An Assessment Report to the Faculty Senate by the General Education Committee April 16, 2009

The Faculty Senate has charged the General Education Committee with the responsibility of providing assessment of general education goal outcomes at the institutional level. The intent of the assessment is to provide course instructors with additional information to improve student learning across a common spectrum of knowledge and skills, thus providing students with a common basis for a lifetime of individual development as civic and contributing members of society.

The spectrum of knowledge and skills that we want students at Indiana University Southeast to develop is defined in the 11 general education goals listed below.

(1) Quantitative Reasoning
(2) Oral Communication
(3) Written Communication
(4) Diversity
(5) Ethical Reasoning
(6) Information Literacy
(7) Critical Thinking
(8) Central Issues, Ideas, and Methods of Inquiry (CIIMI) in Arts and Humanities
(9) CIIMI in Natural and Physical Sciences
(10) CIIMI in Social and Behavioral Sciences
(11) Information Technology Fluency

In consideration for the difficulty of the assessment task, the General Education Committee decided to divide the 11 general education goals into three groups. Each group of general education goal outcomes is assessed in a different year on a 3-year cycle.

Assessment Period	General Education Goals to be Assessed
2006-07	Quantitative Reasoning Oral Communication Written Communication
2007-08	Diversity Ethical Reasoning Information Literacy Critical Thinking
2008-09	CIIMI in Arts and Humanities CIIMI in Natural and Physical Sciences CIIMI in Social and Behavioral Sciences Information Technology Fluency

The General Education Committee started the assessment process two years ago and so we are completing the first assessment cycle this year. At the beginning of the 2008-09 Academic Year, the committee formed four working groups to assess the general education goals of CIIMI in Arts and Humanities, CIIMI in Natural and Physical Sciences, CIIMI in Social and Behavioral Sciences and Information Technology Fluency.

The assessment groups are as follows:

CIIMI in Arts and Humanities: Committee members Charles Pooser and Maria Accardi with Anne Allen and Tom O'Neal serving as consultants.

CIIMI in Natural and Physical Sciences: Committee member Phillip Miller with David Taylor, Elaine Haub, and Kyle Forinash serving as consultants.

CIIMI in Social and Behavioral Sciences: Committee members Valerie Scott and Arun Srinivasan with Greg Phipps serving as a consultant.

Information Technology Fluency: Committee members Judy Myers and James Hollenbeck

A Summary of Reports from the Assessment Working Groups

Central Issues, Ideas, and Methods of Inquiry:

1) CIIMI in Arts and Humanities

Approved Outcomes

1. Students will define the humanities.
2. Students will explain three ways in which the context that led to its creation influenced an important contribution to the humanities.
3. Students will describe three characteristics of a text which explain why it is considered an important contribution to the humanities.
4. Students will describe the impact of an important contribution to the humanities using three specific examples.
5. Students will identify two similarities and two differences between their perspective and that of an important contribution to the humanities.

This data was collected from courses taught in the Fall of 2008.

Fine Arts A101: Ancient and Medieval Art

The assessment of the CIIMI goal in this course occurs through a series of essays that are administered to students at different times in the course, most often, but not exclusively as components of course exams.

Data in percentages	Excellent	Good	Minimal	Unacceptable
Define the Humanities	73.9	8.6	8.6	8.6
Ways in which context influenced creation	29.6	22.2	22.2	25.9
Characteristics that make "object" important	34.6	23	19.2	23
The impact of an "object"	28.5	46.4	0	25
Similarities / Differences in perspectives	40.9	27.2	13.6	18.1

Goal Outcome 1:

The general defining of the humanities as a discipline was assessed in this course through a take-home assignment in which the students were required to provide a global, formal definition of the Humanities and to provide a discussion of their rationale for their choice and then more importantly to demonstrate how this particular course logically conforms to the definition they have presented. This assignment was due at the end of the semester.

Results showed almost 75% of the class performing at an "excellent" level, which according to the essay grading rubric for the course implies that students were able to establish and defend four separate arguments for inclusion of this course within their definition of Humanities. There was less than 10% of the class that did not provide an acceptable completion of this task.

Goal Outcome 2:

This goal outcome concerns the recognition of the importance of context to the creative process. The students were called upon through a series of essays to examine both individual art works and genres and to comment upon the impact that the broad historical context (socio-econo-political) had upon their creation. The tact most often used was to offer the students contrasting, but genre-specific art works so that they could confine their discussion within reasonable limits to demonstrate more concretely how differing contexts contributed to creating uniquely different works of art in the same genre.

Student achievement for this goal outcome presented with a fairly even distribution across the four scoring categories, resulting in 25% of the students providing an unacceptable assessment score. Students were provided with three opportunities for demonstrating their ability to achieve this goal outcome.

All three questions used to assess this aspect of the CIIMI were no doubt challenging in that they required students to first have an understanding of the historical and socio-political context within which the art works were produced, and then to apply this understanding to the works of art in question. Two of the three questions involved correlating change in context with differences in the artistic output. We feel, however, that this approach is a most reasonable way to address this goal outcome for this course, and a change of approach would not appear to be warranted.

Goal Outcome 3:

The assessment for this outcome was derived from a single essay question on a test in which students were asked to "compare and contrast" two architectural structures from different cultural contexts "as to cultural significance." Students were free to address a number of different elements including "meaning, cultural context, location, form, and materials as well as physical

characteristics," providing them ample scope for proposing three characteristics as outlined in the outcome statement.

Student achievement on this goal outcome was fairly comparable to that on Goal Outcome 2, but here again the task requested seems reasonable for assessing this element of the CIIMI.

Goal Outcome 4:

Goal Outcome 4 requests "three specific examples" for describing the "impact" of a particular "contribution" to the Humanities field. As with Goal Outcome 3, the instructor offers the students an essay question on an exam as their opportunity to demonstrate their capacity to perform this task. The question is also comparative in nature, but the students were ask not only to compare and contrast two works, in this case works from the same geographic and cultural context, but also to discuss the ideas, attitudes and beliefs underpinning the changes that led from one work to the other across almost two centuries of artistic production. This discussion of goals and ideas then fed into the final section of the question, which most directly addresses this goal outcome: "Discuss at least three areas where this art or the ideas that helped form them [sic] influence us today."

The results again indicate that 25% of those performing this task were not able to do it in an acceptable fashion, but the class as a whole performed generally at a higher level than with Goal Outcome 3 with far fewer students assessed at the "minimal" level. Again, we might question why Goal Outcome 4 was not assessed in parallel fashion with Goal Outcome 2, but the task assigned seems again perfectly reasonable for assessing this section of the CIIMI goal.

Goal Outcome 5:

The assignment provided for assessing Goal Outcome 5 was a major semester long project. The statement for this task and the task assigned for Goal Outcome 1 most closely parallel the CIIMI statements for these goal outcomes and are, as such, very straightforward assessments of these outcomes. Less than 20% of the students performed this task at an unacceptable level as defined by the course guidelines. Of course, this task goes far beyond the minimum stated by the Goal Outcome 5 in that responding to only a single "important contribution" is strictly required. We assume that the instructor took into account the whole set of analyses in assessing student performance on the goal outcome, whereas performance on a single set may arguably be all that is needed.

English L106, Introduction to Poetry

Assessment of the CIIMI goal occurs in the course midterm paper using a rubric. Criterion 7 in the rubric was constructed to account for the humanities outcomes.

The mean averages of each of the rubric criteria for the 14 students who submitted a third draft of the 16 who completed the course.

Rubric Criterion	1.	2.	3.	4.	5.	6.	**7.**
Mean	3.5	2.9	3.4	3.8	3.3	2.9	3.3

Rubric Key

4=excellently, 3=well, 2=partially, 1=poorly or not at all

1. Sufficient paraphrasing, 2. Appropriate use of terminology, 3. Organization, 4. Grammar and surface error, 5. Attribution and documentation of sources, 6. Description of change in poetry over time, 7. How the poems enrich readers.

Based on these numbers, it appears that students are doing well at addressing the contribution of a literary work to the humanities. This is only one component of the CIIMI goal for the Humanities, however, so there is room to further enhance the way this course meets this particular outcome. For example, CIIMI student outcome 1 is not explicitly addressed by this assignment.

Given the instructor's acknowledgment of his students' failure to define the humanities explicitly, it follows that perhaps more explicit instruction in the assignment statement, and therefore more explicit measurements in a rubric, is one way of approaching future assessment in this course. As detailed earlier, the instructor of A101's assessment of the "define the humanities" outcome includes a definitional paper, where students are asked to define the humanities. The incorporation of such a definitional assignment into assessment methods might enhance the teaching and measuring of this outcome. Therefore, one suggestion for future reference is that perhaps essay assignments could specifically and explicitly address other components of the humanities outcomes. For example, an essay might ask students to identify two similarities and two differences between their perspective and that of one of the poems studied in class, which would key directly to CIIMI student outcome 5.

English L352: American Literature 1865-1914

The instructor of this course took the unusual route of having the students design the reading list and also generate exam questions for the course, this in an effort to cede more control to the students for the learning experience that the class would afford. There were two central questions that were to be addressed in the course, one involving the question of what constitutes “American” literature and the other involving defining differences that distinguish American literature from other literary traditions. The CIIMI goal outcomes were addressed in a number of ways, through differing combinations of class discussion, essay writing and follow-up discussion, and other writing assignments.

In the discussion that I was provided, it is not clear how the initial “define the Humanities” plank of CIIMI was addressed directly, and I would suggest that this question needs to be addressed more directly in future repetitions of this course. This of course was also the finding for the previous course discussion as well, and it may well be useful for future General Education Committees to revisit this goal outcome with an eye toward trying to make it more user-friendly or providing general guidelines for how it could be approached effectively. It is obvious from the instructor’s comments for this course, for instance, that class discussions and other student interactions were lively and actively engaged in questioning the value, examining the contextual influences, and contrasting the perspectives of the authors of the works that comprised the course reading list with that of the students. Addressing this more global question may simply prove more challenging, though certainly not impossible, to fit into a course dealing with very focused material.

The instructor also commented on the coverage that the course offered for goal outcome four. According to the comments, it was more difficult to address this goal outcome given the more open-ended course format that was pursued , and so the results for this goal outcome were less satisfying than they might have been had the instructor decided to lecture a bit more rather than continue to privilege directed student discussion. It is the instructor’s opinion, however, that the students were better served in this course by maintaining this format. Of course, all of the goal outcomes need to be addressed effectively, and so we would suggest that instructors revisit format decisions and course organization in order to improve upon their student performance on this element of the CIIMI.

Philosophy P140: Introduction to Ethics

The data for the CIIMI assessment in philosophy courses is compiled by all instructors using a checklist devised by the philosophy faculty. A variety of different assignments over the course of the semester were used to development the assessment of these ten elements of the checklist.

P140: Average scores (using a 1-4 point scale) for each section of the CIIMI philosophy checklist

1A	Section 1: 3.0	Section 2: 2.7
1B	Section 1: 3.7	Section 2: 3.0
1C	Section 1: 3.0	Section 2: 3.1
2A	Section 1: 2.8	Section 2: 2.8
2B	Section 1: 2.5	Section 2: 2.8
3A	Section 1: 3.0	Section 2: 2.9
4A	Section 1: 2.9	Section 2: 2.8
4B	Section 1: 2.4	Section 2: 2.8
5A	Section 1: 2.8	Section 2: 3.2
5B	Section 1: 3.3	Section 2: 3.2

The average scores, which in the main are in the "Good" (3-point) range, indicate (assuming a relatively low standard deviation) that the majority of students are faring well in their achievement of these goals.

Concluding Remarks

The report above includes varying amounts of information drawn from four different Humanities courses concerning their treatment of the CIIMI goal in Humanities. We received all of the data made available from the instructors of Fine Arts A101 and English L106, with brief incomplete reports from English L352 and Philosophy P140. The instructor of L106 is working to improve his coverage of the CIIMI in future repetitions of the course and has indicated that a more historical approach will no doubt need to be followed in the future, as opposed to the genre approach followed here, in order to better address the goal outcomes. We've also recommended the consideration of additional essay assignments that more directly address the goal outcomes, as were provided in A101, in which the instructor was very thorough in her coverage of all of the goal outcomes. The brief reports concerning the other courses indicate that the goal outcomes under the CIIMI remain a central concern of the instructors involved with those course.

2) CIIMI in Natural and Physical Sciences

Approved Outcomes

1. Understand the role of empirical data establishing scientific knowledge.

2. Understand that, in addition to empirical evidence, science involves skepticism and rational arguments; that it is not opinion but is rather a reasoned consensus among informed experts which improves over time.

3. Understand several paradigm examples of the fundamental conceptual models in at least two separate disciplines of the natural sciences (Biology, Chemistry, Physics, Geosciences) which underlie our current understanding of the physical world. Examples include (but are not limited to): conservation of energy, evolution, plate tectonics, oxidation, etc.).

Physics courses included in report

PHYS-P 100 Physics in the Modern World
PHYS-P 105 Basic Physics of Sound
PHYS-P120 Energy & Technology
PHYS-P201 General Physics I
PHYS-P221 Physics I

For goal 1: Understanding empirical data

P100, P201 and P221 have laboratory content. Students do a minimum of six laboratory exercises in P100, eleven in P201 and twelve in P221. Performance for several laboratory exercises in the fall of 2008 on key questions, taken from the lab procedure, has been used to specifically address the assessment of Goal 1. The three laboratory exercises analyzed in P201 were Linear Motion, Projectile Motion, and Friction Forces. The two laboratory exercises analyzed in P221 were Friction and Ballistic Pendulum. P100 is taught in the Spring and students perform similar experiments and answer similar questions. Student responses to key questions (which are part of the lab procedure for every lab exercise) were analyzed in all five P201 laboratory sections and the single P221 laboratory section in Fall 2008:

Student success rate for these questions for three chosen laboratory exercises in all five sections of P201 lab (60 students, three different instructors) was 84% for question a) (analysis); 82% for question b) (conclusion); and 82% for question c) (description). For the two P221 exercises (17 students with the same instructor) the results were 80%, 41% and 62%, respectively. These results are somewhat subjective on the part of the instructor but they are an indication that students are performing satisfactorily for Goal 1; Understanding Empirical Data. It was further noted by one P201 instructor that the scores improved substantially by the third laboratory exercise compared to the first.

These results are an indication that Goal 1 is being met. The physics department is also in the process of developing a pre and post test to measure student understanding of methods of data analysis and error propagation. We hope to have this ready for Fall 2009.

For goal 2: Critical thinking, skepticism and logical deduction

All physics books include a set of questions, generally termed conceptual questions, which are open ended and require a certain amount of careful thinking on the part of the student. In general, little or no mathematics is required but critical thinking, a skeptical mindset and a deep understanding of key concepts are required. A sample of these types of questions is given below. All physics classes at IUS use an appropriate selection of these questions in quizzes, tests, homework and group class work and student performance on select questions is monitored (some courses use more than others; for example P100 students answer more than 500 of these in the course of the semester on quizzes and homework). These types of conceptual reasoning questions are an integral part of physics instruction. Instructors for the lecture component of these courses have indicated that students are successful in answering these key questions. Additionally in P201 and P221 we use a standardized pre and post conceptual test. This test, explained in more detail below, evaluates not only course content but also reasoning and logic skills.

For goal 3: Conceptual understanding of key concepts

For P201 and P221: A paradigm concept in physics is the conceptual framework known as *Newton's laws* (Newtonian Mechanics). More than half the semester for both P201 and P221 is spent on this material. The Force Concept Inventory test (FCI) was developed several years ago by D. Hestenes, M. Wells, and G. Swackhamer to analyze the conceptual understanding and critical thinking of students in introductory level physics classes [1]. The test has been revised several times, validated by numerous groups and used extensively in the past few years at many different schools. A 6000 student meta-analysis was done by R. Hake at IU Bloomington a few years ago validating the current version [2]. The FCI has most frequently been used as a pre/post test to assess teaching effectiveness.

The FCI test is very difficult. A score of 85% or above is considered 'mastery' (PhD level understanding) of Newtonian mechanics, 60% is considered quite good. Nationally the percentage scores range from 20% to 70% when given as a pre- test and 30% to 85% for the post- test, depending on the school. Average post scores for physics students in P201 and P221 at IUS over the past eight years in 23 classes is 66%. Students at IUS are near or above the national average gain on the Force Concept Inventory test and on average above the norm on post test scores (not shown). This is an indication that the goal of conceptual understanding of key concepts has been met.

Another key concept in physics is *conservation of energy*. The goal of conceptual understanding for the courses P100, P105 and P120 were assessed in the following way. A subset of questions concerning the principle of conservation of energy were identified and embedded in quizzes for all three of these courses. A sample of these questions is given below; generally a minimum of ten of these appears in each course (they are rotated from year to year and the selection is different for different classes). Average scores on conceptual quiz questions were 78% for P100 in spring 2006, 81% for P105 in spring of 2008 and 80% for P120 in fall of 2008. Success on these questions indicates success in the achievement of the goals of conceptual understanding and critical thinking in P100, P105 and P120.

1. D. Hestenes, M. Wells, and G. Swackhamer, "Force Concept Inventory", *Phys. Teach.* 30, (1992) p 141. [a revised 1995 version due to I. Halloun, R.R. Hake, E.P. Mosca, and D. Hestenes is in E. Mazur, *Peer Instruction: A User's Manual* (Prentice Hall, 1997)].
2. 7. R.R. Hake, "Interactive-engagement vs traditional methods: A six-thousand-student survey of mechanics test data for introductory physics courses", *Am. J. Phys*., Jan. (1998) and on the Web at <http://carini.physics.indiana.edu/SDI/>; see also <http://www.aahe.org/hake.htm>.

Chemistry courses included in report

CHEM-C 101 Elementary Chemistry I
CHEM-C 102 Elementary Chemistry II
CHEM-C 104 Physical Sciences & Society
CHEM-C 105 Principles of Chemistry I
CHEM-C 106 Principles of Chemistry II
CHEM-C 121 Elementary Lab Chemistry I
CHEM-C 122 Elementary Lab Chemistry II
CHEM-C 125 Experimental Chemistry I
CHEM-C 126 Experimental Chemistry II

Assessment Data

The percentages in the table below represent the average student success on questions and exercises that tested the outcome.

	C101	C102	C104	C105	C106	C121	C122	C125	C126
Outcome 1	80%	80%	93%	93%	96%	88%	90%	90%	90%
Outcome 2	69%	73%	92%	81%	83%	73%	75%	87%	88%
Outcome 3	73%	79%	79%	80%	84%	78%	76%	71%	81%

Data Collection

The data in the table represents 2005-2008. For the Central Ideas goal data is extracted from the standardized American Chemical Society Exams for C101, C102, C105, and C106. The versions of the forms change every couple of years. Only the most recent forms of the exams are included.

C101, C102, C105, and C106 are lecture courses. Data was collected from the American Chemical Society Exams, common exam questions, and student participation with in-class demonstrations. Students in C104 were given two writing assignments that required them to conduct experiments at home. Data was collected from these assignments and from test questions.

C121, C122, C125, and C126 are laboratory courses and students conduct experiments, design their own experiments, and analyze data that represent lecture concepts. Data was collected from prelab questions, postlab questions, lab experiments, and common lab exam questions. In C125 and C126 students conduct a lab practical from which data was collected.

Biology Courses included in report

BIOL-L100 Humans and the Biological World
BIOL-L102 Introduction to Biological Sciences II

Data Collection

Assessment results are included in the tables below for L100 and L102 for Spring 2007 and Fall 2007. Instructors for all sections of these courses participate in the assessment by choosing questions for each goal and including them on exams. After completing final grades, the number of students who fully, partially, or minimally achieve each goal are determined. Forms are submitted online by the instructors to summarize the data.

BIOL-L100:

L100			Spring 2007				Fall 2007	
		Full	Partial	Minimal		Full	Partial	Minimal
1a. Participate in laboratory work		84.9%	14.4%	0.7%		34.6%	27.9%	37.5%
1b. Determine if the methods of an experiment are accurate enough to test the hypothesis (or predictions)		70.3%	28.3%	1.4%		74.1%	10.3%	7.1%
1c. Critique experimental design and procedure		65.5%	32.2%	2.3%		53.8%	25.7%	15.4%
1d. Identify how the methods could be improved		71.3%	25.6%	3.1%		76.3%	14.4%	5.4%
2a. Demonstrate (on at least a small scale) the critical thinking, skepticism and logical deduction inherent in the practice of the scientific process.		76.7%	21.7%	1.6%		71.7%	18.8%	5.3%
2b. Identify examples where scientific knowledge has progressed over time as a result of better empirical data and improved rational arguments.		88.6%	10.6%	0.7%		75.4%	15.3%	3.3%
3a. Define the components of a specific concept or conceptual model		77.9%	18.6%	3.5%		75.5%	11.4%	6.7%
3b. Explain how the concept encompasses the data in the example. (Explain how a conceptual scheme encompasses the empirical data presented in a paradigm case.)		81.0%	18.3%	0.7%		78.4%	16.3%	2.4%
3c. Analyze a specific example using the fundamental concept and apply the concept to predict or explain the example in general. (Analyze a paradigm physical situation (described in words and/or pictures) in terms of a fundamental concept and apply the relevant concept in a quantitative way (when appropriate) to predict or explain the behavior of the system being examined).		75.5%	20.2%	4.3%		59.3%	24.4%	11.1%

BIOL-L102:

L102			Spring 2007				Fall 2007	
		Full	Partial	Minimal		Full	Partial	Minimal
1a. Participate in laboratory work		100.0%	0.0%	0.0%		100.0%	0.0%	0.0%
1b. Determine if the methods of an experiment are accurate enough to test the hypothesis (or predictions)		90.0%	10.0%	0.0%		100.0%	0.0%	0.0%
1c. Critique experimental design and procedure		90.0%	10.0%	0.0%		75.0%	22.5%	2.5%
1d. Identify how the methods could be improved		90.0%	10.0%	0.0%		85.7%	14.3%	0.0%
2a. Demonstrate (on at least a small scale) the critical thinking, skepticism and logical deduction inherent in the practice of the scientific process.		80.0%	10.0%	10.0%		64.3%	35.7%	0.0%
2b. Identify examples where scientific knowledge has progressed over time as a result of better empirical data and improved rational arguments.		75.0%	15.0%	10.0%		72.5%	27.5%	0.0%
3a. Define the components of a specific concept or conceptual model		90.0%	10.0%	0.0%		72.5%	27.5%	0.0%
3b. Explain how the concept encompasses the data in the example. (Explain how a conceptual scheme encompasses the empirical data presented in a paradigm case.)		90.0%	10.0%	0.0%		86.7%	7.1%	6.2%
3c. Analyze a specific example using the fundamental concept and apply the concept to predict or explain the example in general. (Analyze a paradigm physical situation (described in words and/or pictures) in terms of a fundamental concept and apply the relevant concept in a quantitative way (when appropriate) to predict or explain the behavior of the system being examined).		75.0%	15.0%	10.0%		63.0%	28.9%	9.1%

3) CIIMI in Social and Behavioral Sciences

Approved Outcomes

1. Students will be able to demonstrate an understanding of two important theories and/or interpretations in one or more disciplines in the social sciences (for the purposes of general education, the social sciences include history, political science, psychology, sociology, journalism, criminal justice, economics and human geography.)

2. Students will be able to explain three specific ways in which the social sciences have contributed to our understanding of society in the contemporary or historical context.

3. Students will be able to evaluate and reach a conclusion about an argument or an explanation based on factual information provided in an assigned reading.

Summary:

Course	Number of Sections	Sample Size	Percentage of students answered correct		
			Goal A	Goal B	Goal C
Economics (E100)	4	70	74.5	78.5	84.2
Psychology (P101)	3	81	48	53.3	55
Sociology (S163)	6	121	78.5	90.0	70.2

ECON - E100 - Current Economic Topics

The assessment was administered in all ten (2 FYS and 8 regular) sections of E100 course during the fall 2008. The assessment results reported are for 70 students from 4 sections [2 FYS (36) and 2 regular (50)].

PSY - P101 – Introductory Psychology 1

Session: Fall 2008
Sections: 3 different sections of P101 were assessed at the end of the semester
Number of participants: 81
Number of items used for assessment:7
Average overall score: 3.6 (51.5%)

Session: Spring 2009
Sections: 2 different sections of P101 were assessed halfway through the semester
Number of participants: 52
Number of items used for assessment: 9 (3 per goal)
Average overall score: 6 (67%)

Note:
Multiple choice questions have four possible answers; therefore responding at a chance level will provide a 25% correct rate. It can be assumed that Introductory students bring some prior knowledge into the testing situation, thus expecting these students to score at about 30% (correct

answers), prior learning, is reasonable. Departure from 30% (base level) should be considered reflecting both maturation as well as learning.

SOC - S163 - Social Problems

The assessment was administered in six S163 course sections during the fall 2008 semester. Two were regular sections and four were combined FYS sections. A total of 121 students completed the assessment.

Information Technology Fluency

Approved Outcomes

1. Students will use information technology responsibly.

2. Students will demonstrate skills and fluency in common information technology concepts, terminologies, and applications (e.g. word processing, spreadsheets, databases, presentations, and web).

Data from Individual Schools

Deans and appropriate others in School of Natural Sciences, School of Arts and Letters, School of Business, School of Education, School of Nursing, and School of Social Sciences were contacted to collect information on how the outcomes were being assessed in the various majors. We determined the majority of majors are relying on successful completion of a required course as evidence of students having met the outcomes. Most commonly students are required to test out or successfully pass CSCI C106 – Introduction to Computers and Their Use. It is important to note that while this course has been approved as satisfying the General Education Requirements for Information Fluency, the online syllabus focuses on development of computer skills but does not mention content on responsible or ethical use of information technology.

In addition to requiring a course other methods being used are infusion of concepts across the curriculum, such as is the case in the School of Nursing. Other disciplines, such as chemistry have opted to assign responsibility for assessment of learning outcomes to specific courses in the major. The metrics being used for measurement are primarily testing and class and lab assignments that require demonstration of skills and fluency. To our knowledge tools have not been developed to capture this data.

Please refer to the table below for a breakdown of the information we obtained from phone calls and email requests for data related to the general education goal on information technology fluency.

School	Contact	Approved Courses with Examples	Evidence-Uses Info Tech Responsibly	Evidence Skill/Fluency in Info Technology Concepts
Arts and Letters Music Art	Marilyn Whitesell	All majors require CSCI-C106 Mus. A301-Studio Resources: An introduction to the music laboratory FINA P273-Computer Art and Design		All students demonstrate use of standard application programs to satisfy the information technology requirement for General Education Outcomes Students perform authentic tasks in the utilization of electronic and software music production. Students are evaluated on skills demonstrated in projects and performances using Macintosh computer environment and imaging software.
Natural Sciences	Ben Nassim-Dean Joy Cox-advisor	All majors in Natural Science with the exception of Chemistry are required to take CSC 106 to demonstrate achievement of outcomes. In the Chemistry major these concepts are infused throughout all required courses but Chem C301 and C302 were selected by faculty for measurement of the outcomes.		All students demonstrate use of standard application programs to satisfy the basic computer literacy requirement for General Education Outcomes In these courses testing and lab application are used to evaluate student skill and fluency in applying information technology.
School	**Contact**	**Approved**	**Evidence-Uses Info**	**Evidence Skill/Fluency**

		Courses with Examples	Tech Responsibly	in Info Technology Concepts
Nursing	Brenda Hackett, Academic Advisor	Infused in all courses required for the major	Essential Behaviors are Identified and include ethical In various clinical sites students must demonstrate skill in using computerized medical records, hardware and a variety of software programs. These clinical classes include security, confidentiality and ethical use of information technology. Students must complete all assignments with a "C" level of competency	All students use word processing for written assignments, prepare power points for formal presentations, conduct literature reviews using data bases, conduct community assessment using websites for national state and local health data (CDC, Census etc). All students participate in online forum discussion ; quality and content evaluated via standardized rubric. All demonstrate competence in Computer Assisted Instruction, computer testing, and web based learning assignments.
Education	Gloria Murray Jim Hollenbeck	Elementary majors take W310- Integrating Technology Secondary and Special Ed majors take W200 Computers in Education	Students in both courses learn to utilize information technology in the curriculum and must demonstrate competency in operating hardware and appropriate software	Students must complete all assignments with a "C" level of competency
Business		K321- Management Information Systems Bus K201- The Computer in Business	Didactic instruction includes privacy and security issues	Demonstrate skill in functional and conceptual literacy demonstrated through testing and projects involving use of spreadsheets, data bases and electronic communications software