EAST CENTRAL COLLEGE

2012-2013 Assessment Report

Vision Statement: East Central College will be a dynamic, innovative college of choice.

Prepared by the Office of Instruction

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INTRODUCTION

East Central College organizes its assessment activities through various offices, departments and committees, as indicated below. Now in its fourth edition, the ***2012-2013 ECC Assessment Report*** is the result of assessment, division and department planning and the establishment of a reporting mechanism and timeline. Reporting formats continue to be at the discretion of the departments and faculty.

This publication, representing information from the 2011-2012 and 2012-2013 academic years, features the following from a variety of academic programs:

- Program reviews
- Annual updates
- Self-studies
- Team reports

Last year, the Assessment Committee developed a program review process. The committee incorporated feedback from faculty and staff alike to improve existing data reporting templates and the scope and depth of the reviews.

For easy reference, the Table of Contents lists the various reporting units and structure of the publication.

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SECTION 1: ASSESSMENT PLANNING AND REPORTING

The Assessment Structure

The Assessment Committee is a standing committee chaired by the chief academic officer (vice president of curriculum and instruction). It is responsible for:

- Reviewing and oversight of institutional assessment plan and efforts.
- Making recommendations to division and/or programs.
- Maintaining the institutional assessment plan.
- Communicating to divisions on matters related to assessment.

Assessment and Planning Statement of Mission and Purpose

East Central College serves a diverse community of learners. It is the mission of the committee charged with assessment to improve learning. As an ongoing and fluid process, the assessment program will:

- Ensure that learning expectations are clearly stated.
- Assess what is important to the learner and institution.
- Use assessment and effectiveness data efficiently and responsibly.
- Be timely in its reporting.
- Inform decision makers.
- Be evaluated and evaluative.
- Improve performance institutionally.
- Be strategic and responsive.

Institutional Research, Assessment & Planning (IRAP) Office

This office facilitates the collection and interpretation of institutional and assessment data to support informed decision-making at all institution levels for the purpose of improving the quality of programs and services at ECC. The IRAP Office reports directly to the president.

Academic Divisions and Departments

Each academic unit of the college maintains an assessment plan. These plans, together with course syllabi, outline the broad learning objectives and detail of specific learning outcomes. Further, plans detail data gathering and reporting cycles.

Together with the division/department planning documents, these tools guide faculty and staff in curriculum design and modification, testing and other course decisions. Assessment plans and division/department planning documents are maintained on file in the Office of Instruction, the division chair and the campus assessment Web page.

The Assessment Plan is maintained, modified and updated by the Assessment Committee. The plan reflects the institutional goals in assessing student learning and other institutional purposes.

Departmental Academic Unit Assessment Plans

Units of the college adopt and maintain assessment plans appropriate to their program of study, curriculum, academic discipline or function. Collectively, these assessment plans guide the efforts of faculty and staff in measuring student learning, analyzing effectiveness and improving college operations. Information regarding these assessment plans can be found on the college's website www.eastcentral.edu or on file in the appropriate division office. Plans are maintained and reviewed regularly.

Not all units will report each cycle. Some academic units, because of the volume of offerings and the nature of the sequence of courses (i.e. English and mathematics) will report annually on varying aspects of the course sequence, the program or learning support.

Program Review

Throughout the past two years, faculty and staff at ECC have carefully conducted program reviews on several transfer, developmental and career/technical areas. The results of the reviews conducted in academic year 2012 are included in this document.

Those programs are:

- EMT/Paramedic
- Reading
- Graphic Design/Multimedia
- Psychology/Sociology
- Health Science
- Pre-Engineering/Physics
- Business
- Computer Information Systems

Each program submitted a self-study report and a follow-up report by the review team chair.

Institutional and Program Accreditations

Institution Accreditation

East Central College operates under the guidelines of state, regional and national accreditation agencies. It is accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools (NCA/HLC). Details are available through:

> *North Central Association The Higher Learning Commission*
> 230 South LaSalle Street, Suite 7-500
> Chicago, Ill. 60604-1411
> Phone: (800) 621-7440/(312) 263-0456 ~ Fax: (312) 263-7462
> www.ncahlc.org ~ info@hlcommission.org

ECC is also a participant in the Academic Quality Improvement Program (AQIP). More information is available at:
http://www.eastcentral.edu/faculty/ldrship_initiatives/academicimprove/index.php

In addition, the college is recognized and operates under the coordination of the Missouri Department of Higher Education. ECC is a member of both the American Association of Community Colleges (AACC) and the Missouri Community College Association (MCCA).

Academic Program Accreditation

East Central College also maintains voluntary program accreditation in each of these areas:

Completed Accreditations	
Program	***Association***
Culinary Arts	American Culinary Federation (ACF)
Industrial Engineering Technology Program	Association of Technology, Management and Applied Engineering (ATMAE)
Precision Machining Program	National Institution for Metalworking Skills (NIMS)
Occupation Therapy Assistant (MHPC)	Accrediting Council for Occupational Therapy Education (ACOTE)
Radiologic Technology (joint program)	Joint Review Commission for Education in Radiologic Technology (JRCERT)
Respiratory Care (joint program)	Commission on the Accreditation of Allied Health Education Programs (CAAHEP)

Furthermore, the following programs are currently in the process towards accreditation through their respective agencies:

Accreditations In Process	
Program	***Accrediting Organization***
Health Information Management	American Health Information Management Association (AHIMA)
Early Childhood Education	National Association for the Education of Young Children (NAEYC)
Music	National Association of Schools of Music
Art and Graphic Design	National Association of Schools of Art and Design (NASAD)
Nursing	National League of Nursing (NLN)
Computer Information Systems	Association of Technical, Management and Applied Engineering (ATMAE)
Business	Accrediting Council for Business Schools and Programs (ACBSP)
Theater Program	National Association of Schools of Theater (NAST)
Medical Assistant	Commission on Accreditation of Allied Health Education Programs (CAAHEP) and Medical Assisting Education Review Board (MAERB)

These accreditation programs ensure that work satisfactorily completed at ECC is fully valued by other colleges, universities, professional schools and state-governed professions. Where applicable to employers, licensure, certification and registration boards, a credential from an accredited program signifies adequate preparation for entry into the profession.

In addition, the following ECC programs carry full approval and operate under the regulations of the agencies noted:

- ***Nursing***: Missouri State Board of Nursing.
- ***Paramedic Technology*****:** Missouri Bureau of Emergency Medical Services.
- ***Education*****:** Department of Elementary and Secondary Education.

SECTION 2: THE COMMON LEARNING OBJECTIVES

Overview

In spring 2008, the ECC faculty adopted a set of common learning objectives (CLOs) for the entire school. The CLOs—revised in August 2009—represent the institutional learning objectives for any student completing an intact program of study at the college.

Ethics & Social Responsibility	
Related Themes: ▪ Global citizenship ▪ Professional ethics ▪ Service learning activities ▪ Extra and co-curricular student activities ▪ Student government activities ▪ Ethical use of digital material and media	*Measures*: ▪ Constitution competency ▪ Incidents of academic dishonesty ▪ Incidents of unethical student conduct ▪ Participation in service learning ▪ Global and multicultural learning objective measures ▪ Participation in student co-curricular activities
Communication	
Related Themes: ▪ Listening ▪ Writing ▪ Speaking ▪ Use of technology to communicate ▪ Graphic and visual communications ▪ Collaborative and group work ▪ Co-curricular communication activities	*Measures:* ▪ Writing skills assessments ▪ Speaking skills assessment ▪ Assessments of graphic and visual materials ▪ Participation in presentations using technology ▪ Student participation in student newspaper and other related activities
Creative/Critical Thinking	
Related Themes: ▪ Problem solving skills ▪ Use of and application of research tools ▪ Demonstration of critique and evaluative skills ▪ Application of observation skills ▪ Originality of thought ▪ Innovation and creation ▪ Analysis and synthesis	*Measures:* ▪ Critical thinking skills assessments ▪ Assessment of projects requiring primary research skills ▪ Student participation in critique activities ▪ Application of technology to research skills

Assessment Plan

The Assessment Committee developed and adopted the following plan to assess the CLOs across the institution.

The Common Learning Objectives		
Assessing the Common Learning Objectives: Communication, Creative/Critical Thinking, Ethics and Social Responsibility		
Faculty Teaching General Education Courses	*Faculty Teaching in Programs*	*Students Enrolled at ECC*
Process for General Education Faculty	Process for Program (AAS, Certificate) Faculty:	Process:
✓ Designation of course(s) to be assessed by the division chair (annually) ✓ Designation of general education courses associated with each of the CLOs ✓ Assessment tool identified (the Assessment Committee) ✓ Training throughout the year (cyclical) ✓ Course learning objectives identified, denoted in course syllabi ✓ Assessment data submitted at academic year-end	✓ Designation of course(s) specific to the program to be assessed by the program faculty/division chair (annually) ✓ Designation of courses within the program associated with each CLO ✓ Rotation of assessment of each CLO is identified ✓ Assessment tool identified (the Assessment Committee) ✓ Training throughout the year (cyclical) ✓ Course learning objectives identified, denoted in course syllabi ✓ Assessment data submitted at academic year-end	✓ Awareness of CLO course designation for general education and program-specific course ✓ Participation in embedded or external assessments, as articulated in the course syllabus

The Common Learning Objectives		
Assessing the Common Learning Objectives: Communication, Creative/Critical Thinking, Ethics and Social Responsibility		
Faculty Teaching General Education Courses	*Faculty Teaching in Programs*	*Students Enrolled at ECC*
Measures	*Measures*	*Measures*
✓ Student learning, as compared to baseline or national norms, based on tool used ✓ Weighing of CLO importance in the class ✓ Numbers of students assessed for each CLO, sampling	✓ Student learning, as compared to baseline or national norms, based on tool used ✓ Weighing of CLO importance in each class ✓ Numbers of students assessed for each CLO, sampling	✓ Percent of students completing as assessment measurement
Results	*Results*	*Results*
✓ Faculty reports by CLOS are compiled; by discipline, by division, aggregate data ✓ Data disseminated to divisions, departments ✓ Improvement strategies developed ✓ Data incorporated as part of program review	✓ Faculty reports by CLOS are compiled; by discipline, by division, aggregate data ✓ Data disseminated to divisions, departments ✓ Improvement strategies developed ✓ Data incorporated as part of program review	

SECTION 3: ACADEMIC DIVISION REPORTS

1. Business, Education, Social Science & Technology Division
2. English, Foreign Language & Philosophy Division
3. Fine & Performing Arts Division
4. Mathematics & Physical Science Division
5. Nursing & Allied Health Division
6. Science Division

Business, Education, Social Science & Technology Division

This division submitted reports on the following academic program and areas:

- Accounting
- Computer Information Systems
- Economics
- Health Information Management
- Heating, Ventilation, Air Conditioning and Refrigeration (HVAC/R)
- Physical Education
- Psychology
- Sociology

Accounting
Submitted by: **Dan Hall, *assistant professor of accounting (retired)***

Planning

Intended Program Outcomes
To prepare students:

- That are attaining or upgrading job-related skills in the business environment.
- To enter into a new vocation or complement their present vocation.
- For subsequent transfer to a four-year university to seek a baccalaureate degree.

Goals
Students should:

- Be able to describe business organizations.
- Be able to apply the fundamental accounting equation (A=L+OE) in the analysis and recording of business transactions.
- Be able to describe and implement the major components of an accounting informational system.
- Be able to understand the fundamental state and federal payroll tax laws and principles and be able to properly record payroll transactions.
- Understand the fundamental tax laws and principles underlying the preparation of individual income tax returns, and be able to discuss basic tax research and tax planning procedures.
- Understand the fundamental accounting concepts underlying the preparation of basic financial statements.
- Appreciate the role of technology in the accounting information processing cycle.
- Develop a professional orientation toward the practice of accounting.
- Be able to identify uses of accounting data by managers in directing the affairs of business.

Means of Assessment

- Pre-test/Post-test including NOCTI (national standardized test)
- Case Studies
- Practice Sets
- Computer Software -- QuickBooks
- Course objectives compared to overall core program objectives

Defined/Established Criteria
Students will achieve 80 percent of program goals and objectives.

Analysis

Summary of Data Collected
At the time this report was submitted, the ECC Accounting Department was in the process of a program review for the academic year 2012-2013. As a result, the assessment instrument used was limited to the nationalized standard NOCTI test for accounting. After the completion of the accounting program review, the accounting department will review all of the NOCTI data and prior year's pre and post-test data to determine new strategies regarding curriculum and teaching methods in a two-year college institution. The nationalized NOCTI accounting test was given to 2012-2013 graduates in the Capstone course. The test is designed to measure basic knowledge in the following areas: journalizing, posting, payroll preparation, banking and banking procedures, merchandise inventory, completion of the accounting cycle, locating source data, and mechanical and electronic devices.

The results of the NOCT I test given this past academic year indicates the overall national average score was 67.4. Three of the graduates taking the test exceeded the national average and one graduate was below the national average. However, a combined score for all participants was 71. A passing score on the NOCTI test is average cumulative score of 70

An analysis of the test data clearly shows where the curriculum coverage is not as extensive as the area tested. Weak scores in some of the areas were expected because of the limitation regarding the curriculum and coverage taught in a two-year college institution. The accounting department has identified these areas and will be a part of the accounting program review process.

New Strategies/Adjustments to Program

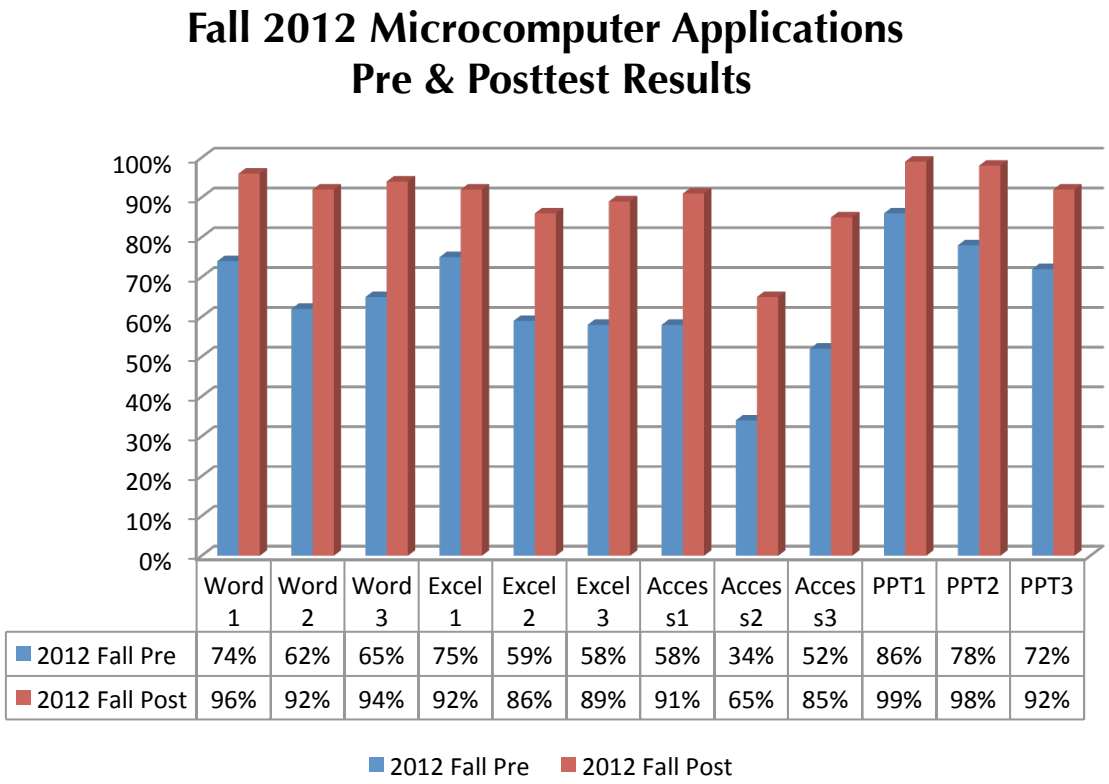
- Data is now currently under review.
- Managerial Accounting pre-tests and post-tests will be given in fall 2013 and spring 2014 semesters.
- Continue to review curriculum content, develop and implement new teaching strategies.
- NOCTI test results will be reviewed to recommend any changes to the curriculum.

Computer Information Systems
Course reviewed: CS1003 Microcomputer Applications (fall 2012 – spring 2013)
Submitted by: **Judy Cook, *professor of computer information systems* and Diane Pellin, *instructor of network technology***

Learning Activity/Experience

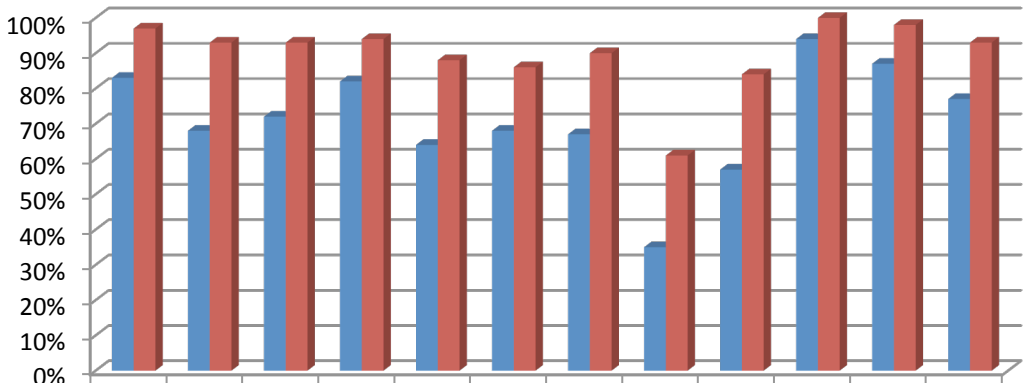
- The fall 2012 and spring 2013 CS1003 Microcomputer Applications classes were offered in several sections and time/day formats taught by five different instructors.
- The pre-test and post-tests were taken using a software program named Skills Assessment Manager (SAM) for Microsoft® Office 2010.
- SAM is the premiere proficiency-based assessment and training environment for Microsoft® Office. Students generate a customized training based on their completion of the pre-test on the items scored as incorrect. After completing the training on the incorrect items, the students then completed the post-test.
- Students completed the pre-test one time, but had the opportunity to complete the post-test up to three times.

Actual Results



	Word 1	Word 2	Word 3	Excel 1	Excel 2	Excel 3	Access1	Access2	Access3	PPT1	PPT2	PPT3
2012 Fall Pre	74%	62%	65%	75%	59%	58%	58%	34%	52%	86%	78%	72%
2012 Fall Post	96%	92%	94%	92%	86%	89%	91%	65%	85%	99%	98%	92%

Spring 2013 Microcomputer Applications Pre & Post-tests



	Word 1	Word 2	Word 3	Excel 1	Excel 2	Excel 3	Access1	Access2	Access3	PPT1	PPT2	PPT3
2013 Spring Pre	83%	68%	72%	82%	64%	68%	67%	35%	57%	94%	87%	77%
2013 Spring Post	97%	93%	93%	94%	88%	86%	90%	61%	84%	100%	98%	93%

2013 Spring Pre 2013 Spring Post

- Post-test scores improved in each software application.
- Word 2010 and Excel 2010 pre-tests two and three had a low pre-test result, but students' post-tests did improve to the > 86 percent range after working through Word and Excel assignments.
- Access 2010 pre-test/post-test two and three had the lowest pre-test result and the lowest post-test result.
- PowerPoint pre-test one showed students with a strong ability (> 86 percent and > 94 percent) but improvement was shown in the post-test averages. This indicates that students are comfortable using the basic components of PowerPoint but still have some skill tasks to learn.
- Instructors included more guided practice with the identified tasks from the 2011-2012 Assessment Report. The goal is to make sure the students score 70 percent or better in these tasks. This goal was met with the exception of Access 2 Tasks.

New Strategy

- Instructors will meet to discuss strategies for the Access 2 Tasks. This section involves database query techniques, which require higher-level thinking abilities of students.

TSA Network CISCO Academy

Summer 2012, Fall 2012 and Spring 2013	
AAS Computer Information Systems	12 passed

Cisco Networking Academy is a global education program that teaches students how to design, build, troubleshoot and secure computer networks for increased access to career and economic opportunities in

communities around the world. Networking Academy provides online courses, interactive tools and hands-on learning activities to help individuals prepare for ICT and networking careers in virtually every type of industry. The Networking Academy delivers a comprehensive, 21st century learning experience to help students develop the foundational ICT skills needed to design, build and manage networks, along with career skills such as problem solving, collaboration and critical thinking. Students complete hands-on learning activities and network simulations to develop practical skills that will help them fill a growing need for networking professionals around the world.

Students in the ECC Computer Information Systems program take four Network CCNA courses. During these four courses, they must successfully complete the final objective exam and hands-on skills test for each network class before enrolling in the next course in the sequence. The curriculum is controlled by CISCO Network Academy. This exit exam is recognized as a program-level accomplishment for the college's graduating students.

Economics

Courses reviewed: EC 2103 Principles of Macroeconomics and EC 2203 Principles of Microeconomics (spring 2011 to fall 2012)
Submitted by: **Jerry T. Amoloza, *instructor of economics***

Course Goals – Principles of Macroeconomic

- Measure a nation's income, production, unemployment, inflation and growth.
- Understand the monetary and financial system.
- Illustrate the influence of monetary policy and fiscal policy on economy with aggregate demand and aggregate supply.
- Understand some basic concepts of open economics (international economics).

Course Goals – Principles of Microeconomics

- Discuss the laws of supply and demand.
- Measure the price elasticity of supply and demand, and the income and cross-price elasticity of demand.
- Discuss the cost of production.
- Understand the concepts of different market structure and illustrate them by firm's supply curve.
- Understand some basic concepts of labor economics and international trade theory.

Means of Assessment

- Pre-test/Post-test
- Exams
- Project (Consumer Price Index Calculation)
- CAAP Test (Critical Thinking)

Defined/Established Criteria

Students will achieve 80 percent of program goals and objectives.

Summary of Data Collected

A. A 30-question, pre-test/post-test was developed and administered to students in the Principles of Macroeconomics course. The pre-test was administered during the first week of the fall 2011 and spring 2012 semesters, and the post-test was administered during the last week of classes of each semester. However, the tests have not been evaluated yet. In the future, a 30-question pre/post-test will be given to the microeconomics students as well.

B. As exams determine the level of understanding of students about the subject matter the proportion of those getting at least a B in the course (80 percent) are determined. The tables included at the end shows the grade distribution for macroeconomics and microeconomics.

   Prior to academic year 2011, both courses were taught by adjuncts. A full-time instructor was hired in the fall 2010 Semester. The table doesn't seem to show that there was a change in the proportion of those who got C or better, at least for macroeconomics. For microeconomics, there seem to be a slight increase in the proportion of those who obtained a passing grade and above. As the new full-time instructor continues to teach there seems to be an increase in the number of Bs and a small decrease in the Cs and As. Meanwhile the passing percentage of 80 percent seems to be being accomplished except for the last academic year in microeconomics. This could be attributed to the adjustment to the new textbook adopted for the course.

The other table shows the basic statistical information for each course. The perfect raw score points is 500 for the semester. There does not seem to be a change in the average performance of the students for both macro and microeconomics. The median score did not differ as well for both. The median score implies that 50 percent of the class got above that score and 50 percent got below that score. It looks like the median grade is a B explaining the high proportion of Bs in the table for grade distribution. This means that 50 percent of the class performed well (A) and the other half performed below a B.

These tables may be looked at with the background information that a math prerequisite was instituted in academic year 2012 and a new textbook was adopted for both courses in academic year 2013.

C. The project is about the computation of consumer price index for the local area. The objective is for the students to know what a price index means and how it is computed so they can relate to what they read in newspapers and hear from television/radio about this economic measure of the cost of living. They collect information on prices of consumer goods at the start of the semester and again at the end of the semester from the local grocery stores and using the data create a consumer price index. Using the indices they also determine the local inflation rate. Getting a good grade in the project can attest to the students' understanding of the price index and inflation determination.

D. The CAAP exam is administered by the same agency administering the high school ACT as part of the college wide exam to assess the level of critical thinking the students gained at ECC. Macroeconomics is one of the many course selected which involved critical thinking for such a test. Individual scores are available at the Testing Center.

Other Student Learning Opportunities

For the past 33 years, the ECC Business Department has held an annual Business Symposium. This event is designed to assist students in making a smooth transition into the business world. The ECC Business Program Advisory Committee members and local business leaders in the college service area act as table moderators, leading round-table discussions with East Central students. Over 400 business, accounting, business technology and **economics** students, in addition to faculty and staff attended the April 2012 event. It was a success overall and some students got internships or outright job offers from the business people who served as moderators.

The economics students were not made to attend the April 2013 symposium unless they were also business majors or enrolled in a business class.

Macroeconomics Grade Distribution, Academic Year 2009 to Academic Year 2013										
Academic Year	Number of Students	A	B	C	Passing Percentage	D	F	I	W	WX
2009	161	29%	34%	20%	83%	6%	4%	0%	8%	0%
2010	189	25%	32%	24%	81%	6%	6%	0%	6%	0%
2011	142	36%	22%	23%	81%	5%	5%	0%	9%	0%
2012	151	23%	34%	22%	79%	6%	5%	0%	9%	1%
2013	166	25%	39%	18%	81%	4%	4%	1%	6%	5%

Microeconomics Grade Distribution, Academic Year 2009 to Academic Year 2013										
Academic Year	Number of Students	A	B	C	Passing Percentage	D	F	I	W	WX
2009	187	27%	25%	22%	74%	14%	5%	0%	7%	0%
2010	148	22%	28%	21%	70%	11%	9%	0%	9%	0%
2011	184	23%	28%	27%	78%	5%	7%	0%	9%	0%
2012	144	20%	26%	35%	81%	7%	5%	0%	7%	0%
2013	133	18%	32%	20%	71%	10%	5%	5%	8%	2%

Health Information Management
Submitted by: **Deborah Schultze, MS, RHIA, *HIM program director***

Overview

This report is a narrative description of how the HIM Department performed on each of the stated goal/standards in the HIM Assessment Plan.

Assessment Measures and Results

Goal 1: Graduates will demonstrate entry-level competencies.
Response: The first group of HIM students graduated May 18, 2013. This goal and accompanying standards will be addressed in the next assessment report.

Goal 2: Curriculum will meet demands of AAS degree and RHIT credential.
Goal 3: All core HIM courses are relevant and content is specific to entry-level professionals.
Response: The ECC program is still awaiting the CAHIIM site survey to determine if it has met these two goals. Feedback from PPE sites is good with regards to the students' level of knowledge and preparedness. This speaks, in a general way, to the demands of the curriculum

Goal 4: Attract and retain high-quality faculty who are committed to quality instruction and to the growth and development of the HIM program.
Response: The department hired a full-time faculty member, Dr. Nanette Sayles, RHIA, CCS, CHPS, FAHIMA, who is an experience HIM educator. She is developing and teaching the college's HIM courses online from Georgia. Dr. Sayles is also the author or managing editor of many of the ECC HIM textbooks. The adjunct instructor, Dawn Falloon, RHIA, has become a valued course developer and instructor in the HIM program. She hosts the PPE students at her facility and continues to take on new courses as needed.

Goal 5: Faculty members will be qualified to teach HIM curriculum and will demonstrate current knowledge in areas taught.
Response: All HIM faculty members have participated in required CE as dictated by their AHIMA-awarded credential(s). All have participated in course/curriculum development for the HIM program. Curriculum vitae available upon request.

Goal 6: Curriculum will meet demands of business and industry for HIM profession.
Response: The ECC program is still awaiting the CAHIIM site survey to determine if it has met this goal. Feedback from PPE sites is good with regards to the students' level of knowledge and preparedness. This speaks, in a general way, to the demands of the curriculum in meeting industry needs.

Goal 7: Courses will be evaluated individually on a rotating basis to determine effectiveness.
Response: This new goal will be implemented beginning at the close of fall 2013. Courses will be reviewed in groups of three to four to evaluate effectiveness based on CAHIIM curriculum standards, information acquired annually at the Assembly on Education of HIM Educators, course pass rates/student surveys of instruction and student performance in course related areas of the RHIT exam.

Summary

Although the department continues to revise and improve the HIM program, true assessment of individual components will begin once the new HIM graduates are surveyed along with employers, and CAHIIM Accreditation is achieved. Course review will begin with the close of the fall 2013 semester.

Heating, Ventilation, Air Conditioning and Refrigeration (HVAC/R)
Submitted by: **Rick Sumner, *HVAC/R instructor and program coordinator***

Academic Objectives

Graduates of the HVAC/R program have the following academic objectives:

A. Apply an understanding of the types of heat (sensible and latent) and their measurement, pressure/temperature charts of various refrigerants, modes of heat transfer, pressure-temperature relationships and their applications and effects.
B. Understand the application of the various types of compressors, condensers, metering devices and evaporators. Demonstrate the ability to leak test and charge a system. Use vacuum pumps, refrigerant recovery machines and a manifold gauge set. Understand the Geothermal Heat Pump System.
C. Demonstrate an understanding of electrical circuits, test instruments, schematics, motors, electrical ladder diagrams and the various components found in basic systems. Define basic electricity and its applications in a residence.

Curriculum

These objectives are assessed at various points in the program using a curriculum with clearly defined competencies of theory and practical application in a laboratory environment. The students in the ECC program are asked to demonstrate problem-solving skills, an understanding of basic principles of refrigeration and basic electricity, along with the ability to work as part of a team in an installation project.

Coursework

Syllabus with articulated goals and competencies

Assessment

HVAC/Excellence through ESCO, Institute
Of the 37 exit exam tests given, 24 passed at a 65 percent success rate. No student in the program will be allowed to obtain a degree or certificate unless they participate in taking the TSA exit exam. Since the department's percentage of success was lower on the electrical exit exam than the air conditioning exam, the department has initiated a change in the program to include more focus on the electrical fundamentals.

Physical Education
Course reviewed: PE 1181 Intermediate Fitness (Spring 2012 – Spring 2013)
Submitted by: **Jay Merhhoff, Ed.D., *associate professor of physical education***

Overview

The course objectives listed below are measured based on their meeting psychomotor, cognitive, and affective domain outcomes. This class is a continuation of an exercise program similar to PE 1081 Introduction to Fitness and Wellness. A matrix has been formed in table 1.0 to display measurement of the following objectives over the accepted outcomes according to the National Association of Sport and

Physical Education. NASPE is an affiliated organization with the American Alliance of Health, Physical Education, Recreation and Dance. AAHPERD is the largest research based organization supporting resource for physical education, leisure, fitness, dance, health promotion and education related to achieving a healthy lifestyle.

Course Objectives

- Students will be provided opportunities to improve strength and endurance through circuit weight training.
- Students will assess individual levels of cardiorespiratory fitness and develop programs for aerobic training.
- Students will be instructed in the concepts and guidelines to be used in developing and maintaining cardiorespiratory fitness.
- Students will be able to assess and monitor muscular strength and endurance levels throughout the course.
- Students will be able to monitor their body composition and work towards individual body composition goals.
- Students will appreciate the improvement to healthy lifestyle by being continually active.

Objective	Domain	Content	General Education Skill Area	Assessment Tool	Measure
1, 2 and 4	Psychomotor	Cardiovascular endurance, muscular strength and endurance		Physical Performance Pre and Post-Tests	SPSS 14.0
4	Cognitive	Body functioning, body composition, muscular strength and endurance computation		Physical Performance Pre and Post-Tests	SPSS 14.0
6	Affective	Self-confidence, value of physical activity, self-discipline, tension release and communication	Valuing		

Assessment Measures

Cardiorespiratory Assessment

Students will complete the Rockport fitness test completing a 3-mile walk or 1.5-mile run to measure cardiorespiratory fitness from the beginning of the class to the end of the class. A pre and post assessment will be compared to gauge the two levels after completing a semester-long training program.

Calculation of Strength Assessment

Directions: The calculation of strength by this method is expressed as the ratio of strength to body weight. The amount of weight accomplished for each lift is converted to a proportion of your body weight and is determined in the following manner.

1. Find your 1 RM for each of the following exercises: biceps curl (two arm), overhead press, bench press, leg press and hamstring curl.
2. Divide your 1 RM for each exercise by your body weight. For example, a 130-lb woman performs a 1 RM bench press of 80lbs. Her score is 80/130=0.61.
    a. Look at the chart provided for determination of score rating.
3. When you have computed your score for each of your lifts, turn to the strength profile charts.
    a. Plot your data in the graph provided.

Muscular Endurance Assessment

Directions: Through trial and error, select a weight that you can use while performing 20 RM for each of the following exercises: bench press, leg extension, leg extension, biceps curl and hamstring curl. For example, a male weighing 150 lbs. can perform 20RM of 100lbs. in the bench press. The score for this exercise is computed as follows:

20 repetition muscular endurance $\frac{100\text{lbs.}}{150\text{lbs.}} = 0.67$

Results

Assessment reports are generated by entering data into SPSS 14.0 for statistical analysis. The ratings scales are based on data from the assessments created by Anspaugh, D. Hamrick & Rosato (2008) Wellness: Concepts and Applications, 6th Edition. Improvements throughout the semester are measured for the intermediate fitness classes based on the assessments. A small sample size due to enrollment numbers for the course does not lend itself for a better statistical representation of data.

Spring 2012 Data

Table 1.1 Spring 2012 Females – Cardiorespiratory Assessment

Test	*Pre-test **	*Post-test**	*Difference**
1.5 Mile Run	24.10	19.05	-5.05
3.0 Mile Walk	46.83	43.66	-3.17

*measurement in minutes

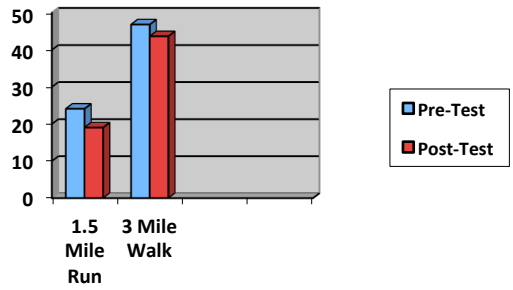


Table 1.2 Spring 2012 Females – Muscular Strength Assessment

Test	*Mean*	*Ratings*
Biceps Curl 1	.36	Average
Biceps Curl 2	.42	Good
Shoulder Press 1	.36	Average
Shoulder Press 2	.39	Average
Bench Press 1	.58	Fair
Bench Press 2	.62	Average
Squat 1	1.14	Average
Squat 2	1.40	Good
Hamstring Curl 1	.74	Excellent
Hamstring Curl 2	.82	Excellent

Chart 1.2 Spring 2012 Females – Muscular Strength Assessment

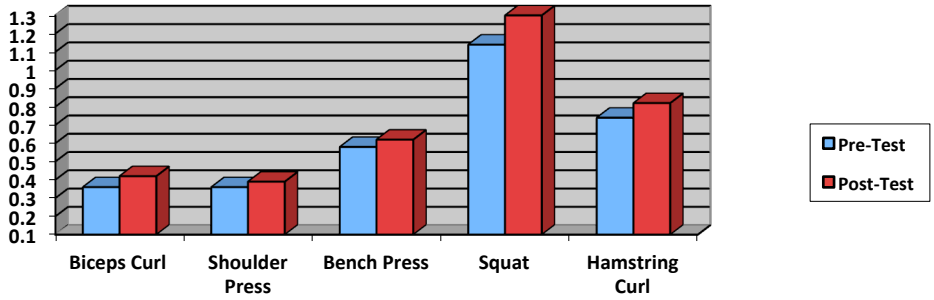


Table 1.3 Spring 2012 Females – Muscular Endurance Assessment

Test	Mean	Ratings
Biceps Curl 1	.21	Average
Biceps Curl 2	.26	Good
Bench Press 1	.32	Fair
Bench Press 2	.39	Average
Squat 1	.93	Average
Squat 2	1.04	Good
Hamstring Curl 1	.44	Good
Hamstring Curl 2	.55	Excellent

Chart 1.3 Spring 2012 Females – Muscular Endurance Assessment

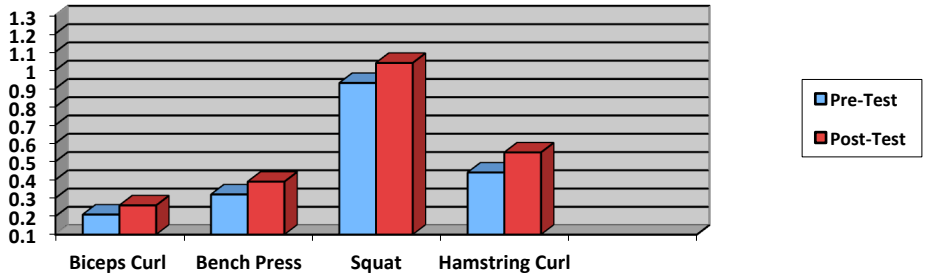


Table 2.1 Spring 2012 Males – Cardiorespiratory Assessment

Test	Pre-test*	Post-test*	Difference*
1.5 Mile Run	16.60	14.10	- 2.50
3.0 Mile Walk	47.44	38.8	- 8.56

*measurement in minutes

Chart 2.1 Spring 2012 Males – Cardiorespiratory Assessment

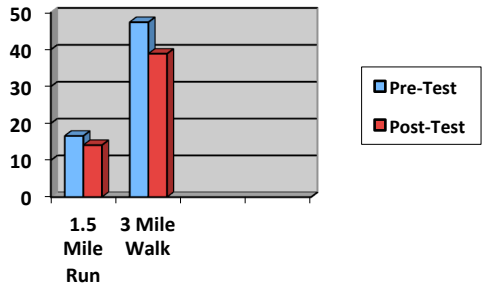


Table 2.2 Spring 2012 Males – Muscular Strength Assessment

Test	Mean	Ratings
Biceps Curl 1	.45	Average
Biceps Curl 2	.51	Average
Shoulder Press 1	.54	Poor
Shoulder Press 2	.60	Fair
Bench Press 1	.74	Poor
Bench Press 2	.74	Poor
Squat 1	1.23	Fair
Squat 2	1.36	Average
Hamstring Curl 1	.79	Excellent
Hamstring Curl 2	.81	Excellent

Chart 2.2 Spring 2012 Males – Muscular Strength Assessment

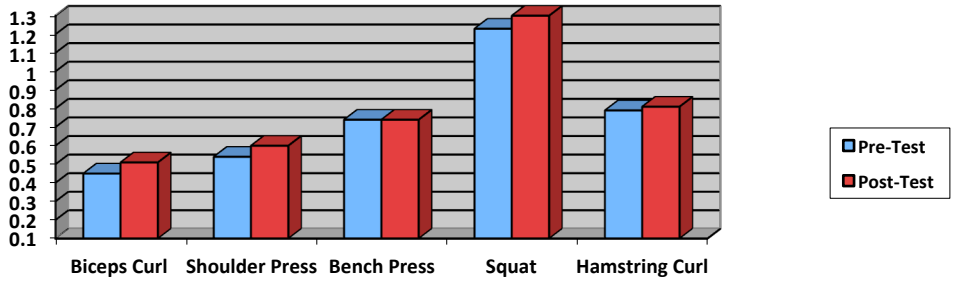
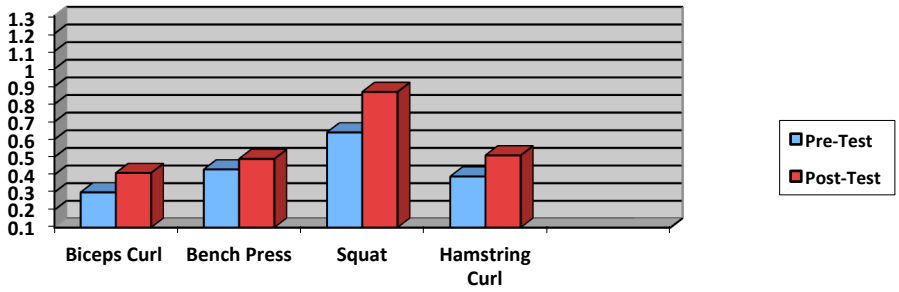


Table 2.3 Spring 2012 – Males Muscular Endurance Assessment

Test	Mean	Ratings
Biceps Curl 1	.30	Good
Biceps Curl 2	.41	Excellent
Bench Press 1	.43	Average
Bench Press 2	.49	Good
Squat 1	.64	Poor
Squat 2	.87	Fair
Hamstring Curl 1	.39	Excellent
Hamstring Curl 2	.51	Excellent

Chart 2.3 Spring 2012 Males – Muscular Endurance Assessment



Spring 2012 Summary

Students enrolled in PE 1181 Intermediate Fitness need to be instructed to complete their assessments in better detail with the inclusion of complete percentages when calculating their muscular strength and muscular endurance scores. This will in turn increase the sample size of participating students providing a better indicator of overall student progress in the course.

Fall 2012 Data

Table 3.1 Fall 2012 Females – Cardiorespiratory Assessment

Test	Pre-test *	Post-test*	Difference*
1.5 Mile Run	17.03	15.56	1.47
3.0 Mile Walk	51.59	47.59	4.00

*measurement in minutes

Chart 3.1 Fall 2012 Females – Cardiorespiratory Assessment

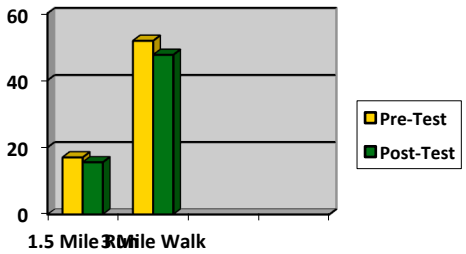


Table 3.2 Fall 2012 Females – Muscular Strength Assessment

Test	Mean	Ratings
Biceps Curl 1	.28	Fair
Biceps Curl 2	.33	Average
Shoulder Press 1	.33	Average
Shoulder Press 2	.36	Average
Bench Press 1	.49	Poor
Bench Press 2	.55	Fair
Squat 1	1.12	Average
Squat 2	1.46	Excellent
Hamstring Curl 1	.60	Excellent
Hamstring Curl 2	.71	Excellent

Chart 3.2 Fall 2012 Females – Muscular Strength Assessment

Table 3.3 Fall 2012 Females – Muscular Endurance Assessment

Test	Mean	Ratings
Biceps Curl 1	.16	Fair
Biceps Curl 2	.28	Good
Bench Press 1	.29	Fair
Bench Press 2	.38	Average
Squat 1	.65	Poor
Squat 2	.88	Average
Hamstring Curl 1	.38	Good
Hamstring Curl 2	.47	Excellent

Chart 3.3 Fall 2012 Females – Muscular Endurance Assessment

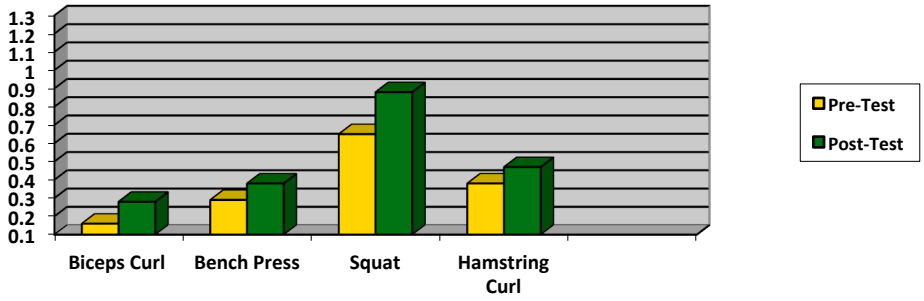


Table 4.1 Fall 2012 Males – Cardiorespiratory Assessment

Test	Pre-test*	Post-test*	Difference*
1.5 Mile Run	13.43	11.59	1.52
3.0 Mile Walk			

*measurement in minutes

Chart 4.1 Fall 2012 – Males Cardiorespiratory Assessment

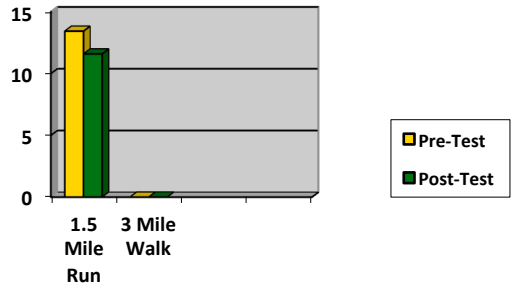


Table 4.2 Fall 2012 – Males-Muscular Strength Assessment

Test	Mean	Ratings
Biceps Curl 1	.53	Average
Biceps Curl 2	.64	Good
Shoulder Press 1	.59	Poor
Shoulder Press 2	.63	Fair
Bench Press 1	1.06	Average
Bench Press 2	1.17	Good
Squat 1	1.70	Good
Squat 2	1.77	Good
Hamstring Curl 1	.80	Excellent
Hamstring Curl 2	.99	Excellent

Chart 4.2 Fall 2012 Males – Muscular Strength Assessment

Table 4.3 Fall 2012 – Males Muscular Endurance Assessment

Test	Mean	Ratings
Biceps Curl 1	.35	Fair
Biceps Curl 2	.39	Average
Bench Press 1	.61	Average
Bench Press 2	.79	Excellent
Squat 1	.96	Poor
Squat 2	1.18	Fair
Hamstring Curl 1	.52	Excellent
Hamstring Curl 2	.60	Excellent

Chart 4.3 Fall 2012 Males – Muscular Endurance Assessment

Fall 2012 Summary

Students enrolled in PE 1181 Intermediate Fitness completed their assessments in more detail. The sample size for the females in the class was large enough to get results. The male population in the class was very small and the numbers didn't give a true picture of the course. In the spring semester 2013, a larger course number will hopefully produce better results for males to draw better conclusions for adjustment to instruction.

A new assessment card was created and it improvements for the intermediate students completion have improved. Adjustments in the card will be changed for the next semester on a confusing equation.

Spring 2013 Data

Table 5.1 Spring 2013 Females – Cardiorespiratory Assessment

Test	Pre-test *	Post-test*	Difference*
1.5 Mile Run	15.37	12.55	2.82
3.0 Mile Walk	53.42	50.55	2.92

*measurement in minutes

Chart 5.1 Spring 2013 Females – Cardiorespiratory Assessment

Table 5.2 Spring 2013 Females – Muscular Strength Assessment

Test	Mean	Ratings
Biceps Curl 1	.27	Fair
Biceps Curl 2	.33	Average
Shoulder Press 1	.30	Fair
Shoulder Press 2	.36	Average
Bench Press 1	.46	Poor
Bench Press 2	.58	Fair
Squat 1	1.05	Average
Squat 2	1.27	Average
Hamstring Curl 1	.70	Excellent
Hamstring Curl 2	.71	Excellent

Chart 5.2 Spring 2013 Females – Muscular Strength Assessment

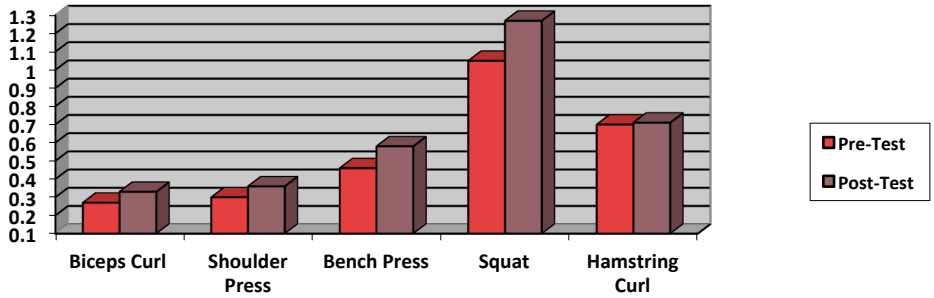


Table 5.3 Spring 2013 Females – Muscular Endurance Assessment

Test	Mean	Ratings
Biceps Curl 1	.22	Average
Biceps Curl 2	.27	Good
Bench Press 1	.33	Fair
Bench Press 2	.40	Average
Squat 1	.50	Poor
Squat 2	.60	Poor
Hamstring Curl 1	.40	Excellent
Hamstring Curl 2	.47	Excellent

Chart 5.3 Spring 2013 Females – Muscular Endurance Assessment

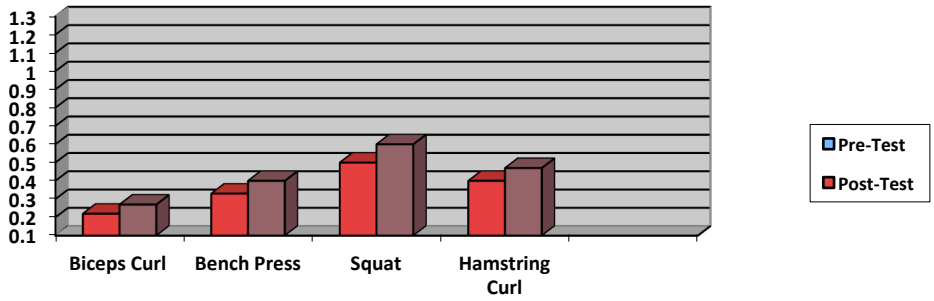


Table 6.1 Spring 2013 Males – Cardiorespiratory Assessment

Test	Pre-test*	Post-test*	Difference*
1.5 Mile Run	13.59	11.50	2.09
3.0 Mile Walk	N/A	N/A	

*measurement in minutes

Chart 6.1 Spring 2013 Males – Cardiorespiratory Assessment

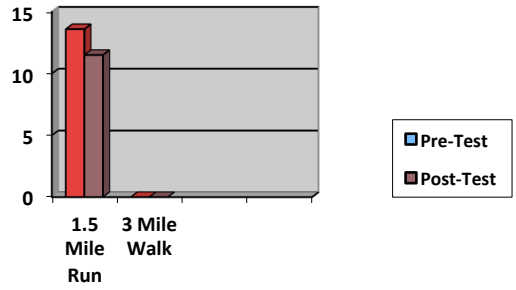


Table 6.2 Spring 2013 Males – Muscular Strength Assessment

Test	Mean	Ratings
Biceps Curl 1	.58	Good
Biceps Curl 2	.63	Good
Shoulder Press 1	.76	Fair
Shoulder Press 2	.84	Average
Bench Press 1	1.05	Average
Bench Press 2	1.23	Good
Squat 1	1.95	Excellent
Squat 2	2.05	Excellent
Hamstring Curl 1	.96	Excellent
Hamstring Curl 2	.99	Excellent

Chart 2.2 Spring 2013 Males– Muscular Strength Assessment

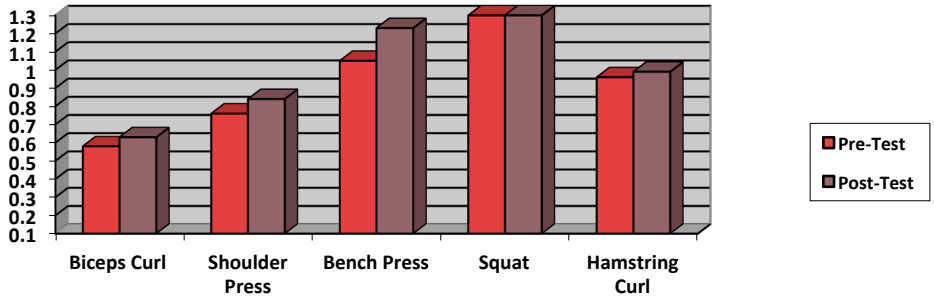
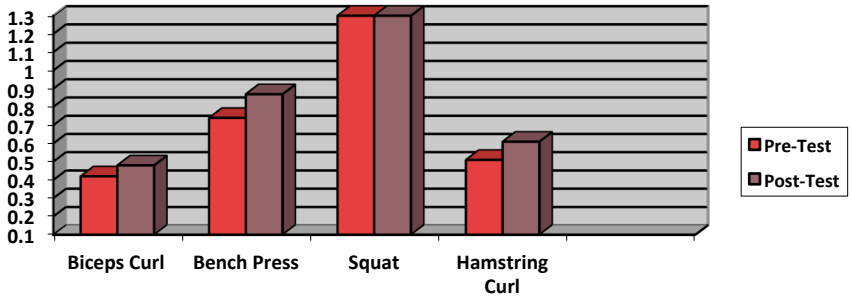


Table 6.3 Spring 2013 Males – Muscular Endurance Assessment

Test	Mean	Ratings
Biceps Curl 1	.42	Average
Biceps Curl 2	.48	Good
Bench Press 1	.74	Good
Bench Press 2	.87	Excellent
Squat 1	1.40	Average
Squat 2	1.54	Good
Hamstring Curl 1	.51	Excellent
Hamstring Curl 2	.65	Excellent

Chart 6.3 Spring 2013 Males – Muscular Endurance Assessment



Spring 2013 Summary

A change in the assessment-reporting card has helped with student assessment completion. Another change in the assessments will be to attach a note to the students' workout card with reminders for beginning and ending of the semester completion. Improvements were shown in all areas of male and female performance over the course of the semester. The ability to have the intermediate student complete the percentages correctly needs to be improved for future semesters.

Psychology
Courses reviewed: PY 2213 Abnormal Psychology, PY 2103 Personal and Social Adjustment (fall 2012 to spring 2013)
Submitted by: **Dr. Wendy Pecka, *psychology Instructor and program coordinator*, and the psychology/sociology staff**

Psychology Department Assessment Strategies

Because there is no nationally standardized examination available for introductory level psychology courses, the full-time instructors in the ECC Psychology and Sociology Departments collaborated to develop common pre-test/post-test assessments for courses offered within the program. All instructors teaching Abnormal Psychology were asked to administer the 25-item, multiple-choice examination at the beginning and conclusion of the fall 2012 term. The Collegiate Assessment of Academic Proficiency (CAAP) test in critical thinking was administered in spring 2013 to students enrolled in Personal and Social Adjustment. Additionally, the CLO Communication rubric was used to assess a sample of writing in the Personal and Social Adjustment course.

Abnormal Psychology

Students from one section of Abnormal Psychology completed both the pre- and post-tests. Data from the fall 2012 academic semester are summarized below:

Fall 2012

- Number of Students Tested: 26
- Pre-Test Mean Score: 43.1 percent correct
- Post-Test Mean Score: 75.7 percent correct

Personal and Social Adjustment

Students from Personal and Social Adjustment completed the Collegiate Assessment of Academic Proficiency (CAAP) test in critical-thinking during the spring 2013 semester. This test assesses the ability to clarify, analyze, evaluate and extend arguments. Data from the spring 2013 academic semester is summarized below:

Spring 2013

- Number of Students Tested: 52
- Mean Score: 62

The average student scored a 62 which placed them at an achievement level at or above the national mean on the Collegiate Assessment of Academic Proficiency (CAAP) test in critical thinking. Additionally, a qualitative writing assessment was administered to determine how students perceived course content, including the textbook and materials used, as well as the various teaching strategies employed for specific content areas within the course. Students scored an average of 7.2 on a nine-point rubric (CLO-Communication Rubric). Faculty analyzed assessment results and determined that writing structure was an area improved among students enrolled in the 2012-2013 academic year.

Evaluation of Pre and Post-Test Data

The full-time faculty in the ECC Psychology and Sociology Departments reviewed the test results for differences in mean scores between individual sections of the course taught during the academic year. In addition to overall mean score differences, individual item analysis was conducted to determine any

relationships in correct answers between pre-test and post-test responses. Through item analysis, faculty also examined patterns of similarity in responses that were incorrect across sections of the psychology courses evaluated. The results allowed faculty to discuss content areas where emphasis may be being less consistently applied across sections of the course. The full-time instructors discussed what teaching strategies may be employed to ensure both basic and advanced concepts are covered in a more standardized manner.

Faculty noted one area of weakness: the limited offerings of 2000 level psychology courses at the Rolla campus. They proposed the addition of one section of Abnormal Psychology and one section of Social Psychology to the ECC-Rolla course offerings for the 2013-2014 school year. Because psychology is currently the sixth most popular major at East Central College, the enrollment numbers should sustain the added sections.

Personal and Social Adjustment is designated as a writing-intensive course. The faculty determined that college-level writing is necessary to sufficiently comprehend the textbook and assessment materials for course. During the 2012 academic year, ECC Academic Council approved the addition of a college level writing prerequisite to the Personal and Social Adjustment course. Using the CLO communication rubric, it was determined that students enrolled in Personal and Social Adjustment in spring 2013 showed improvement in writing skills over the previous year results.

Sociology
Courses reviewed: SO 1203, American Social Problems (fall 2012), SO 2203 Marriage and Family (fall 2012) and SO 2303 Introduction to Social Work (spring 2013)
Submitted by: S**ociology Department Faculty**

Establishing a Baseline of Student's Knowledge

After reviewing several testing banks that assess a student's knowledge of sociology, the ECC sociology faculty decided to formulate their own pre-test assessment using some of the questions from the testing banks and several questions of their own for these three courses:

- American Social Problems (fall 2012)
- Marriage and Family (fall 2012)
- Introduction to Social Work (fall 2013)

American Social Problems

In fall 2012, there was one section of American Social Problems subjected to a pre and post-testing format. The results of those pre and post-testing are as follows:

- There were 30 students who pre and post-tested using a test of 25 multiple-choice questions.
- Pre-Test Mean for 30 students: 12 out of 25 correct or 48 percent correct
- Post-Test Mean for 30 students: 16 out of 25 correct or 64 percent correct

Marriage and Family

In fall 2012, there was one section of Marriage and Family subjected to a pre and post-testing format. The results of that testing are as follows:

- There were 30 students who pre and post-tested using a test of 25 multiple-choice questions.
- Pre-Test Mean for 30 students-15 out of 25 correct or 60 percent correct
- Post-Test Mean for 30 students-17 out of 25 correct or 68 percent correct

Introduction to Social Work

In spring 2013, there was one section of Introduction to Social Work subjected to a pre and post- testing format. The results of that testing are as follows:

- There were 30 students who pre and post-tested using a test of 25 multiple-choice questions.
- Pre-Test Mean for 30 students-12 out of 25 correct or 48 percent correct
- Post-Test Mean for 30 students-15 out of 25 correct or 60 percent correct

Evaluation of the Pre and Post-Test Results

The Sociology faculty reviewed the test results for each of the above courses with three intentions or purposes for the data. First, the pre and post-test results were examined for similarity in correct answers in the pre and post-test results. Secondly, the results were examined for any commonality for responses or answers that were incorrect, showing a pattern in each class section. Third, once these two examinations were finished, the faculty discussed the teaching strategies to not only assure that the correct answers would be taught consistently, but also to review and discuss teaching strategies to assist the students with the incorrectly answered questions. The faculty plans to continue to monitor their teaching strategies to see if during the next assessment cycle in three years, the results vary or remain similar.

English, Foreign Language & Philosophy Division

This division submitted reports on the following academic programs and areas:

- English
- Philosophy & Religion

English

Courses Reviewed: EN 0133 Introduction to Writing, EN 1223 English Comp I and EN 1333 Honors English Comp (Fall 2012)

Submitted by: **John Hardecke**, ***chair of the English, foreign language and philosophy division***

Context

For the third year in a row, the English department has used the same process for assessing EN 0133, EN 1223 and EN 1333. A common essay is embedded in each course and that assignment is collected from each section and one out of three essays is sampled. The essays are scored by writing teams using department rubrics and two scores of "pass" or "fail" are determined.

In the case of a pass and a fail, the essay goes to a third reader to break the tie. Please see previous assessment reports for more specifics regarding process.

Results

- Figures 1-6 below compare fall 2010 to fall 2011 in six key areas.
- Figure 1: Pass/fail rate for the sample, with a passing score being 18/25.
- Figure 2: The average scores on the four criteria, based on two or three readers.
- Figure 3: Final course/semester grades for the students sampled.
- Figure 4: Final course grades breakdown to A, B, C, D and F.
- Figure 5: Final course grade breakdown for essays that **passed** the assessment.
- Figure 6: Final course grade breakdown for essays that **failed** the assessment.

Summary/Analysis

Regarding the pass/fail rate (Fig.1) comparing fall 2010 to fall 2011, the most promising results occurred in the EN 0133 pass rate, improving from 44 percent in fall 2010 to 61 percent in fall 2011. Comp I remained flat essentially, showing only a one percent improvement over the previous fall. EN 1333 showed encouraging improvement, with a pass rate of 32 percent in fall 2010 and a gain to 43 percent in fall 2011. The final course grade comparison (Fig. 2) showed little change, though EN 1223 and EN1333 did show slightly lower passing grades. Given the grade inflation issue, this is actually encouraging.

The rubric criteria averages (Fig. 3) showed modest gains in all areas—content, organization, style and writing conventions, with the exception of Comp II organization, which showed a modest decline. Final course grades (Fig. 4) showed uneven results, most notably a decline in the number of "A" grades in EN 0133. Figures 5 and 6 show the results of the essays sampled that passed the scoring process with an 18 or better and those that failed with a 17 or lower.

Improvements

The results indicate modest gains but there is much room for improvement. Results were shared and discussed with all full and part-time faculty members. A new textbook was chosen for Introduction to Writing. The text is more critical reading-centered and grammar and usage exercises are embedded in each chapter.

Our goal is to improve reading and writing at the developmental course level and hope that the skills transfer to Comp I and II. The previous text was found to be unsatisfactory by the majority, hence the change.

Two new staff positions over the last year should provide some additional energy in the program. The department has a developmental education coordinator now, who has initiated an early alert retentions system, created a summer bridge program to accelerate students through reading and Intro to Writing, and developed a Learning Community model for students placing in more than one developmental course.

In addition, the college has hired a Composition Sequence Coordinator. Her goals are many, but an emphasis on Comp I is already underway, including a review of learning objectives, assessment practices, and curriculum. Also a new Comp I book is under consideration for fall.

Many of these ideas for improvement were discussed during a spring 2013 reading day meeting, a meeting that the department intends to make a regular debriefing/brainstorming session in future. One concrete decision that came out of the reading day session was an agreement among Comp I teachers to craft their common assignment prompts to align with the current textbook and to ensure an argumentative focus and address some inconsistencies in the essays sampled.

Figure 1: Fall 2011/Fall 2010 Comparisons – Essay Pass/Fail Rate

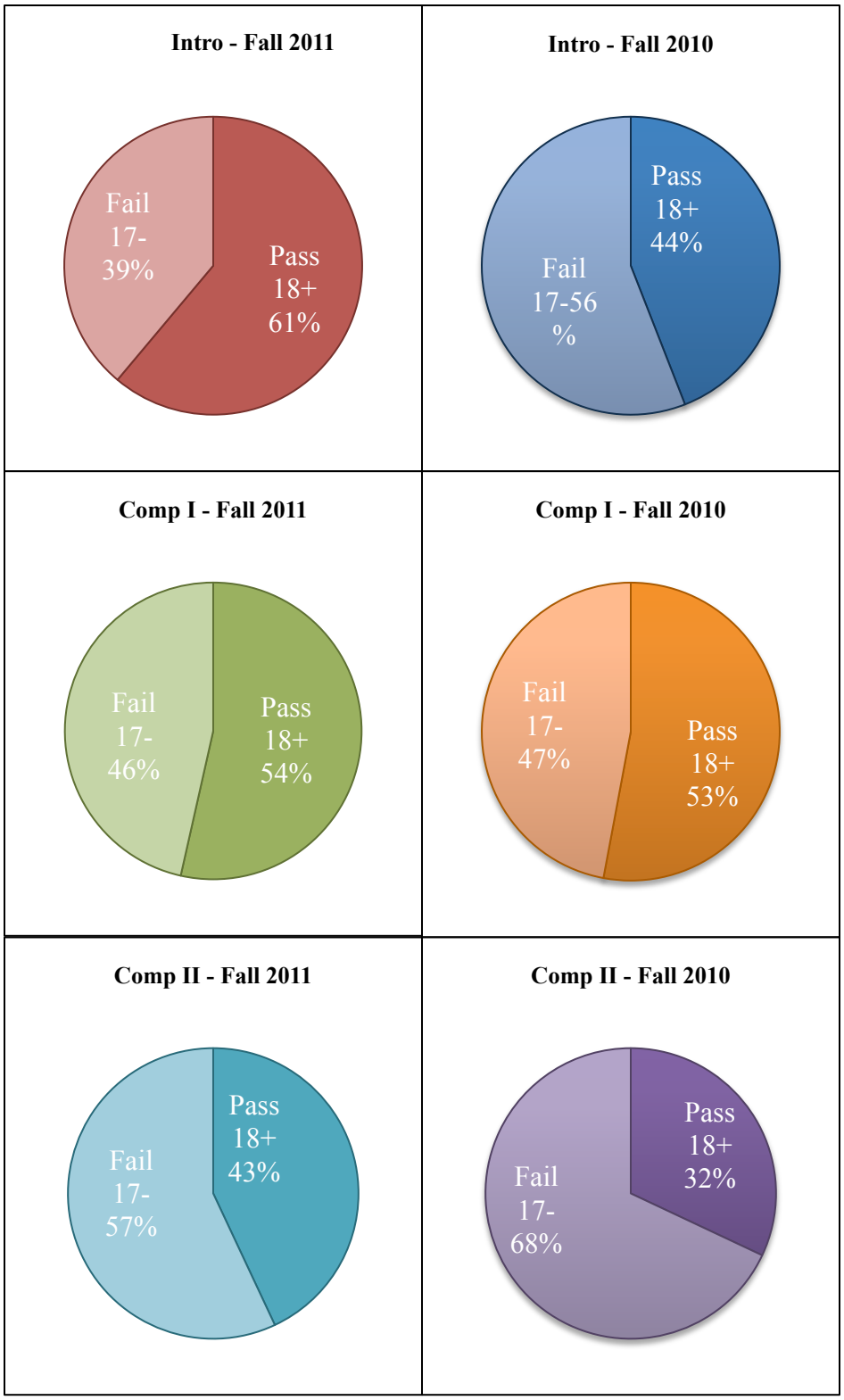


Figure 2: Fall 2011/Fall 2010 Comparisons – Final Course Grades

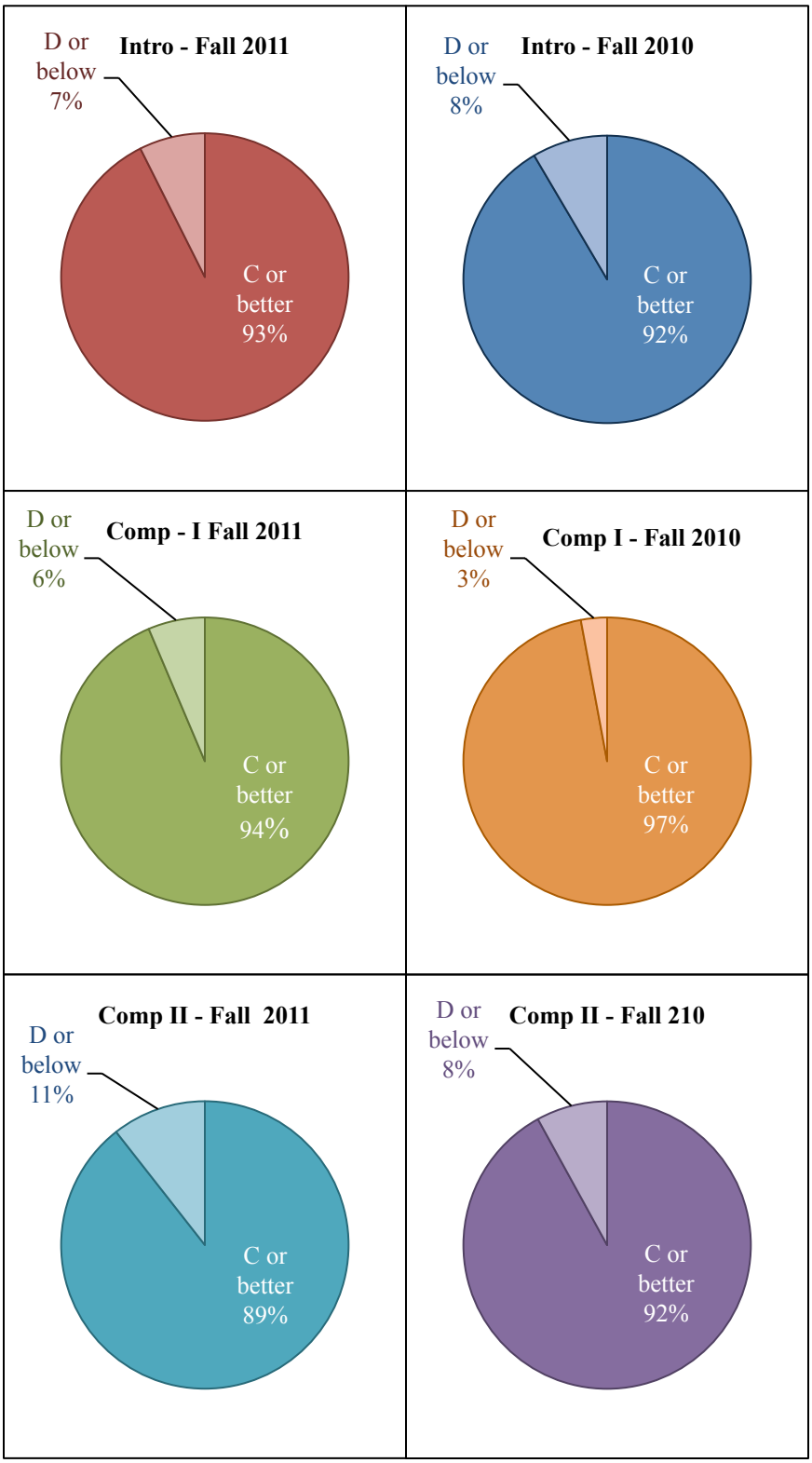


Figure 3: Fall 2011/Fall 2010 Comparisons – Three-Reader Criteria Averages

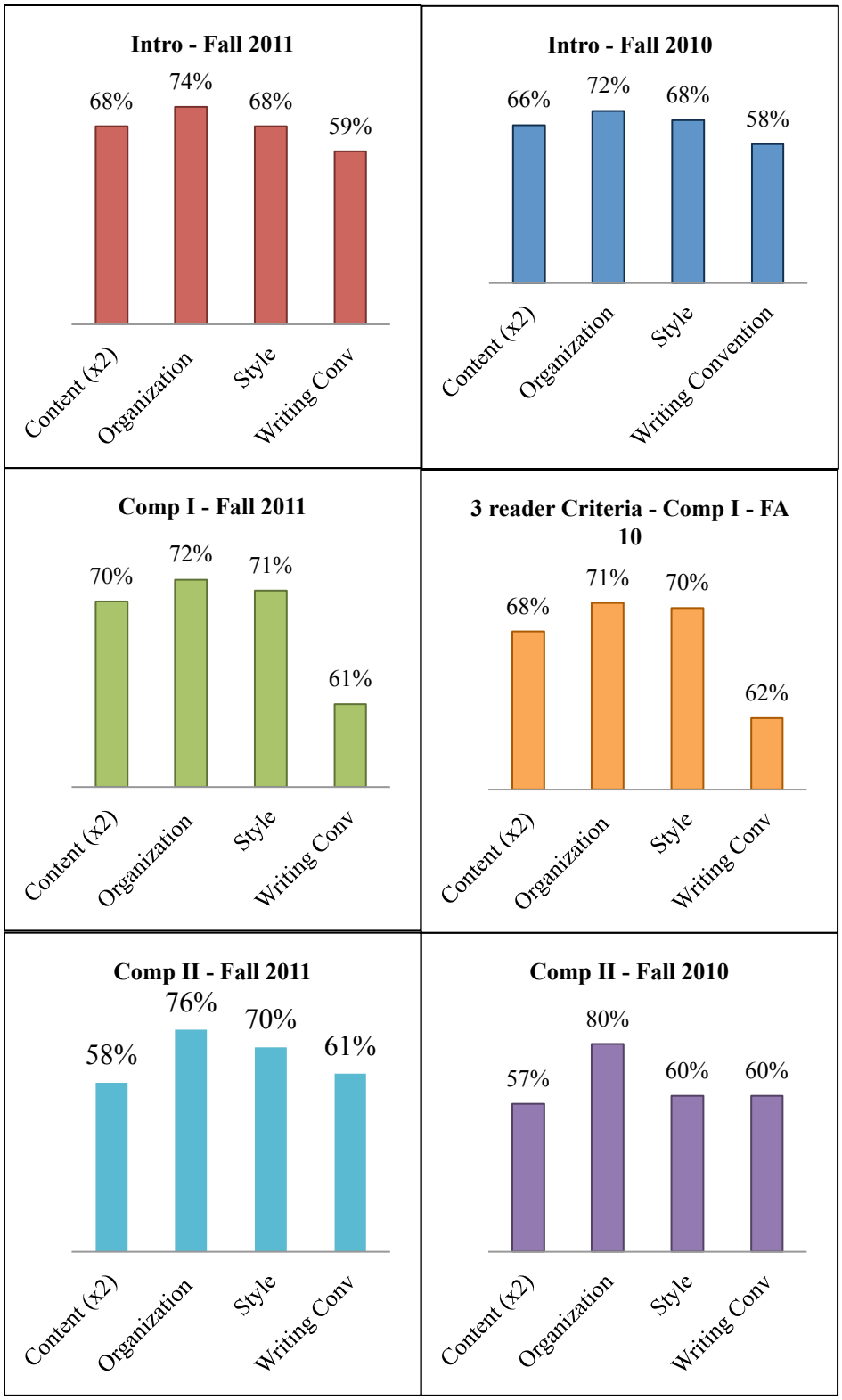


Figure 4: Fall 2011/Fall 2010 Comparisons – Final Course Grade Breakdown

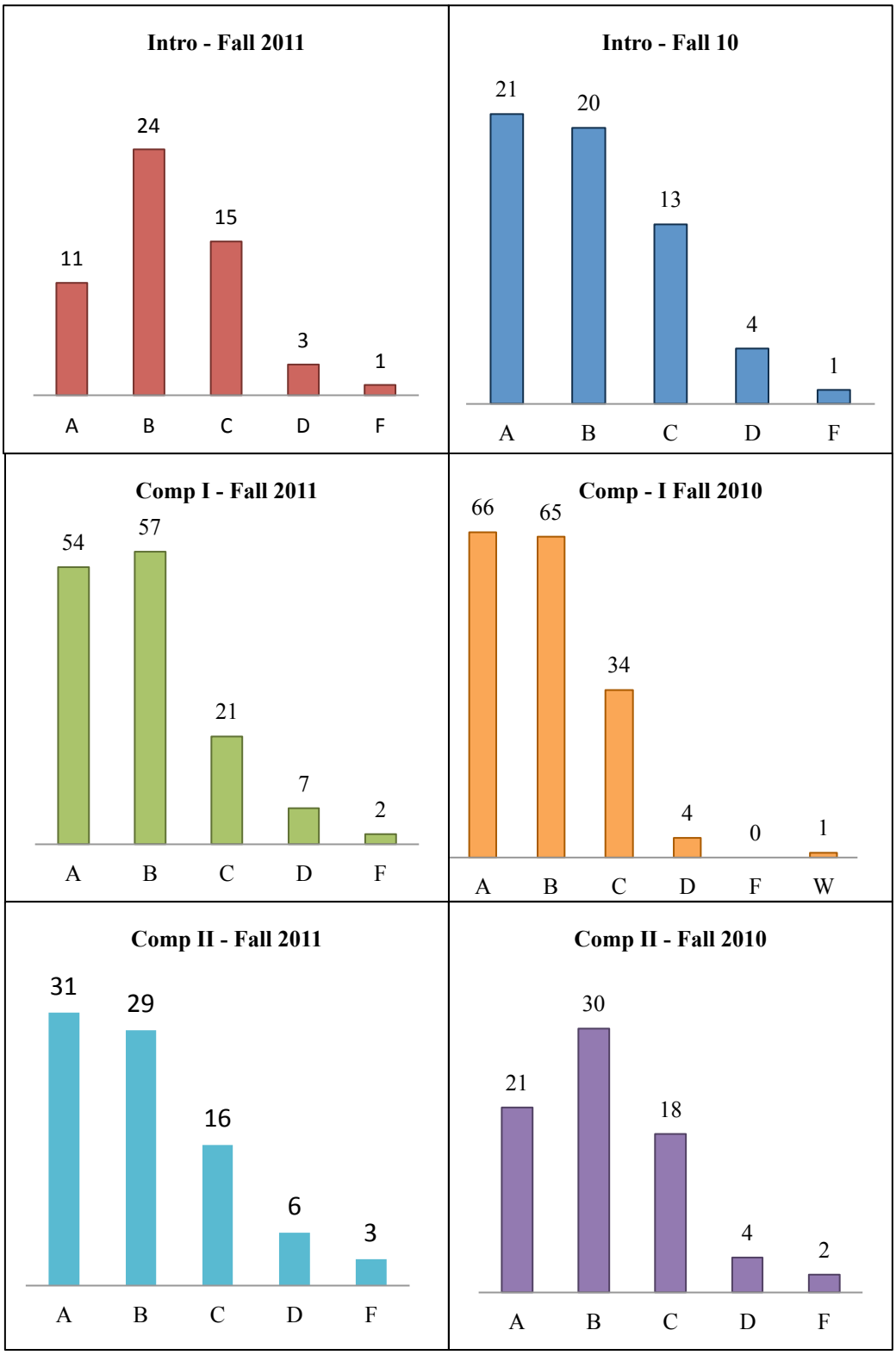


Figure 5: Fall 2011/Fall 2010 Comparisons – Passing Essay Final Course Grade

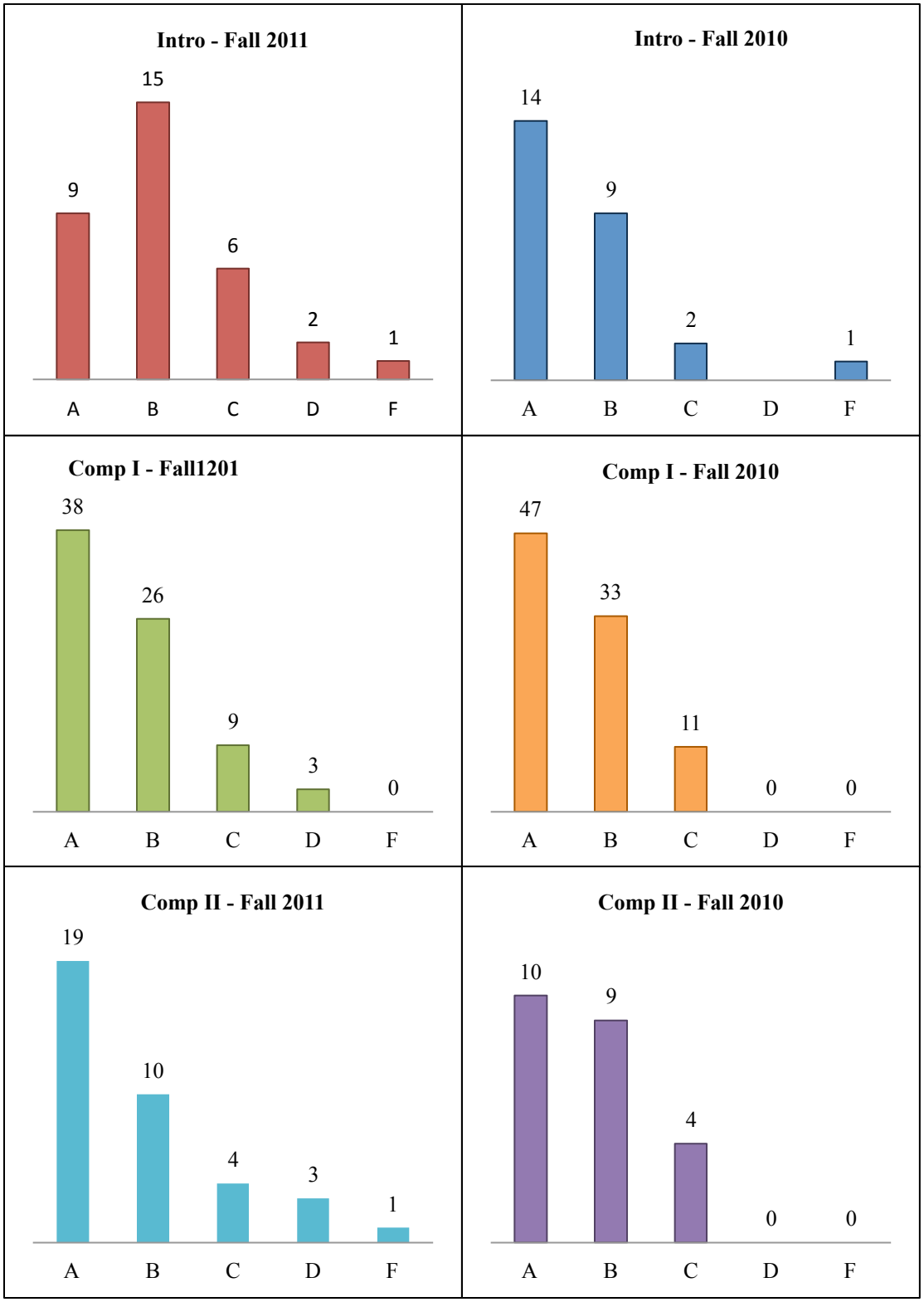
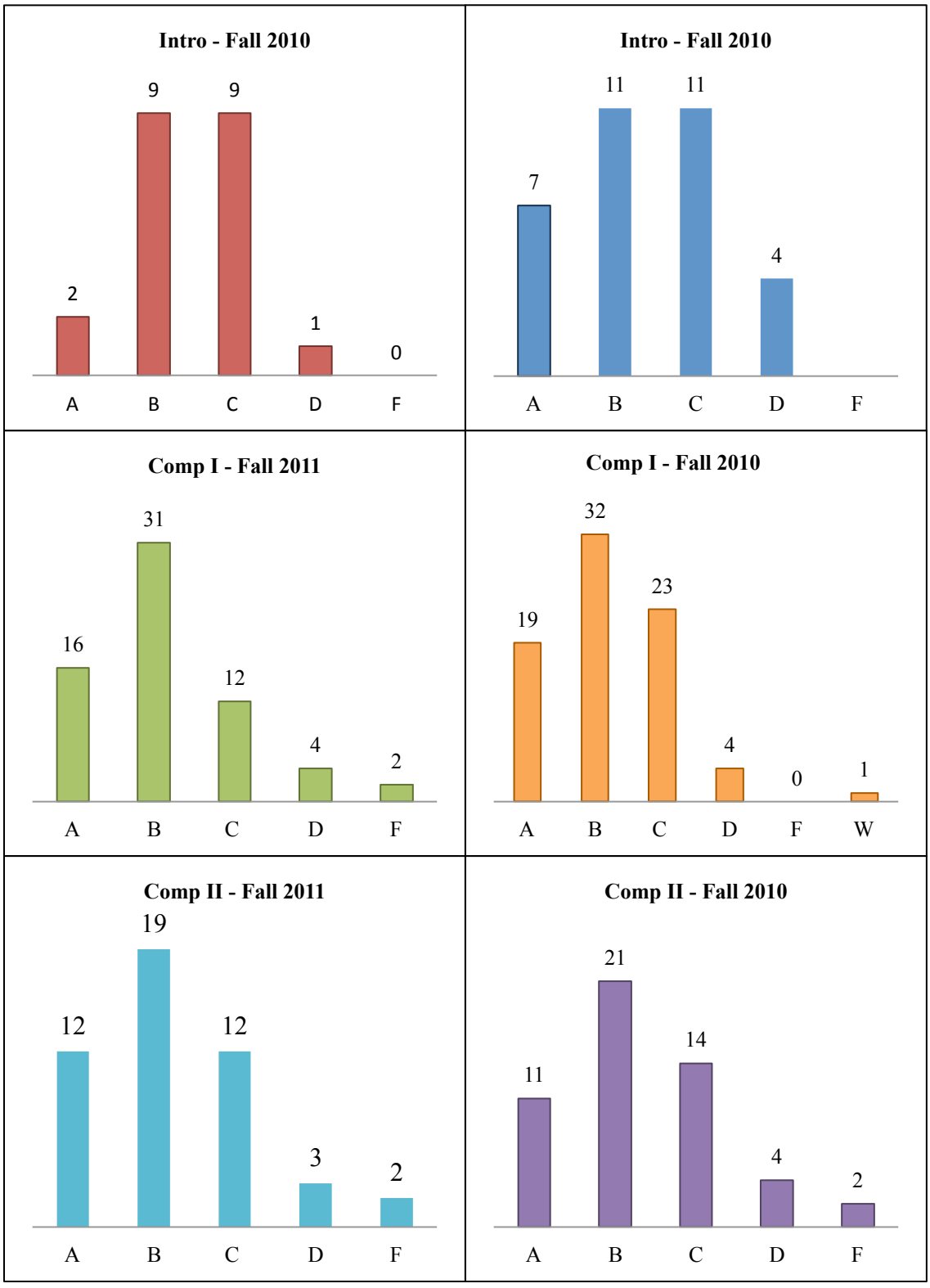


Figure 6: Fall 2011/Fall 2010 Comparisons – Failing Essay Final Course Grade



Philosophy & Religion
Course Reviewed: PR 2103 Ethics (Spring 2013)
Submitted by: **Richard Knudsen, *instructor of philosophy and religion***

Context

The instructor administered the assessment test at the start of the semester, before any lectures, but after the requirements of the course were spelled out to the students. The test contained 17 questions, including multiple-choice and true/false. Each question pertained to the material covered in class during the spring 2013 semester.

Unlike most subjects that are offered and assessed at ECC, ethics is a type of course that most students have never taken before. This makes a difference in what the instructor tested for: elementary knowledge that 98 to 100 percent of his students were unfamiliar with. Therefore, the instructor assumed that any question asked was new to the students.

The instructor administered the same test again on the last day after the final exam. The results between the two tests are shown in the tables below. Through this procedure, the instructor wanted to discover what the student knew before and after the course, indicated by the percentage of correct answers. The assessment was a good indicator of what his students assimilated during the semester.

The instructor directed his students to indicate on their scantrons/grade master cards whether or not they have had any previous philosophy or ethics courses. Theoretically, that should have made a difference in the students' scores, but since the scantrons are anonymous, it made it difficult for the instructor to tell.

Results

The charts show that most of the students on the first test only got 0 to 12 percent of their answers correct; in other words, they were at the bottom of the scale. While at the end of the semester, on the second test, all students scored higher than the first test's top score, 41 percent. All of the students got at least a 47 percent. One student even scored a 94 percent. Overall, in some test cycles, a couple of students may even get all of the questions correct, but that is rare.

Did the students score better or worse this time as compared to the previous assessment cycle? The instructor reported that each test cycle is different. The one nearly universal trend is that students taking the second test almost always score higher than the top score on the first test, as was also the case this time as indicated above.

Improvements/Recommendations

The instructor's biggest challenge is that his students guess when they don't know the answers on these tests, which is against his directions. To get a more honest picture of where his students are at, the instructor prefers students to leave the answers blank rather than guess, even if this results in a lower score or a zero.

Occasionally, the instructor has students with previous ethics/philosophy knowledge from another college or even a high school like St. Francis Borgia Regional. Their foreknowledge would obviously raise the overall score of the first test. But the anonymity of the assessments make that harder to track.
The instructor is working on addressing these two challenges—student guessing and the anonymity/individual tracking issue—in the future.

Ethics Assessment Results - Pre-Test (January 2013)		
Number of Students Having the Correct Answer	*Number of Correct Answers out of 17*	*Percentage Correct*
3	0	0%
6	1	6%
5	2	12%
2	3	19%
4	4	24%
4	5	29%
0	6	35%
1	7 [highest score]	41%

Ethics Assessment Results - Post-Test (After the Final Exam 2013)		
Number of Students Having the Correct Answer	*Number of Correct Answers out of 17*	*Percentage Correct*
3	8	47%
3	9	53%
2	10	59%
3	11	65%
5	12	71%
3	13	77%
2	14	82%
0	15	88%
1	16 [highest score]	94%
0	17	100%

Fine & Performing Arts

This division submitted reports on the following academic program and areas:

- Art
- Communications and Media
- Theatre
- Fine Art
- Music

Art
Submitted by: **Adam Watkins, *art instructor and program coordinator* and Jennifer Higerd, *art instructor and gallery coordinator***

Art Department Mission

The East Central College Art Department's mission is to provide a strong foundation rooted in the principles of art and design and foster a creative atmosphere fundamental to life-long learning. In that atmosphere, a student develops mastery of skills and techniques, develops critical and creative approaches to problem solving that are communicated in a visual context as well as in written and verbal format, and becomes socially aware of trends and traditions of the larger art world both past and present in preparation for transfer.

Program Objectives	Assessment	CLO's
Use proper industry nomenclature	Artist statement	Communication
Utilize technology to present and document their work for presentation	Digital portfolio	Communication
Display an adequate level of professionalism in presentation of their work	Student art exhibition	Ethics & Social Responsibility
Display critical thinking skills and concrete conceptual development	Creation of a coherent body of work, iconography	Critical & Creative thinking
Demonstrate a substantial engagement with historical concepts/techniques/artists/movements as well as a working knowledge of contemporary artists	Artist statement	Communication, Ethics & Social Responsibility, Critical & Creative Thinking

Review of Outcomes

- Data collection: by full-time and adjunct faculty at end of each semester
- Data review & analysis: by full time faculty with adjunct faculty at the end of the academic year
- Modifications to curriculum as needed to meet program goals
- Continued participation in ECC CLO's
- Submit results and updated plans to program coordinator and Office of Instruction at the end of the academic year

Program Review Cycle

- Assess: AFA round one
- Assess: AA round three
- Assess: General education offering (Art Appreciation & Art History) & gallery round three
- Program Review: beginning January 2012, completion December 2012
- NASAD: beginning fall 2011, completion spring 2014

Communication and Media
Courses reviewed: CT 1003: Oral Communication (fall 2011- spring 2012) and CT 1103 Public Speaking (fall 2012 – spring 2013)
Submitted by: **Lisa Pavia-Higel, *communication instructor (former)***

Oral Communication

Objectives

- Improve quality of data collected to gather both qualitative and quantitative data in a usable manner.
- Integrate data from dual credit, adjunct and full time instructors.
- Perform cross section assessment that produces meaningful data.

Strategy

- Improve the current pre/post test formats to limit to quantitative assessment over key skills.
- Create a qualitative data collection tool that helps measure skill performance across sections.
- Increase participation in assessment efforts by involving adjunct and dual credit faculty.

Tactics and Timeline

Task	Timeline	Results and Next Steps
Determine, based on past assessment, key skills to be assessed this cycle	Spring 2012: Narrow down list and gather feedback from instructors; Fall 2012: New pre and post-tests for Oral Communications	Use to develop new pre and post-tests as well as qualitative assessment tool
Review current pre and post test with adjunct faculty and dual credit	Set meeting for mid-semester in the evening	Generate new pre/post test questions that evaluate desired key skills
Rewrite pre/post test	Ready for rollout for Fall term	
Develop rubric for qualitative assessment review	Use CLO-Communication format	

Outcomes of Plan

- Survey went out to all instructors spring 2012. As of May 16, 2012, all six instructors have responded, including one dual-credit instructor.
- Based on feedback, support seems to exists for a multiple-choice pre and post-test developed by the department and a CLO Communication assessment once per term. This will provide qualitative as well as quantitative feedback.

- Meetings seem to be implausible given the instructors' schedules. To communication with each other, they will continue to use e-mail and survey tools and potentially Facebook to communicate with each other.
- Based on a review of state standards, a departmental Oral Communication syllabus is being developed with a redesign/realignment of the course objectives. This will be ready for a fall 2012 rollout pending academic council approval.

Pre-test Fall 2012

State Standard	Related Topic Area/ Chapter numbers	Pre-test Questions Addressing This Issue
Invention: Demonstrate ability to use productive imagination for the discovery and evaluation of appropriate arguments relating to a chosen topic through research.	Chapter 4 Verbal Communication; Chapter 7 Conflict; Chapter 9 Effective Groups and Leadership; Chapter 10 Public Speaking; Chapter 11 Selecting a Topic; Chapter 14 Persuasive Speaking	Which of the following would be a good thesis statement for a persuasive speech?; Which of the following sources would be a suitable for a speech on [TOPIC]; You have a group of people who are very uninterested in participating in a group project. Which of the following would make a compelling argument?
Audience Analysis: Understanding the needs of an audience/target	Chapter 1 Basic Concepts; Chapter 2 Perception; Chapter 3 Listening	You have a new co-worker coming in who is from Korea. You've never been to Korea, so how can you find out how she will act and respond to you?; John has to give a speech in favor of capitol punishment to a group of people who he knows are against it. What are some things John should do to prepare?
Kinds of Speeches: Students should be able to identify and create speeches for information, entertainment, and persuasive purposes.	Chapter 10 Public Speaking; Chapter 11 Selecting a Topic; Chapter 13 Informational; Chapter 14 Persuasive	Match the follow thesis statements to the kind of speech; Which of the following support points would be good for an informational speech?

State Standard	Related Topic Area/ Chapter numbers	Pre-test Questions Addressing This Issue
Organization- Intro/Body/Conclusion	Chapter 10 Public Speaking; Chapter 11 Selecting a Topic	Which of the following support points would be good for an informational speech; Match the follow thesis statements to the kind of speech.
Argumentation: Organizing and developing arguments with support, unity, and coherence	Chapter 1 Communication Basics; Chapter 4 Verbal Communication; Chapter 7 Conflict in Relationships; Chapter 14 Persuasive Speaking	What elements should be included in an introduction?; Which of the following lists would be good support points for the body of a speech on [TOPIC]?
Delivery and presentation skills	Chapter 2 Perception; Chapter 4 Verbal Communication: Chapter 5 Nonverbal Communication	While speaking in front of an audience, you find yourself beginning to trip up and make mistakes. Which processes might be at paly during your performance? (internal noise, self-fulfilling prophecy); When you are trying to make a point, what kind of posture would help convey a sense of confidence?; In job interviews, it is wise to keep your belongings off the interviewer's desk. Why?; When speaking to someone unfamiliar with your topic, should you avoid jargon?
Listening: Students will demonstrate effective listening skills as it relates to critical understanding of speech topics	Chapter 3 Listening	A charity on television says, "for just one dollar a day, you can save this starving child" and then shows you a picture of that child. This is an example of what kind of appeal? (ethos/pathos/logos); A friend is telling you about his or her ex-spouse. Which of the following statements represents a logical fallacy?

State Standard	Related Topic Area/ Chapter numbers	Pre-test Questions Addressing This Issue
Ethics: Students will demonstrate that they understand and take part in ethical speaking and listening	Chapter 3 Listening; Chapter 6 Relationships; Chapter 7 Conflict; Chapter 14 Persuasion	Which of the following would represent an unethical appeal to emotions when trying to get someone to work for you because you want the day off (assuming all statements are factually true).; "I don't listen to things I don't agree with. It seems a waste of my time." - this is an example of what type of listening strategy?; You are preparing a speech about a topic that you care about deeply. You are well read on the topic and your points seem like "common sense" to you. Which of the following sources are permissible in this speech?

Additional Observations

- Students are still struggling with the CIA project. The plan is to rework it into two smaller works with slightly different objectives.
- Students struggle with the small assignments. The plan is to integrate multi-chapter case studies that will serve as more clear assessments and keep current assignments as practice and make those non-graded activities.

Oral Communications: CLO Assessment Communications Summary Report

Class Statistics

- Number of items assessed: 12
- Class average: 6.8
- Structure: 2.01
- Content: 2.31
- Presentation: 2.54
- Communication ranks as "very important" in this course

Instructor Comments

"First, the debate rubric needs to be recalibrated or changed in light of these measurements. My current categories do not answer the questions posed in the syllabus easily (some areas could fit into multiple boxes), so the assignment of the numbers had to be somewhat qualitative on my part.

That being said, students obviously struggle with public speaking in this class, than those in the actual Public Speaking course. That's likely because they only have a public speaking component. As usual, students struggle most with organizing their thoughts, something that we talk about a lot," wrote Lisa Pavia-Higel, communications instructor.

Action Plan

Students in this class need more public speaking practice before the final. Also, a focus on organizing the thought process should be more emphasized.

Syllabus Goals

- Learn effective means of verbal expression in a variety of situations.
- Learn how to interpret nonverbal signals and use appropriate nonverbal behavior in a variety of settings.
- Learn how to respond to others and engage in constructive conversation.

Assessed Assignment Description

Students, working in groups, participate in a debate at the end of the term (week 15 or 16). This debate requires students to prepare organized remarks, work effectively with others and make logical cases about their topics.

CLO Communication Score Sheet (Oral Communications)				
Student	***Structure***	***Content***	***Presentation***	***Total Score***
PS 1:30				
1	3	3	3	9
2	1	1.5	2.5	5
3	1	1	2	4
4	2.5	2.5	3	8
5	2.75	2.5	3	8.25
6	1	1	0	2
7	2	2.5	2.75	7.25
8	2	2.5	2.5	7
9	2.5	3	2.75	8.25
10	1.75	2.75	3	7.5
11	3	3	3	9
12	1.75	2.5	3	7.25
TOTALS	**24.25**	**27.75**	**30.5**	**82.5**
AVERAGES	**2.020833333**	**2.3125**	**2.541666667**	**6.875**

Public Speaking/Oral Communication

Assessment Methods

- **Pre-test-Post-test:** Because there is no nationally standardized examination available for communication or theatre courses, the ECC full-time communication, media and theatre instructors collaborated to develop a common pre-test/post-test for Public Speaking and Oral Communication assessment purposes. All instructors teaching Public Speaking or Oral Communication are asked to administer a short multiple-choice examination at the beginning and conclusion of each term
- **Rubric Evaluation:** Each student is graded on a standardized communication rubric in all Public Speaking classes. Instructors are allowed to alter the rubric to their teaching style as long as they include all basic objectives and concepts.

Assessment Timeline

- Pre and post-tests are administered at the beginning and end of each semester.
- Rubric evaluations are given back after each major student speech.

Assessment Reflection and Implementation

- Post-test results are assessed by each instructor to search for any weakness in lecture/teaching style.
- Rubrics are returned to students after instructor scrutiny to search for concepts students may be missing or not fully comprehending.

Theater
Course reviewed: CT 1303: Theater Appreciation (fall 2012 – spring 2013)
Submitted by: **Vince Niehaus, *theater instructor and fine and performing arts division chair (retired)***

Theatre Appreciation

Assessment Methods

- **Pre-test/Post-test**: For the same reason stated under the Public Speaking section, the Theater Appreciation classes take an instructor-designed pre and post-test.
- **Performance Reviews**: Each student writes three critical performance reviews of three live theatrical shows they attend.
- **Midterm/Final**: Students take a comprehensive Theatre History mid-term and final exam.
- **Practical Theatre Project:** Students create a complete costume design and script analysis for a contemporary theatrical script.

Assessment Timeline

Pre and post-tests are administered at the beginning and end of each semester. Practical theatre projects, mid-term and finals are administered at the appropriate semester timeline. Theatrical reviews are assessed throughout the semester.

Assessment Reflection and Implementation

Post-test results are assessed by each instructor to search for any weakness in lecture/teaching style or concepts students may have missed. Performance reviews are looked at to assess how students are comprehending theatrical criticism and synthesizing ideas with concepts learned in class. Mid-term and Finals are reviewed to assess student comprehension of theatrical history concepts.

Fine Art
Course reviewed: AR 2433 Design IV: Advanced Problems
Submitted by: **Adam Watkins, *art instructor and program coordinator*** and **Jennifer Higerd, *art instructor and gallery coordinator***

2011-2012 Assessment

Overview

The Fine Art Department assessment plan ties together the program objectives, items to be assessed and the corresponding CLOs. The assessment plan for 2011-2012 intentionally focused on the Associate of Fine Arts program to prepare for the following year's program review. In order to demonstrate the connections between the program objectives and ECC's CLOs, the rubrics used to evaluate student work are modeled closely on the Communication CLO rubric.

Data was collected from students in Design IV, a fourth semester class required of all AFA majors, which provided the opportunity to assess students' acquisition of the language/vocabulary and content and skills put forth in the Fine Art Department program objectives. Data items include an oral presentation, a visual presentation, and written works.

Program Objective	Assessment	CLOs
Use proper industry nomenclature	Artist Statement	Communication
Utilize technology to present and document their work for presentation	Digital Portfolio	Communication
Display an adequate level of professionalism in presentation of their work	Student Art Exhibition	Ethics & Social Responsibility
Display critical thinking skills and concrete conceptual development	Creation of a coherent body of work, iconography	Critical and Creative Thinking
Demonstrates a substantial engagement with historical concepts, techniques, artists and movements as well as a working knowledge of contemporary artists	Artist Statement	Communication, Ethics & Social Responsibility, Critical & Creative Thinking

Data Review & Analysis

Program Objective 1: Use proper industry nomenclature

The student work evaluated was a written formal analysis, a three to five-page essay in which the student describes and analyzes one of his/her own works (see Attachment 1: Formal Analysis Assignment, Attachment 2: Formal Analysis rubric).

In general, it is believed that the AFA students know and understand the ideas and terms of the industry (Principles and Elements of Design and Media specific terminology). This is demonstrated in informal

conversations with students on work in progress as well as in formal critiques of class work. Many of the students' written documents show evidence of a more than passing familiarity with these. Yet, it is desired that the students explain their discussion of these topics in greater detail and profundity, finding the balance to reach "useful usage" of terms rather than just usage for the sake of usage.

The written presentations were quite strong with compelling arguments and language, and minimal spelling, grammatical and punctuation errors. An area for improvement is the structure and organization of the writing. Most of the essays need an introduction and conclusion as well as internal transitions. At this point in the students' academic career, they have completed the language requirement for the degree. We can expect then, that the students know about structure in writing; what remains then is to discuss the structure and style of the Academic Formal Analysis paper and all that entails: introduction, conclusion, transitions and a higher, more formal level of language, rather than the conversational tone found in most of the papers.

Program Objective 2: Utilize technology to present and document their work for presentation
The document used to evaluate student achievement for Program Objective 2 was a digital portfolio showcasing the student's development as an artist, influences on his/her development (to demonstrate engagement with art historical and contemporary artists, trends and movements as required in Program Objective 5), and his/her current work. For most of the students, this was the first exposure to the tools of professional photography (lighting, camera, and photo editing software). The digital portfolio was submitted as a PowerPoint file on a CD and was evaluated in three categories: presentation, craftsmanship and content (see Attachment 3: Digital Portfolio Assignment, Attachment 4: Digital Portfolio rubric).

In terms of presentation, while the students may not display mastery, the faults made were due to incompletely following directions. More guidance and emphasis on this area will be made to the students, including the urgent necessity of this habit in "real world" situations where grant funding and proposal acceptance can hinge on meticulous attention to detail.

Of more concern is student performance in the craftsmanship of photography and editing images of the work. Nearly every student's portfolio contained out of focus images along with other editing flaws (e.g., cropping, straightening). More instruction will be provided as well as heightened emphasis on the need to create high-quality images of work. Additionally, it would be of great benefit to the students to have access to a photography/lighting dedicated space and to a computer lab with photo editing software, thus providing students with more time and opportunity to hone these skills.

While the content related to the student generated work was at the mastery level, there were significantly fewer examples of the art works and artists that have had an influence on the student artists. As this is one of our program objectives (Program Objective 5), this skill of making connections between the past and the current and the student's own work is one that faculty will strive to explain, demonstrate and cultivate these connections in the students.

Program Objective 3: Display an adequate level of professionalism in presentation of their work
The Annual Juried ECC Student Art Show provides the opportunity for students to practice and develop the professional skills of presenting their work. Ranging from the way an individual work of art is matted or framed or displayed to the entire show itself, the Design IV students presented their work in a mostly professional manner. Some discussion can be had concerning issues of size of matte and style of frame, but overall the fourth semester Design IV students did quite well in this program objective. Due to the number of works in the 2012 Student Art Show that did not display an adequate level of professionalism,

the Fine Art Department will organize presentation workshops where professionals will demonstrate the industry standard in displaying art work.

Program Objective 4: Display critical thinking skills and concrete conceptual development
Student achievement in Program Objective 4 can be evaluated through an examination of the student's body of work, its coherency and the use of iconography in particular. For this assessment, the student's self-generated Digital Portfolio provides the necessary data. In this area, the students consistently perform highly, exhibiting mastery both in the content and the quality of the work. Often pushing the boundaries of traditional materials, they break through by their fourth semester, producing innovative, expressive, and exciting works. While the students are, as yet, hesitant to speak of it, the works most of the time reveal connections to the broader art world, proof that the students are absorbing art culture, trends and history (as expected in Program Objective 5). Again, faculty will strive to encourage students to a thoughtful and intentional examination of the influences on their work, providing a vocabulary, if necessary, for this sort of discussion of their work. Also further discussions on Art Historical and Contemporary Art references will be stressed.

Program Objective 5: Demonstrate a substantial engagement with historical concepts, techniques, artists, and movements as well as a working knowledge of contemporary artists
Student progress in this program objective has been alluded to previously in this document. While there is a lack of a formal discussion of these in written works, evidence of the engagement with the ideas is clear in the work produced by the students. The strategies for improvements in this area, explained in detail above, include more explicit instruction in the expectation of the assignment as well as more frequent intentional conversations in the studio with individual students on the origins and influences in their work.

Further Strategies for Improvement
Findings from this assessment report and from the NASAD Consultative Visit indicate that some curricular modifications need to be brought to Academic Council in the fall. These include issues related to time on tasks and prerequisites/co-requisites.

1. *Make Design I, II, III and IV three credit hours (studio credit).* This would not be a significant change on the curriculum of each class, rather it would allow for greater and more profound exploration of the topics of each course.
2. *Make design courses sequential.* Design I & II would be corequisite AND prerequisite for Design III. Design III is already pre-requisite for Design IV.
3. *Make Drawing I and Figure Drawing I corequisites.*
4. *Make Design III a pre-requisite for sculpture courses.*
5. *Adjust Gallery Applications course description AND make it three credit hours (studio credit).* Remove "required for all art majors" and add language to indicate it is the capstone course. In so doing, many of the Design IV assessment items used in this report will be shifted out of that course and into Gallery Applications.

Conclusions
It is the habit of this writer to view assessment as a tool to find and improve weak areas, and the result of this practice is to neglect to mention strong and exceptional areas. It must be said that ECC art students, and the spring 2012 Design IV students in particular, while at different points in the artistic journey, are engaging, promising students. The quality of their work, the ideas and messages they are struggling to understand and communicate, and the boldness of their use of new materials are all refreshing and inspiring. It is a pleasure to work with them to witness and guide their development.

Attachment 1: Formal Analysis Assignment (Spring 2012)

1. What is a formal analysis?
This assignment requires a detailed description of the "formal" qualities of the art object (formal as in "related to the form," not a black tie dinner). In other words, you're looking at the individual design elements, such as composition (arrangement of parts of, or in, the work), color, line, texture, scale, proportion, balance, contrast and rhythm. Your primary concern in this assignment is to attempt to explain how you, the artist, arranges and uses these various elements.

2. Why write a formal analysis?
Why would I ask you to do this assignment? First, translating something from a visual language to a textual language is a helpful skill for an artist; it allows you to describe your work fully and accurately in order to communicate the ideas within it. Second, to truly understand any art object, you must scrutinize it closely, and a formal analysis paper provides practice in doing so. Think of the object as a series of decisions that an artist made. Your job is to figure out and describe, explain and interpret those decisions and why the artist may have made them. When you're the artist, writing a formal analysis makes you step back and examine your work from a different perspective.

3. Four levels of formal analysis

1. Description = pure description of the object without value judgments, analysis, or interpretation.
   It answers the question, "What do you see?"
2. Analysis = determining what the features suggest and deciding why the artist used such features to convey specific ideas.
   It answers the question, "How did the artist do it?"
3. Interpretation = establishing the broader context for this type of art.
   It answers the question, "Why did the artist create it and what does it mean?"
4. Judgment = Judging a piece of work means giving it rank in relation to other works and of course considering a very important aspect of the visual arts - its originality.
   It answers the question, "Is it a good artwork?"

4. This assignment...
Description + Analysis (see above) of one of your works of art.
Requirements: 3-5 pages, typed, DS, Times New Roman, 12 point font, standard margins (1" on all sides)
Include an image of the work, and give title, year completed, dimensions and media. This essay is worth 100 points and is your final for the class. You will turn it in during our meeting time during finals week.

The Description
Discuss the Visual Elements & Principles of Design as you see them in the work. I have given you many questions to think about while looking at the work; you do not have to answer every single question, only those that relate to the work. In answering these questions, don't just answer "yes" or "no" or just repeat the question. Describe what you see in the painting that influences you to answer in the way that you do.

Visual Elements

- *Line*: How is line used to depict the subject matter? Or are lines themselves the subject matter? Are the lines thin and delicate, broad and brusque, thick, long or short, smooth or jagged? Are long single lines used to enclose space, to outline and suggest forms, or is the work composed of myriad tiny lines? Are lines used to model forms or to create impressions of textures? Is the composition created by bold lines or subtle lines? Is the character of line expressive? Does the use of line seem traditional or innovative?

- *Shape*: How are shapes created or communicated in the work? Are the shapes naturalistic/representational, abstract, or nonobjective/nonrepresentational? Are the shapes geometric, organic or biomorphic? How do the shapes relate to each other and to the whole? How do the positive shapes relate to the negative shapes? Are the shapes traditional, innovative, expressive?
- *Light/Value*: How important is light to the composition? Is it uniform, or is a spotlighting effect used? Can you identify the light source? Is it in the work, or is the light source outside the work? Is it a natural light, or is it unnatural and distorting? Is chiaroscuro used to create a sense of three-dimensionality on the two-dimensional surface? How do light values give a sense of texture to the work? Do severe contrasts of values create a plunge into depth or heighten the emotional impact of the work?
- *Color*: Describe the colors used. Is it light or dark? Is it monochromatic or polychromatic? Are the colors highly saturated (pure)? Are they analogous or complementary? Are the colors local colors? Or optical colors? Or arbitrary colors? Are the colors true to nature? What is the role of color in the work? Does the color seem to be subordinated to the shapes or dramatically create its own shape or content? How does the color affect your emotional response to the work? What does the use of color suggest about the intentions and emotions of the artist? Is the use of color innovative?
- *Texture*: What are the implied or actual textures of the work? How are the textures created? Through line? Through color and brushstrokes? Through light values? Are the textures true to the subject or different from it? Are brushstrokes smooth and invisible or are they thick and crusty? How would you define the strokes - daubs, block-like, ridges?
- *Space*: Did the artist create the illusion of real depth? Cancel out a sense of depth? How is the illusion of depth created? How is the suggestion of depth suppressed? Is perspective used? What type? How?

Principles of Design

Notice how the following principles integrate the Visual Elements and build on one another.

1. Balance is created in a work of art when textures, colors, forms, or shapes are combined harmoniously.
2. Contrast is the use of several elements of design to hold the viewer's attention and to guide the viewer's eye through the artwork.
3. Movement is the way a viewer's eye is directed to move through a composition, often to areas of emphasis. Movement can be directed by lines, contrasting shapes or colors within the artwork.
4. Emphasis is created in a work of art when the artist contrasts colors, textures, or shapes to direct your viewing towards a particular part of the image.
5. Pattern is the repetition of a shape, form, or texture across a work of art.
6. Proportion is created when the sizes of elements in a work of art are combined harmoniously.
7. Unity is created when the principles of analysis are present in a composition and in harmony. Some images have a complete sense of unity, while some artists deliberately avoid formal unity to create feelings of tension and anxiety.

The Analysis

In the analysis, you move beyond simply describing what you see, and you begin to interpret. Some topics to discuss in an analysis include:

1. Identification of the most distinctive features or characteristics, whether line, shape, color, texture, etc.
2. Analysis of the principles of design or composition: stable, repetitious, rhythmic, unified, symmetrical, harmonious, geometric, varied, chaotic, horizontal or vertically oriented, etc.

3. Discussion of how elements contribute to appearance of image
4. Analysis of the use of light and/or role of color: contrast, shadowy, illogical, warm, cool, symbolic, etc.
5. Treatment of space, both real and illusionary (including use of perspective): compact, deep, shallow, naturalistic, random
6. Portrayal of movement and how it is achieved
7. Effect of the medium or media used
8. Your perceptions of balance, proportion and scale (relationships of each part of the composition to the whole and to each other part)
9. Your emotional reaction to object

Attachment 2: Formal Analysis Rubric (Spring 2012)

Presentation	Written presentation is sophisticated and compelling; Proofreading prevented most errors	Written presentation is adequately presented; Proofreading is evident and adequate	Written presentation is minimally effective; Proofreading is evident, but minimal	Written presentation is incoherent, distracting, sloppy; Careful proofreading is not evident
Content; Discussion of Ideas, Process or Media; Language (Vocabulary)	Fully discusses the ideas or process or media; Vocabulary - use of art terms (mastery of use and their meaning), persuasive reasoning, perceptive grasp of issues; Description and analysis both fully addressed; (You know what you're talking about and you conveyed it successfully to me!	Mostly explained ideas, process or media; Used some art terms or near correct meaning; Sensible reasoning, proficient grasp of issues; Description and analysis both mostly addressed; (I wanted to know more! [need more information or explaining])	Somewhat explained ideas, process or media; Minimal use of art terms, or terms are only alluded to; Simplistic reasoning, sufficient grasp of issues; Description OR analysis minimally addressed; (Kind of there and on the right track, just not "home" yet)	No discussion or explanation of ideas, process or media; No use or no understanding of terms; Incoherent reasoning and dim grasp of issues
Structure; Organizations	Cohesive organizational pattern and transitions; Clear intro, body and conclusions; Points are logically arranged; Complete understanding of expectations: formatting requirements, inclusion of image and its information; (Got it! Nailed it! Order makes sense, feels complete	Intermittent evidence of organization; Has beginning, middle and end, but lacks transitions; Understanding of expectations, but not mastery (mostly meeting assignment requirements): formatting, inclusion of image and its information	Some organization but lacks cohesiveness; Confusing or distracting organization; Not sure where you're going; Displays effort towards expectations, but lack of understanding (minimally meeting assignment requirements): formatting, inclusion of image and its information	No structure is present; Lack of discernable organization; Misunderstanding of expectations

Attachment 3: Digital Portfolio Assignment (Spring 2012)

Your **portfolio** presents *what you know how to do*. It should include different styles and different media. A digital portfolio is easily transported or mailed and should demonstrate your best quality work.

What order to put the images?
Start strong... Open with a **wow**! Show work that has won you prizes or honors. Next, include work that is strong and shows the ideas or processes that you're working through. End strong... place your second best piece at the end to leave a good impression.

What is your best work?
The ones you feel most enthusiastic about or the ones that get the most positive reactions from your peers and instructors.

Continually **update** your portfolio to include your latest work.

Keep records of your work.
Make sure you have a list somewhere of titles, descriptions (in case you forget which work goes with which title!), year completed, media and size. Then back up this record and the images. Have a disk for each semester, and a copy, in case the disk is corrupted or scratched. Don't trust that your computer's hard drive will last forever.

Make sure that each disk you make is readable on a Mac and a PC. Use JPEG or PDF. Test it out on a friend's computer or a school computer.

Most portfolios will have 10 to 20 images. Sometimes it's appropriate to create a PowerPoint of your images. But usually, just place the JPEG images on the disk. Your name, the title, date, medium, and size should appear under your art. Also, include an image list, which is a summary of the art on the disk and contains the identifying information. Number/name your files to correspond to your image list, so that the first file on the disk is also at the top of your image list. You can do this easily by naming the file with a number at the start.

Your assignment:
Create two CDs with your digital portfolio. Compile the images you've taken and PhotoShopped. Include on each image: your name, the title, date, medium and size. Take care in your choice of font and font size. Include an image list. You will present your work using this digital portfolio to the class. Prepare to speak for 15 to 20 minutes about your work, using your artist statement to explain the ideas behind your work. You should also talk about the process and media that you're exploring in your work.

Your oral presentation will be evaluated on structure, content, presentation. Your digital portfolio and the images in it will also be evaluated in terms of content and craftsmanship/presentation.

Attachment 4: Digital Portfolio Rubric (Spring 2012)

Presentation	Fully met requirements: information on slide, 10-20 images, 72 DPI, appropriate size, complete list; Design: appropriate font choice and size; background color	Partially met requirements: most information on slides, +/- one image, DPI is wrong or size is wrong; mostly complete image list; Design: a few mistakes, font too big/small; BG color	Incomplete information on slides; +/- two images; Both DPI and size are wrong; no image list; Design: distracting mistakes	No information on slides; Way off number of slides; No sense of design
Craftsmanship	Quality: clear/in focus (all); Editing (mastery): white balance, straighten, crop and color	Quality: clear/in focus (most); Editing: understanding of expectations, but not mastery	Quality: several out of focus; Editing: effort towards expectations, but not consistently successful	Misunderstands expectations; Shabby or inept
Content	Well chosen examples of work; Order/organization is logical; Variety of work or in-depth exploration	Mostly well chosen (+/- one weak image); Attempt at order and organization	Several weak images; Order/organization doesn't make sense	What?

2012-2013 Assessment

Overview

The Fine Art Department Assessment plan ties together the program objectives, items to be assessed and the corresponding CLOs. In order to demonstrate the connections between the program objectives and between ECC's CLOs, the rubrics used to evaluate student work are modeled closely on the Communication CLO rubric.

Program Objective	*Assessment*	*CLOs*
Use proper industry nomenclature	Artist Statement	Communication
Utilize technology to present and document their work for presentation	Digital Portfolio	Communication
Display an adequate level of professionalism in presentation of their work	Student Art Exhibition	Ethics & Social Responsibility
Display critical thinking skills and concrete conceptual development	Creation of a coherent body of work, iconography	Critical and Creative Thinking
Demonstrates a substantial engagement with historical concepts, techniques, artists and movements as well as a working knowledge of contemporary artists	Artist Statement	Communication, Ethics & Social Responsibility, Critical & Creative Thinking

Taking into consideration the data collected and reviewed in 2011-2012, the following plan of assessment is proposed.

Program Objective 1: Use proper industry nomenclature

Areas for Improvement:

- The structure and organization of the writing. Most of the essays need an introduction and conclusion as well as internal transitions.
- The structure and style of the Academic Formal Analysis paper and all that entails: introduction, conclusion, transitions, and a higher, more formal level of language, rather than the conversational tone found in most of the papers.

Means for improvement:

- Required use of the Learning Center for proofreading, utilize resources from the English Dept. on MLA formatting, formalized instruction on writing
- More direct vocabulary instruction, inclusion of terminology in the *Art & Design Handbook*

Program Objective 2: Utilize technology to present and document their work for presentation

Areas for improvement:

- The quality of digital images of work for documentation purposes.

Means for improvement:

- More hands-on instruction in the use of the camera and lighting techniques. Greater emphasis on the importance of high quality images of work, begin the process of requesting dedicated photography/lighting space where the equipment can be set up and used by art and design students providing them with more time and opportunity to hone these skills.

Program Objective 3: Display an adequate level of professionalism in presentation of their work

Areas for improvement:

- The informed choice of proper presentation style (frame & matte, etc.)

Means for improvement:

- The Fine Art Department will organize presentation workshops where professionals will demonstrate the industry standard in displaying artwork. Increased discipline specific instruction within each class.

Program Objective 4: Display critical thinking skills and concrete conceptual development

Areas for improvement:

- Continued growth and development of critical thinking skills and conceptual development. Greater connectivity between the object and the conceptual idea and the verbal communication of it all.

Means for improvement:

- Continued instruction and projects that hone students thinking skills. Side-by-side working with students to model critical thinking skills as used in the art world. More directed critique discussions aimed at object, idea, and artist's communication of the link between the two.

Program Objective 5: Demonstrate a substantial engagement with historical concepts, techniques, artists, and movements as well as a working knowledge of contemporary artists

Areas for improvement:

- Making more explicit connections between their work and where it fits in the broader context of the art world.

Means for improvement:

- More frequent intentional conversations in the studio with individual students on the origins and influences in their work. Faculty will strive to explain, demonstrate and cultivate this skill of making connections between the past and the current and the student's own work.

Music
Submitted by: **Jennifer Judd, *associate professor of music and music programs coordinator***

Programmatic Goals and Objectives

The music department offers a curriculum for music majors and courses for general education. The program objectives are:

- **Provide associate degree program and coursework to prepare students for transfer to baccalaureate institutions.**
- **Offer music courses in general education curricular.**

I. Curriculum for Music Majors

The curriculum for the music majors was established in accordance with the standards established by the National Association of Schools of Music (NASM). The goals for the program are as follows:

Basic Musicianship: As defined by NASM, the goal is to prepare the student to function in a variety of musical roles, both primary and supportive. This goal includes the following objectives:

- Developing skills and basic understanding of musical properties such as rhythm, melody, harmony, timbre, texture and form.
- Repeated opportunities for enacting in a variety of ways roles such as listener, performer, composer, and scholar, and by responding to, interpreting, creating, analyzing and evaluating music.
- A repertory for study that includes various cultures and historical periods.

Performance: As defined by NASM, the goal is for the student to develop the highest level of performance on the major instrument and also to develop keyboard competencies. This goal includes the following objectives:

- The development of technical skills adequate to meet the needs of artistic self-expression.
- Performance of cross-section of music from the various styles represented in the complete repertory of the particular performance medium.
- The ability to read at sight.
- Growth in artistry, technical skills, collaborative competence and knowledge of repertory through regular ensemble experiences.

Basic Analysis: As defined by NASM, the goal is for the student to develop basic analytical knowledge and skills including an understanding of music in both its cultural and historical contexts.

II. Methods of Assessment

The following methods of assessment will be used. A list of courses and the assessment instrument used can be found in Table 1.

Pre-test/Post-test: Students are given multiple-choice test at the beginning of the semester that contains questions pertaining to the major objectives goals of the music program that are addressed in the course. At the end of the semester, the same exams are given again to the students.

Proficiency Exam: In music courses that teach a skill set, such as the Class Piano courses, a proficiency exam is given to the students at the end of the semester. The rubric is published in the *Music Department Handbook*.

Jury: Juries are used to judge the performance abilities of students who take Applied Lessons. Juries are done at the end of the semester. The department has developed a standardized jury form published in the *Music Department Handbook*.

Table 1: List of Courses, Instrument Used and Goals Assessed		
Course(s)	*Goals and Objectives Assessed**	*Instrument Used*
Music Theory I - IV (written and aural - MU 1613/1621, MU 1703/1711, MU 2103/2121, MU 2203/2211)	1a, 1b, 3	Pre-test/Post-test
Class Piano I - IV (MU 2042, MU 1142, MU 2042, MU 2052)	2a, 2b	Proficiency Exam
Applied Major I - IV	2a, 2b, 2c, 2d	Jury
Music History (MU1913)	1c	Pre-test/Post-test
Music History up to 1800 (MU1813)	1c	Pre-test/Post-test

** Numbers and letters refer to the goals and objectives outlined in Part 1*

III. How Results Will Be Evaluated and Disseminated

Pre-test/Post-test:

Student scores are compared from the pre-test and post-test to assess the level of improvement in their competency. Because the department uses multiple-choice exams, individual questions can be monitored allowing faculty to assess how each course is meeting the specific objectives the questions are addressing.

Proficiency Exams and Jury:

Student performance is tracked as they move from lower level courses to higher-level courses. This allows the department to determine if students are showing improvement in their performance skills.

Dissemination and Use of Data:

Results of the assessment are submitted to ECC in the annual assessment report. The music faculty meets to discuss the results of the assessment to determine if any adjustments to the program are necessary.

IV. Time Table

The timing of the implementing the above assessment instruments can be found in Table 2.

Table 2: Timing of Implementation of the Assessment Instruments		
Course(s)	*Instrument*	*Time of Implementation*
Music Theory I - IV	Pre-test/Post-test	
Class Piano I - IV	Proficiency Exam	Already in use
Applied Music I - IV	Jury	Already in use
Music History	Pre-test/Post-test	
Music History up to 1800	Pre-test/Post-test	

Assessment Plans for General Education Courses

I. General Education Courses

The curriculum for the general education courses align with the Common Learning Objectives (CLOs) set by AQIP and adopted by East Central College. The CLOs for this program are:

Social Responsibility: Through courses in Music Appreciation, Rock and Roll: Music Appreciation, World Music and Music History students complete the following objectives:

- Global Citizenry
- Extra and Co-Curricular Student Activities

Communication: Through courses in Music Appreciation, Rock and Roll: Music Appreciation, World Music and Music History student complete the following objectives:

- Listening
- Writing
- Speaking

Creative/Critical Thinking: Through a course in Music Fundamentals students complete the following objectives:

- Problem Solving Skills
- Analysis and Synthesis

II. Methods of Assessment

The following methods of assessment will be used. A list of courses and the assessment instrument used can be found in Table 1.

Pre-test/Post-test**:** Students are given a multiple-choice, fill in the blank and/or short answer test at the beginning of the semester that contains questions pertaining to the major objectives and goals that are addressed in the course. At end of the semester, the same exam is given again to the students.

Concert Attendance**:** Students attend concerts or recitals related to the major objectives and goals that are addressed in the course. Students discuss or write reactions to the concert or recital.

Writing: Students will write both formally and informally, a minimum of 12 pages total, throughout the semester reflecting the major objectives and goals that are addressed in the course.

Table 1: List of Courses, Instrument Used and Goals Assessed		
Course(s)	*Goals and Objectives Assessed**	*Instrument Used*
Music Fundamentals (MU 1003)	1b, 3a, and 3b	Pre-test/Post-test, Concert Attendance
Music Appreciation (MU 1603)	1a, 1b, 2a, 2b, and 2c	Pre-test/Post-test, Concert Attendance
Rock and Roll: An Appreciation (MU 1103)	1b, 2a, and 2b	Writing, Concert Attendance
World Music (MU 1503)	1a, 1b, 2a, 2b, and 2c	Pre-test/Post-test, Concert Attendance
Music History (MU 1813)	1a, 1b, 2a, 2b, and 2c	Writing, Pre-test/ Post-test

** Numbers and letters refer to the goals and objectives outlined in Part 1*

III. How Results Will Be Evaluated and Disseminated

Pre-test/Post-test**:** Student scores are compared from the pre-test and post-test to assess the level of improvement in their competency. Because we use multiple-choice, fill in the blank and short answer exams, individual questions can be monitored allowing us to assess how each course is meeting the specific objectives the questions are addressing.

Concert Attendance**:** Student attendance is tracked throughout the semester by each individual instructor. Students sign in and out of each event in order to maintain participation. Instructors evaluate the involvement of the student as audience member through class discussion and writing assignments. Instructors will keep a sampling of reports to track improvement in listening skills throughout the semester and from semester to semester. A rubric will be developed to aid in evaluating.

Writing: A rubric will be developed to aid in evaluating both formal and informal writing assignments. The instructors keep a sampling of writing assignment to track improvement in research, listening and writing skills throughout the semester and from semester to semester.

Dissemination and Use of Data**:** Results of the assessment are submitted to ECC in the annual assessment report. The music faculty meets to discuss the results of the assessment to determine if any adjustments to the program are necessary.

IV. Time Table
The timing of the implementation the above assessment can be found in Table 2.

Table 2: Timing of Implementation of the Assessment Instruments		
Course	**Instrument Used**	**Time of implementation**
Music Fundamentals	Pre-test/Post-test, Concert Attendance	
Music Appreciation	Pre-test/Post-test, Concert Attendance	Already in use
Rock and Roll: An Appreciation	Writing, Concert Attendance	
World Music	Pre-test/Post-test, Concert Attendance	
Music History	Writing, Pre-test/Post-test	

Assessment for Second Year Music Written Theory (Music Theory III and IV)

Objectives Assessed
The following are the assessed written objectives for the music theory courses III and IV:

- *Music Theory III:* Identification of borrowed chords, Neapolitan Sixth and Augmented Sixth chords and apply them to part writing exercises.
- *Music Theory IV*: Identification of borrowed chords, Neapolitan Sixth and Augmented Sixth chords and apply them to part writing exercises.

Method of Assessment
The objectives identified above are assessed using embedded assessment. A pre-test is administered during the first week of Music Theory III. The test contains questions that assess the written objectives of both Music Theory III and Music Theory IV. The students are required to provide their name when taking the test for tracking purposes.

Evaluating Students' Learning Outcome
The questions from the pre-test that correspond to each music theory course are embedded in the respective final exams. The students' score on the embedded questions are recorded in the same file as the pre-test scores. The difference in the number of questions the student answered correctly on the pre and post-tests are compared. If the students on average score higher on the post-tests than the pretest, then this indicates that the learning objective is being met by the course.

The music department is also able to track individual questions using this technique. If certain questions are scoring consistently low on the post-tests, faculty will examine how this information is taught and determine how to improve instruction in these areas.

Mathematics & Physical Science

This division submitted reports on the following academic programs and areas:

- Industrial Engineering Technology
- Mathematics
  - Departmental
  - Course=Specific
  - Summer Bridge program
- Physics and Transfer Engineering
- Precision Machining Technology

Industrial Engineering Technology
Submitted by: **Ann Boehmer, *chair of the mathematics and physical science division,* and Nathan Esbeck, *IET program coordinator***

Department Level

All career and technical programs utilize Advisory Boards to insure that the program is meeting the needs of local industry. The IET Industrial Advisory Board (IAB) is comprised primarily of engineers, plant managers, and maintenance managers from regional industry.

Maintaining a group of around ten members, representing different industries and cities is desired. Members of the IAB may remain on the board as long as they remain active (attend one meeting per year). When members leave, new members are recruited utilizing contacts of the IAB and IET Program Coordinator. Potential members are recommended based on their experience and ability to provide a diversity of manufacturing/industrial knowledge.

The IAB meets at least two times per year and conducts additional business via email. Additionally, the effectiveness of the IAB will be assessed every other spring, beginning 2014, with the ECC advisory committee effectiveness rubric.

To maintain current and relevant curriculum, the IAB assesses two courses each year (one per meeting). These courses are assessed for text choice and content covered. Course content is updated based on industry feedback. Any updating of equipment is also discussed and, if recommended, placed on the enhancement grant list. Below is the course assessment rotation:

1. Motor Controls (fall 2012)
2. Maintenance Practices (spring 2013)
3. Process Controls (fall 2013)
4. PLC (spring 2014)
5. Advanced PLC (fall 2014)
6. Industrial Electricity (spring 2015)
7. Industrial Robotics (gall 2015)
8. Materials and Metallurgy (spring 2016)
9. Industrial Computer Applications (fall 2016)
10. Troubleshooting (spring 2017)
11. Intro to Manufacturing Processes (fall 2017)
12. Industrial Power Systems (spring 2018)
13. Industrial and Control Systems Wiring (fall 2018)

Upon completing the thirteen courses, the IAB will begin again with the first. The IAB review is an excellent opportunity to update course content but it should be noted that courses are updated for changes in industry each time they are taught.

Student Level

The National Occupational Competency Testing Institute (NOCTI) Exam is administered during the Industrial Troubleshooting (capstone) course or in the final weeks before graduation. This exam meets the DESE requirements for a Technical Skills Assessment (TSA). The test covers the following areas:

1. Couplings

2. Centrifugal Pumps
3. Hydraulics
4. Fluid Power
5. Pneumatics
6. Controls
7. Motor Controls
8. Symbols
9. Transformers and Lighting
10. Alternating Current
11. Direct Current
12. Programmable Controllers
13. National Electric Code

Results of the NOCTI exam are utilized to evaluate relevant courses for student learning and retention. For example, if most students scored poorly in one of the 13 areas, it indicates that the course should allocate more time to the subject or the teaching method should be evaluated for effectiveness.

Students are also assessed annually for the communications Critical Learning Objective (CLO) attainment during the Industrial Computers course using ECC's common embedded rubric. Assessment in this course was chosen because the course requires student presentations. The Ethics and Social Responsibility CLO will be assessed during the Materials and Metallurgy course because we discuss the importance of proper material selection, inspection and design to product safety. This CLO will be assessed annually using the assessment tool developed by the AQIP action project committee. The IET department will determine use of the Science Reasoning or Critical Thinking CLO exam during fall 2013 and follow the ECC rotation for the exam chosen.

Program Level

- ATMAE program accreditation received 2010
- Progress update from initial Accreditation due September 2013
- Reaccreditation 2014
- Subsequent reaccreditations every seven years

The accreditation visit to ECC should happen between March 1 and May 1, 2014 with accreditation/reaccreditation granted in November 2014. The self-study report is due to the team members at least 30 days prior to the visit. The ATMAE conference in November 2013 offers a workshop on the accreditation process. Accreditation requires the preparation of a self-study document, hosting an ATMAE site visit and responding to any area found not to be in compliance. Non-compliant and partially compliant items must be corrected and reported on in a progress report given at the annual conference.

An assessment report will be submitted to the college on a rotation of every other year, beginning 2014, containing averages of scores of learning outcomes and rationales (including common learning objective scoring and TSA test results). It will also include recommended course/program changes from the Industrial Advisory Board.

As part of the colleges Program Review process, the IET program will begin the review process in January of 2014 and every five years thereafter.

Mathematics (Departmental Assessment – Spring 2013)
Submitted by: **Ann Boehmer, *chair of the mathematics and physical science division***

Goals

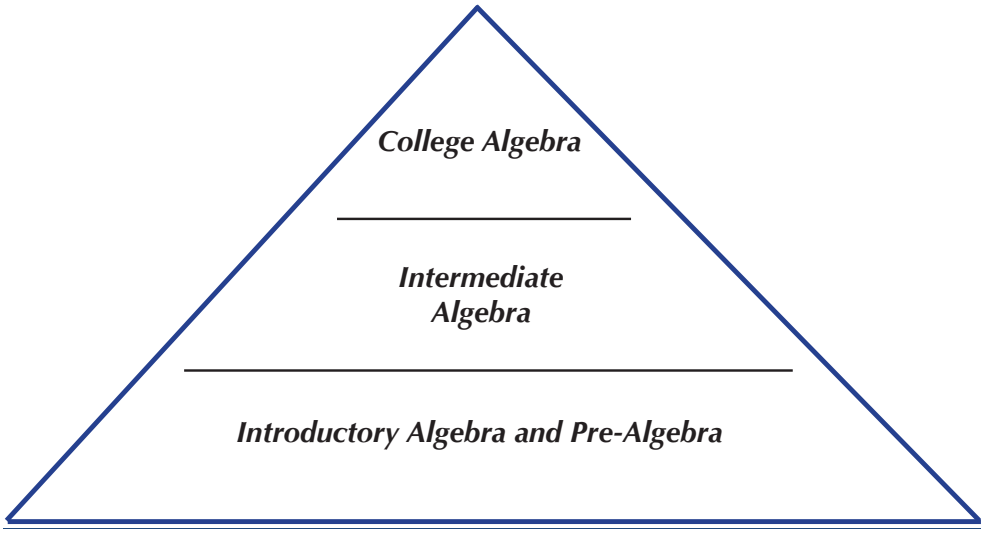
The aim of the department assessment plan is two-fold:

- Assess selected learning outcomes and practices that are inherent in the entire algebra course sequence and embody the foundation of critical thinking in mathematics.
- Follow a four-year cycle of course assessment, with attention to both individual course improvement and continuity between sequential courses.

Algebra Sequence

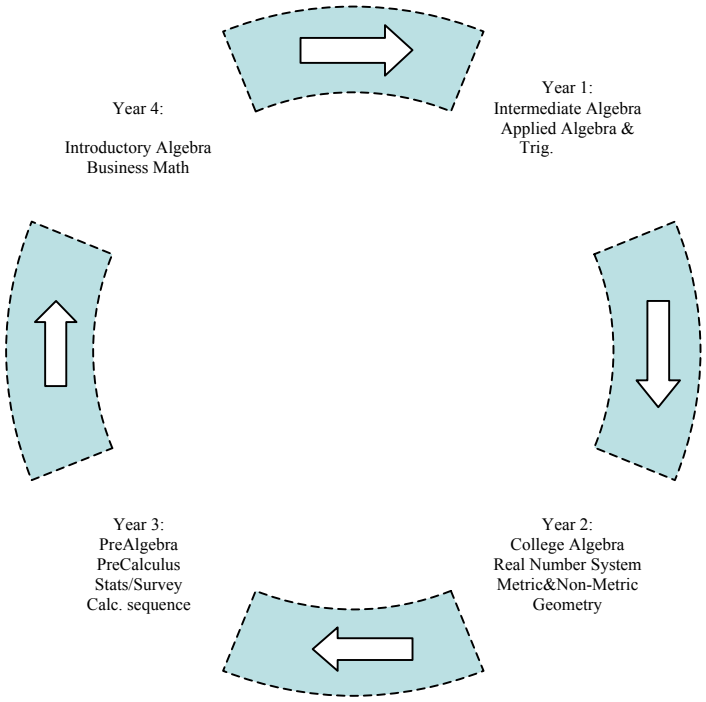
The department has identified the topics that are prevalent throughout the algebra sequence and can be assessed by examining the results of specific learning objectives that build upon each other in each of the sequential courses.

The Algebra Sequence



The above explains the focus of the department by illustrating how skills required in college level coursework are founded on the development of fundamental skills in the course sequence. Starting spring 2014, the department will begin assessment of the identified topics in Pre-Algebra, and will follow these skills through the remainder of the algebra sequence. Over the next three years, this will provide a body of data to analyze the development of these fundamental skills.

Evaluation Cycle



The above cycle will ensure the review of subsequent courses immediately follows that of the previous courses.

Items utilized for individual course assessment, continuity, and retention throughout course sequences will include:

- Revision of course goals and learning outcomes
- Success rates as they relate to placement testing
    - Cut-off scores
- Review of departmental midterms/final exams
    - Item analysis
    - Alignment with course objectives
- Success rates as they relate to performance in previous courses
- Enrollment numbers by pathway of course entry
- CAAP/other embedded assessments in selected courses

The course assessment outlined above will include all sections offered in both traditional and alternative formats (self-paced, hybrid and online), and at all locations (main campus, all satellite location offerings and high school dual credit). They will be taught by full-time, adjunct and dual credit faculty members (where applicable).

CAAP Mathematics Exam

Starting spring 2016, the CLO will use the CAAP Mathematics exam with subsequent assessments every third year. The exam will be administered in College Algebra, Business Mathematics, Applied Algebra and Trigonometry, Pre-Calculus, Statistics, Calculus I and Calculus II. These assessments will serve as a post-test to the Math CAAP entry skills assessment given in Foundation Seminar in the fall semester every three years starting in fall 2014. For the Real Number System, Metric & Nonmetric Geometry and Math for Art & Design

courses, the entry skill assessment CAAP Critical Thinking will be administered every three years starting in fall 2015 with post-testing every three years starting in spring 2017.

Data for the above items will originate from both the mathematics department's own records, as well as the Office of Institutional Research, Assessment & Planning. An assessment report including the above items will be submitted to the vice president of instruction annually in June.

Additional items to be reviewed periodically include:

- Textbooks and course materials, including technology
- Updates of departmental final exams and midterms
- Course descriptions and prerequisites

Program Review

Additionally, in accordance with East Central College's schedule of divisional program review, the department will conduct a complete program review on a subset of its course offerings at least three out of every five years. The review will be presented and reviewed by a committee of internal and external constituents and include but not be limited to items such as:

- Program mission
- Staffing and organization
- Learning Outcomes
- Student data
- SWOT analysis

Mathematics (Course-Specific)
Courses reviewed: MT 1403: College Algebra, MT 1313: Real Numbers System and MT 1333: Metric and Nonmetric Geometry (Spring 2013)
Submitted by: **Ann Boehmer, *chair of the mathematics and physical science division***

Department Goals for 2013-2014

- In review of the spring 2012 report, the following goals for academic year 2013-2014 were established:
- Continue to monitor the success rates in subsequent courses for students successfully completing MT 0204.
- Continue to increase offerings of self-paced courses and assess the success rates in the course and subsequent courses.
- Revise final exam and final exam review for MT 1303.
- Create a departmental pretest for MT 1303 to assess incoming and exiting skill levels.
- Adding course objectives in MT 1303 to help improve success in MT 1403.
- Continue to offer summer bridge options to improve placement and follow success rates of participants in subsequent courses.
- Examine more four-hour course options in developmental classes.
- Continue to explore other redesign options, including a floor for students entering the algebra sequence.
- Continue to focus on enrollment numbers in MT 1083 by corresponding with other departments and promoting MT 1083's benefits to students.

Actions Taken on Current Goals

The department has made progress towards these goals as follows:

- Increased offerings of self-paced courses with assessment of success rates to be conducted in spring 2015.
- Revised final exam and final exam review for MT 1303.
- Created a departmental pretest for MT 1303 and will assess incoming and exiting skill levels in spring 2015.
- In the process of adding course objectives in MT 1303 to help improve success in MT 1403. These objectives will align with the new text and will be implemented in spring 2014.
- Increased offerings of the summer bridge to improve placement. Ninety-two percent of the participants from summer 2012 improved their placement, of those students 50% were successful in the course following the summer bridge program.
- Restructured Introductory Algebra to a four-credit hour class.
- Ongoing discussions continue regarding a floor for students entering the algebra sequence and the enrollment numbers in MT 1083.

Courses Assessed for Spring 2013

For spring 2013, the department (as per the assessment plan) reviewed data regarding College Algebra (MT1403), Real Numbers System (MT1313) and Metric and Nonmetric Geometry (MT1333).

College Algebra
College Algebra (MT1403) is designed to meet the needs of the student wishing to satisfy the general education math requirement or planning to enroll in additional mathematics courses. Topics covered in MT 1403 include: functions, domain, range, complex numbers, logs and exponents, polynomials, rational

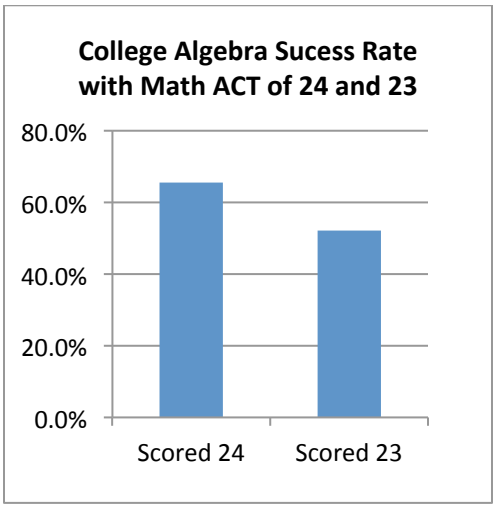
expressions, radicals, solving equations and inequalities, graphing equations and inequalities. The use of the graphing calculator and its application to the topics of College Algebra is emphasized.

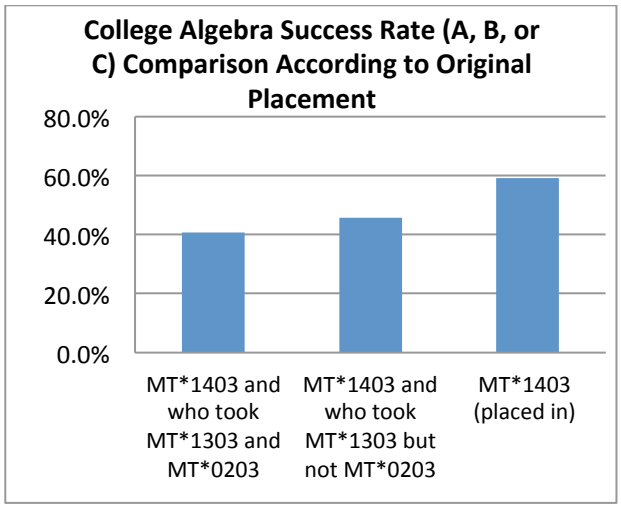
College Algebra is taught by full-time and adjunct instructors at the main campus in Union and at three satellite sites (Rolla, Sullivan, and Washington – Four Rivers). Additionally, it is taught as a dual credit course in five local high schools with a sixth starting fall 2013. The course is overseen by the ECC Mathematics Department and currently requires the use of a departmental syllabus containing a list of required material, as well as requiring a department mandated text, final, and certain grading practices (including a cap on the homework percentage and the final exam having a minimum requirement of 20% of the final grade). MT 1403 is offered every semester (including summer) throughout the day and evening, and is predominately taught in a traditional format, with one online section offered each semester.

In fall 2011, the department adopted a new ACT score for placement into MT 1403. The math ACT score was lowered from a minimum of 24 to a minimum of 23. In addition to lowering the math ACT score, the minimum composite sore of 24 to place using ACT was also removed.

This change was a result of placement score alignment initiated by the Presidents' group from member colleges of MCCA and researched and established through the CAO group. The department analyzed the success rate of students with a math ACT of 24 as compared to a math ACT of 23.

In addition to comparing ACT scores, the department also analyzed success rates of students based upon overall placement. The following observations were made:





The overall success rate (A, B or C) for MT 1403 was 47.2 percent. However, for a majority of degrees a D is sufficient for a degree to be awarded. When including a D, the overall success rate rises to 61.2 percent, to 73.6 percent for those placing directly into MT 1403, to 58 percent for those only taking one prerequisite course (MT 1303), and 59.8 percent for those taking two previous prerequisite courses (MT 0203 and MT 1303).

In reviewing the final exam results, the department compared the percent incorrect for the first half of the course versus the second half in an attempt to identify the concepts that students struggled with most frequently. It was found the percent incorrect to be virtually the same. One contributing reason may be a result of students entering the course not as prepared.

As a result of this data, the department is going to review ways to help improve the success rates of students by exploring the option of more credit hours for College Algebra (either through lecture or a lecture/lab combination), mandatory problem-solving sessions, increased departmentally infused reviews of prerequisite material, infused mastery testing throughout the course, and alternate modes of delivery and homework management.

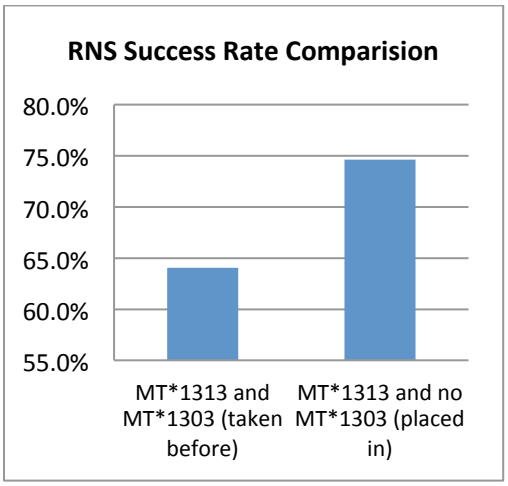
Real Number System and Metric and Nonmetric Geometry
Real Number System (MT 1313) and Metric and Non-Metric Geometry (MT 1333) are courses intended for elementary education majors. MT1313 is designed to familiarize students with the various mathematical topics taught in an elementary school environment, such as sets, logic, number theory, the development of the set of real numbers and real number operations, number bases and various algorithms.

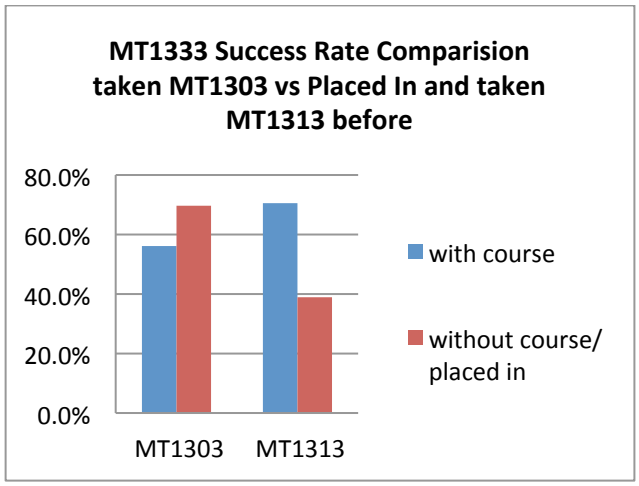
MT1333 is designed to familiarize students with the various mathematical topics, such as measurements, plane and solid geometry, statistics and probability. Although the department recommends MT 1313 before MT 1333, these courses may be taken in either order and both have Intermediate Algebra (MT1303) as a prerequisite.

MT1313 and MT 1333 are taught by full-time and adjunct instructors at the main campus (Union campus) and at two satellite sites (Rolla and Sullivan). Although due to a decreased number of education majors at our Rolla site has resulted in the cancellation of classes there. The courses are overseen by the ECC Mathematics Department and currently require the use of a departmental syllabus containing a list of required material, as well as requiring a department mandated text and activity manual, proficiency of prerequisite skills, and a departmental final.

Since 2011, MT 1313 has been offered every fall semester at the Union campus and every spring at the Sullivan site. MT 1333 has been offered in spring at the Union campus and in the fall at the Sullivan site. These courses focus on theoretical concepts needed for teaching elementary school mathematics, and are not strictly application based. They are taught in a traditional format, and rely heavily on the use of activities and discovery.

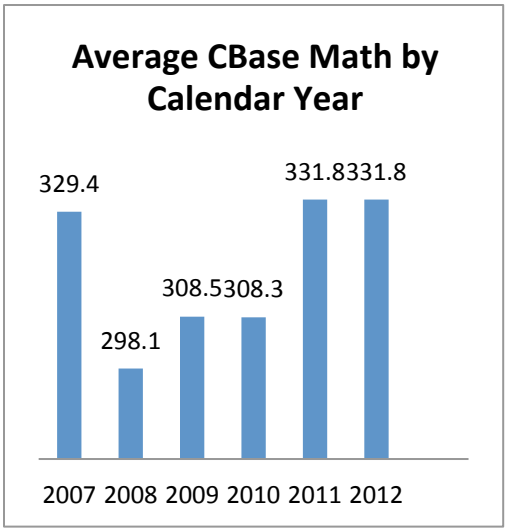
In reviewing success rates from fall 2009 to fall 2012, MT 1313 had an overall 69 percent success rate (A, B or C) and MT 1333's overall success rate was 62.6 percent. The following charts show first, the success rates for MT1313 of those students who took MT 1303 versus those who placed into MT 1313, and second, the success rate for MT 1333 of those who took MT 1303 versus those who placed in, as well as the success rates of those who took MT 1313 before MT 1333 (as recommended by the department).

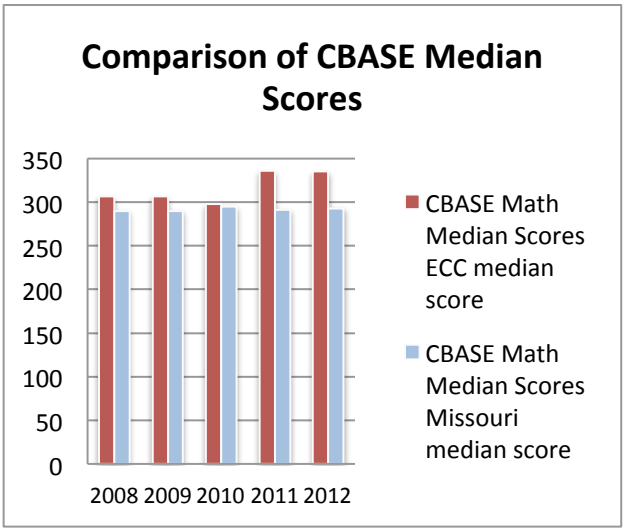




Given the significant improvement in success rates in MT1333 for students who took MT1313 prior, the department will investigate making MT 1313 the prerequisite for MT1333. Early data suggests MT 1403 may also improve the likelihood of success in MT 1313.

The following charts depicts the average CBASE math score over the past five years, as well as a comparison of CBASE median scores. In comparison to available data for two-year institutions nationally for 2011, our students ranked in the 72nd percentile.





In response to success rates, changes in graduation requirements of education majors (which will result in a B as a minimum grade for success), and desire to continue producing students performing above the mean on the state standardized exam (currently CBASE), the department has already begun implementing mastery-based testing of core numerical skills and adopted a new textbook. Additionally, the department is looking for ways to improve external academic support, and increase exposure to new standards in mathematics (which include common core standards, smarter balance questions and the replacement exam for CBASE, and state requirements of minimum GPA and course grade). The department also plans to continue collaboration with the education department.

Summer Bridge Program (Mathematics)
Submitted by: **Ann Boehmer, *chair of the mathematics and physical science division***

Introduction

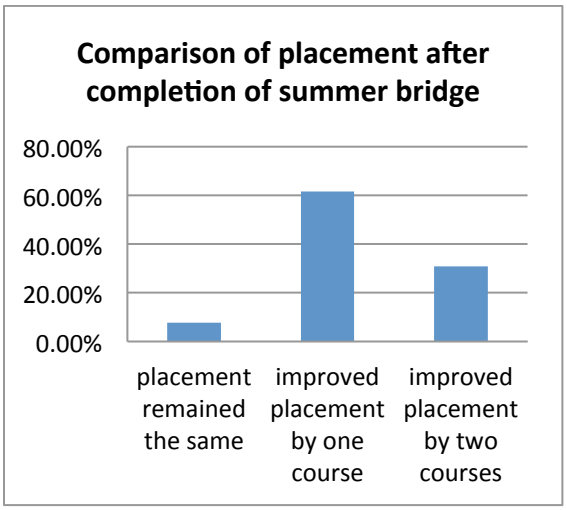
In summer 2012, through the use of an AQIP action project, the ECC Mathematics Department piloted a high school mathematics Summer Bridge program. The summer bridge was designed to improve the placement of incoming high school students who tested into Pre-Algebra (MT 0103).

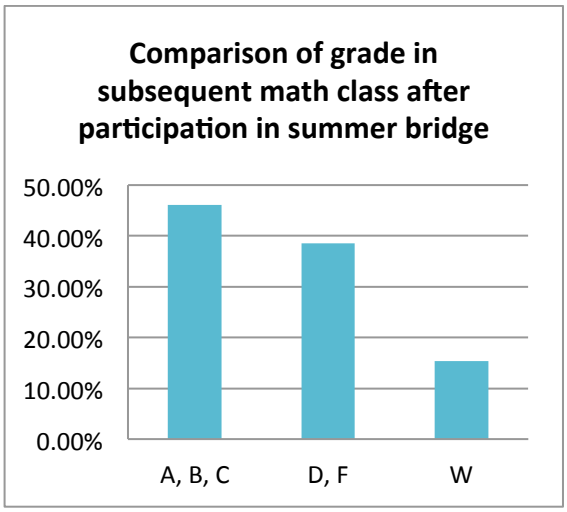
A weeklong program running from 8 a.m. to 12 p.m., Monday through Friday, Summer Bridge incorporated mathematics software, mini-lectures, active learning, study skills (including test taking strategies and reading comprehension) and culminated in the retake of the mathematics component of the placement test, Accuplacer. The program was offered at no cost to the participants.

Pilot Results

The pilot program was offered in June 2012, and although participation was low (only five participants originally), the bridge program resulted in an 80 percent success rate (80 percent of the students participating increased their placement from MT 0103 to a higher class). This resulted in another class being offered the following month (this time with eight participants and a 100 percent success rate).

The following data was collected after the pilot of the summer bridge:





Ninety-two percent of the participants improved their placement by at least one course (with approximately 31 percent of the students improving by two courses). All of the participants, regardless of placement after their participation in the summer bridge, enrolled in mathematics courses for fall 2012, with approximately 46 percent successfully completing their enrolled mathematics course (approximately eight percent of the participants completed their mathematics requirement for their degree).

For the following spring 2013 semester, 92 percent continued pursuing their degree at East Central College, with 82 percent of those still needing a mathematics requirement enrolled in a math course. Of those enrolled in a math course for spring, 78 percent successfully completed it.

2013 Sessions

With the initial success of the mathematics summer bridge, two additional no-cost offerings of the program were offered in summer 2013 (a week in June and a week in July). To increase enrollment, postcards were designed and either mailed or handed out to students (by testing personnel and advisors) who placed into MT 0103.

Awareness of the program was shared with some of the local high schools. At the time of the report, the June bridge was in progress and had an enrollment of 17. The Mathematics Department will continue to track students' progress and promote enrollment.

Summer Bridge Expansion

Another positive outcome from the mathematics summer bridge was the creation of an English summer bridge piloted in 2013. Sessions of the English bridge, which addressed the remediation needs of students who initially placed into Reading Comprehension and/or Introduction to Writing, ran concurrently on the main campus and in Rolla from July 8 to 19. Students worked their way through a Web-based, adaptive reading program and developed their writing skills through practice with a number of integrated reading and writing activities and assignments.

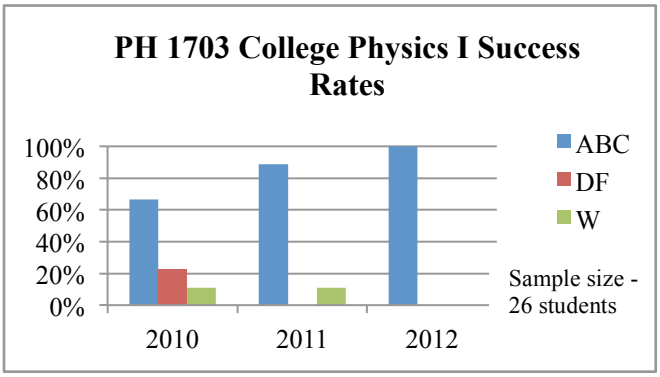
At the end of the bridge, a team of three evaluators chosen from English faculty and Learning Center specialists reevaluated each student's placement by considering both an extended essay produced during the two-week period and a high-stakes in-class essay written on the last day of the program.

At the time this report was submitted, 12 students were slated to participate in the main campus English bridge, and recruitment for the Rolla session was ongoing. Results of these sessions will be reported on separately, at their conclusion.

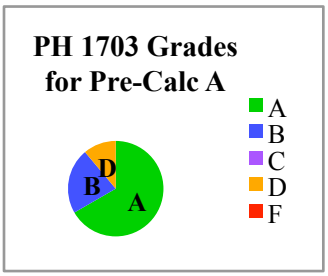
Physics
Courses reviewed: PH 1703/12: College Physics I, PH 1803/12: College Physics II, PH 2103/12: General Physics I and PH 2203/12: General Physics II (Spring 2013)
Submitted by: **Barry Bookout, Ph.D., *associate professor of pre-engineering*, Isaiah Kellogg, Ph.D., *instructor of physics* and Linda Arrington, *instructional program assistant, pre-engineering***

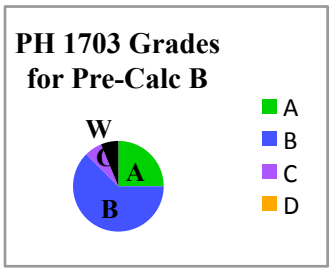
College Physics I and II

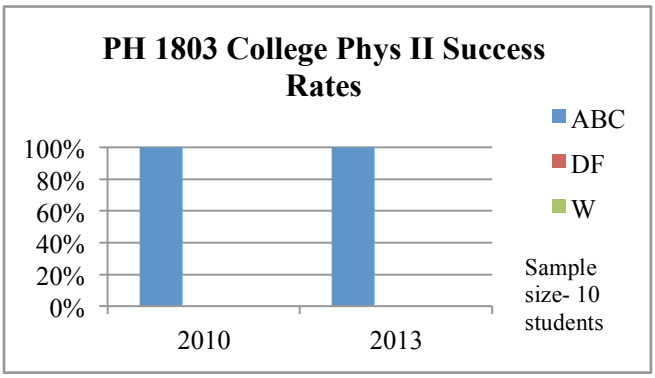
These courses and their respective laboratory components are studies of Newtonian mechanics, properties of matter, thermodynamics, and electricity, magnetism, light, atomic physics, nuclear physics and quantum physics. College Physics is geared toward students in the engineering technology, medical and technical fields, and is not recommended for math, physical science, or engineering students. The prerequisite for College Physics I is a minimum grade of "C" in MT 1505 (Pre-Calculus). Students must co-enroll in both lecture and laboratory courses.

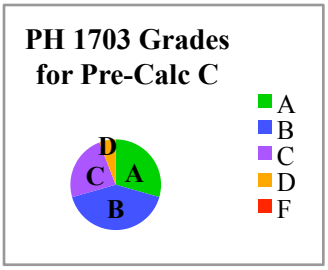


The success and withdrawal rates for PH 1703 are shown in the graph at left for academic years 2010-2012. The pie charts below compare grades in prerequisite MT 1505 (Pre-Calculus I) to each student's grade in PH 1703.









MT 1505 grade	PH 1703 success rate
A	88.9%
B	93.8%
C	94.1%

Although PH 1703 is a prerequisite for PH 1803 (College Physics II), not all degree programs require both courses, which leads to low enrollment. The success rate for PH 1803 was 100 percent (defined as a grade of A, B or C), for academic years 2010 and 2013. The sample size of 10 students may be too small to draw any meaningful conclusions. In the future, it may be useful to analyze degree completion rates compared to success in both PH 1703 and PH 1803, as well as the success rate in PH 1803 compared to the students' respective grades in PH 1703.

Interpretation of Results
The most striking result is the low number of students enrolled in College Physics. This appears to be due to two factors; the low enrollment in programs which feature College Physics as a degree requirement, and students choosing other courses for a non-specific degree requirement for a science course.
Due to the low sample size, grades in prerequisite math courses for College Physics may not indicate any meaningful conclusions.

Success rates in College Physics may not be meaningful due to the low sample size, but the extremely low enrollment allowed an unusual amount of individual attention to each student, which could account for the unusual success rate.

Assessment Plan: PH 1703/1803
In light of the data, the department has set the following goals for the 2013-2014 academic:

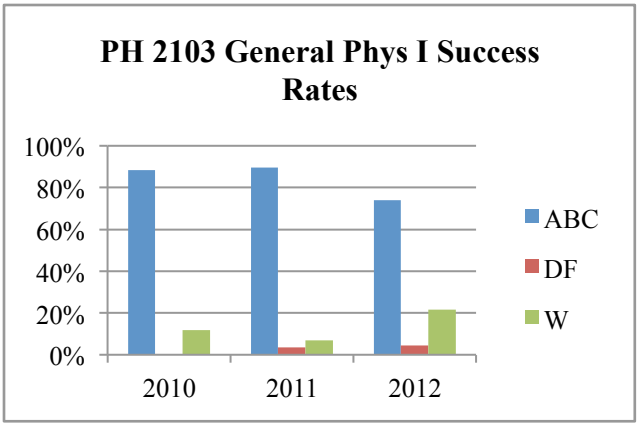
- Integrate more laboratory sessions into the curriculum, beginning fall 2013. Assessment of the lab reports will promote better scientific reasoning and deduction skills, and writing skills. Knowledge of associated classroom material can be assessed for an increase in understanding.
- Analyze final exams in PH 1703/1803 and pre/post test data to compare successful versus unsuccessful students to help isolate particular skill and concept areas that separate successful and unsuccessful students. This can begin with the data from the fall 2013 semester.
- Continue in fall 2013 to focus on enrollment numbers from within the college by promoting College Physics to students as an interesting and useful course to fulfill the science requirement for their degree program.
- Continue in fall 2013 to focus on enrollment from outside the college by promoting degree programs, which require College Physics.
- Begin to monitor the success rates in degree programs for students successfully completing PH 1703/1803, starting with students who completed PH 1703 in fall 2012.

General Physics I and II

These courses and their respective laboratory components are studies of the mechanics of solids, liquids and gases; and of heat and sound, and electricity, magnetism and light. General Physics is intended for the student who plans to major in mathematics, the physical sciences or engineering. The prerequisites for General Physics I are a minimum grade of "C" in MT 1605 (Calculus I) and a minimum grade of "C" or co-enrolled in MT 2105 (Calculus II).

Students must co-enroll in both lecture and laboratory courses. The success and withdrawal rates for PH 2103 are shown in the graph below for academic years 2010-2012.

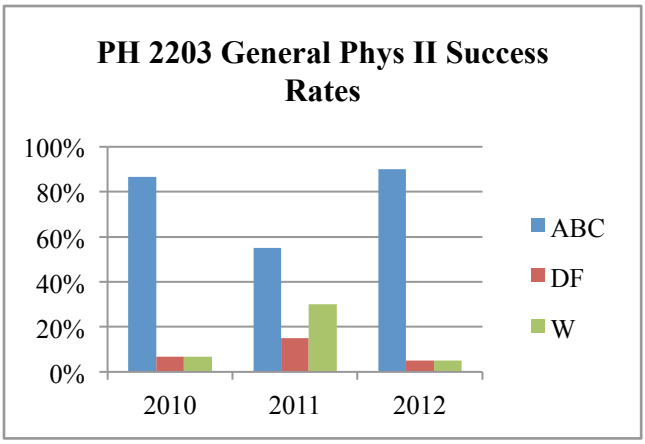
Of the 69 students who enrolled in PH 2103 between 2010 and 2012, the success rate was 84.1 percent (defined as a grade of A, B or C), compared to a withdrawal rate of 13 percent. It may be useful to analyze degree completion rates compared to success in PH 2103, as well as the success rate in PH 2203 compared to the students' respective grades in PH2103.



The table to the right shows success rates in PH 2103 for each MT 1605 grade. A higher grade in Calculus I relates to a higher success in General Physics I.

MT 1605 grade	PH2 103 success rate
A	96.2%
B	86.9%
C	70.6%

The success and withdrawal rates for PH 2203 are shown in the graph at right for academic years 2010-2012.



Of the 55 students who enrolled in PH2203 between 2010 and 2012, the success rate was 76.4 percent (defined as a grade of A, B or C), compared to a withdrawal rate of 15 percent.

PH 2203 is a prerequisite for certain engineering courses such as EG 2303 (Intro Circuit Theory), as well as being a degree requirement for several programs. In the future, it may be useful to analyze degree completion rates compared to success in both PH 2103 and PH 2203, as well as the success rate in PH 2203 compared to the students' respective grades in PH 2103.

Assessment Plan: PH 1703/1803

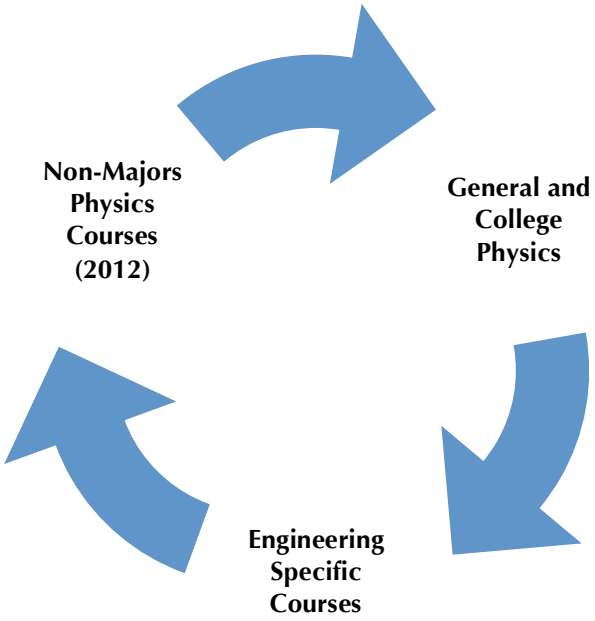
In light of the data, the department has set the following goals for the 2013-2014 academic year:

- Explore ways to increase collaboration to foster greater success through a possible engineering learning community or required study sessions beginning spring 2014. This would be assessed through attendance and success in class.
- Collect data from the comprehensive weekly Moodle quizzes showing student's understanding of the materials. Use this in combination with the pre/post-test data to determine which material needs more attention. The Moodle data can be collected by December 2013. This will allow for syllabi changes in spring 2014.
- The design projects will be modified to become a whole-semester project rather than just during the last few weeks of the course. Students will be expected to go through a greater planning phase to replicate a more typical engineering environment. This was addressed in the Transfer Engineering Advisory Committee meeting as a much-needed skill. Modifications to the design projects can begin in the fall 2013 semester. The final assessment of the projects will need to reflect these changes.

Physics and Transfer Engineering
Submitted by: **Ann Boehmer, *chair of the mathematics and physical science division***

Individual Course Assessment

Courses will be reviewed and assessment reports submitted every three years in the following rotation, beginning in 2012:



Non-major physics courses include Survey of Physical Science and Introduction to Physics. For these courses, the department develops a pre-test consisting of concept-based problems that are reassessed on the final exam. Additionally, an external assessment is conducted using one of the following standardized tests: various Concept Inventory tests produced by Arizona State University, and the Knowledge of Selected Basic Physical Science Concepts exam administered and developed by Pima Community College in conjunction with Jon Miller of Michigan State University.

The General and College Physics grouping consists of two sequences: General Physics I and II, and College Physics I and II. A pre and post-test, The Force Concept Inventory, produced by Arizona State University is administered in each of these sequences, in addition to the CAAP testing, is embedded in the College Physics I and General Physics I lectures. Engineering-specific curriculum includes the two mechanics courses Statics and Dynamics, C++ Programming for Engineers, Introduction to Circuits and Introduction to Engineering Design. Student success rates from subsequent engineering courses at Missouri S&T such as Mechanics of Materials and Data Structures are retrieved from Missouri S&T. The Circuits class is assessed using Missouri S&T's EE 281 Circuit exam.

CLO Assessment

The departments assesses the CLO of Critical and Creative Thinking by administering the Science Reasoning CAAP test on a rotating basis in their courses with a Higher Order Thinking (HOT) designation which are Introduction to Physics Lecture, Survey of Physical Science, College Physics I Lecture and General Physics I Lecture. Since fall 2013, the Science Reasoning CAAP test has been administered as an entry skills assessment with subsequent testing every three years. Effective spring 2015, post-tests using the

Science Reasoning test will be administered in previous designated classes with repeated assessments every three years.

In addition, the institution's CLOs are measured with the following rotation:

- Communication via ECC's common embedded rubric in General Physics II Lab
- Ethics and Social Responsibility in the Introduction to Engineering Design using the assessment tool developed by the AQIP action project committee, administered annually

Program Review Schedule

As part of the program review schedule for the Mathematics and Physical Science Division, physics and transfer engineering report in the following years and every five years thereafter:

- 2013: Non-major physics
- 2016: transfer engineering

During the recent program review for transfer engineering, the review team indicated that success data from transfer institutions would be a valuable source to measure the effectiveness of the program. The department has been in discussion with MS&T to obtain anonymous student performance data in specific follow-on classes, which can be used to assess preparedness in an objective fashion. So far this has not been forthcoming, but these discussions continue. Another suggestion was for the department to convene an advisory committee to suggest specific practices to prepare students for employment after their graduation. This process began during the 2012-2013 academic year.

The review team also mentioned the importance of making students aware of both the scope and variety of positions available to engineering majors upon graduation. The department will address this by continuing to explore career options in the required Foundation seminar course, conducting tours of job sites in conjunction with the Pre-Engineering Club, and maintaining contact with the recently compiled catalog of local employers of engineers.

Precision Machining Technology
Submitted by: **Ann Boehmer, *chair of the mathematics and physical science division* and Curtis Elliot, *PMT program coordinator***

The aim of the department's assessment plan for the next four years will be to:

1. Assess selected learning outcomes and practices that are inherent in the entire precision machining course sequence to embody problem-solving and development to real world applications and standards.
2. Establish a four-year cycle of course assessment, with attention to both individual course improvements and continuity between sequential courses.
3. Embed and assess ECC's Common Learning Objectives.

Rationales

Assessments of the following rationales for learning outcomes are based on conditions under which the competencies are demonstrated and the criteria-performance is satisfied when the objectives are mastered:

- Learning objective/outcome.
- Demonstrate basic functions, safety and measurement.
- Demonstrate mastery of application, processes and setup.
- Explain math concepts utilized and interpretation.
- Translate manual techniques into Numerical Control Programming.
- Translate application, process and setup procedures.
- Demonstrate mastery of software to streamline development, part creation and programming.
- Perform professional applications of technology for production.

Competencies are demonstrated with written assessments generated both departmentally and externally consisting of various question types (multiple choice, true/false and written statements) covering all areas of the core classes. Criteria-performance is satisfactory when students identify and demonstrate knowledge of the given rationales. Standardized exams such as NOCTI (given as an exit exam in the Capstone course) and Technical Skill Assessments (based on NIMS credentials and given within the appropriate course) are administered each semester.

CLO Assessment

The department assesses the CLO of Critical and Creative Thinking by administering the Science Reasoning CAAP test on a rotating basis in their courses with a Higher Order Thinking designation. These courses are: Introduction to Computer Numerical Control, Machining Mill and Lathe Lecture and Computer Aided Manufacturing Lecture. Starting fall 2013, the Science Reasoning CAAP test is administered as an entry skills assessment with subsequent testing every three years. Starting spring 2014 post-tests using the Science Reasoning test will be administered in previous designated classes with repeated assessment every three years.

The institution's CLO for Communication will be assessed annually via ECC's common embedded rubric in Introduction to Computer Numerical Control Machining Lab. Ethics and Social Responsibility in Machining Capstone will also be assessed annually using the assessment tool developed by the AQIP action project committee.

Course Review To Follow Specific Cycle

- First Year: Machine Tool 1, Blueprint Reading and Design and Introduction to CNC
- Second Year: Machine Tool 2, Computer Aided Manufacturing and CNC Lathe
- Third Year: Machine Tool 3, CNC Mill, GDT and SPC and Solid Works
- Fourth Year: Machine Tool 4, Materials and Metallurgy and Machining Capstone

The above cycle ensures that the review of subsequent courses immediately follows that of previous courses. Items utilized for individual course assessment, continuity and retention throughout course sequences include:

- Revision of course goals and learning outcomes.
- Success rates as they relate to NIMS credentials.
- Review of departmental assessments through item analysis and alignment with course objectives.
- Success rates as they relate to performance in previous courses.
- Enrollment numbers by pathway of course entry.
- NIMS/other embedded assessments in selected courses.

Data for the above items originate from both the Precision Machining Department's own records, as well as the Office of Institutional Research, Assessment & Planning. Additional items that are reviewed once a year include textbooks and course materials, (including technology) and course descriptions and prerequisites.

Accreditation

East Central College's Precision Machining program is accredited through the National Institute of Metal Working Skills (NIMS). On June 19, 2013, the program was re-accredited through June 19, 2018 for level one and two machining skills. Starting in fall 2018, the re-accreditation process will start again and includes the following:

Section 1: Procedures for Training Programs
An abbreviated self-evaluation form is submitted and a one-day, on-site evaluation is conducted. Instructional staff and NIMS credentials are reviewed, as well as records of annual facility reviews by the advisory committee.

Section 2: On-site Evaluation Teams
Evaluation Team members conduct interviews with instructional staff, administration, advisory committee members, training partners, employers and trainees. They also review facilities, equipment, and all relevant program documentation for the applicant-training program.

Section 3: Elements of the On-Site Evaluations
Documentation is reviewed, including surveys, curriculum, program brochures and related materials, written policies regarding safety, inventory listings, maintenance schedules, advisory committee minutes, program plan, student records, work-place and skill competition information, articulation agreements, instructor evaluation polices and instructor certificates. Student observations and student feedback are reviewed. In addition, interviews with instructors, administration, employers, and advisory committee members are conducted.

Section 4: Recertification Decisions
NIMS will assess the on-site evaluation team ratings and recommendations, and decide on the recertification status of the program (award or deny).

Advisory Committee

The East Central College Precision Machining Program Advisory Committee consists of local business owners and/or sponsors of the manufacturing industry. Meetings are held twice a year to discuss the topics related to the machining field and any adjustments that may be needed to the program to meet industry needs and changes. A process for creating and implementing a three-year cycle of advisory committee members was developed in fall 2013. Assessment of the effectiveness of the advisory committee will be assessed annually beginning spring 2014 using ECC's Advisory Committee rubric.

Program Review Schedule

As part of the program review schedule for the Mathematics and Physical Science Division, precision machining will report in 2014 and every five years thereafter.

Assessment Report

Starting spring 2015, an assessment report will be submitted to the college on a rotation of every other year containing averages of scores of learning outcomes and rationales (including common learning objectives). It will also include updates and recommendations from advisory board meetings, reports on technical skills assessments related to NIMS credentialing processes within the division, graduate follow-up and status of reaccreditation process.

Nursing & Allied Health

This division submitted reports on the following academic programs and areas:

- Nursing
- Occupational Therapy Assistant
- Paramedic Technology (Emergency Medical Services)
- Radiography

Nursing (ECC-Union, 2012 Calendar Year)
Assessment Measure: National Council of State Board of Nursing Exam (NCLEX-RN)
Submitted by: **Robyn Walter, *chair of the nursing and allied health division***

Overview

Graduates have the following curriculum outcome measures:

- Utilize the nursing process as the basis for the delivery of health care.
- Participate knowledgeably in the prescribed medical regime.
- Establish and maintain positive interpersonal relationships with clients, families and other members of the health team.
- Function as a teacher of clients who need information or support to maintain health.
- Serve as a manager of nursing care for a group of clients with a variety of health problems in various settings.
- Function as a member within the profession of nursing.

These outcome measures are assessed at various points during the curriculum in a formative process. Graduates are assessed in a summative nature when they sit for the NCLEX-RN comprehensive examination. Successful completion of the examination is required to enter the profession as a registered nurse.

Assessment Results

Program 17-426 (Rolla)

- 28 nursing graduates
- 28 tested
- 28 passed
- Zero failed

2012 Program Pass rate: 100 percent*

Program 17-470 (Union)

- 22 nursing graduates
- 22 tested
- 21 passed
- One failed

2012 program pass rate: 95.45 percent*
2012 Missouri pass rate: 93.43 percent*
2012 national pass rate: 90.34 percent*

The results were reviewed in the Total Program Evaluation. There were minor changes to the curriculum in regards to clinical documentation, content sequencing in the second year, and an increase in clinical simulation.

** First-time testing results*

MHPC Occupational Therapy Assistant (ECC-Union, 2012 Program End)
Assessment Measure: National Board for Certification in Occupational Therapy (NBCOT)
Submitted by: **Lea Brandt, *MHPC OTA Program Director***

Overview

Graduate curriculum outcome measures are set by the Accreditation Council of Occupational Therapy Education (ACOTE). These outcome measures are assessed at various points during the curriculum in a formative process.

Graduates are assessed in a summative nature when they sit for the NBCOT comprehensive examination. Successful completion of the examination is required to enter the profession as a certified occupational therapy assistant.

Assessment Results

- 14 graduates
- 14 tested
- 14 passed
- 0 fail

2012 program pass rate: 100 percent*
2012 national pass rate: 81 percent*

The results were reviewed in the Total Program Evaluation. There were no significant changes to the curriculum or student services.

** First-time testing results*

Paramedic Technology (Emergency Medical Services)
Course Reviewed: EM 1323 Paramedic 4 (Spring 2013)
Assessment Measure: Psychomotor (Practical) Exam (National Registry of Emergency Medical Technicians [NREMT])
Submitted by: **Robyn Walter, *chair of the nursing and allied health division, and Tom Fitts, assistant professor of EMS/Paramedics***

Overview

Paramedic students, in order to become licensed in Missouri, must pass the National Registry of Emergency Medical Technicians Psychomotor and Cognitive exams. Students are required to complete the NREMT Psychomotor (Practical) exam as part of the Paramedic 4 course. Students are not allowed to take the NREMT Cognitive exam until all clinical skill requirements are completed.

Students have 24 months from the time they begin Paramedic 1 to complete the clinical skill requirements. Students must complete the licensing process within 24 months of finishing the program, which is when they have completed all clinical skill requirements and classroom content.

Practical Exam Results

Students must take and pass 12 practical stations in order to be licensed. The practical exam is administered by approved testing locations under the guidelines of the National Registry of Emergency Medical Technicians.

Students take all 12 practical skills stations during one day of testing. If a student does not successfully complete a station, they must retest only that station. If a student does not successfully complete six or more stations, they must retest all 12 stations. Information from the spring 2013 semester is available on seven students:

- Nine students are in the class.
- Six students have tested.
- A total of 72 stations were tested.
- Eight failed stations.
- 89 percent pass rate.
- 83 percent pass rate on first retest.
- One student did not pass three stations on first retest attempt.

Station	Passed - First Attempt	Passed - Retest
Patient Assessment-Trauma		
Ventilatory Management-Adult	6	NA
Ventilatory Management-Alternative Device	6	NA
Dynamic Cardiology	5	1
Static Cardiology	5	1
Oral Station A	4	1
Oral Station B	4	1
Intravenous Therapy	6	NA
Intravenous Bolus Medication	6	NA
Pediatric Ventilatory Management	5	0
Pediatric Intraosseous Infusion	6	NA
Random Skills	6	NA

Interpretation of Results

State and national pass rates are not available for benchmarking. There was not one skill set that indicated a trend of difficulty for the students. The failed stations were few and spread over several testing areas. The Paramedic Technology (EMS) program does not receive data for reasons for failure such as a routine fail or fail due to an omission of a critical skill.

The plan is to continue to track this data each year and observe for trends related to specific skills set.

Radiologic Technology (Radiography) (ECC-Rolla, 2012 Program End)
Assessment Measure: American Registry of Radiologic Technologists Exam
Submitted by: **Maggie Ogden, *program director of radiologic technology***

Overview

Graduates have the following curriculum outcome measures:

- Facilitates development of critical thinking and problem solving skills.
- Creates an appreciation for the importance of professionalism and professional growth in a radiography career.
- Enables attainment of the knowledge and skills appropriate for an entry-level radiographer.
- Promotes graduates becoming members of the health care team.

These outcome measures are assessed at various points during the curriculum in a formative process. Graduates are assessed in a summative nature when they sit for the ARRT comprehensive examination. Successful completion of the examination is required to enter the profession as a Registered Technologist in Radiography, RT(R) credentials.

Assessment Results

- 11 radiography graduates
- 11 tested
- 11 passed

2012 program pass rate: 100 percent*
2012 program average score: 85.4 percent
2012 national pass rate: 93 percent*
2012 national average score: 85.3 percent
** First-time testing results*

The results were reviewed in the Total Program Evaluation. There were no significant changes to the curriculum or student services.

Science

This division submitted reports on the following academic programs and areas:

- General Chemistry
- Organic Chemistry

General Chemistry
Course reviewed: CH 1305: General Chemistry I Lecture/Lab and CH 1405: General Chemistry II Lecture/Labe (academic years 2008-2009 through 2012-2013)
Submitted by: **Matt Monzyk, Ph.D., associate professor of chemistry**

Data Source

This assessment report is for General Chemistry I and General Chemistry II classes taught from academic years 2008-2009 through 2012-2013. General Chemistry at East Central College is a two-semester sequence course required for chemistry, biology, chemical engineering and medical science majors. At ECC, students who follow medical science degree plans are majoring in one of the following: veterinary medicine, pharmacy, dentistry, chiropractic and medicine. General Chemistry I also is part of the General Studies program.

Type of Assessment

The Chemistry Department at East Central College uses assessment exams created by the American Chemical Society (ACS) specifically for General Chemistry I and for General Chemistry II. Pre-tests and post-tests are given for both courses.

General Chemistry I uses ACS exams designed specifically for this course and given as final exams. General Chemistry I pre-test have varied from ACS General Chemistry I exams or ACS High School Exams. The prerequisite for this course is two years of high school chemistry. Employing ACS High School exams attempted to monitor entering knowledge levels of students. Most semesters used ACS First-Term General Chemistry I exams to monitor knowledge improvement from the start to the finish of the semester.

General Chemistry II ACS exams for the pretest are varied. Some semesters used a General Chemistry I final as the General Chemistry II pre-test. This was employed to monitor the knowledge foundation created from the students' General Chemistry I experience. Other semesters used ACS General Chemistry II cumulative exams that cover material in both General Chemistry I and II. All semesters used General Chemistry II exams for the finals. Results from ACS General Chemistry I and II finals allow the comparison of exam results with national norms published by the American Chemical Society. Concept plots are created for all chemistry courses and aid in identifying concepts that are transferred successfully and those that are not.

Conclusion and Future Plan

Assessment results are listed below in Table 1. Pre-test to post-tests improvement show an average improvement of 72.38 percent increase. The lowest improvement is for the off-sequence General Chemistry II students and may reflect the dissipation of previous knowledge due the extended period that exist between taking General Chemistry I and II. This same group also has the lowest average retention rates, and the lowest ACS improvement scores. Assessment score using ACS exams show an average ECC increase of 14 percent. Methods to improve the performance of the off-sequence general chemistry II student need to be discussed.

Table 1									
Chem II					**ACS Norm**			Regular	Percent Improvement
Term	Pretest	Pretest	**Final**	Final Type		Retention Rate	BPAN	Exam Ave.	
SP2013		ACS2002, 59.6, GenChemI Pretest ave 59.8	**59.05**	ACS2001	**51.7**	85.71	50.6	65.8	
SP2012	45.7	ACS2001 GenChemII	**66.6**	ACS2001	**51.7**	93.8	62.4	64.2	
SP2011	36.1	ACS2001 GenChemII	**60.0**	ACS2001	**51.7**	68.8	41.3	62.2	ACS Improvement %
SP2010	26.5	ACS2001 GenChemII	**54.1**	ACS2001	**51.7**	90.0	48.7	60.7	**16.3**
SP2008		ACS2002, 59.6, GenChemI Pretest ave 61.4	**60.9**	ACS2001	**51.7**	100.0	60.9	70.5	Pre/Post Improvement
Averages	**36.1**		**60.1**		**51.7**	**87.6**	**52.8**	**64.7**	**66.6**
Term	Pretest	Pretest	**Final**	Final Type	**ACS Norm**	Retention Rate	BPAN		
FA2011	41.1	ACS2001 GenChemII	**55.7**	ACS2001	**51.7**	66.7	37.1	55.6	ACS Improvement %
FA2010		ACS2002, 59.6, GenChemI Pretest ave 52.5	**62.5**	ACS2007	**56.6**	57.1	35.7	62.9	**5.4**
FA2009		ACS2002, 59.6, GenChemI Pretest ave 53.8	**50.5**	ACS2001	**51.7**	75.0	37.9	54.4	Pre/Post Improvement
Averages	**41.1**		**56.2**		**53.3**	**66.3**	**36.9**	**57.6**	**36.8**
Chem I									
Term	Pretest	Pretest	**Final**	Final Type	**ACS Norm**	Retention Rate	BPAN	Exam Ave.	
SP2013MM	35.6	ACS2002 First Term Gen Chem	66.9	ACS2002	**59.6**	66.7	44.6	66.3	
SP2013BS		ACS2002 First Term Gen Chem	**77.0**	ACS2002	**59.6**	50.0	38.5		
SP2012MM	35.5	ACS2002 First Term Gen Chem	**67.3**	ACS2002	**59.6**	86.7	58.3	74.2	ACS Improvement %
SP2012BS	39.29	ACS2002 First Term Gen Chem	72.9	ACS2002	**59.6**	75	54.7		**16.8**
SP2011	40.9	ACS2002 First Term Gen Chem FPSS	**74.6**	ACS2002	**59.6**	85.0	63.4	72.1	Pre/Post Improvement
SP2008		ACS2001HS(55.99 norm) Pretest ave 40.5	**59.1**	ACS2002	**59.6**	87.5	51.7	59.9	**84.1**
Averages	**37.8**		**69.6**		**59.6**	**75.1**	**51.9**	**68.1**	
Term	Pretest	Pretest	**Final**	Final Type	**ACS Norm**	Retention Rate	BPAN	Exam Ave.	
FA2012MM	24.6	ACS2002 First Term Gen Chem	**75.0**	ACS2002	**59.6**	70.4	52.8	68.7	
FA2012BS	37.5	ACS2002 First Term Gen Chem	**65.2**	ACS2002	**59.6**	75.0	48.9		
FS2011MM	36.6	ACS2002 FPSS Voluntary Good turnout	**75.6**	ACS2002	**59.6**	68.8	52.0	71.1	ACS Improvement %
FS2011BS	35.8	ACS2002	**79.9**	ACS2002	**59.6**	65.0	51.9		**17.7**
FS2010	39.1	ACS2002 No FPSS	**65.0**	ACS2002	**59.6**	79.3	51.5	66.5	Pre/Post Improvement
FS2009SecB1B2		ACS2001HS(No Fri HelpSessions)splitsec(38.2	**65.4**	ACS2002	**59.6**	56.7	37.1	59.8	**102.0**
FS2008		ACS2001HS(No Fri HelpSessions)splitsec(37.1	**64.8**	ACS2002	**59.6**	89.5	58.0	69.7	
Averages	**34.7**		**70.1**		**59.6**	**72.1**	**50.3**	**67.2**	

ACS = American Chemical Society standardized national exams used as assessment tools
FPSS = Friday Problem Solving Sessions
*BPAN = Bi-Parameter Assessment Number = (final exam score * retention rate)*
*Retention Rate = (students taking final exam/(student taking first exam) *100*

Organic Chemistry
Courses reviewed: CH 2305: Organic Chemistry I Lecture/Lab and CH 2415: Organic Chemistry II Lecture/Lab (academic years 2009-2010 through 2012-2013)
Submitted by: **Fatemeh Nichols, Ph.D., *chair of the science division***

Data Source

This assessment report is for the Organic Chemistry class taught from academic years 2009-2010 through 2012-2013. Organic Chemistry at East Central College is a two-semester sequence course required for chemistry, biology, chemical engineering and medical science majors. At ECC, students who follow medical science degree plans are majoring in one of the following: veterinary medicine, pharmacy, dentistry, chiropractic and medicine.

Type of Assessment

The Chemistry Department at East Central College uses two types of assessment for Organic Chemistry:

1. *Internal Diagnostic Study*
   In academic year 2009-2010, the department used multiple-choice exams as pre and post-tests. From academic year 2010-2011 on, concept analysis was added to the exam. The exam contains 100 questions, which cover all concepts taught during the semester. The concept plot of the data in Appendix 1 will reveal the flaws in the questions or learning efficiency of the concepts.
2. *American Chemical Society Exams*
   The Chemistry Department curriculum is set up using the American Chemical Society guidelines. Therefore, our curriculum is checked using the ACS standard exams. For Organic Chemistry I (CH 2305), offered only during the fall semester, one semester of exams were used (ACS 2004), and for Organic Chemistry II (CH 2415), offered only during the spring semester, two semesters of exams were used (ACS 2006). These exams are given during the final week of class. The results of these exams give insight into how our curriculum compares to other institutions on a national level. The data is in Appendix 3.

Conclusion and Future Plan

Internal diagnostic studies are the assessment tools for looking at average improvement in student scores in pre and post-tests, and also offer a breakdown of student learning by concepts. Given that, CH 2305 is the first in a two-semester sequence of courses, this data is particularly useful. Many of the concepts learned here serve as important fundamentals for the material students will be learning in CH 2415.

Data provided in Appendix 2 Table 7, shows, on average, student performance in CH 2305 improved by 130.7 percent. An identical exam was given in the fall semesters from 2009 through 2012. The concept analysis in fall 2010 indicated a weakness in stereochemistry. The following year, fall 2011, students' performance improved by allowing them to use molecular models during tests and because a stereochemistry workshop was added to the course.

CH 2415 is a second-semester course in the organic series. This course is a continuation of CH 2305. Data collected during the spring semesters of 2010 through 2013 shows an average increase of 90 percent, as seen in Appendix 2 Table 7. In general, this course has a smaller number of students and due to the small sample population, any concept analysis performed would be statistically invalid. For example, in spring 2012, five students took the pretest, but only three took the posttest. Appendix 2 Table 7, shows a change of 62.2 percent and Appendix 1 Table 6, shows a very small increase for student #3. This data is not representative of actual learning that took place. In fact, student #3 had a score of 88 percent on the ACS exam, which was significantly higher than the national average of 56.02 percent. One

can see correlation between student grades in the pre-test versus the post-test. Data shows that students who do well on pre-test always do well on the post-test. Conversely, students who perform low on pre-test do not always preform low on the post-test. There is no correlation here.

As indicated in Appendix 3 Table 8, ECC students in both CH 2305 and CH 2415 have ACS exam scores well above the national average. This indicates that the Chemistry Department curriculum aligns well with ACS standards and guidelines. We are on the right track and will continue using ACS exams as a guide. In the fall 2013, the department will perform blind tests with new ACS exams, proctored by the Office of Instruction. The same thing will be done for CH 2415 in the spring 2014.

For AY 2013-2014, a new assessment, a lab test, will be added to CH 2305 and CH 2415. Following ACS guidelines for the laboratory portion of CH 2305 and CH 2415, this exam will be assessing:

- Developing a feel for the logic of organic experimental procedures:
    - The logic of glassware design.
    - Selecting the optimum equipment for a particular reaction or operation,
    - Why particular solvents and reaction conditions are used for a specific transformation.
- Planning and carrying out a variety of organic reactions, including safety considerations.
- Keeping a laboratory notebook as a record of what is done.
- Monitoring the progress of a reaction.
- Isolation and purification of products.
- Spectroscopic analysis of starting materials and products; deducing structures and answering questions from modern spectroscopic and computational data.
- Analysis of experimental data using statistical analysis.

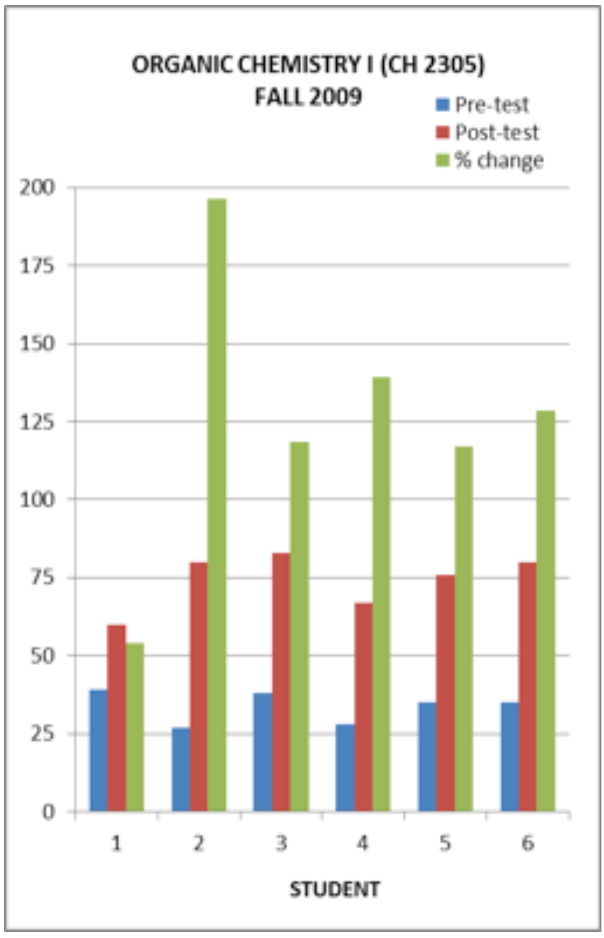
Appendix 1: Academic Year 2009-2010

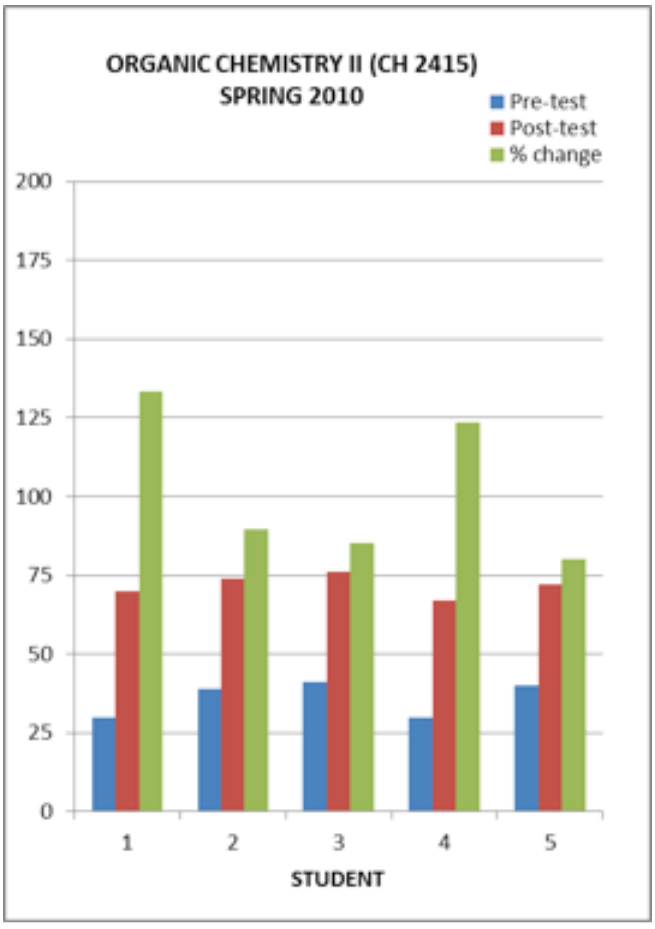
Table 1: Organic Chemistry I (CH 2305) Fall 2009			
Student	***Pre-Test***	***Post-Test***	***% Inc***
1	39	60	53.846
2	27	80	196.3
3	38	83	118.42
4	28	67	139.29
5	35	76	117.14
6	35	80	128.57

Average% inc: 125.6 percent

Table 2: Organic Chemistry II (CH 2415) Spring 2010			
Student	***Pre-Test***	***Post-Test***	***% Inc***
1	30	70	133.33
2	39	74	89.744
3	41	76	85.366
4	30	67	123.33
5	40	72	80.00

Average% inc: 102.4 percent

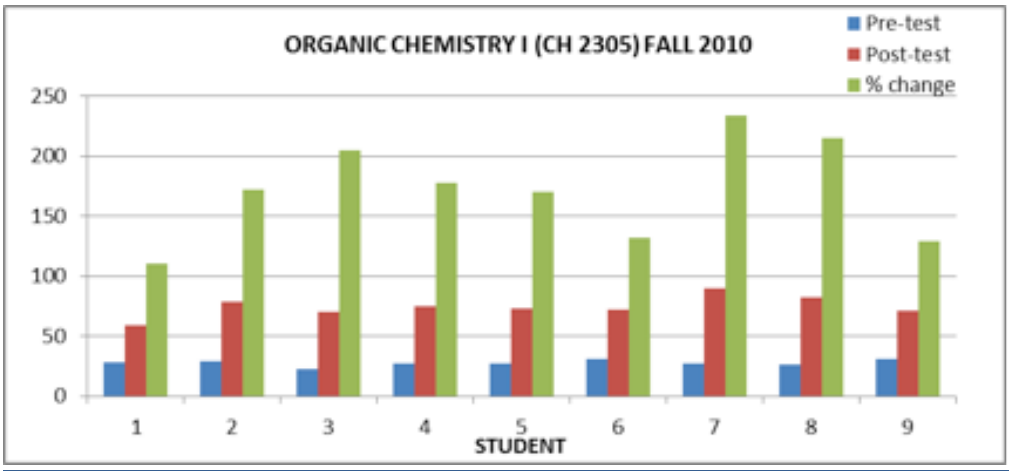




Appendix 2: Academic Year 2010-2011

Table 3: Organic Chemistry I (CH 2305) Fall 2010			
Student	***Pre-Test***	***Post-Test***	***% Inc***
1	28	59	110.71
2	29	79	172.41
3	23	70	204.35
4	27	75	177.78
5	27	73	170.37
6	31	72	132.26
7	27	90	233.33
8	26	82	215.38
9	31	71	129.03

Average % inc: 117.57 percent



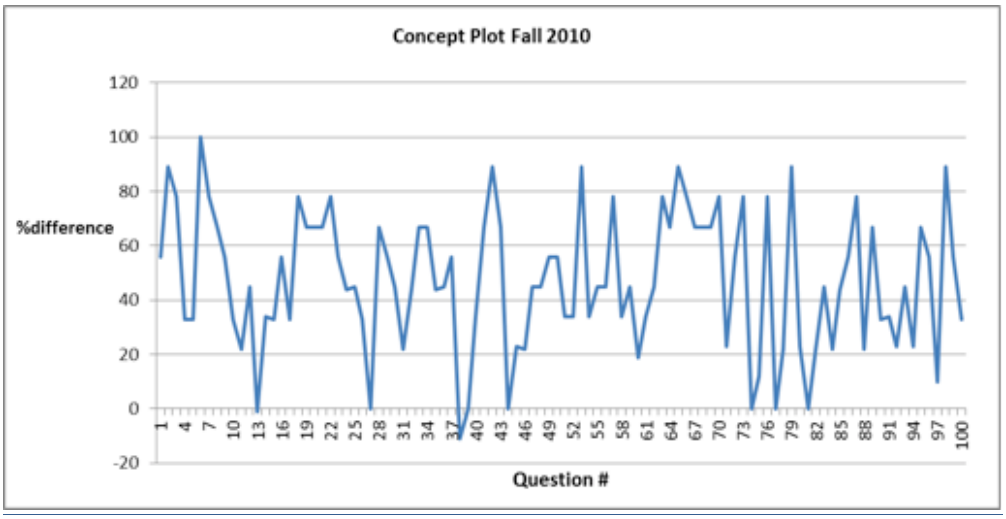
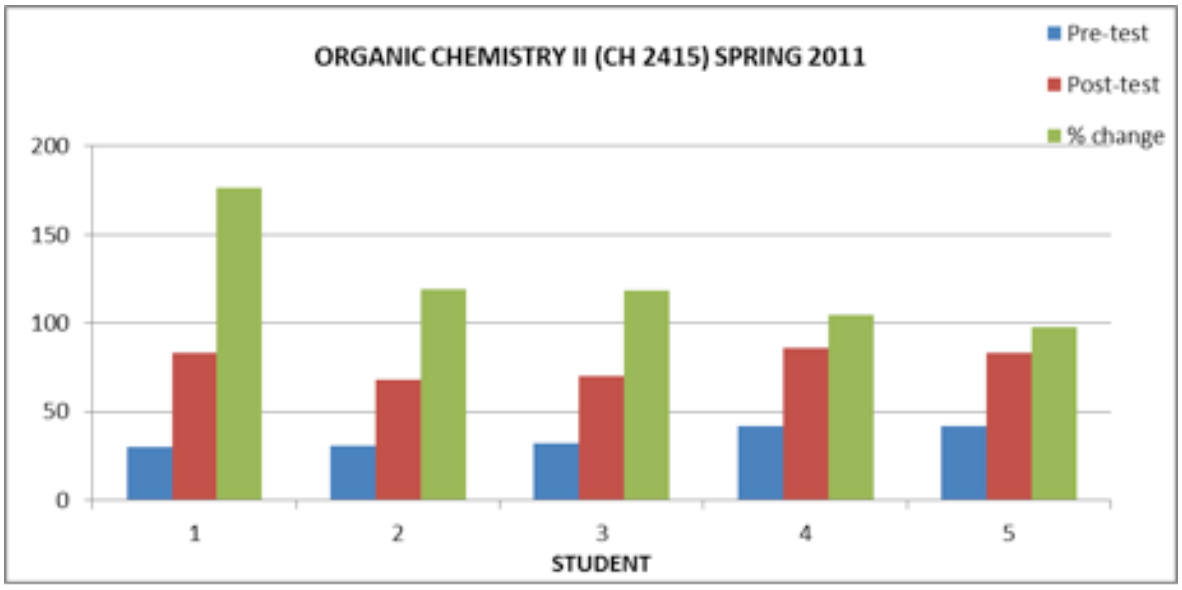
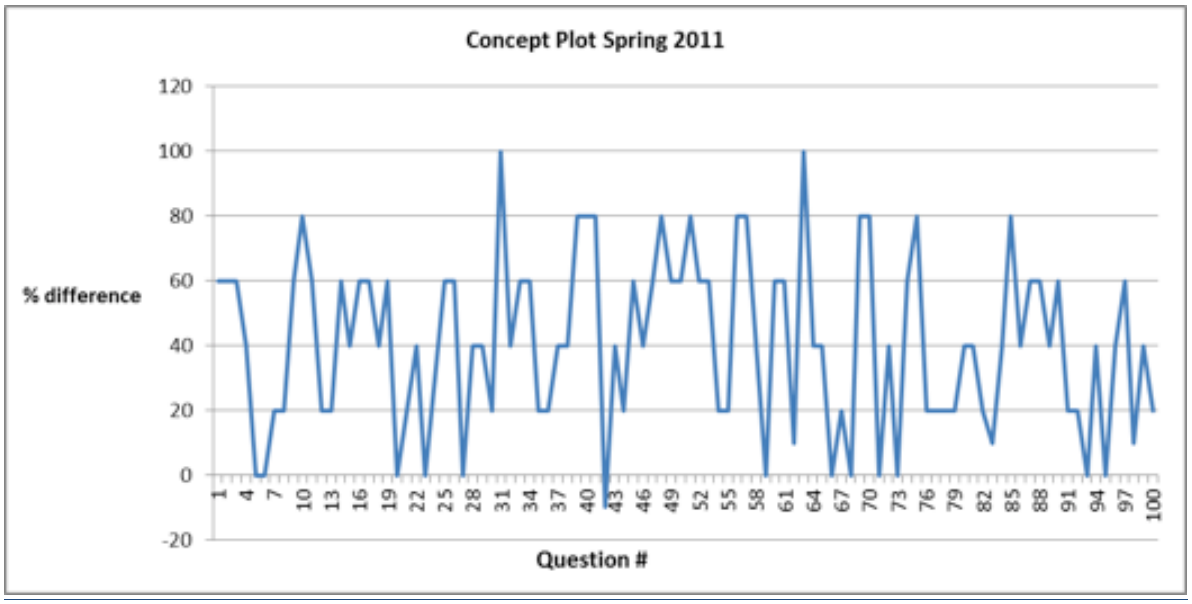


Table 4: Organic Chemistry II (CH 2415) Spring 2011			
Student	***Pre-Test***	***Post-Test***	***% Inc***
1	30	83	176.67
2	31	68	119.35
3	32	70	118.75
4	42	86	104.76
5	42	83	97.619

Average % inc: 123.43 percent

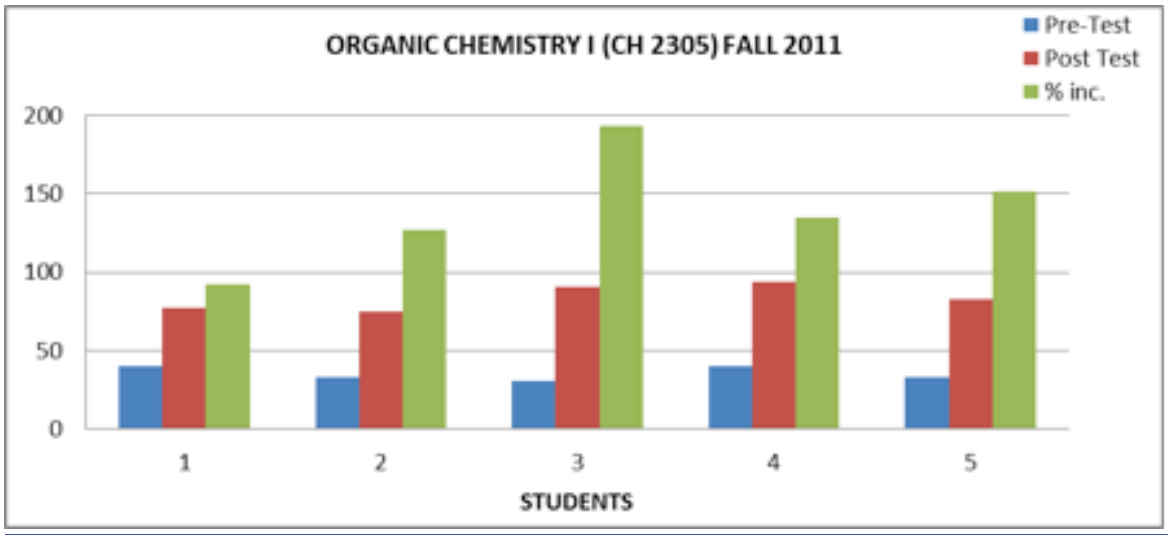




Appendix 3: Academic Year 2011-2012

Table 5: Organic Chemistry I (CH 2305) Fall 2011			
Student	***Pre-Test***	***Post-Test***	***% Inc***
1	40	77	92.50
2	33	75	127.27
3	31	91	193.55
4	40	94	135.00
5	33	83	151.52

Average % inc: 139.97 percent



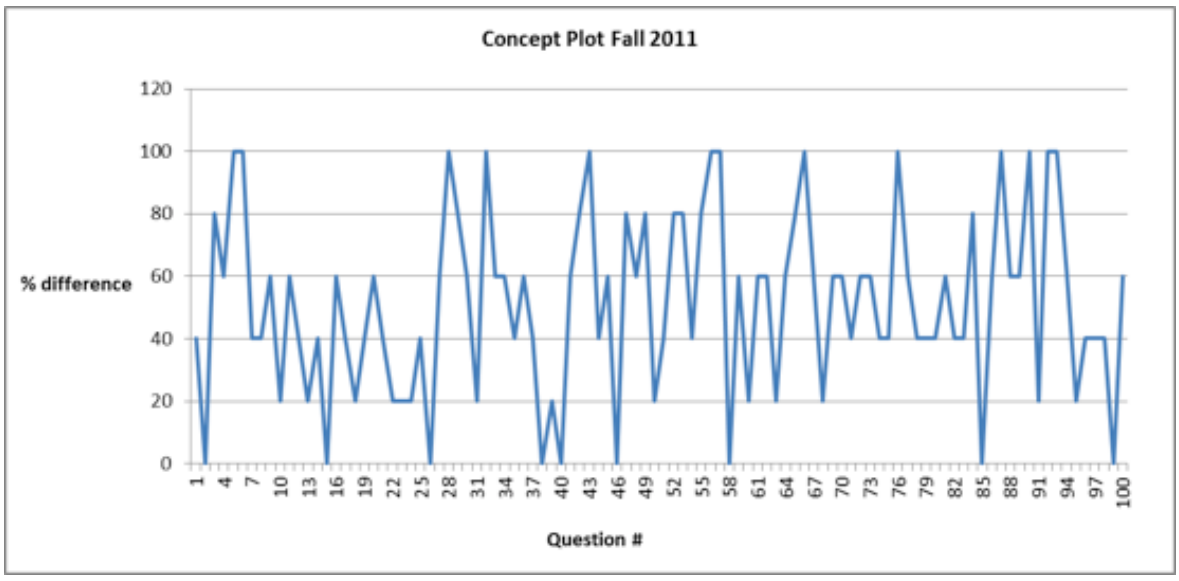
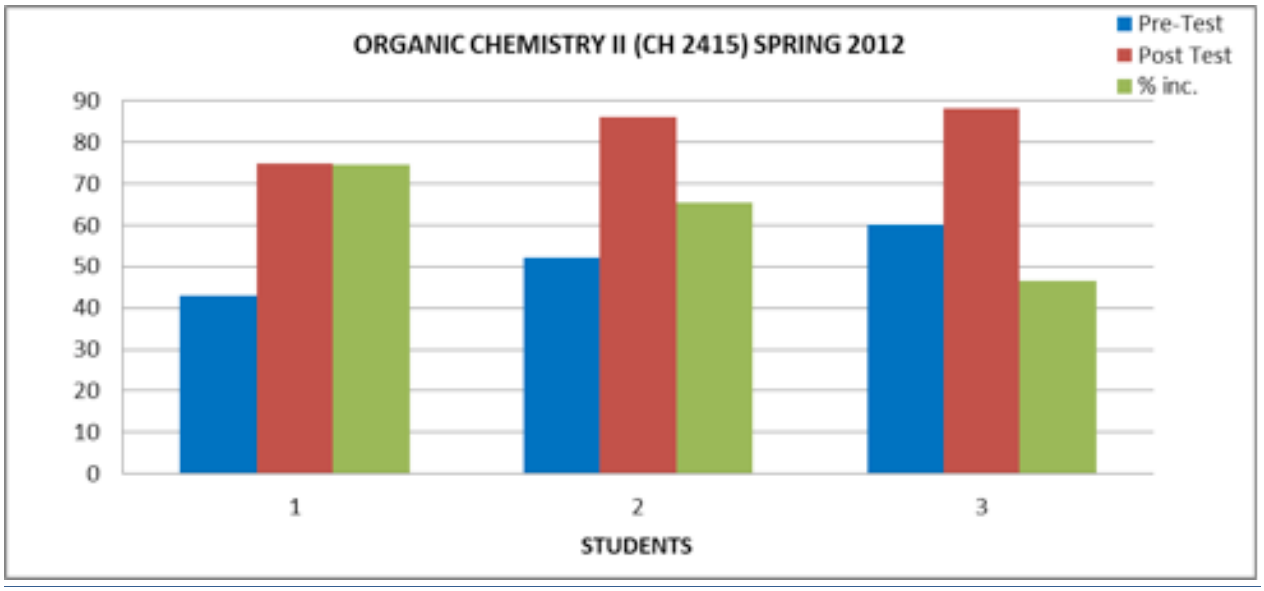


Table 6: Organic Chemistry II (CH 2415) Spring 2012			
Student	***Pre-Test***	***Post-Test***	***% Inc***
1	43	75	74.42
2	52	86	65.385
3	60	88	45.667

Average % inc: 62.16 percent



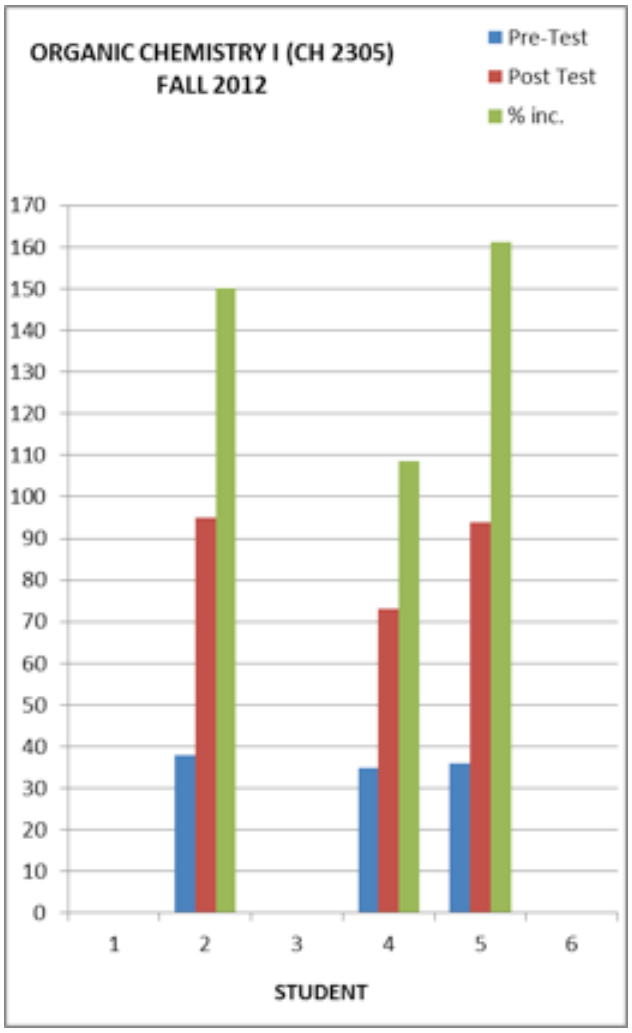
Appendix 4: Academic Year 2012-2013

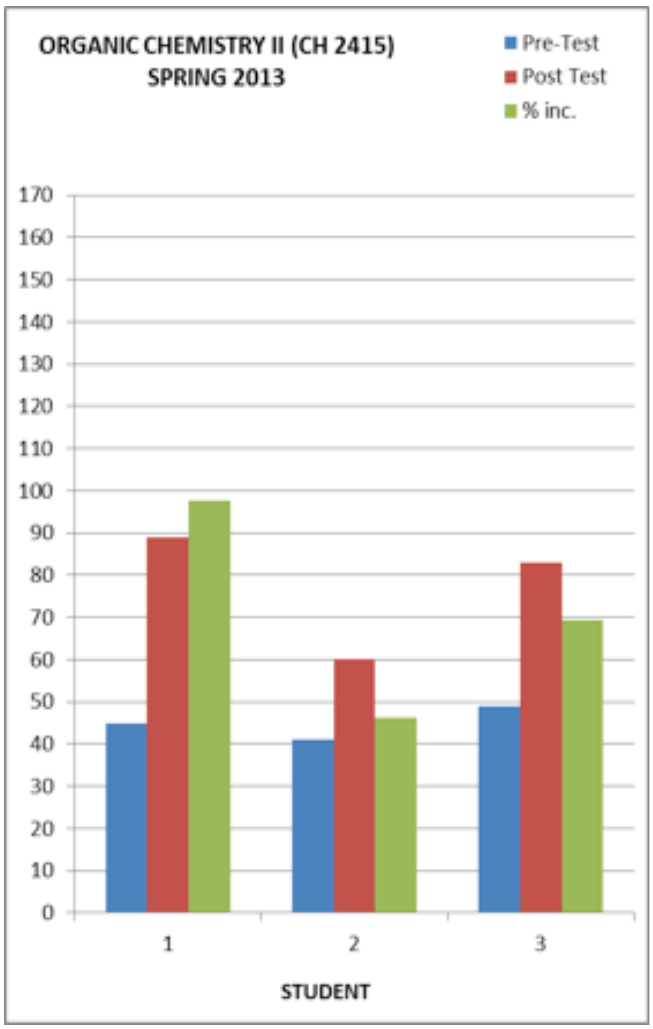
Table 7: Organic Chemistry I (CH 2305) Fall 2012			
Student	***Pre-Test***	***Post-Test***	***% Inc***
1			
2	38.00	95.00	150.00
3			
4	35.00	73.00	108.60
5	36.00	94.00	161.10
6			

Average% inc: 139.9 percent
(Retention 50 percent)

Table 8: Organic Chemistry II (CH 2415) Spring 2013			
Student	***Pre-Test***	***Post-Test***	***% Inc***
1	45	89	97.78
2	41	60	46.34
3	49	83	69.39

Average% inc: 71.17 percent
(Retention 100 percent)





Appendix 5: Overall Change Academic Years 2009-2013

Average of Percent Change AY 2009-2013			
Fall Semesters	*% change*	***Spring Semesters***	*% change*
Fall 2009	125.60	Spring 2010	102.40
Fall 2010	117.20	Spring 2011	123.40
Fall 2011	140.00	Spring 2012	62.20
Fall 2012	140.00	Spring 2013	70.00
Average	130.70	**Average**	90.00

Appendix 6: American Chemical Society National Averages

American Chemical Society National Averages			
Semester	*% ACS Norm*	*ECC Students*	*Retention*
Fall 2009 (one sem. ex. 2004)	54.04	63.38	100
Fall 2010 (one sem. ex. 2004)	54.04	58.57	100
Fall 2011 (one sem. ex. 2004)	54.04	73.14	80
Fall 2012 (one sem. ex. 2004)	54.04	71.15	50
Spring 2010 (one sem. ex. 2004)	56.02	64.29	100
Spring 2011 (one sem. ex. 2004)	56.02	68.57	83
Spring 2012 (one sem. ex. 2004)	56.02	79.05	60
Spring 2013	Did not use ACS Exam		100

SECTION 4: DISTANCE LEARNING

Overview

As a result of one of ECC's first Action Projects, the college has a process in place to evaluate the effectiveness of distance education.

The process calls for a comparison of in-class results to distance results, i.e. Web Online, Web Hybrid, ITV, Self-Paced. The following charts include those comparisons.

The college continues to offer distance learning workshops in the summer for existing or new instructors wanting teach in a distance education format. They are required to attend one of the sessions before they are assigned to a class. The workshops focus on pedagogy using distance learning technologies and best practices.

The college also gives all distance learning faculty a copy of *Online Teaching and Learning @ East Central College, A Resource Manual for Faculty and Staff*. The manual provides faculty with specifics regarding online learning course requirements and expectations of faculty teaching online.

Comparison Results

Academic Year 2012

AC 1003: FINANCIAL ACCOUNTING I LECTURE											
Course Format	As	Bs	Cs	Ds	Fs	Ws	WXs	**Total**	Successful Completion (A, B & C)	Ds and Fs	W and WXs
Classroom	21	11	9	4	6	7	0	**58**	70.7%	17.2%	12.1%
ITV	7	8	5	0	2	1	0	**23**	87.0%	8.7%	4.3%

BU 1013: PRINCIPLES OF MARKETING											
Course Format	As	Bs	Cs	Ds	Fs	Ws	WXs	**Total**	Successful Completion (A, B & C)	Ds and Fs	W and WXs
Classroom	5	12	8	0	3	1	0	**29**	86.2%	10.3%	3.4%
Online	14	4	3	1	3	1	0	**26**	80.8%	15.4%	3.8%

CT 1003: ORAL COMMUNICATIONS											
Course Format	As	Bs	Cs	Ds	Fs	Ws	WXs	**Total**	Successful Completion (A, B & C)	Ds and Fs	W and WXs
Classroom	59	28	19	8	20	6	11	**151**	70.2%	18.5%	11.3%
Online	9	7	4	4	9	4	0	**37**	54.1%	35.1%	10.8%
Hybrid	39	24	19	20	12	13	2	**129**	63.6%	24.8%	11.6%

EN 2033: LITERATURE FOR CHILDREN											
Course Format	As	Bs	Cs	Ds	Fs	Ws	WXs	Total	Successful Completion (A, B & C)	Ds and Fs	W and WXs
ITV	4	9	4	2	1	2	0	**22**	77.3%	13.6%	9.1%
Hybrid	7	5	7	3	0	0	0	**22**	86.4%	13.6%	0.0%

Academic Year 2012 (continued)

CT 1003: ORAL COMMUNICATIONS											
Course Format	As	Bs	Cs	Ds	Fs	Ws	WXs	**Total**	Successful Completion (A, B & C)	Ds and Fs	W and WXs
Classroom	59	28	19	8	20	6	11	**151**	70.2%	18.5%	11.3%
Online	9	7	4	4	9	4	0	**37**	54.1%	35.1%	10.8%
Hybrid	39	24	19	20	12	13	2	**129**	63.6%	24.8%	11.6%

MT 0103: PRE-ALGEBRA											
Course Format	As	Bs	Cs	Ds	Fs	Ws	WXs	**Total**	Successful Completion (A, B & C)	Ds and Fs	W and WXs
Classroom	36	74	70	67	75	31	24	**377**	47.7%	37.7%	14.6%
Online	5	6	1	5	6	2	0	**25**	48.0%	44.0%	8.0%
Self-Paced	3	38	24	11	34	29	10	**149**	43.6%	30.2%	26.2%

MT 1403: College Algebra											
Course Format	As	Bs	Cs	Ds	Fs	Ws	WXs	**Total**	Successful Completion (A, B & C)	Ds and Fs	W and WXs
Classroom	10	29	69	48	41	55	9	**261**	41.4%	34.1%	24.5%
Online	1	2	5	2	5	9	1	**25**	32.0%	28.0%	40.0%

PY 1103: General Psychology											
Course Format	As	Bs	Cs	Ds	Fs	Ws	WXs	**Total**	Successful Completion (A, B & C)	Ds and Fs	W and WXs
Classroom	100	118	57	25	38	13	3	**354**	77.7%	17.8%	4.5%
Online	25	9	1	2	7	1	1	**46**	76.1%	19.6%	4.3%

Academic Year 2012 (continued)

SO 1103: General Sociology											
Course Format	As	Bs	Cs	Ds	Fs	Ws	WXs	**Total**	Successful Completion (A, B & C)	Ds and Fs	W and WXs
Classroom	74	33	39	2	11	2	3	**164**	89.0%	7.9%	3.0%
Online	14	3	2	0	3	1	0	**23**	82.6%	13.0%	4.3%
Hybrid	7	5	4	1	4	3	0	**24**	66.7%	20.8%	12.5%

Academic Year 2013

SP 1104: ELEMENTARY SPANISH I											
Course Format	As	Bs	Cs	Ds	Fs	Ws	WXs	**Total**	Successful Completion (A, B & C)	Ds and Fs	W and WXs
Classroom	8	10	12	4	3	6	10	**53**	56.6%	13.2%	30.2%
ITV	1	1	1	2	2	0	1	**8**	37.5%	50%	12.5%

SECTION 5: STUDENT SUCCESS LEARNING COMMUNITY

Submitted by: **Ryan Crider, *developmental studies coordinator*** (spring 2013)

Overview

For the spring 2013 semester, the coordinators of developmental studies and retention at East Central College created a learning community model designed to help significantly underprepared developmental students adjust to college coursework. The coordinators defined "significantly underprepared developmental students" as those students whose performance on the college's placement exam (Accuplacer) had placed them into the most basic class within all three branches of ECC's developmental course sequences: Intro to Writing, Reading Comprehension and Pre-Algebra. There were three main components to the program: coursework, study group involvement and mentoring. The program was administered on a Monday-Wednesday-Friday schedule, from 8:30 a.m. to approximately 1:45 p.m.

Overall, 17 students chose to participate in the **Spring 2013 Learning Community**. These students each enrolled in the same nine-hour block of courses, which included Intro to Writing (three credit hours), Reading Comprehension (three credit hours), Foundation Seminar (two credit hours), and Basic Computer Skills (one credit hour). Due to perceived difficulties with scheduling, a specific Pre-Algebra course was not blocked off for Learning Community students. Instead, students were encouraged to enroll concurrently in a section of Pre-Algebra that would fit with their schedule. This effectively created a 12-hour course load for the vast majority of students.

Throughout the semester, the instructors in each of the courses and the coordinators involved in the program met on a regular basis. By remaining in contact with each other and sharing observations of student behavior with their colleagues, faculty and staff were able to streamline students' coursework as much as possible. The goal of this regular communication was to create a more complete, integrated learning experience for the students, who could then see each class as part of a greater whole.

While the familiarity that comes from working with the same fellow students in each class helped to forge relationships and a community apparatus for the program, the provision of dedicated study groups was viewed as essential to student success. On each Monday, Wednesday and Friday throughout the semester, students were required to attend two different study groups – a mid-morning study group devoted specifically to mathematics and a noon study group dedicated to English and writing. Students' attendance at these study groups was factored into their participation grades in Learning Community classes. For students who had a "B" grade or better in all their classes at mid-term, the study groups become voluntary for the remainder of the semester.

All study groups were led by a trained tutor or instructor within the appropriate field (i.e. all math study groups were supervised by a Learning Center math specialist) and held in computer labs. Study group leaders were included in the regular meetings held with Learning Community faculty/staff, ensuring integration between these two components of the program.

While the combination of integrated coursework and embedded study groups formed the backbone of the Learning Community, the program coordinators placed equal emphasis on the importance of individual mentoring and advising in helping students become acclimated to college coursework. During the first half of the semester, every student met on a weekly basis with either the retention coordinator or the developmental studies coordinator (the caseloads were divided roughly in half for each coordinator).

After midterm, students were encouraged to continue scheduling these meetings with their mentors on a voluntary basis. These private meetings allowed students and their mentor to develop a professional relationship beyond the classroom, offering students the opportunity to address any questions or concerns or talk their way through personal struggles that they might not feel comfortable discussing with faculty or fellow students. In addition to counseling students and helping them deal with the adjustment to college life, mentors also used these meetings to provide academic coaching and emphasize the positive traits and habits that lead to long-term student success.

Outcomes Assessment

Finding comparative data by which to evaluate the effectiveness of a program such as this presents challenges. Because many of the students in the Learning Community exhibited severe deficiencies in both math and English, comparing their course performances to those of all other developmental students at the college (many of whom only require one or two remedial courses) would be unlikely to reveal accurate results. Instead, Learning Community students must be compared as nearly as possible to students with similar remediation needs.

To establish baseline data in the form of a control group, completion rates for all ECC students enrolled in Intro to Writing, Reading Comprehension and Pre-Algebra during the spring 2013 outside the scope of the Learning Community, as follows:

Comparative Group 13/SP Grades

Course	Total Students	A	B	C	D	F	W	ABC Success Rates
EN*0133	33	3	14	3	4	4	5	60.6%
EN*0203	33	5	11	8		7	2	72.7%
MT*0103	33	1	5	3	6	4	14	27.3%

Comparative data such as the above provides a starting point in assessing the Learning Community's outcomes, but it still is unlikely to allow for a true direct comparison. This is due to the initial tendency to recruit program participants from the most remedial segment of the developmental student population. The result was a small, perhaps statistically insignificant sample size skewed to at least some extent by a high number of student withdrawals very early in the semester. Completion data for the Learning Community cohort is as follows:

Learning Community 13/SP Grades

Course	Total Students	A	B	C	D	F	W	ABC Success Rates
EN*0133	14	3	1	1	1	2	6	35.7%
EN*0203	14	1	3		1	5	4	28.6%
MT*0103	14		3	1			10	28.6%

These numbers likely reveal just as much about the severe remediation challenges of the students who enrolled in the program as they do the Learning Community model itself. Nevertheless, based on this data two immediate goals for future semesters will be to retain a larger number of students through the semester's conclusion and to prioritize the allocation of resources to ensure that the correct segment of the developmental student population is being targeted and effectively served within the Learning

Community. The above data seems to confirm many observations from the spring semester, and a number of significant adjustments have been initiated as a result of the self-assessment process (see next section of this report for further explanation of these changes).

Given the small sample size and the difficulty of establishing a comparable control group to which the pilot cohort of students can be compared, the true effectiveness of the program can only be determined once improvements to the model have been implemented and additional data is generated. At the end of each future semester, the developmental studies coordinator will continue to pull and compile relevant data for Learning Community participants in order to track the effectiveness of corrective measures.

In addition, the performance of Learning Community participants in their coursework as they continue into and beyond the developmental sequences will be tracked in order to evaluate the program's impact on long-term student success. Five of the Learning Community participants enrolled in coursework for the summer 2013 semester, and early anecdotal evidence suggests that most of these students have adjusted well to the rigors of their current classes.

Observations and Planned Improvements

As a pilot, the first semester of the Student Success Learning Community allowed the coordinators the opportunity to make small "on the fly" adjustments to the program while also developing more substantive plans to sustaining the learning community model as a tool in developmental studies going forward. It is important to note that a successful learning community is entirely dependent on the support of multiple divisions throughout the institution, and communication between all stakeholders is essential. Likewise, all individuals and departments must also be involved in the continual, recursive evaluation of the program and its various parts.

In future semesters, a specific section of Pre-Algebra will be blocked off and dedicated to the Learning Community students, officially creating a 12-hour program. Academic advisors suggested this change as a way of simplifying the scheduling process, and it will allow for better integration between students' math coursework and study groups.

Based on feedback from students and the Basic Computer Skills instructor, the one-credit hour Basic Computer Skills class connected to the Learning Community will be frontloaded beginning with the fall 2013 semester. This will enable students to acquire working knowledge of many basic computer functions before those skills are required in their other coursework.

The most fundamental change in future semesters will be the creation of a "floor" for placement into the Learning Community. One of the biggest challenges instructors faced in working with students during the pilot semester involved having to address such an enormous range of abilities and deficiencies. Some students in the program had narrowly missed placing into the appropriate gateway course in one or more content areas, while others exhibited math and reading skills as low as the fourth grade level.

Ultimately, in reviewing placement data alongside semester performance, coordinators recognized a strong correlation between reading ability and course completion. Without exception, students whose Accuplacer Reading scores were below 40 (on a scoring range of 20-120) failed to complete all the courses in the program. Most students in this range did not remain enrolled beyond midterm, which severely affected completion data. Anecdotally, students scoring above this threshold demonstrated a reasonable competency to produce work consistent with the expectations of individual courses.

This observation led to an important discussion between instructors and coordinators regarding the program's overall goals. While the biggest goal of the program is to provide significantly underprepared students with resources that will enable them to succeed and advance in their coursework, students with severe reading deficiencies likely should not be encouraged to begin their college coursework with a full load of intensive coursework; instead, these students would perhaps benefit from taking a lighter load of courses that would allow them to raise their reading comprehension ability before becoming full-time students.

The Student Success Learning Community, therefore, can make more efficient use of time and resources by involving students whose reading scores suggest a better likelihood of immediately handling a full-time course load. Based on this discussion, the decision was made to restrict registration into the Learning Community to students who score at least a 40 on the Accuplacer Reading test.

Finally, one of the most encouraging additions to future semesters of the Learning Community will be the involvement of former Learning Community students as peer mentors for new students. A number of students who just completed the pilot semester have volunteered to attend a brief Learning Community orientation in the fall in order to meet the new students and share their success stories. These previously successful students will be integrated into the program as voluntary peer mentors. They will each be "assigned" to three or four new Learning Community students, with whom they will exchange contact information and stay in communication with during the semester as someone who can answer questions or provide advice from a student's perspective.

SECTION 6: SUMMARY

This fourth addition of the ECC Assessment Report captures the depth and scope of assessment activities on campus.

It also demonstrates the need for continued work on the reporting formats, the use and analysis of data, the role of Program Review and voluntary program accreditation and diligence to the use of all of the information for improved student learning.

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