

## **2004-2005 Program Review and Assessment Report School of Informatics**

The Indiana University School of Informatics (SOI), established in 2000, educates students in the fundamental knowledge of information, technology, and communication concepts and their domain contexts. The School's educational and research programs are based on this shared principle: information science and technology serves the purposes of human communication and innovation. Individuals and the organizations they work within design and use information systems. The School of Informatics pursues success in information access by harnessing communication theory to develop best practices, analyze policy, and conduct basic research. SOI faculty and staffs are fully committed to this principal goal, as demonstrated within the established programs that offers plans of study ranging from associate degree, baccalaureate degrees, certificates, Master of Science degrees, and the newly established Doctor of Philosophy degrees in informatics. Within a broad and interdisciplinary educational curriculum, students can acquire the strategic concepts and tactical application skills to catch hold of emerging career trends. The value that the School of Informatics brings to IUPUI is directly aligned with the IUPUI Mission and the IUPUI Statement of Values.

### **I. Program Overview**

Informatics is the study of information technology and its use in scientific, technical, social, and organizational aspects of traditional fields of study such as biology, chemistry, medicine, music, arts, and computer science. As an emerging new interdisciplinary area of study in recent years, informatics examines how relevant data are managed and informed decisions are made in the frontiers of biomedical sciences, communication technologies, and new media arts. It is a catalyst for discovery of new principles from our existing understanding of the world, for development of new approaches that transform our abilities in the world, and for delivery of needed progress to perform among the best in the world.

IUPUI School of Informatics prides itself as a leader of exploring and executing *IUPUI Principles of Undergraduate [and Life Long] Learning*. The school is one of the first schools of its kind in the United States, and IUPUI is one of only a handful of universities to offer a bachelor's degree in this field, the Bachelor of Science in Informatics. The school's undergraduate programs provide a foundation for individual intellectual development; also, they promote the State's future economic development driven by the marriage of information technology with traditional industries. Students become well-informed, effective citizens, actively participating in civic and community affairs; cultivating self-awareness; appreciating the humanities and pursuing life-long learning. As the state of Indiana seeks new ways for economic development, particularly in the use

of high-tech for traditional industries, the school develops interdisciplinary programs and initiatives, which echoes with societal needs, student demands, advances in research and knowledge as well as application.

In particular, the School of Informatics has been pioneers in the country to graduate professionals with formal preparation in Information Technology with subject area expertise. The IUPUI School of Informatics offers **bachelor's degrees in Informatics (INFO), Health Information Administration (HIA), and New Media Arts and Science (NEWM)**. The mission includes the following details:

- Encourage interdisciplinary research projects in the field of Informatics, focusing on distributed systems technology, information theory and information management, human factors and Human Computer Interaction, and study of the social impacts of information technology
- Serve the state of Indiana by way of education, community participation and collaborative research partnerships, thereby participating in the growth of an IT culture in the State, and encouraging continued economic development
- Produce graduates who become leaders in the growing information economy of Indiana and the world.
- Develop synergistic relationships with industry to develop and advance research in Information Technology and its applications.

Graduates of the School of Informatics Programs have been entering the competitive and fast-evolving Information Technology industry, entertainment industry, health care industry, and the biotech/pharmaceutical industry. While nearly all of the net job creation in Indiana now comes from small and medium firms and the bulk of U.S. economic gains are coming from advances in technology, the degree programs offered at the School of Informatics have responded by recruiting top faculty members actively conducting research in these hot-growth areas and letting these faculty members drive the dynamic direction of the School's learning objectives and various programs.

While interdisciplinary education is challenging in general, the School has played its interdisciplinary role well at "the intersection of the human and the technical, of art and science", with which the school recognize and uses it to promote program development. Constant for and central to SOI programs is integration of a "traditional' academic discipline in the sciences, humanities, arts, or professions, with a deep exploration of the associated information science and technology. An undergraduate degree now recommends students, sometimes with multi-disciplinary backgrounds to do either a senior thesis demonstrating depth in the information science aspects of a particular discipline, or a one-year development project working with a multi-disciplinary team to solve a real application problem.

## II. Bachelor Degree Program in Informatics (INFO)

For INFO, students may choose either four-year study or five-year study plans to fulfill their degree requirements outlined below (INFO-1,2,3,4):

### **INFO-1. Informatics Core courses (34 cr.)**

- INFO I101 Introduction to Informatics (4 cr.)
- INFO I201 Mathematical Foundations of Informatics (4 cr.)
- INFO I202 Social Informatics (3 cr.)
- INFO I210 Information Infrastructure I (4 cr.)
- INFO I211 Information Infrastructure II (4 cr.)
- INFO I308 Information Representation (3 cr.)

Two courses from

- INFO I300 Human Computer Interaction (3 cr.)
- INFO I303 Organizational Informatics (3 cr.)
- INFO I310 Multimedia Arts and Technology (or N311)
- INFO I320 Distributed Systems and Collaborative Computing (P: INFO I211)

Capstone:

- INFO I450/451 Design & Development of an Information System (3cr.)
- INFO I460/461 Senior Thesis (3 cr.)

Informatics Electives (6 cr.)

For majors, any course in the department of Computer and Information Science, CPT, Informatics or New Media, at the 300 level or above, counts as an elective.

### **INFO-2. Cognate Area Courses (15-21 cr.)**

A cognate area is an integrated program of courses taken outside of the School of Informatics. These courses emphasize the foundations, applications and/or implications of information technology in the chosen area.

Many IUPUI schools/departments offer cognate areas. Students must choose one from the approved list of areas of studies as Informatics cognates.

### **INFO-3. General Education Requirements (38-41 cr.)**

Students may only select from a selected approved list of general education required courses to fulfill each of the following areas:

- Written Communication (6 cr.)
- Quantitative and Analytical Skills (9 cr.)
- Web-Based Programming (9 cr.)
- Arts & Humanities (3 cr.)
- Professional Ethics (3 cr.)
- Social Sciences (3 cr.)
- Comparative World Cultures (3 cr.)

#### **INFO-4. General Electives (27-30 cr.)**

Decided by the individual student in consultation with an advisor to fulfill additional career and/or personal interests.

### **III. Bachelor Degree Program in Health Information Administration (HIA)**

The educational program in health information administration is located on the Indiana University-Purdue University Indianapolis campus only. In addition to the BS in Health Information Administration, Informatics offers certificate programs in Cancer Registry and Medical Coding.

#### **HIA-1. Description of the Profession**

Health information professionals play a critical role in maintaining, collecting, interpreting, analyzing and protecting the data that health care providers rely on for research and to deliver quality care. They are experts in coding and classification systems, management of patient health information and administration of computer information systems. These professionals interact with clinical, financial, administrative, information technology and legal staff to interpret data for patient care, research, statistical reporting, planning and database content development.

#### **HIA-2. Graduates of the Program**

Program graduates serve as department directors, managers, consultants, data managers, data analysts, quality improvement professionals, governmental review agents and information privacy or security officers. The following is just an example of the broad range of settings where program graduates practice:

- Hospitals and other health care facilities
- Physician practices
- Information systems
- Software companies
- Government agencies
- Pharmaceutical companies
- Consulting firms

The program graduate is eligible to seek registration as a Registered Health Information Administrator (RHIA) by successfully passing a national qualifying examination offered by the American Health Information Management Association. RHIA registration is an important credential when seeking employment as a health information administrator.

#### **HIA-3. Credential required to practice**

RHIA, Registered Health Information Administrator

#### **HIA-4. Licensure Requirements to Practice**

State licensure does not apply

#### **HIA-5. Curricular Pre-requisites for Study**

Prior to entering the program, students must complete at least 56 credit hours of the following minimum prerequisites. Students should consult with their academic advisors for appropriate courses and semester sequence in order to complete prerequisites. Prerequisites may be taken at any accredited college or university.

Oral Communications (G) *	3 cr.
Written Communications (G) *	6 cr.
Human Anatomy (G) *	4-5 cr.
Human Physiology (G) *	4-5 cr.
Medical Terminology	2 cr.
Information Technology *	13 cr.
Social/Behavioral Sciences (G) *	3 cr.
Business *	6 cr.
Analytical Skills/Quantitative Methods (G) *	6 cr.
Professional Ethics *	3 cr.
Humanities (G)	3 cr.
Accounting *	4 cr.
Organization/Management *(3 hours must be completed)	3 cr.
Electives * (as needed to complete 62 credit hours)	

Note: The code “G” indicates a course that meets the school’s general-education requirements. \* indicates courses which must be completed prior to entering the Professional Program

#### **Suggested Electives**

The suggestions for electives are made to aid the student in the prerequisite courses and in the these professional course work: management information systems, supervisory management, methods of employee training, computer sciences, research methods, interpersonal communications, medical terms from Greek and Latin, and foreign languages. Additional electives include Organization/Management, Medical Terminology and general electives.

#### **HIA-6. Graduation Requirements**

Satisfactory completion of 122 credit hours to include 62 credit hours of prerequisite and general-education courses and 60 credit hours of professional courses. All course work

must be completed in compliance with the program's and school's academic and professional policies.

#### **IV. Bachelor Degree Program in Media Arts and Science (NEWM)**

The Bachelor of Science degree develops skills and knowledge in new media with the purpose of preparing students to manage and coordinate Internet and web operations and multimedia production and development. Focused on applied research and application, the degree is oriented toward professional practice and relies on a theory base drawn from fundamental disciplines which study communication as sight, sound and motion.

##### **NEWM-1. Skills Developed**

Skills and knowledge embedded in this degree program include: web page and multimedia design coordination, web-based computer programming, multimedia authoring language skills, multimedia implementation of audio and video materials, digital graphics (photography, scanning), and the writing and editing of materials for multimedia story boarding and content.

Students will be able to develop a web site from scratch with full knowledge of all elements required for development, operational support and security; develop programs in languages on multiple computer platforms; prepare and present a major project with full industry-standard documentation; plan projects; allocate and budget resources; and practice with an understanding of ethical, legal and regulatory considerations.

##### **NEWM-2. Career Options**

Career options include: 2D/3D artist, animator, creative technologist, multimedia producers, director of software development, electronic publisher, hypermedia specialist, Internet developer, graphic artist, interactive trainer, music producer, multimedia developer, composer, techno-artist, video/audio editor, webmaster, and web site designer. All students must meet the requirements as established by the faculty of the New Media Program and applied to all IUPUI New Media students. The New Media Program, Student Services Office, 535 West Michigan Street, Fifth Floor, can answer questions about general education courses and distribution requirements for the undergraduate program.

##### **NEWM-3. Core Courses (18 cr.)**

- ENG W131 English Composition I (3 cr.)
- NEWM N100 Introduction to Digital Media Principles (3 cr.)
- NEWM N101 Topics in Interactive Multimedia (3 cr.)
- CSCI N241 Introduction to Web Design (3 cr.)
- CSCI N301 Fundamental Computer Science Concepts (3 cr.) or NEWM N290 Creative Concept Development (3 cr.)
- NEWM N499 Capstone: Portfolio or Project (3 cr.)

Web-Based Computer Programming (9 Cr.)

- CSCI N305 C Language Programming (3 cr.)

- CSCI N331 Visual Basic Programming (3 cr.)
- CSCI N341 Web Programming (3 cr.)
- CSCI N345 Advanced Programming, Java (3 cr.)
- CSCI N351 Introduction to Multimedia Programming (3 cr.)
- CSCI N355 VRML (3 cr.)
- CSCI N399 Variable Topic (3 cr.)
- CSCI N499 Variable Topic (3 cr.)

#### **NEWM-4. General Education Requirements (71 Cr.)**

- Communication (6 cr.)
- Foreign Language (10 cr.)  
This requirement may be filled with any foreign language. Because of the volume of research and production conducted in East Asia, New Media students are encouraged to consider the study of Japanese or Chinese.
- Analytical Skills (6 cr.)
- Arts and Humanities (6 cr.)
- Social Sciences (6 cr.)
- New Media Electives (12 cr.)  
MUST be completed at the 300 level or above
- University Electives (25 cr.)  
12 hours must be completed at the 300 level or above

#### **NEWM-5. Specialization/Concentration Tracks (24 Cr.)**

24 cr. should be selected from the following areas (of which 12 hours must be at the 300 level or above)

Area 1:

Computer Technology, Computer Science, Library and Information Science, New Media/Informatics

Area 2:

Music, Art, Journalism, New Media/Informatics

The Specialization tracks are the following:

- IMU – Interactive Media and Usability
  - Hypermedia
  - Multimedia
- Joint Hypermedia and Multimedia
- NMM – New Media Management
- SMG – Spatial Media and Gaming

#### **IV. Associate Degree, Minor, and Certificate Programs**

There are currently one associate degree program, one minor, and three certificate programs being offered at the School of Informatics. They are associate degree program

in **New Media Art and Science (NMAS)**, undergraduate **Minor in Informatics (MINF)**, and certificate programs in **Medical Coding Certificate Program (MCC)**, **Cancer Registry Certificate Program (CRC)**, and **Informatics Certificate Program (INC)**.

### **A. Associate Degree in New Media Art and Science (NMAS)**

#### **NMAS-1. Program Description.**

The Associate of Science degree is focused on developing skills and knowledge in new media in the primary areas of Internet design and multimedia programming. Even though new media is an emerging professional field, the degree is based in the traditional arts and sciences. Focused on applied research and application, the associate degree is oriented toward professional practice and relies on a theory base drawn from fundamental disciplines which study communication as sight, sound and motion.

Skills and knowledge embedded in this degree program include: web page and multimedia design, web-based computer programming, multimedia techniques, journalistic writing, and legal and ethical consideration of fair usage of intellectual property. Students will be required to complete the general education component of the university-wide associate of arts degree as a foundation for further advanced study and as a context for the specialized study of new media.

#### **NMAS-2. Career Options**

Career options include 2D/3D artist, animator, creative technologist, multimedia producer, director of software development, electronic publisher, hypermedia specialist, Internet developer, graphic artist, interactive trainer, music producer, multimedia developer, composer, techno-artist, video/audio editor, webmaster, and web site designer.

#### **NMAS-3. New Media Core Courses (18 Cr.)**

- Computer Information Systems (3 cr.)
- Programming Constructs Lab (3 cr.)
- Intro. to Web Design (3 cr.)
- Elementary Composition I (3 cr.)
- Intro. to Digital Media Principles (3 cr.)
- Topics in Interactive Multimedia (3 cr.)

#### **NMAS-4. General Education Requirements**

- Communication (6 cr.)
  - Oral Communication
  - Written Communication
- Arts and Humanities (6 cr.)
- Foreign Language (6 cr.)

This requirement may be filled with any foreign language. Because of the volume of research and production conducted in East Asia, New Media students are encouraged to consider the study of Japanese or Chinese.

- Analytical Skills (6 cr. and above)
- Sciences (6 cr.)

Choose one of the areas of study: Astronomy, Biology, Chemistry, Computer, Geography, Physics, Psychology

- General Electives (12 cr.)

Choose one of the following area of study: New Media, Art, Journalism, Music, Computer Science, Computer Technology

## **B. Medical Coding Certificate Program (MCC)**

### **MCC-1. Program Description.**

Due to the high demand for qualified personnel, the field of medical coding attracts people from backgrounds other than traditional healthcare. This certificate program is designed for people interested in the medical coding profession as well as students pursuing a bachelor's degree in another field of study who may wish to enhance their primary degree program.

Students receive instruction from faculty with extensive expertise and will, upon completion of the program, possess the skills necessary to be successful in this area of the health information profession. In addition to regular university tuition and fees, students should expect to pay a clinical fee for the professional practice experience.

### **MCC-2. Length of the Program**

26 semester hours of certificate course work. The program begins in the fall semester and includes a final professional practice course in Health Information Administration which is taken in Summer I or Summer II session after completion of the coursework.

### **MCC-3. Structure of the Program**

The prerequisites and the certificate program may be taken on a part-time or full-time basis. The student must be admitted to the IUPUI campus and have knowledge of anatomy and physiology and informatics tools. The Admissions Committee will determine whether the applicant demonstrates adequate knowledge to enroll in the certificate program.

### **MCC-4. Design of the Professional Curriculum**

The certificate courses focus on pathophysiology, pharmacology, coding and reimbursement and basic concepts of health information. The professional practice component of the curriculum integrates lecture and laboratory courses with technical experiences in hospitals and other health care facilities.

## **MCC-5. Benefits**

Upon completion of the certificate program:

Students are prepared to find employment in a hospital or physician's office

Students will be eligible for Certified Coding Associate (CCA) certification by the American Health Information Management Association

College credit earned for the certificate can be applied toward the bachelor's degree in HIA

## **MCC-6. Program Facilities**

The Medical Coding Certificate Program is offered in the School of Informatics. The program offices are located in the Informatics and Communications Technology Complex; classes meet in the ICTC as well. Professional practice is provided by health care facilities and agencies in Indiana and surrounding states. Some of the courses will be offered by distance education in Fall 2005. All courses will be offered by distance education by Fall 2006.

## **C. Cancer Registry Certificate Program (CRC)**

### **CRC-1. Program Description.**

Due to the high demand for qualified personnel, the field of cancer registry attracts people from backgrounds other than traditional healthcare. This certificate program is designed for people interested in the cancer registry profession as well as students pursuing a bachelor's degree in another field of study who may wish to enhance their primary degree program.

Students receive instruction from faculty with extensive expertise and will, upon completion of the program, possess the skills necessary to be successful in this area of the health information profession. In addition to regular university tuition and fees, students should expect to pay a clinical fee for the professional practice experience.

### **CRC-2. Length of the Program**

23 semester hours of certificate course work. The program begins in the fall semester and includes a final professional practice course in Health Information Administration which is taken in Summer I and Summer II sessions after completion of the coursework.

### **CRC-3. Structure of the Program**

The prerequisites and the certificate program may be taken on a part-time or full-time basis. The student must be admitted to the IUPUI campus and have knowledge of anatomy and physiology, management/supervision and informatics tools. The Admissions Committee will determine whether the applicant demonstrates adequate knowledge to enroll in the certificate program.

#### **CRC-4. Design of the Professional Curriculum**

The certificate courses focus on pathophysiology, pharmacology, quantitative measures, cancer registry fundamentals and basic concepts of health information. The professional practice component of the curriculum integrates lecture and laboratory courses with technical experiences in hospitals and other health care facilities.

#### **CRC-5. Benefits**

Upon completion of the certificate program:

Students are prepared to find employment in a hospital or cancer treatment program

College credit earned for the certificate can be applied toward the bachelor's degree in HIA

#### **CRC-6. Program Facilities**

The Cancer Registry Certificate Program is offered in the School of Informatics. The program offices are located in the Informatics and Communications Technology Complex; classes meet in the ICTC as well. Professional practice is provided by health care facilities and agencies in Indiana and surrounding states. Some of the courses will be offered by distance education in Fall 2005. All courses will be offered by distance education by Fall 2006.

#### **D. Undergraduate Minor in Informatics (MINF)**

The undergraduate Minor in Informatics requires students to take three lower division Informatics courses and two upper division courses. Students are required to take courses from the following list of lower division courses:

- Introduction to Informatics (3 cr.)
- Information Representation (3 cr.)
- Social Informatics (3 cr.)
- Information Infrastructure I (4 cr.)
- Information Infrastructure II (4 cr.)

Students are also required to take two courses from the following list of upper level courses:

- Human Computer Interaction (3 cr.)
- Organization Informatics (3 cr.)

One course from the list of approved informatics electives. A minimum grade of 2.0 (C) is required in all courses taken for the minor.

#### **E. Informatics Certificate Program (INC)**

The undergraduate Certificate in Informatics requires 26 credit hours from the following list:

- Introduction to Informatics (3 cr.)
- Information Representation (3 cr.)

- Social Informatics (3 cr.)
- Information Infrastructure I (4 cr.)
- Information Infrastructure II (4 cr.)
- Human Computer Interaction (3 cr.)
- Organization Informatics (3 cr.)

In addition students must take an additional course (3 credits) from the informatics curriculum. The additional courses can be chosen from the listed electives for informatics and can therefore be taken in another department.

## V. Program Assessment Methods

### **A. Criteria.**

Going through the program, each successful student should acquire the strategic concepts and tactical applications needed to achieve personal and professional growth in general, among the dynamic and diverse domains of the School of Informatics; and specifically within the focus area chosen by the student and approved by the School.

Demonstration and evaluation of student success may be accomplished based upon general framework of the IUPUI Principles of Undergraduate [and Life Long] Learning, with interpretations and extensions for a course syllabus, specialization, or degree plan of study, and either a senior thesis demonstrating depth in the information science aspects of a particular discipline, or a one-year development project working with a multi-disciplinary team together with general common operational criteria such as the European Computer Drivers License, general professional criteria for the “cognate” academic discipline, and specific professional criteria for the major, such as the IS 2002 Model Curriculum and Guidelines for Undergraduate Degree Programs in Informatics.

Long-term success extends to application of learning in high-tech, high-growth jobs in the Information industry of the Services sector expansion in the Indiana economy.

### **B. Student Learning Outcome**

#### *a) B.S. Health Information Administration*

The Bachelor of Science in Health Information Administration is a professional program with a long history at IUPUI, yet it is a recent addition to the School of Informatics at IUPUI. The professional component is offered in the junior and senior years of the program, which is accredited by the Commission on Accreditation of Allied Health Education Programs. The Program is very mature and has been maintaining a nationwide reputation for student satisfaction and job placement upon graduation.

#### *b) B.S. Informatics*

The Bachelor of Science in Informatics degree develops skills and knowledge in information concepts and related information technology contexts with the purpose of preparing students to design, develop, and deploy processes involving computerization for acquiring and managing relevant data in making informed decisions. Focused on applied research and application, the degree is oriented toward professional practice and relies on a theory base drawn from fundamental disciplines which have application to informatics.

Skills and knowledge embedded in this degree program include: technical understanding of how computing systems operate, ability to adapt/assess and apply new trends in IT, well-developed problem-solving skills, ability to work in teams such as those formed for the senior capstone project, well-developed communications skills to clearly convey solutions and observations to others, and understanding of social and ethical principles as they relate to IT issues. These valuable skills can be transported to a number of job settings.

The IUPUI Principles remain to be developed at the Advanced levels in this program of study; in the interim, and as a guide, professional criteria in subsequent sub-sections may serve well.

*c) B.S. Media Arts and Science*

The Bachelor of Science in Media Arts and Science degree develops skills and knowledge in new media with the purpose of preparing students to manage and coordinate Internet and web operations and multimedia production and development. Focused on applied research and application, the degree is oriented toward professional practice and relies on a theory base drawn from fundamental disciplines that study communication as sight, sound and motion.

Skills and knowledge embedded in this degree program include: web page and multimedia design coordination, web-based computer programming, multimedia authoring language skills, multimedia implementation of audio and video materials, digital graphics (photography, scanning), and the writing and editing of materials for multimedia story boarding and content. Students will be able to develop a web site from scratch with full knowledge of all elements required for development, operational support and security; develop programs in languages on multiple computer platforms; prepare and present a major project with full industry-standard documentation; plan projects; allocate and budget resources; and practice with an understanding of ethical, legal and regulatory considerations.

Previously, four Areas of Specialization were recognized: New Media Core (NMC), Interactive Media and Usability (IMU), Spatial Media and Gaming (SMG), and New Media Management (NMM). Currently, the New Media curriculum is in the process of revision in terms of Core and Flexible Core blocks followed by one of four tracks: Multimedia Communication, Digital Storytelling, Video Production and Sound Design, and Applications Design.

The IUPUI Principles remain to be developed at the Advanced levels in this program of study; in the interim, and as a guide, professional criteria in subsequent sub-sections may serve well.

### **C. Senior Thesis or Interdisciplinary Project**

SOI professional core competencies extend from the Principles of Undergraduate and Life Long Learning, permeate degree plans of study and culminate in capstone coursework products and professional portfolios. The students acquire these skills through the thesis/project:

relevant information acquisition & analysis for informed decision/algorithm design & development  
consensus, group and individual accountability and professionalism  
implementation acceleration and organizational change management

All students are encouraged to engage in independent study and/or research with a faculty mentor. All candidates for the Bachelor of Science degree must complete a capstone experience project or thesis that is juried by the faculty. Many students take advantage of the internships or cooperatives in order to receive “real world” experience.

### **D. Common Operational Criteria**

Students who are provisionally admitted to a program are permitted to enroll in boot camp remediation courses that are offered outside the academic schedule. The school has authorized some students to contact with other IUPUI academic or administrative units and/or external organizations to complete work related to information technology, graphic design, programming, animation and video/audio editing.

It is expected that students will have the required prerequisite proficiency and literacy with information resources and information technology. Most SOI courses have prerequisites that are set to maximize the efficiency of the course and the effectiveness of the students who are prepared and who participate. Regardless of student age, experience, etc., it is not appropriate for prerequisites to be ignored.

For example, deficiencies in computer literacy may be addressed by a spectrum of options, some of which explicitly reference common operational criteria such as:

- the European Computer Drivers Licence.
- UITS on-line training (NETg) or training class
- IUPUI service courses such as BUS K201, CPT 106, CSCI N100, etc.
- Ivy Tech programs in Computer and Information Science, Visual Comm’n., and/or Video Prod’n.
- ITT Technical Institute programs in Information Technology.

Thus, it is an expected (“negative”) Student Learning Outcome that no remedial load was placed on a course or on other students’ learning by virtue of clear lack of prerequisite preparation by any student.

**E. General Professional Criteria for the Cognate**

Currently, this is handled informally between advisors with the capstone review process.

**F. Specific Professional Criteria for the Major**

Currently, this is handled informally between advisors with the capstone review process. Although treated a separate topic in this report, it is likely that this item will be integrated into sub-section C Based on Course Syllabus, Specialization, and/or Degree Plan of Study. Furthermore, that will have a direct impact on specification of the IUPUI Principles at the Advanced levels within a specific program.

Such professional criteria also are valuable guides to evaluating activities outside the major.

Learning

Unit            Learning Unit Goal

Number

- 5            to introduce systems and quality concepts
- 6            to provide an introduction to the organizational uses of information to improve overall quality
- 7            to present hardware, software, and related information technology concepts
- 8            to provide concepts and skills for the specification and design or the re-engineering of organizationally related systems of limited scope using information technology
- 9            to show how information technology can be used to design, facilitate, and communicate organizational goals and objectives
- 10          to explain the concepts of individual decision making, goal setting, trustworthiness, and empowerment
- 11          to show career paths in Information Systems
- 12          to present and discuss the professional and ethical responsibilities of the IS practitioner

**VI. Assessment Activities**

**A) New Assessment Activities**

The SOI faculty committee and other SOI faculty members participated in the revision and clarification programs and their reviews/assessments for 2004-5.

The IUPUI Principles were engaged explicitly in three target student groups by the committee affiliate who happened to have course responsibilities for capstone seniors, introductory undergraduates, and introductory graduates. It was extremely difficult to use the IUPUI Principles in a meaningful way. Part of the complication may be addressed by the current PRAC efforts to clarify applications of the IUPUI Principles.

To use information and concepts from studies in multiple disciplines in their intellectual, professional, and community lives. Students can apply knowledge to:

- enhance their personal lives;
- meet professional standards and competencies, and;
- further the goals of society.

For example, many students found PUL #3 to be not creative or internally fulfilling at all and instead found it to be constraining and externally focused. Upon closer examination, it seems that the difference of perspective is driven in large part by the language used to express the concepts and also by the context in which they are placed by the students. In particular, the students may not “see themselves” in the “society” of PUL #3, and they may not see how this will “enhance their personal lives” if they are already tactically satisfied or otherwise preoccupied with things outside of being a student.

In addition, professional criteria and model curricula were reviewed in an on-going effort to position SOI programs optimally in advance of changes in the professions and related industries. Some of this is reflected in this report. It is important to have a professional framework that can permit communication and even certification of capabilities acquired in a degree program plan of study, especially for new, intrinsically interdisciplinary and dynamic fields like those in the School of Informatics. In addition to a professional framework for evaluation, it is critical to understand the professional foundation for entry into a degree program plan of study, and to recognize that the constant “raising the bar” for mere foundation (commodity) capabilities may cause particular problems in an urban university where student experience may be out of sync with constant change and expected growth experienced by traditional students.

The current foundation represented by the *ECDL* syllabus version 4 are directly addressed by rudimentary on-line training capabilities such as NETg and may be more appropriate to Community College curricula.

## **B) Continuing Assessment Activities**

The SOI faculty committee on Assessment was formed in August 2001. The founding chairperson became a regular participant in the University Program Review and Assessment Committee (PRAC) and continued in that capacity during the 2002-2003 school year. Formulation of additional formal assessment provisions continues to be an active agenda item. Current Assessment member is new to both university programs and program reviews.

The New Media Program and the Informatics Program both are very new, and what data exists cannot show trends with statistical significance. The first IUPUI Informatics baccalaureate degree was granted only in May 2002, and the PhD program has not begun as of July 2005. Nonetheless, supplemental strategies include assessing the numbers of degrees conferred, and the rates of retention and graduation. In addition, surveys are used to assess how well students believe they have learned the course outcomes. No comprehensive exit interview is made.

In May 2003, the baccalaureate graduating class (across both IUB and IUPUI) had the following demographics. 147 in class, 3.06 GPA, 33% women, 17% minorities, 6% international students, 78% Indiana residents. The demographics for the recent years are still being compiled at the time of this report, but the overall data trend remains unchanged.

Both programs assume and expect that the vast majority of their graduates will seek employment or advancement in lieu of additional academic experience. Thus, employment or advancement success and employer satisfaction are supplemental strategies for assessment.

And, both programs target job roles that may involve professional organization affiliation yet do not require professional accreditation or regulatory certification (currently); therefore, both programs require a “capstone” portfolio and/or thesis review. This “practical” application of acquired knowledge and achieved skill is a major source of performance assessment data.

Students are required to take a pre-assessment skills examination during their NEWM gateway course N100 and N101. At that time, UCOL students receive pre-entry advising, as well as the opportunity to enroll in the informatics first-year experience classes. Students should be able to demonstrate competencies of performance as a measurable outcome by the use of written reports, projects, oral presentations, examinations and quizzes, laboratory reports, and portfolio preparation.

The grade for a course will be determined by the course instructor, using the objectives and criteria stated in the course syllabus. Typically, this will involve exercises and examinations which may be written or oral, plus reviews and projects which may be assigned to the student individually or within a group of students. The successful student will demonstrate understanding of strategic course concepts and their application in tactical contexts.

The senior capstone experience permits an assessment of the extent to which the student can exhibit a general education perspective while demonstrating proficiency in their major and concentration or specialization area.

### **C) Previous Assessment Activities**

The school is too new to have much in the way of past assessment activities. However, there have been activities which may help precondition the school for assessment activities. For example, the faculty has developed collaborative efforts with other departments such as computer technology and computer science. The School has also developed cross-listed courses with computer science, chemistry, allied health, organizational leadership and supervision, and biology; thereby, maximizing resource effectiveness and minimizing resource redundancy.

## **VII. Feedback and Response**

The school and its assessment engagement are still not old enough to have much in the way of response. Nonetheless, it is fortunate, in this new School, that assessment of student learning has been introduced during the infancy of the New Media Program and the Informatics Program, and during the new era of Health Information Administration within the School of Informatics. As these vanguard programs continue to advance, it is increasingly critical that faculty remain actively engaged in the continuous improvement of student learning and student satisfaction with the learning process.

## **VIII. Future Assessment Plans**

In the next school year, the SOI faculty committee on Assessment will seek to extend the coverage and consistency of assessment strategy and methods. The committee will continue to coordinate closely with the SOI leadership and with other SOI faculty committees, especially the faculty committee on Curriculum and the faculty committee on Technology. In addition, it will remain actively engaged on the IUPUI Program Review & Assessment Committee (PRAC) and with the many representatives to that committee from other schools from who much already has been learned. In doing so, the committee will leverage this year's learning, reflected in new curriculum courses and criteria, to formulate and seek acceptance for "improvement through the collection of evaluative data and reflection on the implications of the findings for practice".