AUBIH Status Report

College of Digital Economy and Information Technology

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Acting Dean of the College of Digital Economy and Information Technology

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Objectives

According to Article 62 of the Statute of American University in Bosnia and Herzegovina, the Dean should prepare an annual report of the College's activities for review and comment. This status report is submitted to SUNY Canton, the Senate of AUBIH, and all other appropriate bodies in support of this requirement. The report aims to:

1) Provide a status of AUBIH operations related to CDEIT;

2) Outline some of the challenges AUBIH currently faces;

3) Describe a proposed curriculum for CDEIT designed to address these challenges;

4) Suggest some mechanisms and procedures for information sharing and program development;

5) Request feedback regarding this report.

Status Report

The College of Digital Economy and Information Technology currently serves 61 students grouped into three cohorts. Although CDEIT is currently the smallest of the three colleges at AUBIH (see Table 1 below), the students in CDEIT impact the student body at the University far more than their numbers indicate.

Table 1: Current Student Enrollment in CDEIT

Cohort	Total Number of Students	Female Students	Male Students
Class of 2011 – 3C	22	4	18
Class of 2012 - 2C	20	1	19
Class of 2013 - 1C	19	4	15
*TOTAL**	*61*	*9*	*52*

* The total number includes only students currently enrolled and attending classes.

IT Club

The students have organized an IT club catering to a variety of needs. The club provides a platform for students to seek extra help from professors and peers, complete homework assignments in the computer lab, and develop independent projects for the improvement of student life at the University. In December 2009, a group of students wrote a proposal to develop an online Website that could serve as both an online resource for student questions and an online newspaper for the University. The Website, http://www.pomozi.ba/, is currently being developed by AUBIH students under the auspices of the IT Club.

DebConf11

The annual Debian Conference, DebConf, recently decided to hold its 2011 meeting in Banja Luka. (http://wiki.debconf.org/wiki/DebConf11) This successful bid owes a great deal to our student, Adnan Hodžić, a junior in CDEIT. Adnan, a long-standing advocate of open source software, worked with politicians and community leaders to bring this conference to Bosnia and Herzegovina.

Tuzla Summer Institute

Many of our students participate in a summer training program called the Tuzla Summer Institute. (http://www.bildbosnia.org/index.php?pr=Tuzla_Summer_Institute) The Institute serves as a skills training center to provide people in Tuzla Canton with an opportunity to develop new technical and professional skills. In summer 2009, some of our students participated in the hands-on course, Building Websites with C# and ASP.NET.

Student Community Service

Our students have the unique skills and abilities to contribute to the development of their country. BOSFAM is an institution designed to provide women in eastern Bosnia with a forum for economic independence and social support. Women manufacture and sell crafts of unique beauty and high quality in a supportive and productive environment. The College of Digital Economy and

Information Technology is planning to organize students to support and train members of the BOSFAM community. This program should provide our students with an opportunity to provide a service to the community while gaining important professional skills.

New Faculty Member

The College of Digital Economy and Information Technology is proud to welcome Dr. Steve Reames to the faculty as an Associate Professor. Dr. Reames has enjoyed a remarkable career in business and academia including teaching information technology on three continents. In the short time he has been with us, he has helped to improve our institution with his vast knowledge of the discipline, his business experience, and his in-depth understanding of the accreditation process. His research specialty involves the application of Geographical Information Systems to the planning and maintenance of water resources.

Approval of the Statute of AUBIH

In February 2010, the Senate of AUBIH, a body consisting of the Deans, Provost, Vice Provost, and student and staff representatives, approved the Statute of American University in Bosnia and Herzegovina. The Statute defines the organization of the University, the offices of the University, and the responsibilities conducted by those offices. The Statute and its adoption provided an opportunity for the Bosnian and American interests of the University to work together to develop the institutional framework necessary to build a mature center of learning in the Balkans.

Summary

The College of Digital Economy and Information Technology serves a small community of students in Tuzla, Bosnia and Herzegovina. Although the College and its students have achieved a great deal, the College aims to build on these achievements to facilitate the growth and development of the institution. In particular, the short-term goals of the College include boosting enrollment, especially among women who are currently underrepresented, developing curricula appropriate to our students' aspirations, and building the organizational capacity to conduct more research and community development projects. The long-term goals of the College include developing research facilities and enhanced course-delivery channels. In order to achieve these goals, however, the College must manage or resolve some persistent challenges. These challenges and the context for understanding them are the focus of the next section of this report.

Institutional Challenges

Before outlining the proposed curriculum, the background and motivation for the proposal are explained with illustrations and examples. The section treats operational challenges, cultural challenges, and market challenges that the College of Digital Economy and Information Technology must address in order to meet its short-term and long-term goals.

Operational Challenges

The field of information technology changes so rapidly and covers such a broad array of topics that the number and arrangement of courses a college could deliver is practically without limit. In the institutional setting of colleges in the United States, students manage this abundance of interests and topics by choosing a set of courses that corresponds to their unique matrix of career goals, intellectual interests, and abilities. In essence, each student assumes some responsibility for planning his or her education within the curricular framework of the college. Student choices, therefore, are an important driver for curriculum development. Currently, AUBIH is not capable of capturing the information provided by student choice because the University and its Colleges function according to a strict cohort model. In other Colleges, such as the College of International Law and Diplomacy, the cohort model appropriately fits the training required and expected of lawyers. Unfortunately for CDEIT, the cohort model deprives students of the ability to pursue their interests in this vast and rapidly changing field. The harsh reality of the cohort system often meets instructors without warning. For example, when a new professor asked his students why they had chosen to take this class, he was surprised to hear that students had not chosen the class at all. The students move through the system together in lock-step unable to focus on particular aspects of the discipline they find engaging or relevant to their future plans. Instructors find themselves managing cohorts whose interests and abilities no longer sit comfortably together. Presently, AUBIH cannot abandon the cohort system due to the organizational and resource constraints associated with developing institutions. Therefore, the College of Digital Economy and Information Technology must address the question: how do we provide students with the freedom to explore the vast field of information technology without breaking the cohort system?

The maintenance of cohorts complicates other facets of operations at the University as well. In particular, high faculty turnover means that each semester new faculty must meet these challenges anew with little or no preparation. Many new faculty members find the University's scheduling techniques unusual or even debilitating. Courses are often shuffled in order to maintain the integrity of a cohort. For example, if a student fails a class, this will prevent the entire cohort from progressing to the next step in the program. The schedule may be adjusted and the order of courses shuffled to maintain cohort integrity. The end result, from the professor's perspective, is a series of courses taught in a seemingly random order that frustrates attempts to prepare students adequately for the next step in the program's sequence. For example, in the Spring 2009 semester, one student in the class of 2011 failed CITA-250 effectively breaking the cohort for the class of 2011. In an attempt to address this, the University, quite understandably, scheduled CITA-250 again in the Fall 2009 semester. Unfortunately, this forced the students of the class of 2012 to take information security prior to some additional

networking courses. Therefore, the cohort system in many cases forces scheduling aberrations required to maintain the integrity of the cohorts. Moreover, inter-campus travel and the complications of organizing distance learning due to the time difference between New York and Tuzla place additional constraints on an already complicated schedule.

The University scheduling problems are compounded by fairly severe budget constraints. In an attempt to control cost, the University operates with the minimal number of rooms, instructors, and resources. As more and more of a teacher's functions move online, more professors expect to have access to the lab for classroom delivery. In many cases, this is not possible. Although currently all IT courses are held in the computer lab, this may not be possible in the future. Moreover, many other disciplines such as accounting rely heavily on technology in the classroom. These scheduling conflicts should increase as the number of cohorts increases. In short, computer lab access may shortly become a bottleneck that affects course delivery for IT students.

Finally, the University faces a complicated and intricate compliance challenge. AUBIH answers to the Ministry of Education in Tuzla Canton, the Ministry of Education in Sarajevo Canton, and the Ministry of Education in the Republika Srpska. Moreover, the Statute of AUBIH recently approved by the Senate does not apply to the College located at Banja Luka which answers to a completely different entity. Therefore, the Colleges of AUBIH often must comply with different sets of standards in different jurisdictions simultaneously. For the sake of continuity, the scheduling example again is instructive. The University must maintain different lists of holidays for different Colleges to comply with the laws of the entities. The University must juggle these compliance challenges while adhering to the developments related to the Bologna Process. These trends in conjunction make for a rather disorienting experience for new faculty who may not be accustomed to the complexity and constraints involved in such an institution.

The University manages this mind-numbing matrix of constraints with the perseverance and dedication of hard-working and competent staff. Unfortunately, as the University grows, hard work alone may not be able to keep up with the enormous amount of paper work and reporting required to run the University. In fact, the University in a rather short period of time will be difficult to manage without a student information system, but such a system will be difficult to acquire and operate within the severe budget constraints of the University. Therefore, in conclusion, the University suffers from the following operational challenges that adversely affect the development of the College of Digital Economy and Information Technology.

1) The cohort system frustrates student and faculty attempts to explore the full range of topics in the field of IT.

2) The cohort system complicates the scheduling and delivery of courses in a predictable order.

3) Budget constraints preclude the abandonment of the cohort system by making resource scarcity a serious problem and the acquisition of tools unfeasible.

4) Compliance issues further reduce the options of the University.

5) High faculty turnover must be expected and managed.

In order for the College to attract and retain quality faculty, CDEIT must create a program that can accommodate and integrate faculty in an efficient and flexible manner. The proposed curriculum is designed to meet these operational challenges by providing a framework for professors to exert maximum freedom in course creation thereby facilitating courses designed around specialties. For example, the proposed curriculum should provide a format for a Fulbright scholar to teach in his or her specialty for one semester only if desired. In addition to this benefit, the curriculum introduces some mechanisms for student choice within the cohort system. These changes are intended to improve the student experience while facilitating the integration of new faculty members.

Cultural Challenges

The students of Bosnia and Herzegovina have vastly different needs from those in the United States. In some cases, the needs are easily recognizable. In other cases, however, the needs of Bosnian students are subtle and difficult to discern. In this section, the cultural challenges facing instructors at AUBIH is outlined with special emphasis on the strategies used to promote student achievement. Of course, the obvious and most pressing concern of our students is the fact that they study, for the most part, as non-native speakers of English. Moreover, although many of our students speak English rather well, they often lack the academic vocabulary required to succeed in an IT program. For example, while teaching an introductory class in programming, a professor noted that the term "circumference" resulted in a rapid succession of echoes of the Bosnian word, "obim". The English classes that prepare students for reading Dickens in high school obviously have little reason to introduce mathematical or technical vocabulary. These issues of language require professors to repeat terms more often and to deliver lectures more slowly than would otherwise be natural.

In addition to challenges with language, the standard of classroom conduct varies quite a bit from that found in most classrooms in the United States. Students talk incessantly during class in a manner that most new professors find disorienting and rude. This in fact seems to be a component of culture quite common in the region. For example, during a recent vocal performance at the Bosnian Cultural Center, AUBIH faculty members were astounded to hear people talking, using cell phones, and watching videos *during the performance*. Faculty members must develop a good sense of humor and thick skin to deliver lectures consistently to this audience. When this cultural norm is juxtaposed with the challenge of English as a second language, the picture becomes even more complicated. Often students speaking in class are translating the lecture or parts of it for students with less facility for the English language. In some cases, instructors learn to tolerate some noise in the classroom to enhance student experiences.

In many cases students do not disclose when they have trouble understanding the material. In fact, professors may often feel that students attempt to bluff their level of knowledge. When this instinct for bluffing is paired with an unusually high degree of cheating and plagiarism, professors often feel insulted, frustrated, and even distant from the students they try to mentor. These trends are particularly troubling for prospects in information technology where respect for intellectual property is an absolute requirement for the development of a knowledge society. For example, in the United

States, cheating and plagiarism are recognized as akin to stealing. In Bosnia, on the other hand, students feel almost a sense of social obligation to help others by sharing information. The College of Digital Economy and Information Technology must provide a foundation for the knowledge society by persuading its students that theft of intellectual property is as serious as stealing any other type of property.

Although many schools in the United States and many programs of information technology could be considered bi-modal in the sense that students have vastly different capabilities, the range of student experiences in Bosnia can depart radically from the range of experiences AUBIH faculty members have previously encountered. For example, last semester a sophomore in CDEIT revealed that he had attended only religious school prior to college and had only had minimal contact with computers prior to his enrollment at AUBIH. On the other hand, our advanced students work as consultants to pay for their education, develop bids for international technical conferences, and outsource their skills to clients across the globe. The College must deliver courses that can inform students with little or no background in IT while engaging those who already have professional standards of knowledge. The proposed CDEIT curriculum aims to provide the flexibility to meet this objective to the extent that this is possible.

Despite the great variety of student experiences, most students in our program share one inescapable experience: the Bosnian War of 1992-1995. When a professor asks a group of IT students what happened in the early 90's that changed our world forever, most professors from the U.S. will not expect to hear "the Bosnian War" in response. This response is a humbling one for a professor because it recasts virtually the entire perspective of the classroom setting. Many of our students were extremely young during the war, but in many cases they remember being afraid and in a state of stress. Many students tell tragic and heartbreaking stories about that time. Moreover, the stress during the war gave way to new stresses in the postwar aftermath. In particular, extremely high unemployment causes parents and even students to seek employment in other countries. Many of our students and their parents earn the money to attend AUBIH by working as contractors in Iraq and Afghanistan. Several times a semester students request permission to miss classes so that they can visit a relative returning from or going to dangerous overseas deployments. Scientists now understand the toll prolonged exposure to stress takes on short-term memory and the consequences of this for academic achievement. (The Economist) Our program must consider the effects of this on our students.

Finally, the educational culture of Bosnia and Herzegovina is vastly different from that in the United States. Undergraduate education in Bosnia and Herzegovina is for the most part job training in which students expect to work exclusively in their chosen field. In many cases, students fail to understand the liberal arts tradition of universities in the United States. For example, many students resent the GER requirements in the SUNY curriculum and dismiss classes such as history as a waste of time. The curriculum proposed in this document therefore attempts to walk the fine line between the requirements of the U.S. educational system and the expectations of the Bosnian students it serves. With respect to this issue, the College must employ a two-pronged strategy that includes explaining the virtues of the U.S. educational system and delivering an engaging and relevant program to our students.

The proposed curriculum attempts to reformulate the curriculum to correspond to the concerns of our students without sacrificing the strengths of a liberal arts education.

In conclusion, the College of Digital Economy and Information Technology must design a curriculum that responds to the following cultural challenges:

1) English as a second language;

2) Insufficient training in the technical vocabulary associated with information technology;

3) Unfamiliar classroom conduct;

4) Student hesitancy to reveal lack of understanding;

5) Lack of grounding in the requirements for the knowledge society;

6) Broad range of student backgrounds, experiences, and interests;

7) Stressful environment;

8) Poor understanding of the goals of the U.S. educational system.

The proposed curriculum responds to many of these cultural challenges. In particular, the proposed curriculum provides some additional courses to stress important features of the knowledge society such as intellectual property law and contracts. Furthermore, the proposed curriculum suggests some course restructuring to address issues of technical vocabulary. Finally, the proposed curriculum aims to leverage instructional technology to address some of the specific needs of our students.

Market Challenges

The last set of challenges revolves around the competition for IT students in a competitive market. The college must be concerned with acquiring new students and retaining current students in an environment where several colleges offer competing programs and services. Although AUBIH is the only U.S. style IT college in the country, CDEIT is not the only IT college in Bosnia and Herzegovina. In fact, CDEIT faces competition from the Faculty of Information Technology in Mostar, the Sarajevo School of Science and Technology, and several other public schools of informatics and engineering. The problem of competition only grows more complicated when the Balkans is considered as a whole. For example, the Ministry of Education of Macedonia recently opened a College of Information Technology in Ohrid. The College must identify a strategy for differentiation beyond the appeal of U.S. style education.

Although the liberal arts focus is a strength of our program, this focus may be insufficient to persuade students to attend our College. In some cases, we can simply shuffle some GER requirements to meet the expectations of our Bosnian students. For example, the new curriculum simply replaces Environmental Science with Physics. On the other hand, a stronger tactic involves the development of innovative coursework that AUBIH is uniquely positioned to deliver. We are in the unique position to teach specially designed courses that capitalize on the structure of the University. For example, the

College could develop coursework in conjunction with the College of International Law and Diplomacy in the field of intellectual property or law for information technology students. Moreover, the College could develop specialized language courses designed to train students in the translation of technical documents. These courses could be taught with Bosnian and English speaking professors to prepare students for the complicated task of translating technical documentation.

As the University develops, the College can organize bodies that help to manage curricular changes to respond to market conditions in Bosnia. Dr. Reames has suggested the development of a Business Advisory Board that could provide direction concerning the needs of the business community in Bosnia. In essence, the Business Advisory Board, a group of local businessmen from Bosnia and Herzegovina, will create a channel of communication between the University and the business community that may provide additional opportunities for internships, curriculum development, and industry recruitment of students. The University, by developing these bridges with the community, will be in a better position to manage and respond to the changes in market trends. The proposed curriculum attempts to create a flexible structure that can respond to market challenges quickly and effectively.

In conclusion, the proposed curriculum responds to the following market challenges:

1) Intense competition for IT students in Bosnia and Herzegovina as well as the Balkans at large;

2) Student concerns that the College's training is insufficient or inappropriate for their chosen course of study or career goals;

3) Rapidly developing local trends in jobs markets that complicate program development.

The proposed curriculum aims to appeal to students interested in the fields of computer science, information systems, information technology, and business administration.   In the next section, the proposed curriculum is outlined and explained in the context of the challenges facing the College.

Proposed Curriculum

Proposed Curriculum in Outline

Course Prefix	Semester I Fall 2009	US Credits	GER
BSAD 100	Introduction to Business	3	
CITA 113	Survey of Information Tech.	3	
CITA 120	Computer Concepts & Operating Systems	3	
ENGL 102	Oral & written expression	3	GER 10
MATH 121	College Algebra	4	GER 1
	TOTAL:	**16**	
	Semester II Spring 2010		
ACCT 101	Accounting Principles I	4	
CITA 140	Introduction to Programming	4	
MATH 141	Statistics	3	
CITA 200	Data Comm. & Networking	3	
PHIL 201	Introduction to Philosophy -GER Course	3	GER 7
	TOTAL:	**17**	
	Semester III Fall 2010		
ACCT 102	Accounting Principles II	3	
CITA 215	Database Concepts & Apps / Database Systems with Web Applications	3	
CITA 230	Network Technology	3	
PHYS 115	Basic Physics - GER Course	3	GER 2
HIST 102	Modern Europe- GER Course	3	GER 5
	TOTAL:	**15**	
	Semester IV Spring 2011		
CITA 204	Systems Analysis and Design	3	
CITA 250	Information Security - General El.	3	
ECON 103	Microeconomics	3	GER 3
ENGL 221	Creative Writing -GER Course	3	GER 8
MATH 122	Basic Calculus-General Elective	4	
	TOTAL:	**16**	
	Semester V Fall 2011		
BSAD 301	Principles of Management	3	
CITA 310	Web Server Administration	3	
CITA 342	Visual Prog. & Dev. Tools	3	
ENGL 301	Professional Writing & Communication - U/L Liberal Arts/Science	3	
MINS 300	Management Information Systems - U/L Elective	3	

CITA 395	Special Topics in Computing (U/L Conc. Elect 1)	3	
		TOTAL:	**18**	
	Semester VI **Spring 2012**			
CITA 330	Emerging IT Applications	3	
CITA 400	Quantitative Approaches to Mgmt.	3	
BSAD 372	Electronic Commerce- U/L Profes. El	3	
ECON 315	Global Economy-U/L Liberal Arts/Science	3	GER 6
HIST 105	Modern US History - GER Course	3	GER 4
		TOTAL:	**15**	
	Semester VII **Fall 2012**			
CITA 420	Programming for the Web	3	
CITA 460	IT and Networked Economy	3	
CITA 479	IT Internship Orientation	1	
BSAD 310	Human Resource Management	3	
MINS 310	Decision Support Systems - General Elect.	3	
CITA 491	Special Topics in Computing (U/L Conc. Elect 2)	3	
		TOTAL:	**16**	
	Semester VIII **Spring 2013**			
CITA 481	Senior Project in Information Technology	6	
CITA 492	Special Topics in Computing (U/L Conc. Elect 3)	3	**3 of 4**
CITA 493	Special Topics in Computing (U/L Conc. Elect 4)	3	**3 of 4**
CITA 494	Special Topics in Computing (U/L Conc. Elect 5)	3	**3 of 4**
CITA 495	Special Topics in Computing (U/L Conc. Elect 5)	3	**3 of 4**
		TOTAL:	**15**	
		TOTAL CREDITS:	**128**	

Proposed Curriculum Explained

The proposed curriculum aims to conform to all SUNY Canton requirements and course dependencies as defined in the SUNY Canton Academic Catalog for 2009-2010. Any omissions or errors are oversights rather than intentional departures from the defined program. The following notes explain the purpose of each change with some additional information as needed.

1) **Introduction Philosophy (Phil 201)** replaces a literature course for our students for GER 7. The philosophy course will be used to prepare students for some fundamental concepts and frameworks required to appreciate upper level courses. The primary purpose of this modification is to address student concerns regarding the appropriateness of training. The course should be constructed to include topics directly relevant to upper level classes such as classical logic, Bayesian logic, artificial intelligence, and ethics.

2) **Basic Physics (Phys 115)** replaces Environmental Science for our students for GER 2. The physics course prepares students for the fundamentals required to understand computer hardware including electro-magnetism. The primary purpose of this modification is to address student concerns regarding the appropriateness of training.

3) **Basic Calculus (Math 122)** replaces a general elective requirement. Additional mathematical training will only help our students regardless of their career aims. The primary purpose of this modification is to address student concerns regarding the appropriateness of training.

4) **Professional Writing and Communication (Engl 301)** could be adjusted to include the specific vocabulary required for our IT students. Moreover, as the course develops over time, the course could include modules addressing the specific needs of our students including issues in technical translation. The primary purpose of this modification is to achieve a competitive advantage. Few colleges are in the position to offer such instruction to students.

5) **Interdisciplinary Approaches to Computing (CITA 395)** is a new course proposed to provide AUBIH with a competitive advantage. AUBIH is in the unique position to offer courses that merge legal and technical topics in support of the rapidly developing knowledge society in Bosnia and Herzegovina. Many students are simply unfamiliar with many of the concepts and practices required to function effectively in the knowledge society. The course can serve as a vehicle for the introduction of important legal, business, and economic practices crucial to any career in information technology.

6) **IT Internship Orientation (CITA 479)** may be moved as necessary or even removed based on the needs of particular students.

7) **Advanced Topics in Programming (CITA 491)** is a new course designed to provide AUBIH students with additional programming experience in preparation for the final semester of advanced studies. The course aims to ground students in some fundamental concepts such as data structures and algorithms, testing techniques, software patterns, and other topics as defined by the professor.

The remaining new courses proposed for Semester VIII of the program introduce a modest amount of choice for students. In fact, the program could even be constructed for customized blends of internships, capstone projects, and course work on a student by student basis. In essence, these courses seek to meet the following objectives for CDEIT.

- Introduce student choice into the curriculum.
- Provide a set of general courses that provide faculty members with the freedom to teach a broad and engaging set of topics. In many cases, professors will be able to deliver courses in their area of specialty without the need to rewrite the general course descriptions. For example, if Dr. Reames wished to teach an advanced class in the use of Geographical Information Systems, he could simply write a syllabus that would fit into either the general definition for CITA 493 or CITA 495.
- The ability to teach upper-level courses in a professor's area of specialty may help the University to attract instructors as well as students.
- These upper-level courses can help our College gain a competitive advantage over other colleges in the region.

In this proposal, students will be able to choose three of the four courses listed below based on their interests. The courses should allow students to experiment with a variety of ideas, concepts, and technologies that should be useful for the completion of their capstone projects in CITA 481.

8) **Advanced Topics in Networking (CITA 492)** is a new course to help students explore advanced concepts in networking. The specific topics covered will be at the discretion of the instructor.

9) **Advanced Topics in Computer Applications (CITA 493)** is a new course providing students with additional exposure to the rapidly developing world of software applications. The specific topics covered will be at the discretion of the instructor.

10) **Advanced Topics in Databases (CITA 494)** is a new course that will provide students with in-depth understanding of advanced database topics. The specific topics covered will be at the discretion of the instructor.

11) **Topics in Computer Modeling (CITA 495)** is a new course introducing students to the importance of computer modeling in scientific and business endeavors.   The specific topics covered will be at the discretion of the instructor.

For full descriptions for the new courses, please review the materials in Appendix A. The version of the curriculum presented here would apply to new students. For additional information regarding how this plan will affect students presently attending the University, please review the attached spreadsheet for the cohort-specific implementations of the plan. The next section discusses concerns regarding the implementation of this curriculum.

Program Development

The proposed curriculum assumes that program development is a cyclical process that will be revisited at least on an annual basis. The College hopes to develop the program in conjunction with SUNY Canton and local community leaders to improve its content and implementation. In order for these curricular changes to have maximum impact, the College will need to consider some additional measures regarding the implementation of this curriculum.

1) **Instructional technology.** Many professors feel that the availability of instructional technology is crucial to establishing effective working relationships with our students. In fact, in many courses related to IT, the course delivery model that proves most effective is the hybrid course model that integrates instructional technology such as Angel into the traditional classroom setting.   In the past, SUNY Canton has been reticent to allow AUBIH instructors access to the instructional technology available such as its Angel system. Although this decision is entirely within the rights of SUNY Canton as an institution, as Acting Dean of the College of Digital Economy and Information Technology at AUBIH, I request that SUNY Canton reconsider this policy. AUBIH has experimented with the Moodle system for learning management and, if necessary, CDEIT will pursue this as an option. I believe, however, that a consistent interface for our students will serve their needs better.

2) **Institutional cooperation**. The students of CDEIT have been consistently impressed with the quality of instruction delivered by SUNY Canton professors. Unfortunately, the formatting difficulties of delivering distance learning classes often degrade student experiences. In particular, students frequently refer to frustrations regarding the lab components of courses delivered online. In some cases, students feel that they would benefit from having a subject matter expert in the room helping students through lab assignments. I would like to propose a system for managing this process that includes providing upper classmen with some additional opportunities. For example, AUBIH and SUNY Canton could offer incentives to students to serve as student assistants. A student assistant, a qualified junior or senior, would work with a SUNY Canton professor to help prepare the lab and other required materials as needed for online courses. The student assistant therefore, under the direction of the SUNY Canton professor, would serve as the subject matter expert in the class to help students through the challenges of the lab. This approach could be particularly helpful with classes such as CITA 120, CITA 140, and CITA 342.

3) **Administrative systems**. AUBIH will very shortly require a student information system. In order for the program to develop properly, the College will require consistent access to information regarding its students. SUNY Canton may be in the position to advise AUBIH regarding this issue.

4) **Staff training**. In many cases, AUBIH administration and staff may benefit from training in the administrative functions and procedures found in U.S. educational institutions. For example, commonly understood enrollment statuses in the U.S. such as student withdrawal are virtually unknown here. Therefore, the future development of the College and the University as a whole depends on staff keeping abreast of new developments.

5) **Communication**. This report intends to encourage dialog between SUNY Canton and AUBIH. The College of Digital Economy and Information Technology at AUBIH will benefit greatly from increased communication with SUNY Canton as well as other parties interested in the development of the College. As the Acting Dean of the College, I welcome feedback regarding the proposals presented in this report.

Feedback

Please feel free to contact, Thomas Lombardi (Tom), regarding the details of this report. The report included a status of the College, a summary of challenges facing the College, a curriculum designed to meet some of those challenges, and some suggestions for implementing the curriculum. The College welcomes any and all feedback regarding this report. Moreover, the members of AUBIH understand that curriculum development is a process. In particular, CDEIT looks forward to working with SUNY Canton to improve the quality of the institution for the better service of its students.

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Works Cited

The Economist. 2 April 2009. 9 March 2010 <http://www.economist.com/science-technology/displaystory.cfm?story_id=E1_TPQDPTSS>.

Appendix A: Proposed Course Descriptions

CITA-395: Interdisciplinary Approaches to Computing

CITA 395 – Special Topics in Computing: Interdisciplinary Approaches to Computing

A. TITLE: Interdisciplinary Approaches to Computing
B. COURSE NUMBER: CITA 395
  SHORT TITLE: Interdisciplinary Computing

C. U.S. CREDIT HOURS: 3 or 4 (6 or 8 ECTS)
D. WRITING INTENSIVE COURSE (OPTIONAL): NA
E. COURSE LENGTH: 15 weeks
F. SEMESTER(S) OFFERED: Spring/Fall
G. HOURS OF LECTURE: 3 or 4 hours of lecture/lab per week
H.

  CATALOGUE DESCRIPTION:

  The course provides students with the opportunity to explore a wide
  range of topics related to computing such as contract law for IT
  contracts, intellectual property law, computing in the humanities,
  licensing, medical informatics, bioinformatics, and privacy and
  information technology.

I. PRE-REQUISITES/CO-COURSES: CITA 120
J. STUDENT LEARNING OUTCOMES: TO BE DETERMINED BY PROFESSOR
K. TEXTS: TO BE DETERMINED BY PROFESSOR
L. COURSE REQUIREMENTS: Students must attend all sessions. Missing more
  than 1 class without justification may result in failing the courses.
  Students must do the required reading prior to each class. THE REST IS
  TO BE DETERMINED BY PROFESSOR
M. ASSESSMENT: as determined by professor
N. TEACHING METHODS:N/A
O. EQUIPMENT: Computer Lab

CITA-491: Advanced Topics in Programming

CITA 491 – Special Topics in Computing: Advanced Topics in Programming

A.   TITLE: Advanced Topics in Programming
B.   COURSE NUMBER: CITA 491
        SHORT TITLE: Advanced Programming

C.   U.S. CREDIT HOURS: 3 or 4 (6 or 8 ECTS)
D.   WRITING INTENSIVE COURSE (OPTIONAL): NA
E.   COURSE LENGTH: 15 weeks
F.   SEMESTER(S) OFFERED: Spring/Fall
G.   HOURS OF LECTURE: 3 or 4 hours of lecture/lab per week
H.

        CATALOGUE DESCRIPTION:

        The course provides students with the opportunity to explore advanced
        topics in programming such as data structures, algorithms, software
        patterns, automated testing techniques, extreme programming, agile
        programming, recursion, code analysis tools, and code performance.

I.   PRE-REQUISITES/CO-COURSES: CITA 140, CITA 342
J.   STUDENT LEARNING OUTCOMES: TO BE DETERMINED BY PROFESSOR
K.   TEXTS: TO BE DETERMINED BY PROFESSOR
L.   COURSE REQUIREMENTS: Students must attend all sessions. Missing more
        than 1 class without justification may result in failing the courses.
        Students must do the required reading prior to each class. THE REST IS
        TO BE DETERMINED BY PROFESSOR
M.   ASSESSMENT: as determined by professor

N.   TEACHING METHODS:N/A
O.   EQUIPMENT: Computer Lab

CITA-492: Advanced Topics in Networking

CITA 492 – Special Topics in Computing: Advanced Topics in Networking

A.   TITLE: Advanced Topics in Networking
B.   COURSE NUMBER: CITA 492
        SHORT TITLE: Advanced Networking

C.   U.S. CREDIT HOURS: 3 or 4 (6 or 8 ECTS)
D.   WRITING INTENSIVE COURSE (OPTIONAL): NA
E.   COURSE LENGTH: 15 weeks
F.   SEMESTER(S) OFFERED: Spring/Fall
G.   HOURS OF LECTURE: 3 or 4 hours of lecture/lab per week
H.

        CATALOGUE DESCRIPTION:

        The course provides students with the opportunity to explore advanced
        topics in networking such as socket programming, distributed
        applications, distributed databases, queues, grid computing, cloud
        computing, and cluster computing.

I.   PRE-REQUISITES/CO-COURSES: CITA 200, CITA 230
J.   STUDENT LEARNING OUTCOMES: TO BE DETERMINED BY PROFESSOR
K.   TEXTS: TO BE DETERMINED BY PROFESSOR
L.   COURSE REQUIREMENTS: Students must attend all sessions. Missing more
        than 1 class without justification may result in failing the courses.
        Students must do the required reading prior to each class. THE REST IS
        TO BE DETERMINED BY PROFESSOR
M.   ASSESSMENT: as determined by professor
N.   TEACHING METHODS:N/A
O.   EQUIPMENT: Computer Lab

CITA-493: Advanced Topics in Computer Applications

CITA 493 – Special Topics in Computing: Advanced Topics in Computer Applications

A.   TITLE: Advanced Topics in Computer Applications
B.   COURSE NUMBER: CITA 493
       SHORT TITLE: Advanced Computer Applications

C.   U.S. CREDIT HOURS: 3 or 4 (6 or 8 ECTS)
D.   WRITING INTENSIVE COURSE (OPTIONAL): NA
E.   COURSE LENGTH: 15 weeks
F.   SEMESTER(S) OFFERED: Spring/Fall
G.   HOURS OF LECTURE: 3 or 4 hours of lecture/lab per week
H.

       CATALOGUE DESCRIPTION:

       The course provides students with the opportunity to explore advanced topics in computer applications such as artificial intelligence, machine learning, computer vision, digital image processing, voice recognition, geographical information systems, and visual analytics.

I.   PRE-REQUISITES/CO-COURSES: CITA 140, CITA 215
J.   STUDENT LEARNING OUTCOMES: TO BE DETERMINED BY PROFESSOR
K.   TEXTS: TO BE DETERMINED BY PROFESSOR
L.   COURSE REQUIREMENTS: Students must attend all sessions. Missing more than 1 class without justification may result in failing the courses. Students must do the required reading prior to each class. THE REST IS TO BE DETERMINED BY PROFESSOR
M.   ASSESSMENT: as determined by professor
N.   TEACHING METHODS:N/A
O.   EQUIPMENT: Computer Lab

CITA-494: Advanced Topics in Databases

CITA 494 – Special Topics in Computing: Advanced Topics in Databases

A.   TITLE: Advanced Topics in Databases
B.   COURSE NUMBER: CITA 494
       SHORT TITLE: Advanced Databases

C.   U.S. CREDIT HOURS: 3 or 4 (6 or 8 ECTS)
D.   WRITING INTENSIVE COURSE (OPTIONAL): NA
E.   COURSE LENGTH: 15 weeks
F.   SEMESTER(S) OFFERED: Spring/Fall
G.   HOURS OF LECTURE: 3 or 4 hours of lecture/lab per week
H.

       CATALOGUE DESCRIPTION:

       The course provides students with the opportunity to explore advanced topics in databases such as design, ETL procedures, data warehousing, star schema, normalization, database programming, stored procedures, triggers, normalization, database optimization, views, and advanced reporting.

I.   PRE-REQUISITES/CO-COURSES: CITA 215
J.   STUDENT LEARNING OUTCOMES: TO BE DETERMINED BY PROFESSOR
K.   TEXTS: TO BE DETERMINED BY PROFESSOR
L.   COURSE REQUIREMENTS: Students must attend all sessions. Missing more than 1 class without justification may result in failing the courses. Students must do the required reading prior to each class. THE REST IS TO BE DETERMINED BY PROFESSOR
M.   ASSESSMENT: as determined by professor
N.   TEACHING METHODS:N/A
O.   EQUIPMENT: Computer Lab

CITA-495: Topics in Computer Modeling

CITA 495 – Special Topics in Computing: Topics in Computer Modeling

A.   TITLE: Topics in Computer Modeling
B.   COURSE NUMBER: CITA 495
      SHORT TITLE: Computer Modeling

C.   U.S. CREDIT HOURS: 3 or 4 (6 or 8 ECTS)
D.   WRITING INTENSIVE COURSE (OPTIONAL): NA
E.   COURSE LENGTH: 15 weeks
F.   SEMESTER(S) OFFERED: Spring/Fall
G.   HOURS OF LECTURE: 3 or 4 hours of lecture/lab per week
H.

      CATALOGUE DESCRIPTION:

      The course provides students with the opportunity to explore the role
      of computer modeling in modern application design. Students experiment
      with computer models as expressed in data, objects, and graphical user
      interfaces.

I.   PRE-REQUISITES/CO-COURSES: CITA 140, CITA 204, CITA 215
J.   STUDENT LEARNING OUTCOMES: TO BE DETERMINED BY PROFESSOR
K.   TEXTS: TO BE DETERMINED BY PROFESSOR
L.   COURSE REQUIREMENTS: Students must attend all sessions. Missing more
      than 1 class without justification may result in failing the courses.
      Students must do the required reading prior to each class. THE REST IS
      TO BE DETERMINED BY PROFESSOR
M.   ASSESSMENT: as determined by professor
N.   TEACHING METHODS:N/A
O.   EQUIPMENT: Computer Lab