an information society will provide the context for the course. Emphasis will

be placed on: organizational policy development, information ethics, computer ethics, freedom of speech and expression online, information filtering, intellectual property, cyber law, and pertinent legal and political acts related to the present information and communication infrastructure.

*ICT 300, Information and Communication Technology in Society

This course studies the impacts of information and communication technology (ICT) on individuals and society. It examines current issues related to the flow of information in society, including the impact of technology and the development of the information economy. The role of the information profession within the context of information society issues is also explored.

*ICT 301, Introduction to Databases

This course is intended to give students a solid background in databases, with a focus on relational database management systems. Topics include data modeling, database design theory, data definition and manipulation languages, storage and indexing techniques, query processing and optimization, and database programming interfaces.

ICT 303, Systems Analysis (same as IS 303)

This course examines and applies the principles of information systems analysis. It surveys project management, feasibility and analysis, systems requirement definition and resource allocation. It utilizes a structured systems development methodology that spans the entirety of the information system lifecycle, which starts with the conception of the need for a specific information system and ends with the implementation of that system. The course utilizes a case study approach in which students initiate the analysis and logical design of a limited-scope information system.

Prereq: ICT 202.

*ICT 307, Copyright

In the age of digital information, the technology, economics, and law of intellectual property are constantly in flux. In order to continue to effectively provide access to information, ICT professionals need to play a role in managing these changes. This introductory course examines the basic conceptual elements of copyright protection, and its adaptation and application to new media and information communication technologies.

MAS 322, Multimedia I

Introduction to techniques of multimedia production and the basic principles of communication via multimedia. Practical, hands-on experience with various media used in computer-based multimedia including: text, still graphics, motion graphics, animation, sound, and hyperlinking. Includes stand-alone computer- and Web-based applications. Lecture, two hours; laboratory, two hours per week.

Prereq: Telecom major or minor status or consent of the instructor.

JOU 330, Web Publishing and Design

This course is designed to teach students to code and display information effectively on the Internet. Students will be introduced to basic techniques and strategies for publishing, designing and managing a web site for a newspaper, magazine, television station, advertising agency or public relations firm. Lecture, two hours; laboratory, two hours per week.

CLM 350, Health Policy and Politics

This course will address the development of past and current U.S. health policies within the context of historical, economic, cultural, and political environments. The political process and the roles and responsibilities of the executive, legislative, and judicial branches of government will be examined. The power and influence that politics, money, the media, and special interest groups have had, and continue to have, upon the development of national and state health policies will be discussed and analyzed.

Prereq: Student in CLM or HHS program or upper-level undergraduate or professional status.

*ICT 351, Technology Security

An introduction to the various technical and administrative aspects of Information Security and Assurance. This course provides the foundation for understanding the key issues associated with protecting information assets, determining the levels of protection and response to security incidents, and designing a consistent, reasonable information security system with appropriate intrusion detection and reporting features.

MAS 355, Communication and Information Systems in Organizations

An examination of the role of a variety of communication and information systems used in organizations. This includes the study of communication processes across a variety of systems, including the telephone, e-mail, voice mail, and audio- and video-conferencing. It also includes an examination of the uses for a variety of information systems and technologies, including computer networks, integrated voice response systems, computer-telephony integration, call centers, automated attendants, voice recognition, and synthesis, database management systems, and a variety of additional hardware and software tools used in business today.

Prereq: Telecom major status or consent of instructor.

ISC 361, Media & Database Management

This course will introduce students to direct marketing practices with emphasis on data base marketing, strategic business planning, importance of the offer, selection and selling merchandise, business-to-business direct marketing, fund raising, mailing lists, print and electronic media, co-ops, telemarketing, production lead generation, direct marketing math, idea development, research and integrating direct marketing into the overall marketing mix. The course will be practical rather than theoretical in nature.

Prereq: Concurrent or previous enrollment in ISC 311 and ISC 321.

IS 402, Competitive Intelligence

This course examines competitive intelligence models, functions, and practices; the roles of information professionals in CI, and the management of CI. Discussion and practice topics include: intelligence ethical and legal considerations; identifying intelligence needs; intelligence project management, research methods, analysis, production, and dissemination; the uses of intelligence; intelligence sources and tools; managing the intelligence function; and the evolution of CI.

Prereq: IS 303.

MAS 404, Media Organizations

An examination of the structure of video entertainment and on-line communications organizations and industries. Includes the organization and management of various types of telecommunications properties, as well as their traditional and new competitors.

Prereq: Telecom major or minor status or consent of instructor.

***ICT 406, e-Commerce Regulation**

Business and commercial transactions conducted via electronic means are subject to complex legislation and regulation that changes frequently. The relevant legislation and regulatory mechanisms govern commercial transactions as well as any electronic marketing, such as promotional emails or online newsletters. This course provides an overview of the regulatory framework governing e-commerce transactions, relevant standards and ethical considerations, protocols to ensure consumer protection, and emergent issues relating to compliance and enforcement.

***ICT 410, Privacy**

As new information and communication technologies are developed, they increasingly raise concerns about the collection, use, storage, and sharing of personally identifiable information. This course provides an overview of privacy, privacy laws, privacy-related technologies, and self-regulatory efforts to mitigate potential privacy risks. The study of privacy will be approached from philosophical, historical, legal, policy, and technical perspectives.

MAS 422, Multimedia II

This is an advanced course in computer-based interactive multimedia design and development. The course is designed to expand the student's knowledge of, and ability to author, Web applications integrating audio, graphics, video, text, animation, and interactive components for education, entertainment, and business purposes.

Prereq: MAS 322 or consent of instructor.

JOU 430, Media Management and Entrepreneurship

An introduction to news media management focusing on start-up, design and operation of newspapers and magazines. This course takes an intensive look at the editorial content, advertising, business and management side of journalism. Lecture, two hours per week; laboratory, two hours per week.

***ICT 471, Health Communication**

An introduction to health communication theory, research, and practice. This course will examine the ways that health issues are shaped through interpersonal, group, organizational, cultural, political, economic, and historical communication processes. Topics may include health literacy, clinician-to-client communication, peer-to-peer communication, effective public health messages and mass media campaigns, risk, and emergency communication.

ISC 497, Special Topics

A study of the norm, as well as the idiosyncrasies associated with personal and group behavior patterns in the acquisition of goods and services in a market environment.

Advanced Undergraduate

JOU 531, Media Law and Ethics

A study of the legal and ethical issues facing the mass media. The course will focus on the rights, constraints and responsibilities under the U.S. Constitution, federal and state statutes,

administrative law, common law and voluntary codes of ethics. Specific topics include libel, privacy, contempt, copyright, broadcast regulation, the court systems, commercial speech, prior restraint, access, the civil and criminal judicial processes and obscenity.

MAS 535, Telecommunications Network Management

The primary focus of this course is the design and management of telecommunications networks and resources. In a framework that includes both the technical and business aspects of telecommunications, the course examines the capabilities and limitations of a wide range of data network technologies in the context of needs assessments, design, implementation, and evaluation; the relative advantages and disadvantages of various technological configurations for specific business purposes; and the impact of human and organizational factors in network design.

Prereq: MAS major or minor status, or consent of the instructor.

ICT 539/IS 539, Intro to Medical Informatics

Provides an overview of health care information systems, legal and ethical issues in health care, compliance and regulatory requirements, coding of health care data, quality management, HL7, data security, and HIPAA. Explores major applications and commercial vendors, decision support methods, evaluation of health-care information systems; and new opportunities and emerging trends.

EDC 547: Instructional Computing I

Students use instructional computing applications and understand the roles and uses of computers in instruction. Students select and use instructional computing hardware and software appropriate to instructional goals and settings. Students use electronic networks for instructional purposes. Students demonstrate skill using basic productivity software through structured assignments and collaborative projects.

EDC 548 Instructional Computing II

Students develop skill in advanced aspects of the operation and use of the range of instructional technologies from desktop to distributed computing environments. Students use operating systems, learn network administration, do technology planning, and work with basic authoring tools. Skill is demonstrated through a series of projects including development of a technology plan for a specified work setting and authorship of a prototype program.

Prereq: EDC 547, or consent of instructor.

*ICT 550, Security Informatics

This course introduces students to policy concerns relating to security informatics, and highlights theoretical and practical approaches to designing secure information and communication technology (ICT) systems. It addresses key issues such as authentication, risk analysis, access control, database and network security, and information assurance.

*ICT 552, Cybercrime and Digital Law Enforcement

The global reach of the Internet, the low marginal cost of online activity, and the relative anonymity of users have contributed to a wide escalation in cybercrimes. Consequently, information and communications technologies (ICT) are being increasingly employed to instigate threats to global civil society. This course provides an overview of cybercrime and the digital law enforcement practices put in place to respond to them. The course will focus on the types and extent of current cybercrimes, how the justice system responds to these crimes, the various constitutional protections

afforded to computer users, the law and policies that govern cybercrime detection and prosecution, and related technologies.

MAS 555, The Internet and Social Change

A critical examination of the political, cultural, technological, social, and behavioral aspects of Internet-mediated communication. Emphasis on research literature and theory on emerging platforms of new media technologies and applications.

Prereq: MAS 300 or consent of instructor.

STA 580, Biostatistics I

Descriptive statistics, hypothesis testing, paired and unpaired tests, ANOVA, contingency tables, log rank test, and regression with biostatistics applications.

Prereq: MA 109 or equivalent.

CIS 595, Communication Technology and Society

(Being developed)

*ICT 596, Internship in ICT

Supervised lab work in ICT with meetings for evaluation of student's work, technique and review of issues.

RESOURCES AND STAFFING

The School's Director, initially, will serve as Director of Undergraduate Studies for the ICT program. This is consistent with the existing administrative structure of the School in which the Director also serves as Director of Graduate Studies.

To the greatest extent possible, the ICT program will draw upon existing courses, both within the College of Communication and Information as well as courses offered by other colleges across the University. This will help eliminate duplication of effort and reduce the overall resources need to support the program.

Current CCI faculty members qualified to teach ICT courses include:

Jeff Huber (LIS) – health information, information retrieval (Ph.D. Library Science)
 Namjoo Choi (LIS) – information technology, information systems (Ph.D. Informatics)
 Ning Yu (LIS) – data mining, social media, information retrieval (Ph.D. Information Science)
 Sujin Kim (LIS) – biomedical informatics, information retrieval (Ph.D. Library and Information Science)
 Joe Miller (LIS) – information technology (MSLS Library Science)
 Lisa O'Connor (LIS) – information in society (Ed.D. Cultural Foundations)
 Shannon Oltmann (LIS) – information policy (Ph.D. Information Science)
 Donald Case (LIS) – information in society (Ph.D. Communication)
 Sherali Zeadally (LIS) – computer networking, network security (Ph.D. Computer Science)
 Michael Tsikerdekis (LIS) – information technology (Ph.D. Computer Science)
 Jasmine McNeally (LIS) – information policy (J.D.; Ph.D. Communication)
 Alyssa Eckman (ISC) – graphic design (Ph.D. Communication)
 Bobi Ivanov (ISC) – mass media communication (Ph.D. Communication)
 Chan Yoo (ISC) – consumer behavior and marketing communication (Ph.D. Advertising)
 Kakie Urch (JOU) – web publishing, social media (MA American Literature/Mass Culture)
 Yung Soo Kim (JOU) – visual communication, photojournalism (Ph.D. Mass Communication)
 John Clark (MAS) – telecommunications, information technology (MA Communication)
 Jim Hertog (MAS) – mass communication (Ph.D. Mass Communication)
 Zixue Tai (MAS) – multimedia, interactive gaming, global communication (Ph.D. Mass Communication)
 Shari Veil (COM) – risk and crisis communication, community preparedness (Ph.D. Communication)
 Tim Sellnow (COM) – risk and crisis communication, organizational communication (Ph.D. Communication)
 Deanna Sellnow (COM) – instructional communication (Ph.D. Communication)
 Derek Lane (COM) – instructional communication, interpersonal communication, team-based learning (Ph.D. Communication)
 Elisia Cohen (COM) – health and risk communication, media effects (Ph.D. Communication)
 Don Helme (COM) – health communication, health campaigns (Ph.D. Communication)
 Laura Stafford (COM) – interpersonal communication, relational communication (Ph.D. Communication)
 Patric Spence (COM) – risk and crisis communication (Ph.D. Communication)
 Matthew Savage (COM) – health communication, interpersonal communication (Ph.D. Communication)
 Brandi Frisby (COM) – interpersonal communication, instructional communication (Ph.D. Communication)
 Anthony Limperos (CIS) – instructional communication, interactive gaming (Ph.D. Communication)
 Chas Hartman (CIS) – instructional communication, social media (Ph.D. Communication)
 Troy Cooper (CIS) – instructional communication, visual communication (Ph.D. Communication)
 Raj Gaur (CIS) – instructional communication, mass communication (Ph.D. Communication)

Faculty of Record

Since the ICT program is being proposed as an academic program housed in the School of Library and Information Science, ICT program faculty will be members of the LIS faculty and subject to the existing School of Library and Information Science Operating Rules and Procedures of the Faculty. The School's rules state:

The faculty of the school consists of the dean of the college, the Director of the school, and the members of the faculty of the college who have been assigned duties in the school (Gov Regs, VII-5). Membership on the councils and committees of the school, with or without voting privileges, may be extended by the school faculty to any other person assigned to it for administrative work, teaching, or research. Membership on the school councils and committees will normally be extended to non-faculty in the school by a vote of the faculty at the first meeting of each academic year, following a nomination from the floor for that purpose.

Faculty of record for the ICT program initially will include all SLIS faculty member:

Jeff Huber (LIS) – health information, information retrieval (Ph.D. Library Science)
 Namjoo Choi (LIS) – information technology, information systems (Ph.D. Informatics)
 Ning Yu (LIS) – data mining, social media, information retrieval (Ph.D. Information Science)
 Sujin Kim (LIS) – biomedical informatics, information retrieval (Ph.D. Library and Information Science)
 Joe Miller (LIS) – information technology (MSLS Library Science)
 Lisa O'Connor (LIS) – information in society (Ed.D. Cultural Foundations)
 Shannon Oltmann (LIS) – information policy (Ph.D. Information Science)
 Donald Case (LIS) – information in society (Ph.D. Communication)
 Sherali Zeadally (LIS) – computer networking, network security (Ph.D. Computer Science)
 Michael Tsikerdekis (LIS) – information technology (Ph.D. Computer Science)
 Jasmine McNeally (LIS) – information policy (J.D.; Ph.D. Communication)

Newly hired SLIS faculty members will automatically participate as faculty of record with full voting rights since the ICT program is being proposed as an academic program within the School of Library and Information Science.

Faculty members from other units in the College of Communication and Information as well as those from other colleges contributing courses to the program will not be considered faculty of record and will not have voting rights unless membership is extended on a case by case basis and approved by the SLIS faculty.

ICT Program Building Plan

Following is a four-year building plan detailing additional staffing needed to support the ICT program. It includes a total of 19 new faculty lines (14 Regular Title Series and 5 Lecturer Series) and 2 new staff lines (1 student affairs/marketing and 1 IT support).

	Year 1	Year 2	Year 3	Year 4
IS 200 Info Literacy & Crit Thinking	4	4	4	5
IS 201 General Info Sources	4	4	4	5
IS 202 Technologies for Info Svcs		3	4	5
ICT 3xx Info Systems Design			2	5
ICT 505 Issues in Information and Communication Tech Policy		2	3	4
ICT 539 Intro to Medical Informatics				1
ICT 690 Special Topics: Content Management (same as LIS 690 Special Topics: Content Mgmt)				1
ICT 507 Copyright			1	1
ICT 552 Cybercrime,...and Dig Law Enforce				1
ICT 506 e-Commerce Regulation				1
ICT 596 Practicum				2
ICT 510 Privacy				1
ICT 550 Security Informatics				1
ICT 351 Technology Security				2
Course releases to dev for following yr & mrkt program	2	5	5	3
Total Sections Needed	10	18	23	39
Faculty Totals				
Regular Title Series	2	3	4	6
Lecturer Series	1	2	4	4
Part time	2			
Sections covered	10	18	23	38
Sections needed	10	18	23	38
Staff Totals				
Student Affairs/Mrkt	1			
IT		1		
<i>Primarily ICT but also School based employees</i>				
Total Hires	4	3	3	2

The ICT undergraduate major will begin rollout Academic Year 2013-2014 (Year 1) and continue build out until it is fully operational in Year 4. The rollout will coincide with the University's migration to a new financial model. The College will dedicate existing TIIF funds as an investment in the ICT program during Years 1 and 2. Year 1 of the rollout will coincide with UK's parallel process year in which the University will maintain operation under the existing financial model and dual operation under the new value-based model to ensure a smooth transition to the new financial model. By Year 3, the ICT program will be self-sustaining based on the tuition revenue it generates.

The CCI Dean's Office has funded 2 new ICT Regular Title faculty lines (1 Policy and Regulation and 1 Technology and Analytics) beginning Fiscal Year 2013-2014 on a recurring basis. The Dean's Office has also set aside funds to build 3-4 new faculty offices in the suite occupied by the School of Library and Information Science during the 2012-2013 Academic Year. In addition, the Dean's Office has set aside funds to refurbish space for an ICT lab to support the program. CCI leadership will work with UKIT and the Provost Office of Resource Management to identify potential space to house the ICT lab.



College of Communication
and Information
308 Lucille Little Library
Lexington, KY 40506-0224
P: 859-218-0290
Fax: 859-323-4171
W: cis.uky.edu

October 4, 2012

To whom it may concern:

As Dean of the College of Communication and Information I enthusiastically support the proposal to create an undergraduate degree program in Information and Communication Technology (ICT), a master's degree option in ICT, and an innovative 3+2 undergraduate/master's program in ICT. The development of this proposal and its supporting documentation has been in the works for several months and the details of the proposal have been vetted extensively with college constituents and our colleagues in several other colleges. I refer you to the supporting letters from the Colleges of Education, Public Health and Health Sciences. The only Kentucky program similar to the one proposed is located at Northern Kentucky University and leaders from our college have met in-person with leaders from the affected programs at NKU with very positive results.

ICT degrees as proposed here are long overdue at UK and will fill a need for preparing our students for a robust job market in information and communication technologies. Our college's strategic plan sets forth as its first goal an emphasis on ICT in our instructional offerings, our research programs, and our engagement efforts. It should be noted that many courses supporting these degree programs come from existing courses either in our college or in the colleges who are participating. It is worth noting that each academic unit in our college is participating in these efforts with new or existing courses, economic and human resources, and professional expertise focusing on ICT issues.

The college leadership has been so impressed with the positive feedback from discussions over the proposal that we are dedicating four new tenured and tenure-track positions in support of the proposed degree programs. Searches are underway at this time to fill two positions in ICT areas for 2013-14 and two additional searches will fill positions for the 2014-15 academic year. Other academic resources supporting the programs are being budgeted as well (technology upgrades, new computer lab, staff support, etc.). While never intending to be presumptuous about the disposition of the proposal, our college is demonstrating its commitment to the first goal in our strategic plan.

UK students deserve a first-class education in exciting and emerging areas within our society. Offering ICT degrees as described in this proposal will contribute toward that goal.

Respectfully,

A handwritten signature in cursive script that reads "H. Dan O'Hair".

H. Dan O'Hair
Dean and Professor

September 28, 2012



Beth Barnes, Ph.D.
Professor and Director, School of Journalism and Telecommunications
Associate Dean for Undergraduate and International Programs
College of Communication and Information
University of Kentucky
Lexington, KY

College of Education
Office of the Dean
103 Dickey Hall
Lexington, KY 40506-0017
859 257-2813
fax 859 323-1046
www.education.uky.edu

Dear Dr. Barnes,

We have reviewed your proposal for programs in your department including an undergraduate major in ICT and a Masters in ICT. The undergraduate degree will focus on Commercialization and Technology Management & Economics and the Masters degree will emphasize Health ICT, Technology & Analytics and Law & Policy. We appreciate your attention in this proposal to future employment projections for program graduates, your summary of potential competitor programs in the region, and your focus on collaboration across the university in supporting the curriculum of these new programs.

You clearly summarize the future employment trajectories in ICT with large growth potential in this job sector. Graduating students from your programs will have opportunities to be successful in seeking employment in their areas of preparation. The availability of employment is a critical consideration in proposing new programs given the increasing cost of education and the need students and their families have to justify and recover these costs.

A substantial analysis of potential competing programs and universities is provided in this proposal. Establishing these programs at the University of Kentucky will provide you with strategic opportunities to recruit and retain students who may choose other universities without these options. As you mention in your proposal, a critical differentiation of the proposed UK programs and other competitors in this market is the ability of UK to add strong research and theoretical foundations to the practical understanding students will acquire in their university preparation. This will add greatly to both the creative and analytic capacity of your graduates.

We are very appreciative of your willingness to collaborate with us in thinking about these two program proposals. You have included some of our relevant courses in the curriculum proposals for both programs. Members of our faculties have expressed support for these mutually beneficial course offerings.

We are supportive of these program proposals and are most interested in the implementation of both. Please let us know how we might further assist in this approval process.

Sincerely,

A handwritten signature in cursive script that reads "Mary John O'Hair".

Mary John O'Hair
Dean and Professor

A handwritten signature in cursive script that reads "Beth Rous".

Beth Rous, Ed.D.
Associate Professor and Chair, Educational Leadership Studies

A handwritten signature in cursive script that reads "Parker C. Fawson".

Parker C. Fawson, Ed.D.
Professor and Chair, Department of Curriculum and Instruction
Associate Dean, Engagement

seeblue.

An Equal Opportunity University



College of Health Sciences
Office of the Dean
Wethington Building, Rm. 123
Lexington, KY 40506-0200
859 323-1100 ext. 80480
fax 859 323-1058
www.uky.edu/HealthSciences

MEMORANDUM

DATE: October 19, 2012

TO: Dr. Jeff Huber
School of Library and Information Science
323 Little Fine Arts Library
CAMPUS 0224

FROM: Sharon Stewart, EdD *S.S.*
Interim Dean, College of Health Sciences

TOPIC: Information Communication Technology (ICT) Program

I am writing this memorandum to confirm the support of the College of Health Sciences for the new undergraduate/graduate program in Information Communication Technology. As part of the proposal, the College has been asked to permit students in the ICT program to enroll in CLM 350: Health Policy and Politics as a course under the Health emphasis area for 3 + 2 program. We are able to support the proposal in this way and look forward to accepting students into that course.



College of Health Sciences

Department of Clinical Sciences
Wethington Building, Room 209
Lexington, KY 40536-0200
859 323-1100 ext. 80513
fax 859 257-2454
www.uky.edu

October 22, 2012

Dr. Jeff Huber
School of Library and Information Science
323 Little Fine Arts Library
Campus 0224

Dear Dr. Huber,

This letter is in support of the Department of Clinical Sciences, Division of Clinical Leadership & Management for the new undergraduate/graduate program in Information Communication Technology. The College will permit students in the ICT program to enroll in Clinical Leadership & Management 350: Health Policy and Politics as a course under the Health emphasis area for 3 + 2 program.

Again, as Director of Clinical Leadership & Management I fully support the proposal and look forward to accepting ICT students in the Health Policy and Politics Course 350.

Sincerely,

A handwritten signature in black ink that reads 'Karen Skaff'. The signature is written in a cursive style with a large, looped 'K' and 'S'.

Karen O. Skaff, Ph.D.
Chair and Division Director



UNIVERSITY
OF KENTUCKY

College of Public Health

Office of the Dean
111 Washington Avenue, Suite 112
Lexington KY 40536-0003
(859) 218-2047 phone
(859) 323-5698 fax
<http://www.mc.uky.edu/PublicHealth>

October 1, 2012

Jeff Huber, PhD
School of Library and Information Sciences
323 Little Fine Arts Library
Lexington, KY 40506-0224

Dear Dr. Huber:

Thank you for sharing your Information Communication Technology (ICT) proposal with the College of Public Health. As you know, ICT is becoming increasingly popular in today's society as businesses shift their operations online to avoid unnecessary overhead costs. Social media, previously the past-time of teenagers, is now used in both public and private sectors. And, most critically to the College of Public Health, health ICT allows health care providers to better manage patient care through secure use and sharing of health information.

So critical is the need for health ICT that President Obama signed the Health Information Technology for Economic and Clinical Health (HITECH) Act in 2009 to accelerate the adoption of health information technology. The HITECH Act contains specific incentives for the implementation and use of the most advanced health information technology and the electronic exchange of health information. The federal government's increased focus on health information technology has led the health care industry to pour more resources into health ICT, which means many more jobs for ICT graduates. The proposed programs will, indeed, meet the anticipated increase in the ICT job market over the next decade and beyond.

The College of Public Health is pleased to support the College of Communication and Information in their ICT program proposal, and looks forward to collaborating with program faculty to meet the academic needs of health ICT students.

Sincerely,

A handwritten signature in cursive script that reads "Steve".

Stephen W. Wyatt, DMD, MPH
Dean



UNIVERSITY
OF KENTUCKY

UK Libraries

Office of the Dean
1-85 William T. Young Library
Lexington, Kentucky 40506-0456
Tel. (859) 257-0500 x 2083
Fax: (859) 257-8379
www.libraries.uky.edu

September 29, 2012

Dr. Jeff Huber
Director
School of Library and Information Science
320 Lucille Little Fine Arts Library
University of Kentucky 0224

Dear Jeff,

I am pleased to have this opportunity to write in support of your proposed Information Communication Technology (ICT) program. From the perspective of UK Libraries, this is a timely addition to your school's curriculum that will benefit us greatly.

Increasingly, UK Libraries seeks support staff with the skills to work as programmers, database and systems administrators, web development specialists, and in technical support. Your program promises to increase the number of skilled employees both for UK Libraries and for university and college libraries nationally.

Having the School of Library and Information Science here at UK has been a tremendous benefit to UK Libraries over the years. The new ICT program, as outlined in your proposal, promises to strengthen the already important relationship between SLIS and UK Libraries.

Please let me know if I can be of any assistance as you move through this process.

Sincerely,

Terry L. Birdwhistell, Ed.D.
Dean of Libraries and
William T. Young Endowed Chair

cc: Dean Dan O'Hair
Will Buntin, Assistant Director of Student Affairs



UNIVERSITY
OF KENTUCKY

Academic Planning, Analytics and
Technologies

Office of the Senior Vice Provost & CIO
301 S. Rose Street
Lexington, Kentucky 40506
Tel. (859) 257-3609
Fax: (859) 323-1025
www.uky.edu/ukit

October 16, 2012

Dr. Jeff Huber
Director
School of Library and Information Science
320 Lucille Little Fine Arts Library
University of Kentucky 0224

Dear Jeff,

I am fully supportive of your proposed Information Communication Technology (ICT) program. This program will address critical needs in the workforce. As information technology continues to evolve and expand, locally, nationally and globally, we are likely to see shortages of skill and knowledge in a variety of information communication technology areas. This program will help address these needs.

Additionally, a program like this would be useful to and supportive of entrepreneurial programs and activities in the college and the university. While the region has established and is growing entrepreneurial activity related to the biological and health sciences, an emerging area of entrepreneurship locally is in the area of information communication technology. Over the long-term this program will help University of Kentucky contribute to regional economic development in a needed sector of the economy.

Within my office and across IT-related activities at the University of Kentucky, this program will produce much-needed graduates that may be of value to the institution in a variety of jobs across campus. These types of jobs range from increased student internship and employment opportunities on campus to full-time jobs on campus upon graduation. One of our goals in my office is to increase student employment opportunities. Students who work on campus are more likely to graduate. For those students who can work on or off-campus in related jobs, when combined with the job experience, this program will provide them with highly differentiated skills that will bode well for them when they enter the competitive labor market.

Please let me know if I can be of any assistance as you move through this process.

Sincerely,

Vince Kellen, Ph.D.
Senior Vice Provost, Academic Planning, Analytics and Technologies

cc: Dean Dan O'Hair