3.3.1.1

Institutional Effectiveness: Educational Programs

The institution identifies expected outcomes, assesses the extent to which it achieves these outcomes, and provides evidence of improvement based on analysis of the results in each of the following areas:

3.3.1.1 educational programs, to include student learning outcomes.

Judgment

☑ Compliance   ☐ Partial Compliance   ☐ Non-Compliance   ☐ Not Applicable

Narrative

Tennessee Technological University (TTU) is engaged in the improvement of educational programs with the formulation and monitoring of specific student learning outcomes, assessments, and improvement of student learning. Toward this end, TTU articulates its educational outcomes in relation to its mission through several different initiatives and academic programs described further below.

Overview. TTU strives to use assessment and the institutional effectiveness process to improve educational programs and to meet the University's mission:

Tennessee Technological University's mission as the state's only technological university is to provide leadership and outstanding   programs in engineering, the sciences, and related areas that benefit the people of Tennessee and the nation. The University also provides strong programs in the arts and sciences, business, education, agriculture and human ecology, nursing, music, art and interdisciplinary studies. Tennessee Tech serves students from throughout the state, nation, and many other countries, but it retains a special commitment to enrich the lives of people and communities in the Upper Cumberland region of Tennessee.

The University is committed to the life-long success of students in its undergraduate, master's, specialist, and doctoral degree granting programs through high-quality instruction and learning experiences. The University is engaged in scholarly activity, especially basic and applied research, creative endeavors, and public service, with special emphasis on community and economic development. The University supports student participation in a broad array of extracurricular activities as an integral component of its commitment to student life and success.

Reported in Core Requirement 2.5, the process of institutional effectiveness for University-wide academic programs was realigned in 2013 to track relationships that relate directly to the Strategic Plan (Flight Plan) in the new campus labs planning module, and has moved away from a one-time annual review of word and pdf documents to a more fluid process. Each of the educational programs at TTU (100%) annually evaluates learning outcomes and uses the results to improve the program and student learning in the program. A TTU Audit Matrix of all programs and services is attached with hyperlinks to all campus reporting for easy access by the reviewer [1].

Accreditation. TTU is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award baccalaureate, master's, specialist, and doctoral degrees. Additionally, several academic programs are accredited by discipline-specific program accreditation associations, further demonstrating that they meet the requirements of their specific program accreditor related to student achievement (as indicated by the following table).

College	Degree/Program	Accreditation
Agriculture and Human Ecology	Human Ecology (Baccalaureate) Didactic Program in Dietetics (Baccalaureate)	American Association of Family and Consumer Sciences (AAFCS) Accreditation Council for Education in Nutrition and Dietetics (ACEND)
Arts and Sciences	Chemistry (Baccalaureate)	American Chemical Society (ACS)
Business	Business Administration (Baccalaureate) Business Administration (Master) Accounting (Baccalaureate)	The Association to Advance Collegiate Schools of Business (AACSB International)
Education	Special Education; Child & Family Studies; Multidisciplinary Studies; Exercise Science, Physical Education & Wellness; Secondary Education (baccalaureates) Curriculum & Instruction; Instructional Leadership; Educational Psychology & Counselor – Education; Exercise Science, Physical Education & Wellness (Masters) Curriculum & Instruction; Instructional Leadership; Educational Psychology & Counselor (Education Specialists) Fine Arts (Baccalaureate) Music (Baccalaureate)	Council for the Accreditation of Educator Preparation (CAEP) National Association of Schools of Art and Design (NASAD) National Association of Schools of Music (NASM)
Engineering	Chemical Engineering; Civil Engineering; Computer Engineering; Electrical Engineering; Mechanical Engineering (Baccalaureates) Computer Science (Baccalaureate) Manufacturing and Engineering Technology (Baccalaureate)	Engineering Accreditation Commission of ABET (EAC/ABET) Computing Accreditation Commission of ABET (CAC/ABET) Association of Technology, Management, and Applied Engineering (ATMAE)
Nursing	Nursing (Baccalaureate) Nursing (Master)	Commission on Collegiate Nursing Education (CCNE) Accreditation Commission for Education in Nursing (ACEN)

Program review and academic audits. In addition, standards of the Tennessee Higher Education Commission (THEC) guide the University in five-year reviews of educational programs. "Each graduate program that is not accredited by a program accreditation association undergoes either an external peer review or academic audit according to a pre-approved review cycle." A set schedule of program reviews and academic audits is utilized and presented in the following table. Information on program reviews and academic audits is available at (www.tntech.edu/provost/pf/program-review and www.tntech.edu/provost/pf/academic-audit).

Program Evaluation: Undergraduate Programs

TTU - 5 Year Review Cycle

	2010 CIP	Academic Program	Degree	Year Reviewed	Evaluation Type*	Total No. Standards	"NA" Standards	# Stand. Met	% Met
1	01.03.0601.00	WILDLIFE & FISHERIES SCIENCE	2.5 BS	2010-11	PR	24		24	100%
2	18.26.0101.00	BIOLOGY	2.5 BS	2010-11	PR	24		24	100%
3	16.16.0101.00	FOREIGN LANGUAGES	2.5 BA	2011-12	AA	23		23	100%
4	15.23.0101.00	ENGLISH	2.5 BA	2011-12	AA	20		20	100%
5	19.27.0101.00	MATHEMATICS	2.5 BS	2011-12	PR	24		24	100%
6	05.09.9999.00	COMMUNICATION	2.5 BS	2012-13	AA	20		20	100%
7	26.42.0101.00	PSYCHOLOGY	2.5 BS	2012-13	AA	20		20	100%
8	01.01.0000.00	AGRICULTURE	2.5 BSAG	2013-14	AA	23		23	100%
9	28.45.1101.00	SOCIOLOGY	2.5 BS	2013-14	AA	20		20	100%
10	28.54.0101.00	HISTORY	2.5 BA, BS	2013-14	AA	23		23	100%
11	16.24.0101.02	INTERDISCIPLINARY STUDIES (RODP)	2.5 BS	2014-15	AA	23	0	23	100%
12	16.24.0102.01	PROFESSIONAL STUDIES (RODP)	2.5 BS	2014-15	AA	23	0	23	100%
13	25.40.0601.00	GEOSCIENCES	2.5 BS	2014-15	AA	20	0	20	100%
14	25.40.0801.00	PHYSICS	2.5 BS	2014-15	AA	23	0	23	100%
15	28.45.1001.00	POLITICAL SCIENCE	2.5 BS	2014-15	AA	20	0	18	90%
16	01.030.0103.00	ENVIRONMENTAL & SUSTAINABILITY STUDIES	2.5 BS	New program effective Jan 2012					
						330	0	328	99%

*PR denotes traditional Program Review with checklist of 25 criteria. Criterions include program outcomes, curriculum, teaching/learning environment, faculty and support.

AA denotes Academic Audit with checklist of 20 criteria or 23 criteria for programs undergoing the Academic Audit a second time or more. Criterions include learning objectives, curriculum/co-curriculum, teaching/learning processes, student learning assessment, quality assurance, overall assessment, and support.

Program Evaluation: Graduate Program

TTU - 5 Year Review Cycle

	2010 CIP	Academic Program	Degree Level(s)	Year Reviewed	Evaluation Type*	Qualitative Score	Total No. Standards	"NA" Standards	# Stand. Met	% Met
1	18.26.0101.00	BIOLOGY	4.2 MS	2010-11	PR	2.9				
2	25.40.0501.00	CHEMISTRY	4.2 MS	2010-11	PR	2.8				
3	15.23.0101.00	ENGLISH	4.2 MA	2011-12	AA		52	0	52	100%
4	19.27.0101.00	MATHEMATICS	4.2 MS	2011-12	PR	2.9				
5	09.14.0701.00	CHEMICAL ENGINEERING	4.2 MS	2012-13	AA		52	0	51	98%
6	09.14.0801.00	CIVIL ENGINEERING	4.2 MS	2012-13	AA		52	0	52	100%
7	09.14.1001.00	ELECTRICAL ENGINEERING	4.2 MS	2012-13	AA		52	1	49	96%
8	09.14.1901.00	MECHANICAL ENGINEERING	4.2 MS	2012-13	AA		52	0	51	98%
9	01.03.0103.00	ENVIRONMENTAL SCIENCES	4.4 PHD	2013-14	AA		52	0	49	94%
10	08.13.0301.00	EXCEPTIONAL LEARNING	4.4 PHD	2013-14	AA		52	0	50	96%
11	06.11.0701.00	COMPUTER SCIENCE	4.2 MS	2014-15	AA		52	0	52	100%
12	09.14.0101.00	ENGINEERING	4.4 PHD	2014-15	AA		52	0	52	100%
13	16.24.0102.01	PROFESSIONAL STUDIES (RODP)	4.2 MPS	2014-15	AA		52	17	27	77%
	Cumulative Average Score:					2.9	520	18	485	97%

* PR denotes traditional Program Review. Criteria rated on a 4 point scale (0 = poor, 1 = minimally acceptable, 2 = good and 3 = excellent) by the external reviewer. Graduate programs are evaluated based on the quality of students experience, faculty, teaching/learning environment and program evaluation.

AA denotes Academic Audit with a checklist of 52 items or 55 items for programs undergoing the Academic Audit a second time. Items are grouped into 14 categories and focused on curriculum, student learning assessment, research outcomes, and the teaching/learning environment.

Faculty course evaluations, University senior exit exams, discipline specific exit/licensure exams, and employer and alumni surveys, are just a sample of programmatic assessments at the undergraduate and graduate levels, on campus and in our distance-learning programs. The following narrative specifically addresses Comprehensive Standard 3.3.1.1 Institutional Effectiveness in Educational Programs.

TTU developed a new process in 2011 for institutional effectiveness by establishing an Institutional Effectiveness (IE) Review Team, including both faculty members and administrators. This IE Team meets regularly to review IE reports in response to SACSCOC standards.

A thorough review of previous reports and current practice on program effectiveness was conducted after receiving the SACSCOC feedback from the 5th year report in 2010. Many programs at Tennessee Tech were collecting assessment data and making improvements on their programs. However, the reports were not consistent across campus concerning reporting format and consistency in expectations and terminology. Improvements were needed in assessment plans and use of results for programmatic changes.

An IE Template and Guide with exemplars was developed to assist academic units in IE reporting and the IE team in reviewing the reports. The University Assessment Director and the Interim Associate Vice President for Academic Affairs utilized the SACSCOC Evaluators' materials and SACSCOC principles to develop a new template for reporting [2] and incorporated an audit form [3] (Palmer, 2011) to evaluate all academic IE Reports consistently. Presentations on SACSCOC Requirements and Standards and the new formatting materials were made at the University Deans'

Council meetings and then to individual colleges for departmental heads. A review timeline was developed [4], and a spreadsheet [5] was used to track progress through phases of this comprehensive review in 2012.

The IE Team initially identified problems in the reporting and assessment plans for academic units, and developed training for departmental heads. The units were requested to revise the 2011-2012 IE reports using the new formatting materials. They were also asked to revise or develop assessment plans if necessary. Individual consultations between departmental chairpersons and the IE team members were implemented, and the departments were given feedback on formulating measurable student learning outcomes, designing/using assessment tools that have a mix of direct and indirect measures, and using relevant results for modifications.

Revised reports were submitted and reviewed again by the IE Team. Feedback on the progress of institutional effectiveness in units was implemented in the following categories: exemplary, acceptable, or developing (See Section II for descriptions). The new format for reporting and the feedback provided allowed units to recognize improvements that could be made to student learning outcome strategies and assessment plans. Examples of these actions are highlighted below.

As a continuing effort on institutional effectiveness for academic programs, this process was continued for 2012-2013 [6] and 2013-2014 [7] reporting. IE reports are collected regularly as a required part of annual reporting from academic areas and are continually monitored by the Office of Academic Affairs and the Office of University Assessment. A program (Campus Labs) with planning tools for submitting reports efficiently and consistently was purchased, and was implemented for collecting these reports in the 2014-2015 academic year. During the academic year 2014-2015, program administrators for all educational programs tracked goals and student learning outcomes related to Institutional Effectiveness Comprehensive Standards 3.3.1.1. These program directors are trained using the new reporting system (Campus Labs Planning module) to report and monitor processes on student learning outcomes, unit goals, and unit objectives. In addition, student learning outcomes and programs goals were related to the new Flight Plan Initiatives (2013). Program goals and student learning outcomes were also assessed at the program level to meet the requirements of disciplinary accrediting bodies, program reviews, and academic audits (www.tntech.edu/provost/pf/accreditation).

In addition to the tasks described above, administrator development is also available. Presentations on Effective Reporting for Institutional Effectiveness, Student Learning Outcomes, Sampling, and Assessment Tools, as well as numerous resources for institutional effectiveness processes were conducted and are easily accessible to departmental and unit leaders.

Through this extensive review process and the development of reporting tools, 100% of 51 academic programs have identified measurable student learning outcomes, and have reported consistently, using the template and now the planning system, for the last four academic years. Many deficiencies were discovered in the use of assessment for program changes. The addition of Section VII Improvements to Assessment Plan in the reporting template allows academic units to strategically improve plans for assessment and use of results for the departments categorized as developing, in addition to those in the acceptable stage. Off-site and distance learning programs were found to have planning and assessment procedures that are consistent with on-campus programs.

Description of Institutional Effectiveness Template

TTU Institutional Effectiveness Template with description of each required section. TTU has used the following template for institutional effectiveness reporting since 2011, after receiving feedback from the 5th year interim report in 2010. The purpose of this template is to provide guidelines for developing assessment plans and a standard format for reporting used annually by TTU departments and units for institutional effectiveness. The document reflects guidelines for designing and tailoring assessment plans aligned with the needs and purposes of various departments and units for program improvement. Below is a specific template, used by all departments and units on the TTU campus and a description of each section to assist in reviewing institutional effectiveness reports.

> Academic Year:
> Administrative/Student Support Unit:
> Submission Date:
> Contact (Person submitting this report):

Definition of support service unit. This section describes the mission, vision, and purpose of the department or unit. The mission is a broad statement that reflects the aim of the educational goals and learning outcomes, and the goals and objectives of educational programs. Mission statements should be concise, linked directly to TTU's and the department's mission statement, and include major functions of the unit. This section also includes a description of

the department or unit and its place in the organization chart.

Goals, student learning outcomes, and objectives.

> List each goal.
> List each student learning outcome/objective related to each goal.

The goals of all departments and units are aligned to the goals of the institution. Goals are broader, general assertions that describe the overarching long-term intended objectives of the unit. Goals may or may not be measurable and usually are further developed as separate, distinct learning outcomes or objectives, that, when measured appropriately, provide evidence of how well the area is accomplishing goals. Student learning outcomes and service-related objectives are measurable statements that describe the expected or intended quality relative to timeliness, responsiveness, accuracy, etc. These statements often describe how well a department or unit intends to function or improve its functioning or the services provided. Student Support Objectives are statements that target the intended knowledge, abilities, values, and attitudes students are meant to be able to demonstrate after participating in a given activity and/or after using services within an educational student support unit.

Assessments (related to goals, outcomes, objectives above).

> Name of the assessment tool (List the assessment time frame) –List the related goal or objective numbers.

All departments and units use an assortment of well-matched method/instrument related to each respective goal. Method of assessment refers to the "measures" each department and unit intends to use to reach the objectives (e.g. surveys, focus groups). For TTU it is important that the method/instrument chosen enable the unit to evaluate its effectiveness in terms of academic goals and student learning outcomes. A primary objective of assessment for this institution is to illuminate strengths and weaknesses in each department or unit that can lead to improvement. Each area also includes the time frame that the assessment tool was implemented and data was collected.

Rationale for goals, assessments, and the process of data analysis.

> Describe each assessment tool (Use points 1-4 in the paragraph below).

The TTU template includes an area to describe each assessment tool and the process of periodic review of assessments used. TTU emphasizes that evaluators are looking for use of multiple assessment methods. Description of each assessment tool(s) includes (1) baseline data/information which focuses on "the current state of the unit" regarding a given objective whereas performance target refers to "where the unit would like to be." The method of assessment and the performance targets should be stated. (2) how each area defines success based on the defined goals and performance targets. It is the unit's responsibility to (3) make a compelling case as to why the sampling and assessment findings are an appropriate representation of the institution's current performance. In addition, each area describes the assessment instrument that was used and why it was selected. (4) Finally, each area shares how the data were disseminated and analyzed throughout the unit to make modifications.

Results (use of current results compared to past/benchmark results if applicable).

> Highlight the name of the assessment tool (List goal/objective numbers) and present results.

This section contains highlighted results that include evidence for improvement. Each department or unit inserts graphs, tables, and charts that provide mature data for decisions of revising goals and objectives, and for improvement. TTU emphasizes that the departments and units report the data results here and discussion of the results in the next section. This section requires actual data/information based on the previously stated objectives, methods of assessment, and performance targets. The data gathered must be analyzed and formatted in a way that provides useful information for identifying strengths and weaknesses and for improving processes and services.

Modifications and continuing improvement: Program changes due to assessments.

For goals/objectives #, #, & #- describe changes made.

Link to assessment data: Describe the link between modifications to strategies and the assessment results reported for each modification/action.

This section, the pinnacle of the report and also commonly referred to as "closing the loop," requires an action plan from the department or unit, based on the achieved results. All departments and units are required to review assessment results with a focus toward uncovering strategies or services that need to be improved. Since the express purpose of assessment is to use what is learned in the process to improve performance of units, it is important that annual assessment reports contain a description of the actions or "steps" that were taken in response to the assessment results to improve the unit's services. Each department and unit must discuss evidence of improvement, based on analysis of assessment results, as opposed to a plan for improvement for each goal/objective mentioned above.

Improvements to assessment plan. TTU emphasizes improvement of assessment plans as well. This section includes discussion on any changes made to the department's or unit's assessment plan, including any new tools or modifications to existing tools.

Review Matrix of All TTU Departments and Units. The Office of University Assessment and an Institutional Effectiveness Committee led by the Director, periodically review all departments and units using an IE review rubric [8], to ensure that each area is progressing in the institutional effectiveness process and is making meaningful changes due to actionable results from their individual and University-wide data collections. The attached matrix provides a summary for the reviewers of the assessment plans and goals for each area. Academic departments have provided four years of assessment reporting in the template format for review [1]. In addition, the compiled PDFs of the IE reports for each unit highlighted, are hyper linked below for ease of access.

Sampling Procedure

TTU has seven major colleges, to include fifty-one separate academic degree fields. The highlighted sampling method incorporates three categories and is organized by college hierarchy. Three to five reports from each college, including undergraduate, graduate, off-site locations, distance learning, and General Education are included with at least one from each of the categories (if applicable): Exemplary, acceptable, and developing.

Exemplary - Departments /units include specific measurable student learning outcomes, comprehensive assessment tools (both direct and indirect), and processes for analysis and discussion of data. The department units use assessment results to continually monitor progress on outcomes and make changes accordingly.

Acceptable - Departments/units have the appropriate components. However, reporting language may be vague or need revision and adjustments to student learning outcomes, assessment tools, and modifications are recommended.

Developing - Departments/units sometimes have the above components but need to add or improve the quality of the assessments and modifications. This is shown through the addition of Section VII in their IE reports by discussing improvements to assessment plans, modifications to assessment tools, additions of new assessment tools, and/or sampling and frequency of data collection.

For this current report, actions for improvement from results 2011-12, 2012-13, 2013-14, 2014-15 are highlighted. The progression of the process of institutional effectiveness with those departments categorized as "developing" for the 2011-2012 academic year were also tracked. Table one shows the review category progression from 2011-2015.

Table 1. Progress on the Institutional Effectiveness Planning and Reporting Processes by Unit.

Progress on the Institutional Effectiveness Planning and Reporting Processes by Unit				
Department	**AY**	**AY**	**AY**	**AY**
College of Agriculture and Human Sciences	2011-2012	2012-2013	2013-2014	2014-2015
Agriculture BS	Acceptable	Acceptable	Acceptable	Exemplary
Human Ecology BS	Developing	Acceptable	Acceptable	Exemplary
College of Arts and Sciences	2011-2012	2012-2013	2013-2014	2014-2015
Biology BS	Exemplary	Exemplary	Exemplary	Exemplary
Biology WFS BS	Exemplary	Exemplary	Exemplary	Exemplary
Biology MS	Exemplary	Exemplary	Exemplary	Exemplary
Chemistry BS	Exemplary	Exemplary	Exemplary	Exemplary
Chemistry MS	Exemplary	Exemplary	Exemplary	Exemplary
Communication/ Speech BS	Exemplary	Exemplary	Exemplary	Exemplary
English BA	Exemplary	Exemplary	Exemplary	Exemplary
English MA	Developing	Acceptable	Exemplary	Exemplary
Foreign Languages BA	Acceptable	Acceptable	Exemplary	Exemplary
Geosciences BS	Acceptable	Acceptable	Exemplary	Exemplary
History BA	Acceptable	Acceptable	Acceptable	Exemplary
Mathematics BS	Exemplary	Exemplary	Exemplary	Exemplary
Mathematics MS	Acceptable	Acceptable	Acceptable	Exemplary
Physics BS	Exemplary	Exemplary	Exemplary	Exemplary
Political Science BS	Acceptable	Acceptable	Exemplary	Exemplary
Sociology BS	Exemplary	Acceptable	Exemplary	Exemplary
College of Business	2011-2012	2012-2013	2013-2014	2014-2015
Accounting BS	Exemplary	Exemplary	Exemplary	Exemplary
Business Admin BS	Exemplary	Exemplary	Exemplary	Exemplary
Business Admin MBA	Exemplary	Exemplary	Exemplary	Exemplary
College of Education	2011-2012	2012-2013	2013-2014	2014-2015
Art BA	Developing	Acceptable	Acceptable	Exemplary
Counseling and Psychology BS	Exemplary	Exemplary	Exemplary	Exemplary
Counseling and Psychology MS	Exemplary	Exemplary	Exemplary	Exemplary
Curriculum and Instruction BS	Exemplary	Exemplary	Exemplary	Exemplary
Curriculum and Instruction MA EDS	Exemplary	Exemplary	Exemplary	Exemplary
Curriculum and Instruction PhD	Exemplary	Exemplary	Exemplary	Exemplary
Exercise Science, Physical Education and Wellness BS	Acceptable	Acceptable	Exemplary	Exemplary
Exercise Science, Physical Education and Wellness MS	Acceptable	Acceptable	Exemplary	Exemplary
Music BA	Developing	Acceptable	Acceptable	Acceptable
College of Engineering	2011-2012	2012-2013	2013-2014	2014-2015
Chemical Engineering BS	Exemplary	Exemplary	Exemplary	Exemplary
Chemical Engineering MS	Exemplary	Exemplary	Exemplary	Exemplary
Computer Science BS	Exemplary	Exemplary	Exemplary	Exemplary
Computer Science MS	Developing	Acceptable	Acceptable	Exemplary
Civil and Environmental Engineering BS	Exemplary	Exemplary	Exemplary	Exemplary
Civil and Environmental Engineering MS	Acceptable	Acceptable	Exemplary	Exemplary
Electrical Engineering BS	Exemplary	Exemplary	Exemplary	Exemplary
Electrical Engineering MS	Developing	Acceptable	Exemplary	Exemplary
Engineering PhD	Developing	Acceptable	Acceptable	Acceptable
Manufacturing and Engineering Tehnology BS	Acceptable	Exemplary	Acceptable	Exemplary
Mechanical Engineering BS	Exemplary	Exemplary	Exemplary	Exemplary
Mechanical Engineering MS	Exemplary	Exemplary	Exemplary	Exemplary
College of Interdisciplinary Studies	2011-2012	2012-2013	2013-2014	2014-2015
Environmental & Sustainability Studies BS	Developing	Developing	Exemplary	Exemplary
Environmental Informatics MS	*	*	Acceptable	Exemplary
Environmental Sciences PhD	Developing	Acceptable	Exemplary	Exemplary
Interdisciplinary Studies BS	Developing	Acceptable	Exemplary	Exemplary

Professional Studies RODP BS	Developing	Acceptable	Exemplary	Exemplary
Professional Studies RODP MPS	Developing	Acceptable	Exemplary	Exemplary
College of Nursing	2011-2012	2012-2013	2013-2014	2014-2015
Nursing BS	Exemplary	Exemplary	Exemplary	Exemplary
Nursing RODP MSN	Developing	Acceptable	Exemplary	Exemplary
General Education	2011-2012	2012-2013	2013-2014	2014-2015
General Education	Acceptable	Acceptable	Exemplary	Exemplary
Note: Review Categories for units are defined as *Exemplary*, *Acceptable*, or *Devloping* in the process of Institutional Effectiveness Planning and Reporting. Goal: All units at *Exemplary* level of IE processes.				
*Environmental Informatics MS Program started in 2013-2014				

Examples Highlighting Improvements Due to Assessment Results

(Undergraduate, Graduate, Off-Site, and Distance Learning are included. Actual reports are available on the TTU SACSCOC website www.tntech.edu/sacscoc/institutional-effectiveness, and linked through the attached review matrix below in the attached supporting documents [1].)

College of Agriculture and Human Ecology.

The **Bachelor of Science in Agriculture** provides an example of an acceptable process for use of assessment in 2011-12, and continued to report acceptably for 2012-13, and 2013-14. Initially, reporting language was vague and needed revision, and adjustments to student learning outcomes, assessment tools, and modifications were recommended. As a result of this process, numerous changes to the assessment of goals were indicated. For learning outcomes, the use of assessment was found to be efficient, and many actions were taken due to assessment results.

For Learning Outcome One (Students will be prepared for employment and advance in agricultural careers), changes were made due to results from the senior exit interviews, the IDEA faculty evaluation, and the Alumni Survey. Composite views of the graduating senior exit interviews show definitive patterns in which students request more hands-on experiences, more opportunities to study and work on the farms, and more opportunities for internships. In addition, results from IDEA reports and the Alumni Survey have spurred the following processes: increased advisement by faculty for student internships and offering of international agricultural classes in the form of traveling seminars. Student groups have traveled to Prague, Czech Republic and Mexico. These trips have helped determine new concentrations, much in the same way internships do; a new concentration in Agritourism has been developed and a new faculty member hired to develop the program. This opens new doors to economic development in the Upper Cumberland while offering additional avenues of employment to our students. A course in bee keeping has also been developed. Three courses in food safety in Agritourism heralded a new collaboration between Agriculture and Human Ecology. The number of actively sought grants has increased along with increased success in obtaining outside funding—some of which led to the development of the new courses.

For Learning Outcome Two (Interested students will be ready for entry and advancement in graduate school and professional programs), changes were made due to results from the Agriculture Major Field Exam (ACAT). New processes are being utilized to administer the ACAT, seeking to provide more useful information for the students themselves. This gave students a better understanding of how far they've come with their degrees. Students are continually encouraged to move into graduate and professional programs. Students expressing interest in such programs are advised to take courses designed to prepare them for education beyond the BS. Currently (2014), faculty members are developing a proposal to establish a graduate program in Sustainable Agriculture.

This department improved its reporting process tremendously in 2014-2015 since the restructure of the IE template in 2011, and is considered exemplary. The Student Learning Outcome 1.2 "SOA students will actively participant in one or more of the clubs/organizations available to SOA students, whether in the SOA or university wide," was assessed by a review of Faculty Annual Reports. Program changes and actions due to results include the following: During 2014-2015, students were encouraged to join at least one student organizations related to their field of study. These students were encouraged to participate in club events at the local, state, and national level. A capstone course was developed and taught for the first time in the spring of 2015. This course contained information on leadership, networking, resume writing, dinner etiquette, and public policy in which the students had to give a 15 minute power point presentation on a public policy topic. This activity links to the Flight Plan focus of improving the undergraduate student experience.

The **Bachelor of Science in Human Ecology** provides an example of a developing process for use of assessment in

2011-2012, improved its process in 2012-2013 and 2013-2014 to *acceptable*, and is also accredited by the American Association of Family and Consumer Sciences (AAFCS). This department had the required components but needed to expand or improve the quality of the assessments. The department reported on progress and modifications on existing learning outcomes. For Learning Outcome One (Students will demonstrate knowledge and skills necessary to enter careers and advanced studies in Human Ecology and related fields, as reflected by scores equal to or higher than 70% on the TTU criterion referenced major field exam" (Human Ecology [HEC] Exit Exam)), results showed that this outcome was not met. Faculty discussed these results. One strategy to improve this score has been to offer flexibility so that core classes are required for each of the concentrations. All concentrations require *four of the core classes*, and options are available for the remaining three.

The HEC Exit Exam has been revised to reflect more strongly the content in the *four required core classes*. However, the HEC Exit Exam itself has flaws. One recommendation of the AAFCS Site Reviewers was to consult with assessment experts in order to re-write the exam. The AAFCS certification exam was piloted during the Spring 2013 semester, and results were used to determine effectiveness of this exam in measuring student learning in Human Ecology content. If the results are as expected, then the certification exam became the HEC Senior Exit Exam beginning in the Fall 2013 semester.

Use of the national AAFCS certification was not completed this past year due to the number of new initiatives and many ongoing responsibilities of faculty members causing the Director to teach full-time loads during fall and spring semesters. In addition, the move out of South Hall consumed time which could have been used toward organizing the use of the exam. Students take the Exit Exam during their senior year, and preferably the semester they graduate. The "old" senior exit exam was administered again in December 2013 and May 2014. The results remain steady at 68% mean score for each cohort. TTU Human Ecology majors continue to fall slightly below the benchmark of 70%; with a 6-year average of 69.19%.

However, due to this process it became clear to the department head and faculty members that both the program goals and the outcomes needed to be updated. An example of continuing improvement in these components is shown in this section of their report. New program goals and assessments were created concerning program accreditation, enrollment, and adequate faculty members. In addition to revising program goals to reflect current practice and future activities more accurately, it was necessary to revise student learning outcomes. The current Human Ecology Senior Exit exam (for Student Learning Outcome One) is not adequate to assess overall knowledge fully; therefore use of the standardized AAFCS certification exam was piloted to determine its feasibility as an assessment tool. There is no other national exam for knowledge content in Human Ecology. In review of the current student learning outcomes, it was determined that new outcomes and assessments related to critical thinking skills and lifelong learning were missing and needed to be included. The National Survey of Student Engagement (NSSE), the IDEA Teaching Evaluations, and the Site Supervisor Evaluation was used to monitor progress on critical thinking, communication, and teamwork.

This department improved their reporting process tremendously in 2014-2015 since the restructure of the IE template in 2011, and is considered *exemplary*. For the 2014-2015 California Critical Thinking Skills exam, HEC students (n=71) score a mean of 17.2 overall; this is slightly lower than the overall university mean of 17.7. However, both means fall into the moderate category when describing potential for success in the workforce for overall reasoning ability, so no changes were implemented. Site supervisor scores exceeded the benchmark of 80% with the past two semesters having scores of at least 90% or better. Site supervisors consistently rank HEC students as "above average" or "excellent" in the categories of communication skills, willingness to solve problems, and professional attitude and respect for coworkers. IDEA scores for the Spring 2014 semester overall average: 3.83; Fall 2014 4.19 and Spring 2015 4.05. These scores exceeded the benchmark of 3.75 demonstrating that HEC students overall rated the progress on course objectives as "substantial" or "exceptional"; an indication of competencies met within each course, thus no changes were implemented. Link to Strategic Flight Plan: Improve Undergraduate Student Experience.

College of Arts and Sciences.

The **Bachelor of Science in Sociology** provides an example of an *exemplary* process for use of assessment from 2011-2014. The department has very specific measurable student learning outcomes, comprehensive assessment tools, processes for discussion of data, and uses results to continually monitor progress on outcomes and makes changes accordingly. For example, Learning Outcome One "Majors in sociology will demonstrate knowledge of their

discipline at a level above or comparable to the national mean," was assessed by an <u>ETS Major Field Exam</u> in Sociology. To address the weakness in theory and mastery of sociological concepts shown in the results of this exam, the department revised the curriculum by moving SOC 4720 Sociological Theories to the 3000 level (SOC 3100), so that students take it earlier and can use the theories in more advanced courses. The department tracks the General Theory Assessment Indictor from the ETS major field exam. Scores indicate progress over the past five-year period. This department continues to use an Exemplary Assessment and Institutional Effectiveness plan and makes modifications accordingly.

In 2014-2015, this department continued to implement institutional effectiveness planning at an *exemplary* level. For Student Learning Outcome One "Majors in sociology will demonstrate knowledge of their discipline at a level above or comparable to the national mean" assessment included the General Theory Assessment Indicator from the <u>ETS major field exam</u>. The scores indicate progress over the past five-year period. Students continue to consistently score above the national average on the ETS major field methods and statistics indicator, however showed a weakness in mastery of theory. Program actions for improvement included: To address the weakness in theory and mastery of sociological concepts, the Department revised the suggested curriculum plans by moving SOC 3100 Sociological Theory to sophomore year and SOC 3900 Introduction to Research to the junior year. Link to Strategic Flight Plan: Academic Advising, Improve Undergraduate Student Experience.

The **Bachelor of Science in Geosciences** provides an example of an acceptable process for use of assessment in 2011-2012 and 2012-2013 and improved its process to exemplary in 2013-2014. Initially reporting language was vague and needed revision, and adjustments to student learning outcomes, assessment tools, and modifications were recommended. This department showed use of direct and indirect measures. Changes were made according to results of an exit exam used to measure knowledge pertaining to this department. For example, Learning Outcome Two "Graduates will demonstrate fundamental knowledge pertaining to their discipline," showed lower scores for those that did not complete certain courses in their progression through the curriculum. The <u>department exit exam</u> to assess content knowledge of graduating seniors shows results that have illuminated weaknesses in the curriculum, particularly with map reading, rocks, and minerals. The department created a new required course (GEOL 2500 Geologic Fundamentals). Students who completed GEOL 2500 score higher on the exit exam. The course emphasizes identification of geologic materials and map reading/interpretation; it is designed, in part, to improve exit exam scores.

In 2014-2015, this department continued to implement institutional effectiveness planning at an exemplary level. For Student Learning Outcome One "Graduates will demonstrate sufficient geoscience knowledge that allows them to either pursue a graduate degree or enter the geoscience workforce" assessment included <u>rating communication skills during the thesis presentation</u>. Actions taken as a result of this assessment included the implementation of a requirement of the senior thesis and the greater emphasis on student research and communication in upper-level geoscience courses. Senior thesis students give an oral presentation of their research to the departmental faculty and students. The faculty continue to strongly encourage thesis students to present their research outside the department. In addition, several faculty members have now made poster sessions a part of their courses. More emphasis on writing abstracts in GEOL 2500, 3230, and 3830 is an additional focus to improve these skills shown to need improvement. This research emphasis is linked to the Flight Plan focus on undergraduate co-curricular program, multidisciplinary research innovation.

The **Master of Arts in English** provides an example of a developing process for use of assessment in 2011-2012, moved to acceptable in 2012-2013 and then improved its IE processes to exemplary in this recent year of reporting 2013-2014. This department had the required components but needed to expand or improve the quality of the assessments and modifications. For example, Learning Outcome One "Students will demonstrate a broad and integrated knowledge of literary history, theory, and pedagogy," was found to need improvement in the assessment process to capture a programmatic evaluation of learning. Although faculty in graduate courses assess student progress through a variety of <u>course embedded assessments (including theses, project papers, comprehensive examinations, seminar papers, and annotated bibliographies)</u>, the department does not use a standard rubric to assist in the evaluation of these written requirements. The department's Graduate Studies Committee is in the process of <u>developing a rubric</u> to assist in the evaluation of theses, project papers, comprehensive examinations, seminar papers, and annotated bibliographies. Such a rubric resulted in greater consistency of assessment, assure high quality, and make clearer to students the expectations for each form of assessment, thus impacting this student outcome.

Currently, the Graduate Student Surveys (administered each semester during advisement week) and the Graduating Students and Alumni Surveys (administered the semester the student plans to graduate) will help the department to assess how well it has fulfilled its goals; All students in the MA program must write a thesis or project paper, must take a written comprehensive examination (emphasizing teaching methods/pedagogy and literary movements and/or critical theory), and must write extensively in their graduate seminars.

In 2014-2015, this department continued to implement institutional effectiveness planning at an exemplary level. For Student Learning Outcomes Two, Three, and Four "Literary knowledge," "English PhD Preparation," and "Teaching Preparation," assessment included a self-study of the program, and faculty observed performance in the knowledge and preparation. Program modifications and actions due to results included the development of a Writing Excellence Studio at Tech (W.E.S.T.). The English Department began the Writing Excellence Studio at Tech in January 2015 in transient locations in classrooms at certain hours of the week, but has planned relocation to a permanent location in Foundation Hall 117 in Fall 2015, through funds provided by the Office of Academic Affairs.

The Writing Excellence Studio at Tech guides writers in all forms of technical and professional composition skills. Here, writers share their progress from start to revision with knowledgeable and trained readers who respect each individual writer's voice, task, and project goals. Specializing in the projects of upper-division and graduate students, W.E.S.T. offers tailored, disciplined-specific writing support rather than tutoring, existing as a complement to existing campus tutoring services, plus training and classes at sites requested by individual faculty and departments. Thus, W.E.S.T. provides English graduate assistants training in and experiences with various professional discourses, enhancing their career preparation. With a faculty writing specialist on staff, services for faculty writing projects are also offered. In W.E.S.T.'s 6 weeks of existence, the Studio has served or begun the process of serving an estimated 300 undergraduates, graduates, and faculty, from 10 different disciplines (including Biology, Computer Science, Education, Engineering, Human Ecology, and ROTC), and including these specific applications: Individuals seeking help with course projects in various subjects; English undergraduate tutor training; workshops for dissertation writers; exam prep for ROTC cadets; weekly workshops for Computer Science grad students ; upper-division class-based support in Finance, English, and Foreign Languages; and consulting on faculty professional writing projects. Link to Strategic Flight Plan: Improve Undergraduate Student Experience.

College of Business.

The **Bachelor of Science in Business Administration** provides an example of an exemplary process for use of assessment throughout 2011-2014 and is also accredited by the Association to Advance Collegiate Schools of Business (AACSB). The department has very specific measureable student learning outcomes, comprehensive assessment tools, processes for discussion of data, and uses results to continually monitor progress on outcomes and makes changes accordingly. For example, Learning Outcome One, "Business Core Skills and Knowledge – Business students will demonstrate competency in the core business areas," indicated a need to change course content. One of the instruments used to assess this objective was the ETS test for Business majors. The overall performance of College of Business (COB) students exceeded the national benchmarks of ETS for this test, but their performance in certain content areas was relatively poor. To understand the assessment results better, coverage of content areas on the ETS exam in the core classes was reviewed. The content of the business law and operations management classes was changed. College-wide performance in the business law content area improved from the 47th percentile in Spring 2010 to the 57th percentile in Fall 2010 and Spring 2011 and to the 58th percentile in Fall 2012. The review also indicated gaps in coverage of international topics, and curriculum changes were proposed to address these gaps. Syllabi, textbooks, coverage, and exams were standardized in business law, marketing, and operations management classes, which have multiple sections taught by different instructors, to facilitate comparison of assessment results and improvements.

In 2014-2015, this department continued to implement institutional effectiveness planning at an exemplary level. For Student Learning Outcomes One-Four, "Business core skills and knowledge," "Ethical Awareness," "Critical Thinking skills," and "Communication Skills," assessment included exit exams, surveys, and online training results. Modifications due to results that affect all learning outcomes 1-4 included the formation of new committees. A new College of Business (COB) committee to address the new (2013) AACSB standard on Teaching Effectiveness has been formed. Its charges included improving instructional capabilities in COB, developing documentation to address the requirements of the above standard and building relationships with other units on campus such as as the Center for Teaching Excellence, the TTU Learning about Learning Program (a TQI initiative), the Innovation Technology Institute, and the TTU Faculty Development Steering Committee which are relevant to Teaching Effectiveness efforts in COB. The Curriculum Review Committee has been restructured to align with the requirements of the new AACSB standard on curriculum management. The new Curriculum Management committee strengthened the integration between assessments and curriculum review/redesign.

Another improvement included <u>assessing linkages in the core business classes</u>. The feedback this department received from the AACSB peer review team after its 2012 visit was very positive about the participation of COB faculty in Assurance of Learning (AOL). However, the team felt that while assessments were being used to make improvements at the level of individual courses, they were not having an impact at the program level. One way for AOL efforts to have programmatic impact is by achieving greater integration across the curriculum. This involved assessing the linkages between the courses in the program. While these linkages exist between core courses and between the courses within the major/concentration in each discipline, in order to achieve the maximum impact at the program level, in particular courses, should be more clearly related to overall program goals.

One of the instruments used to assess this objective was the <u>ETS major field test</u> in business. The overall performance of COB students had exceeded the national benchmarks of ETS for this test, but their performance in certain content areas is shown to be relatively poor. One of the content areas targeted for improvement was Quantitative Business. Many students were taking DS 3520 Operations Management, a quantitatively oriented core business course, after taking the ETS major field test exam. DS 3520 was changed and is now a prerequisite or co-requisite for the capstone strategy class BMGT 4930. Students have exposure to the quantitative topics in DS 3520 before taking the ETS exit exam. This change helped accomplish the learning objectives of the capstone course as well. The impact of this change on student performance in the Quantitative Business area was continuously monitored. Link to Strategic Flight Plan: Improved Undergraduate Experience.

The **Bachelor of Science in Accounting** provides an example of an exemplary process for use of assessment throughout 2011-2014 and is also accredited by the Association to Advance Collegiate Schools of Business (AACSB). The department has very specific measureable student learning outcomes, comprehensive assessment tools, processes for discussion of data, and uses results to continually monitor progress on outcomes and makes changes accordingly. For example, Learning Outcome Five is a fairly new learning outcome and relates to accounting students' ability to identify the International Accounting Standards Board (IASB) and the International Financial Reporting Standards (IFRS) and their ability to describe the intent and purpose of efforts to implement IFRS. Learning Outcome Five was measured for the first time in Fall 2011 in ACCT 3170 Intermediate Accounting I, ACCT 3180 Intermediate Accounting II, and ACCT 4410 Advanced Accounting. A series of <u>embedded course assessments</u> was developed to measure accounting students' overall awareness of IFRS.

To increase student awareness of international accounting issues, in Spring 2011, the Department of Accounting delivered its first Accounting International Experience course, Accounting 4900. Twenty students and two faculty members traveled to London, UK, from March 4, 2011, through March 12, 2011. The trip included visits to multiple business and accounting-related destinations, including a lecture at the Institute of Chartered Accountants of England and Wales on International Financial Reporting Standards. Data collected indicate that this was a positive learning experience. The course also included class meetings on campus for discussion of various international business and accounting issues.

In 2014-2015, this department continued to implement institutional effectiveness planning at an exemplary level. Student Learning Outcome One a, "Accounting major students will demonstrate competency in the business core area," was assessed by the <u>ETS exam</u>. Results of the indicators from the ETS scores have induced the following modifications to the program. Faculty engaged students in more interactive discussions and required students to reference knowledge learned from other COB classes. In addition, in Fall 2016, an experience called Accounting Boot Camp 2015! was offered to prepare new Accounting majors for the rigors of their first upper-division Accounting classes. Helping students get a "jump start" on their first upper-division accounting classes should impact scores on the ETS exam and eventually allow the department to focus on other courses. Link to the Flight Plan: Improve Undergraduate Student Experience.

The **Master in Business Administration (Distance Learning)** also provides an example of an exemplary process in the College of Business for use of assessment throughout 2011-2014 and is also accredited by the Association to Advance Collegiate Schools of Business (AACSB). The department has very specific measurable student learning outcomes, comprehensive assessment tools, processes for discussion of data, and uses results to continually monitor progress on outcomes and makes changes accordingly. For example, the results of Learning Outcome One "Integrative Business Knowledge – Students will demonstrate ability to integrate knowledge of core business discipline" revealed several needs. Whereas the <u>MBA Exam ETS</u> scores are above average, the department continuously seeks to improve on this outcome by providing more integrative assignments throughout the program. The department is also working to develop integrative cases derived from faculty projects and other outreach activities (e.g., Business Media Center

projects, College of Business Board of Trustees). These "live" cases should provide better opportunities for students to integrate their knowledge from across the discipline. Because there are more online students than on-campus students, the department is working to develop an assessment tool that replaces the MBA-ETS exam. In October 2012, a "lunch and learn" workshop was conducted to address the issues of defining and assessing integration in business education. A rubric for assessing integrative knowledge was presented for faculty consideration.

In 2014-2015, this department continued to implement institutional effectiveness planning at an exemplary level. Student Learning Outcomes One-Five, "broad integrative knowledge of business disciplines," "ethical dimensions in decision-making," "knowledge and skills to perform in a professional environment," "critical thinking," and "leadership skills" are assessed by an Assurance of Learning reports derived from MBA student performance in BGMT 6950. These reports are meant to assess TTU student comprehensive knowledge at the conclusion of the MBA program.

The program in the past had implemented only three learning goal modules within the Capsim program "Analytic and Quantitative Reasoning, Critical Thinking Skills, and Functional Knowledge." As a result of assessment, the department added four more areas of focus to improve student learning: leadership skills, ethics, communications, and cultural competencies modules. Link to Flight Plan: Technology in Teaching, Creative Distinctive Programs and Invigorate Faculty.

College of Education.

The **Doctorate of Exceptional Learning** provides an example of an exemplary process for use of assessment throughout 2011-2014 and is also accredited by the Council for the Accreditation of Educator Preparation (CAEP). The central focus of the PhD in Exceptional Learning is the study of at-risk and diverse populations. The program investigates the characteristics, strengths, and educational needs of individuals and groups whose learning potential and opportunities for success in life are frequently undervalued. Populations deemed exceptional and at-risk include, but are not limited to, those persons for whom social, economic, and physical characteristics may serve as a barrier to learning. The Exceptional Learning program has the primary mission of offering strong academic preparation for professionals that serve the community, public school system, and institutions of higher education. Specific programs of study are available in four concentrations: Applied Behavior Analysis, Literacy, Program Planning and Evaluation, and STEM Education. There are two strands within Applied Behavior Analysis: Young Children & Families and Applied Behavior Analysis School Age. Instruction and research are major components of the academic mission of the program. A committed faculty serves the students through instruction, scholarly activity, and service to provide quality academic experiences.

In 2014-2015, this department continued to implement institutional effectiveness planning at an exemplary level. Student Learning Outcomes One-Two, "Course competencies," and "Professional skills," were assessed by Graduation Rates, Comprehensive Exams, and Dissertation Defense. Program changes due to results included implementing a stronger emphasis on APA formatting in the one-hour orientation course. In addition, program faculty met monthly to review data presented in exams and defenses as well as results from the student annual evaluation. Students reported feeling a strong degree of support with this annual meeting where their program of study and curriculum vita is reviewed. At this meeting, students are also queried. Feedback is then presented to the PhD Planning Committee to make any necessary changes. In addition, Program faculty members developed an Exit Survey (Student Learning Outcomes One and Two) to assess student satisfaction with the program, identify program strengths and areas in need of improvement. This helped in the collection of employment outcomes and satisfaction with the program in preparing the student to assume his or her professional responsibilities. Link to Flight Plan: Create Distinctive Programs and Invigorate Faculty.

In accordance with the 2010-2015 Performance Funding guidelines of the Tennessee Higher Education Commission (THEC), the PhD program in Exceptional Learning underwent an academic audit April 2014. The program received 4 commendations, 4 affirmations, and 2 recommendations. Based on findings of the annual audit, program and administrators examined faculty workloads with regard to national averages and best practices regarding graduate workload demands and dissertation supervision. In addition, sufficient support for travel as well as faculty and student development continue to be maintained in order to support the research mission of the program. The program faculty meet monthly to review data presented in the annual report as well as results from the student annual evaluation. Students reported feeling a strong degree of support with this annual meeting where their program of study and curriculum vita are reviewed. At this meeting, students are also queried. Feedback is then presented to the PhD Planning Committee to make any necessary changes. One change made this year was to emphasize more APA formatting in the one-hour orientation course. Results from the annual student evaluation are encouraging and the

plan is to continue with this assessment tool. Program faculty members developed an Exit Survey (Student Learning Outcomes One and Two) to assess student satisfaction with the program, and identify program strengths and areas in need of improvement. This will also help in the collection of employment outcomes and satisfaction with the program in preparing the student to assume her/his professional responsibilities.

The **Bachelor of Science in Curriculum and Instruction (On-Campus & Off-Site/2+2)** provides an example of an exemplary process for use of assessment throughout 2011-2014 and is also accredited by the Council for the Accreditation of Educator Preparation (CAEP). In addition to on-campus programs, this department also includes off-site courses for a 2+2 Program. The department has very specific measurable student learning outcomes, comprehensive assessment tools, processes for discussion of data, and uses results to continually monitor progress on outcomes and makes changes accordingly.

A variety of courses is offered on- and off-campus through Curriculum and Instruction (C & I). Most importantly, these off-site courses, totaling approximately thirty, are evaluated the same way as on-campus programs are evaluated. The instructors are full-time TTU faculty who travel to off-site locations to hold classes. Exit exams/major field tests are available to all students; computer-based exams are available on TTU's campus, and paper-based exams are available in Nashville, Knoxville, or Chattanooga. The students' choice determines the test format. IDEA faculty evaluations are handled the same as with on-campus classes. Specific data on off-site courses can be found disaggregated from the on-campus data documented in the C & I institutional effectiveness report.

For example, Learning Outcome One, "Candidates in curriculum and instruction will demonstrate content knowledge in their teaching area," is assessed by making passing scores on state licensure examinations (Praxis). In addition, when Ready to Teach (R2T) is fully implemented, the Tennessee Educator Acceleration Model (TEAM), a research-based assessment system, and the Educational Teacher Performance Assessment (edTPA), a nation-wide pre-service performance-based assessment of teaching quality, was also used to assess candidates' content knowledge.

All 20 concentrations in C & I have been reviewed and updated in the past twelve months in order to more closely align curricula to standards, keep up with current trends in teacher education, and incorporate Common Core into programs especially methods courses. As the college continues to look at Praxis II data, it is important to have a breakdown per site and program to track any trends or patterns (See report). It is also important to track the numbers of students not passing these exams so that the college can review course curricula. Faculty met to review the test objectives of these exams and match them to courses where these objectives are being introduced and/or taught. After reviewing the Fall 2012 Praxis II exams, it was decided that the content of ELED 4872 Professional Seminar I and CUED 4800 Student Engagement needed to be realigned with the CIA and the PLT (Sections on the Praxis II Exam). As the edTPA becomes a very important criterion for residency, it is essential to review the rubrics and make curriculum decisions. TTU candidates scored below the targeted outcome in understanding students' language development and associated language demands. As a result, the faculty of all reading courses incorporateed this rubric into their classes. More attention was given to specific ways that students in learning tasks use academic language.

In 2014-2015, this department continued to implement institutional effectiveness planning at an exemplary level. For Student Learning Outcomes One-Two, "Content Knowledge" and "Pedagogical Content Knowledge" were assessed by faculty development meetings and subcommittee meetings, curriculum analysis from the College of Education data retreat, licensure updates based on Tennessee licensure requirements, Praxis data, and edTPA data. For Student Learning Objective One, "Content Knowledge," all 20 programs have been reviewed and updated in the past 18 months in order to more closely align curricula to standards, keep up with current trends in teacher education, and incorporate state and professional standards into programs, especially methods courses. As Curriculum and Instruction continues to look at Praxis II data, the department deems it important to have a breakdown per site and program to track any trends or patterns. In addition, the ability to track the numbers of students not passing these exams is also relevant, so that modifications can occur after review of course curricula. Faculty met to review the test objectives of these exams and to match these objectives to courses being taught. If material leading to achieving these objectives is not being taught, it was introduced and/or taught. Steady gains were successfully attained since the initial pilot of the edTPA program.

For Student Learning Objective Two, "Pedagogical content knowledge," the field experience evaluation form was recently revised to reflect a modified version of the Tennessee Educator Acceleration Model (TEAM). The department has also recently initiated implementation of edTPA. In 2013-2014 edTPA was fully implemented to include 400-500 residents. TBR set edTPA cutoff scores that become effective in Fall 2015, and the department has planned

accordingly. Another area that was below the targeted outcome from the edTPA was using assessment to inform instruction and analyzing teaching effectiveness. After analyzing these two rubrics it was decided that adjustments were needed in the method classes and in CUED 4800 Student Engagement. Candidates need more practice in making connections to research and/or theory to individual and collective learning needs. Candidates must also have more practice using multiple forms of assessments as evidence of student learning. Based on this feedback, an additional course, Educational Data and Assessment, is being integrated into licensure programs.

Curricular modifications have been made to all programs to create better preparation for edTPA and Praxis success in addition to the most current teaching practices. Link to Flight Plan: Academic Advising, Enrollment, Tuition, and Scholarships, Efficiency and Effectiveness, Improve Undergraduate Student Experience, Create Distinctive Programs and Invigorate Faculty.

The **Bachelor of Science in Exercise Science, Physical Education, and Wellness** provides an example of an acceptable process for use of assessment during the 2011-2012 and 2012-2013 academic years, and improved its process to exemplary in 2013-2014. Initially, reporting language was vague and needed revision; adjustments to student learning outcomes, assessment tools, and modifications were recommended. For example, Learning Outcome One, "EXPW majors will demonstrate content knowledge in their chosen concentration," shows a less than 100% pass rate on the required licensure exam (Praxis). A committee of faculty has been formed to investigate strategies to ensure that all students pass their licensure exam, and the strategies were implemented in 2013-2014.

In addition, Learning Outcome Two, "EXPW majors will be capable of competing for jobs in their chosen field as well as graduate study opportunities," upon review, showed the need for more efficient data collection tools to analyze progress. The department is formulating an Alumni Survey and an Online Senior Interview Survey to provide results for planning future actions. Assessments include enrollment and credit hour data tracked by the Office of Research. The Praxis Test (P.E. content required for licensure) assesses content knowledge. A Senior Survey one-on-one question and answer session provides honest feedback from students.

In 2014-2015, this department continued to implement institutional effectiveness planning at an exemplary level. Goal Four, "Provide opportunity and faculty guidance for undergraduate and graduate students to participate in relevant research related to individual interests, professional aspirations and needs within the profession," had three student learning outcomes: (1) Provide basic research experience for students in upper division classes (research skills), (2)Encourage students to participate in the Student Research Day to enhance student learning (communication), and (3) Build a Research Methods Class into all EXPW programs as either a three-hour requirement or three-hour elective. This was assessed by a senior capstone project/ rubric. Program changes and actions due to results include setting the requirement that all students complete this capstone project to practice research and communication skills. For example, EXPW 4900 - Research Methods in Exercise Science has been implemented as a required course for programs of study - Fitness & Wellness, Pre-OT and Pre-PT, and is recommended as an elective for students in other concentrations within the EXPW department. Link to Strategic Flight Plan: Improve Undergraduate Student Experience.

The **Master of Science in Exercise Science, Physical Education, and Wellness (Distance Education)** provides an example of an acceptable process for use of assessment during the 2011-2012 and 2012-2013 academic years, and improved its process to exemplary in (2013-14). Initially reporting language was vague and needed revision; adjustments to student learning outcomes, assessment tools, and modifications were recommended. The assessment processes are the same for this distance learning program as processes for courses taught on campus in the Department of C & I.

For example, Learning Outcome One, "EXPW Graduate Students will gain graduate core knowledge as well as concentration specific knowledge which will be beneficial as their careers begin or continue and fulfill the requirements for degree completion) and Learning Outcome Two, "The EXPW Graduate Student will gain the specific knowledge and training needed to receive teacher licensure if the student desires" are measured by a Comprehensive Exam in the department and have a 100% pass rate. However, the department would like to have a more consistent analysis of comprehensive answers; therefore, the development of a departmental rubric which aligns with the College of Education's grading rubric was found to be necessary.

Currently, assessments are conducted by a Course Offering Sheet and saved electronically.The graduate studies coordinator monitors the courses offered each term, as well as the enrollment numbers in each concentration. Student learning outcomes are assessed by a comprehensive exam over the core area of study as well as areas specific to the student's concentration.

In 2014-2015, this department continued to implement institutional effectiveness planning at an exemplary level. For Goal /Outcome One, "The Exercise Science graduate student will gain graduate core knowledge as well as concentration specific knowledge to benefit their career objectives," the department wanted to improve learning for online courses, thus impacting the pass rates of comprehensive exams. The nature and format of on-line learning, especially in an extended two year (or longer) format is the root of the most current problem that has surfaced in the collected results, which is students being adequately prepared to sit for and successfully complete the comprehensive exam. This issue has been identified by the graduate faculty as well as identified by the students in the end of program survey.

In an effort to assist students in being better prepared, graduate faculty members in key courses (6510 - Research Methods is the course where students have the most trouble passing the comprehensive exam without remediation) have made efforts to step up the rigor throughout the courses, requiring more detailed quizzes, assignments identified as "comp related," and more detailed lecture notes that parallel to the reading. Additionally, a study session has been initiated just prior to the exam date when students can meet with graduate faculty and ask specific questions. Candidates are provided with practice questions and examples of acceptable answers prior to the exam date to assist in preparation.

As a result of this modification, at the end of the Fall 2014 semester, two graduate candidates took the comprehensive exam and nine took the exam to graduate at end of Spring 2015. Of these, 9 had to remediate their answers on at least one set of questions - with seven of those nine being the research methods exam. Everyone passed and degrees were conferred after the remediation process. The department continued to use data and results to find ways to help the students be successful. Link to Flight Plan: Technology in Teaching, Create Distinctive Programs and Invigorate Faculty.

The **Bachelor in Music** provides an example of a developing process for use of assessment in 2011-2012 that improved its IE process to acceptable for 2012-2013 and 2013-2014 and is also accredited by the National Association of Schools of Music (NASM). This department had the required components but needed to expand or improve the quality of the assessments and modifications. The Department of Music has undergone a complete shift with regard to learning outcomes in 2011-2012. The learning outcomes presented were created by the chair and department assessment committee to better reflect the requirements of the national accrediting body (NASM). Prior to 2011-2012, data were collected in a different manner and the data points for the new outcomes as they are now structured are not available.

Numerous changes to the assessment plan of this department resulted from this process. The chair of the department along with the department assessment committee has identified several areas where there can be improvements to the assessment plan for the coming year. The following strategies were implemented: track several years of data for each outcome to better assess student outcomes; develop rubrics for the learning outcomes that are currently difficult to measure such as juries, barrier exams, and recitals; develop tracking tools for student files that allow for easy data gathering and create other data points that can be used to support outcomes; and develop rubrics for measures that involve projects or performances.

The department uses a variety of direct and indirect assessments to measure students' ability to realize a variety of musical styles through using information gained across the music curriculum. Assessments include jury examinations at the end of every semester (a direct measure of learning). To assess the students' ability to perform solo works at levels associated with a bachelor's student, junior and senior recitals (direct measure of learning) are used.

In 2014-2015, this department continued to implement institutional effectiveness planning at an acceptable level. For Goal/Outcome Two, "The student will have the ability to synthesize and demonstrate the relationship of music within historical context," data for the 2014-2015 years have shown two areas where the department is not currently meeting its achievement goals. Results show that "Keyboard skills" and "Music Theory" are both areas where student learning needs to be improved. In both of these areas the data collected scored below the 75% benchmark goal. For both areas the department is looking for ways to improve scores. Several initiatives have been implemented, and the results did show a rise in scores moving towards the achievement goal.

The initiatives that were actions due to results include but are not limited to the following: free tutoring program for all sophomore music majors in Music Theory; Freshman Theory classes offered both in a fall/spring rotation as well as a spring/summer rotation for those students who need remediation or more preparation to enter Sophomore Theory. Keyboard class and pass/fail rates, and Music Theory class and pass/fail rates drove these modifications. Link to Flight Plan: Undergraduate Co-Curricular Program, Transform Technology.

College of Engineering.

The **Bachelor of Science in Mechanical Engineering** provides an example of an exemplary process for use of assessment throughout 2011-2014 and is also accredited by the Accrediting Board for Engineering and Technology (ABET). The department has very specific measureable student learning outcomes, comprehensive assessment tools, processes for discussion of data, and uses results to continually monitor progress on outcomes and makes changes accordingly. For example, Learning Outcome Seven, "the ability to communicate effectively," was found to need improvement. Assessment data from the Alumni Surveys and the Employer Surveys identified both written and oral communications of students as areas for possible improvement. The External Evaluation of Senior Design Projects also indicated a need for improvement in the final oral presentations of their group projects. Likewise, feedback from the ME External Advisory Board indicated a need for improvement in both written and oral communications. Senior Exit Interview Written Surveys also indicate results slightly below the current target benchmark.

In response to the need for improvement in the final oral presentations, a second oral presentation was added to ME 4444 Senior Design Project. This second presentation was in the form of an oral presentation of each group's Project Design Proposal near the beginning of each semester. These presentations are videotaped, with the videotapes then being provided to each student group for self-critique and improvement prior to their final oral presentations.

In 2014-2015, this department continued to implement institutional effectiveness planning at an exemplary level. Student Learning Outcome D, "an ability to function on multidisciplinary teams," was assessed by increasing growth in enrollment and the inclusion of a new strategic focus on externally funded senior design projects. Due to the increasing growth in enrollment and a new focus on externally funded senior design projects, the past ME4444 Senior Design course had become overwhelming and unsustainable if it had been continued in the single-instructor format. Instead, a Senior Design Project program was developed, involving several faculty and staff assistants, as well as project advisors and evaluators from industry. In addition, the development of a steady revenue stream and increased visibility throughout and beyond the campus was accomplished. Extension of the course into a two-semester design sequence from its current one-semester format is also being examined. Link to Flight Plan: Improve Undergraduate Student Experience

The **Bachelor of Science in Civil and Environmental Engineering** provides an example of an acceptable process for use of assessment throughout 2011-2014 and is also accredited by the Accrediting Board for Engineering and Technology (ABET). Initially reporting language was vague and needed revision, and adjustments to student learning outcomes, assessment tools, and modifications were recommended. For example, Learning Outcome Eight, "An ability to use techniques, skills, and modern tools for engineering practice," was found to need adjustments to the method of delivery.

Survey results show that the students were not fully satisfied with use of CAD and engineering software in the curriculum. In response to this concern, the CEE Department has taken steps to increase exposure to AutoCAD in ENGR 1110 (Engineering Graphics) and, to the extent possible, in some CEE design courses. The faculty have continually introduced AutoCAD in selected CEE course homework assignmenets since the last ABET visit. Currently, the courses that require homework assignments to be undertaken with AutoCAD are CEE 3110, 3610, 4320, 4350, 4640, and 4950. In 2012, CEE 3000 Civil Engineering Graphics was approved for use in the CEE curriculum in an attempt to focus student learning on engineering graphics software specifically for CEE applications. This course is currently being implemented into the curriculum.

In 2014-2015, this department continued to implement institutional effectiveness planning at an exemplary level. For program changes Associated with Student Outcome (a), "an ability to apply knowledge of mathematics, science, and engineering" a metric that required action was low grades in CEE 4800 Geotechnical Engineering. To address this issue, the CEE department requested and received permission to hire a new faculty member in this area of expertise. This faculty search is completed with a hire date August 2015.

In addition, the department submitted a proposal which was funded through the Tennessee Board of Regents (TBR) Course Revitalization program for developing strategies to improve student learning. The department also piloted the use of Pearson's MasterEngineering, an online resource intended to provide students with additional learning resources in Spring 2014. Finally, information from Senior Exit Interviews and Instructional Outcome Student Surveys raised questions about the usefulness of GEOL 3210 Geology for Engineers. The department has looked at the possibility of allowing students to choose from several natural science courses rather than specifically requiring GEOL

3210.

Performance on Student Outcome (b), "an ability to design and conduct experiments, as well as to analyze and interpret data," was improved using comments about the need to upgrade classrooms. Both Senior Exit Interviews and Alumni Surveys regularly indicate a need to upgrade lab equipment. During this review cycle, the CEE department has undertaken several activities to address this concern. One, a concerted effort was made to remove equipment which is no longer used in laboratory courses. Two, new equipment was purchased for use in CEE 3120 Mechanics of Materials Lab (including an Instron test frame) and CEE 3040 Geotechnical Engineering Lab. Three, room renovations were made to two labs, namely PRSC 326 and PRSC 132. Four, the department planned near-term purchases of new equipment from the start-up package of a new faculty hire in Geotechnical Engineering. Link to Flight Plan: Improve Undergraduate Student Experience, Create Distinctive Programs and Invigorate Faculty

The **Master of Science in Electrical Engineering** provides an example of a developing process for use of assessment for(2011-2012, improved to acceptable in 2012-2013, and improved even more to exemplary in 2013-2014. This department had the required components but needed to expand or improve the quality of the assessments and modifications. For Learning Outcome Two, "Apply advanced methods in the development of solutions in the chosen area of emphasis in electrical and computer engineering," students are satisfactorily completing these requirements. There are sufficient approvals and documentation to ensure these requirements are being met. These requirements are regularly reviewed and revised by the faculty. No action is identified at this time.

However, upon review of this program, the Graduate Program Committee feedback shows that program goals and learning outcomes need to be improved. In addition, there needs to be documentation as to how course content relates to program goals and learning outcomes. The following actions were taken: review and revise program goals and learning outcomes; develop a standard format for course syllabi, and relate course content to program goals and learning outcomes.

Currently, assessments include ECE Department Graduate Program Committee feedback several times per semester. The department has a Graduate Program Committee that includes at least one faculty member from each area of research. This committee meets several times a semester to discuss the performance, quality, and possible improvements applicable to the MSECE Program. In addition to the committee feedback as assessment, this unit uses the completion of a master's thesis or independent project/comprehensive exam, as appropriate. If a student chooses the thesis option, the thesis must be successfully defended. The quality of the thesis is demonstrated by approval from the student's Advisory Committee.

In 2014-2015, this department continued to implement institutional effectiveness planning at an exemplary level. The Graduate Program Committee has worked effectively. One change was evident after review; documentation is needed as to how course content relates to program goals and learning outcomes. Actions included the development of a standard format for course syllabi, and the attempt to relate course content to program goals and learning outcomes. The core course requirements and list of courses was changed in 2014. The results are being monitored, to plot student progress. Completion of the thesis or non-thesis design project/comprehensive exam is a requirement for graduation. There are sufficient approvals and documentation to ensure these requirements are being met; therefore, for this outcome, no action is identified at this time. To impact student communication and research skills, the Graduate Committee requires at least one presentation at Research Day or a conference presentation for all MS students before graduation. Link to Flight Plan: New Graduate Programs and Research Innovations.

College of Interdisciplinary Studies.

The **Bachelor of Science in Interdisciplinary Studies (On-Campus, Off-Site, and Distance Learning)** provides an example of a developing process for use of assessment for 2011-12, improved to acceptable in 2012-2013, and improved further to exemplary in 2013-2014. This department had the required components but needed to enhance or improve the quality of the assessments and modifications. For example, Learning Outcomes One-Three, "Demonstrate the skills and knowledge necessary to engage in critical thinking and leadership development; develop a program of study that integrates learning from two academic emphasis areas; and demonstrate that integration through a senior-level capstone project that identifies and researches a topic from various perspectives, addresses significant problems that impact a global society, and communicates findings effectively," were found to be effective and measured.

However, improvements to sampling and program evaluation were needed.

The academic advisors of the Interdisciplinary Studies College held several meetings to discuss program quality improvement. Rubrics were reviewed and developed to ensure alignment between the University mission, the College of Interdisciplinary Studies mission, and graduate/undergraduate program goals and outcomes. They have selected and revised a rubric that was incorporated into the undergraduate and graduate capstone courses. Data collection began in Spring 2013. Each senior capstone project was evaluated using a rubric that assessed the thesis problem/question, information gathering, analysis, synthesis, documentation, product/process, and critical thinking.

In addition, important changes have been made to assess distance-learning students. Some students in the LIST degree are at a distance from the TTU campus; not all majors have the opportunity to complete the senior exit exam. Improvements going forward include an online test requirement for all graduating seniors in this degree. An online version of the California Critical Think Skills Test (CCTST) was planned in Fall 2015 and is a major improvement as the virtual online degree program students and the off-campus cohort students now have access to the test online.

Currently, assessments include a rubric for assessing senior capstone projects. Each senior capstone project was evaluated using a rubric that assessed the thesis problem/question, information gathering, analysis, synthesis, documentation, product/process, and critical thinking.

In 2014-2015, this department continued to implement institutional effectiveness planning at an exemplary level. For Student Learning Outcome Three, "Identify and research a topic from various perspectives, address significant problems that impact a global society, and communicate findings effectively," assessment included a senior exam rubric. Each Interdisciplinary Studies student's degree program has two chosen emphasis areas. The senior capstone project synthesizes those two areas. To improve the quality of these projects, the department added new sections of the course. Each section clusters students under an emphasis area. For example, all students with an emphasis area in the social sciences were taught by an instructor with this specialization. As the number of students grows, new sections are added to further this specialization. In 2014-2015, a section was added for students with emphasis areas in the humanities. Although an online implementation of a critical thinking exam was planned for Fall 2014 to test non-traditional students who are exempt from the University-wide implementation, the department has decided to postpone this requirement for non-traditional students due to fiscal constraints, but have instigated the discussion of importance to test students that are not exempted. Link to Flight Plan: Undergraduate Co-Curricular Program, Multidisciplinary Research Innovation.

The **Bachelor of Science in Environmental and Sustainable Studies** provides an example of a developing process for use of assessment in 2011-2012 continued to be in the developing category for 2012-2013, however improved in 2013-2014 to exemplary. At the time it was considered developing, it was a new program offered at TTU, established in Summer 2012. This department had developed the required components but had just implemented this plan for the 2012-2013 academic year, and therefore had not collected data (Expected data came in the following year.) An extensive process was developed for reviewing goals, outcomes, assessment results, and actions needed for improvement (See Figure 2. SOES undergraduate program assessment and quality improvement process, in the SOES IE report.)

Assessments included a senior exit interview, which provided an opportunity to obtain written qualitative assessment on the perceived strengths and weaknesses of the ESS program. In addition, the director and the student discussed strengths and weaknesses verbally during the interview. For use of IDEA student evaluation results, the director of the school monitored the percent of instructors identifying interdisciplinary training/teamwork, oral communication, written communication, and critical thinking as a key course objective, and the percent of students who reported citing progress in these related skills to their course.

In 2014-2015, this department continued to implement institutional effectiveness planning at an exemplary level. For Student Learning Outcome One, "Students will communicate scientific information effectively in writing, orally, and visually," the director met with the associate faculty in August 2014 to discuss the assessment approach and results from 2013-2014. A rubric for evaluating the proposal phase of the capstone course (ESS 4001) was distributed at the meeting. It was decided that a new and separate rubric should be developed for the project phase (ESS 4002) of the capstone sequence. To accomplish this task, the group decided to form a committee (with student representation) to work on continued development of the capstone in general. This committee was fully formed during the April 2015 associate faculty meeting. A draft rubric was developed for ESS 4002. The capstone rubric was continuously implemented to improve their utility as assessment tools.

In addition to the modification above, the committee decided that a second instructor would be added to ESS 4001 in 2014-2015, thereby using a team-teaching approach to improve the proposal-writing and written/oral communications aspects of the courses. This approach has worked very well and will be continued in the 2015-2016 academic year. A second instructor was also added to the ESS 1100 Introduction to Environmental Studies course to improve that course with a team-taught approach. This format was also successful and was continued in the 2015-2016 academic year. The rubric was used to score the seniors' capstone proposal. The IDEA results for 2014-2015 were presented to the associate faculty in the upcoming August 2015 meeting. Any additional program modifications were determined at that meeting. Link to Flight Plan: Undergraduate Co-Curricular Program, Improve Undergraduate Student Experience.

The **Master of Professional Studies (Distance Learning)** RODP Program provides an example of a developing process for use of assessment for 2011-2012, improved to acceptable in 2012-2013, and improved even more to exemplary in 2013-2014. This department had the required components but needed to enhance or improve the quality of the assessments and modifications. This is a relatively new program offered at TTU. This department developed the required components and implemented this plan for the 2012-2013 academic year, and therefore implemented a process to collect data. The capstone experience included a professional project which measured Learning Outcomes One-Five (See the report for this department), and is assessed on the basis of a rubric. Institutional and state-wide comparative assessments were developed as the next step of program and assessment formalization, taking into consideration RODP MPS programs.

Program changes at that point 2011-2012 were more operational than content related. After the unit began assessing its infrastructure, program delivery, student support, and program assessment, the faculty set benchmarks with institutional and program peers. The degree had a rapid start and formalization of assessment and reporting beyond the capstone project and newly developed rubric are a part of current continuing improvement efforts. Assessments included the National Survey of Student Engagement, a senior exit exam the CCTST California Critical Thinking Skills Test, and a rubric for assessing senior capstone projects.

In 2014-2015, this department continued to implement institutional effectiveness planning at an exemplary level. For Student Learning Outcome One, "Demonstrate critical thinking skills," the department used the scores for department majors on the CCTST Exit Exam, and found that they were lower overall than the scores of other students in the College of Interdisciplinary Studies and showed a need for improvement. To address this, a course in problem solving was added to off-campus programs to provide the same academic experience off campus so that scores improved in this particular cohort. Link to Flight Plan: Improve Undergraduate Student Experience.

The **Doctor of Philosophy in Environmental Sciences** provides an example of a developing process for use of assessment for 2011-2012, improved to acceptable in 2012-2013, and improved even more to exemplary in 2013-2014. This department had the required components but also opted to enhance and improve the quality and use of these items. Learning Outcome One, "PhD students will demonstrate knowledge of the interdisciplinary nature of environmental science such that they are aware of a wide range of environmental concerns beyond the boundaries of a specific discipline," is assessed by a comprehensive exam (usually in the third year of program). The program's single learning outcome above did not have an adequate assessment tool. A member of the EVS Executive Committee suggested that a common rubric be developed for use by advisory committees during student comprehensive exams, as they are essay in format. The director drafted such a rubric, and it was adopted at the following Executive Committee meeting.

In addition, the director also recognized there was no formal approach in place during 2011-2012 that assessed the program's effectiveness by evaluating assessment results and incorporating changes. Therefore, the director developed a planning cycle that was presented to the Executive Committee at its following meeting (See table and flowchart in Appendix E of the SOES PhD Report). The cycle was implemented in mid-2013 after incorporating comments and receiving approval from the Executive Committee. The cycle provided target dates regarding when assessments were made, when results were summarized and discussed by appropriate parties, and when necessary changes were approved and implemented.

Assessments included EVS faculty monitoring student understanding of the interdisciplinary nature of environmental science by the administration of oral and written comprehensive exams. The comprehensive exam was interdisciplinary and was comprised of questions written by each member of the graduate advisory committee. In December of each year, the program director requested annual reports from each student that covered the previous 12-month period. Reports were due by the end of January. For example, student reports received in January 2014

covered the reporting period of January-December 2013. Students were provided a template to follow when preparing reports. The director reviewed each report and tallied the total number of presentations and publications generated by students during the reporting period.

In 2014-2015, this department continued to implement institutional effectiveness planning at an exemplary level. For Student Learning Outcome 1.1 "student understanding of interdisciplinary nature of environmental sciences," the EVS Curriculum Committee had a series of meetings in 2013 to evaluate the interdisciplinary core course offerings and discovered a number of gaps and redundancies in the core curriculum. This process was noted and commended in the 2013-2014 Academic Audit. As a result of these meetings, the core course instructors modfied their courses in 2014-2015 as needed to cover the gaps (for example, more coverage needed on oceans) and reduce any redundancies. Currently, the existing assessment approach for interdisciplinary evaluation of comprehensive exams is recognized as being too coarse (i.e., the results only show how many students passed the exams and provide a qualitative description of the exams). Therefore, a more quantitative rubric was drafted in 2013 to provide a refined, commonly used tool for assessing student interdisciplinary performance on exams. However, the rubric was rejected by Department of Biology faculty as being too complicated. Therefore, one of the highest priority modifications for 2015 was to revise the rubric and present it again for approval to Biology and Chemistry faculty. Data collection can begin in Fall 2015 as soon as the rubric is approved. Link to Flight Plan: Multidisciplinary Research Innovation.

College of Nursing.

The **Bachelor of Science in Nursing** which is also accredited by the Commission on Collegiate Nursing Education (CCNE) provides an example of an exemplary process for use of assessment throughout (2011-2014). The department has very specific measureable student learning outcomes, comprehensive assessment tools, processes for discussion of data, and uses results to continually monitor progress on outcomes and make changes accordingly. For example, Learning Outcome Nine, "Professionalism and professional values," was targeted for improvement due to Mid-Curricular Health Education Systems, Inc. (HESI) results. While the RN Exit HESI reflects improvements in professionalism and professional values at the time of graduation, the Mid-Curricular HESI Exam reflects consistent deficits in this learning outcome at the mid-point of students' time in the nursing program. Possibly, maturation from the junior to the senior year impacts this learning outcome. Faculty anecdotally have commented as well and provided observations and examples of difficulty with professional behavior of students and how to evaluate this outcome effectively in both the didactic and clinical settings. Some courses have integrated a professional behavior clause in clinical evaluation with an "all-or-none" component to clinical grading. The effects of social media on students and social networking are thought to contribute to this outcome being a consistent challenge. The faculty should examine and consider varied formative assessments outside of HESI exams. A review of literature for comparison to national trends and issues surrounding professionalism and professional values would help inform additional assessments and evaluation of this learning outcome.

In 2014-2015, this department continued to implement institutional effectiveness planning at an exemplary level. For Goal Five, "Undergraduate student learning outcome attainment," this department uses performance on the NCLEX Nursing Exam. Since the NLNAC is no longer an accrediting body, HESI no longer reports the NLNAC competencies Critical Thinking, Therapeutic Nursing Interventions, and Therapeutic Communication. The deletion of the reported items was discussed at the faculty level in Fall 2015 to select similar competency categories. For TTU nursing students, scores in two areas remain below national scores: Inter-professional communication, and professional values. The Mid-Curricular HESI Exam reflects consistent deficits in these learning outcomes at the mid-point of students' time in the nursing program.

For inter-professional communication: Beginning in December 2014, an inter-professional educational experience was implemented in the junior year. This experience consists of an unfolding case study involving students from Nursing, EXPW, Childlife, Nutrition, and Social Work. In addition, simulated experiences are being utilized more often throughout the curriculum. For professional values: Varied formative assessments outside of HESI exams were examined and considered by the faculty. A review of literature for comparison to national trends and issues around professionalism and professional values would help inform additional assessments and evaluation of this learning outcome. RN continues to be strong with an average of 97.66% for the past three graduating classes. The national average for the past three years is 85.85%. Link to Flight Plan: Academic Advising, Undergraduate Co-Curricular Program, Enrollment, Tuition, and Scholarships, Efficiency and Effectiveness, Create Distinctive Programs and Invigorate Faculty.

The **Master of Science in Nursing (Distance Learning)** Regents Online Degree Program (RODP) provides an example of a developing process for use of assessment for (2011-12), improved to acceptable in 2012-2013, and improved even more to exemplary in 2013-2014. The program is in a phase of updating all of the required

components for reporting institutional effectiveness. Though they have specific learning outcomes mandated by their accrediting body, the National League for Nursing Accrediting Commission (NLNAC), they are updating the process for assessment and improvement. Based on feedback from the recent self-study and the NLNAC site visit (Spring 2012), the director and the Executive Committee are addressing NLNAC Standard Six by developing a more rigorous program evaluation plan and improving data tracking, and monitoring that incorporated a similar tracking and monitoring system on each of the six university campuses that comprise the RODP MSN consortium, as well as developing a more methodical method for analyzing and using the data for program improvement (Development of this program evaluation plan addresses all Outcomes One-Seven of their current report for TTU Institutional Effectiveness).

The RODP MSN program had undergone a leadership change with the current director assuming the position in the 2010-2011 academic year. The director has made substantial progress in leading the program; however, the assuming of the position did not begin in time to make significant progress in addressing program evaluation and outcomes prior to the recent accreditation visit. The NLNAC site visitors noted, "Although program outcome benchmarks were established, data for the past three years (2008, 2009, and 2010) were reported inconsistently and many times as one group instead of per year and per specialty." Thus, the Board of Commissioners of NLNAC requested a Follow-Up Report to address Standard Six: Evaluation of student learning demonstrates that graduates have achieved identified competencies consistent with the institutional mission and professional standards and the outcomes of the nursing education unit have been achieved.

The RODP MSN contracted with Educational Benchmarking, Inc. (EBI), to assist with data collection and analysis related to the evaluation of student learning to determine if graduates have achieved identified competencies consistent with the institutional mission and professional standards as well as the outcomes of RODP MSN. The American Association of Colleges of Nursing has partnered with EBI to develop assessment tools that provide comparative data useful in supporting Schools/Colleges of Nursing in assessment and continuous improvement efforts.

In 2014-2015, this department continued to implement institutional effectiveness planning at an exemplary level. For Goal Two, "Certification Pass Rates Above National Averages," this department found that the FNP certification pass rate was below the National Certification Pass Rate. Therefore, a new goal was set to increase the FNP Certification Pass Rate to be equivalent to or above the national certification pass rates.

RODP MSN and TTU implemented a plan in the Nursing 5609/6609 Practicum to increase the FNP Certification Pass Rate. Students were assigned to a section of Nursing 5609/6609 Practicum (last course in the program) with their home school faculty. The home school faculty member monitors his or her college students' progress on the FNP review course and the standardized test scores predicting success on the FNP certification exam. The course currently requires students to take a standardized test that is predictive of success on the FNP certification. Health Education Systems Inc. (HESI) was the standardized test until 2012. The program changed to the Advanced Practice Education Associates (APEA) and students took this test from 2012-2015. Due to a need for more summative data, the test changed from APEA to HESI in Fall 2015. Remediation was available based on HESI scores. In addition, The Fitzgerald Health Education Associates Certification Review Course was placed into the course for the students to complete. Link to Flight Plan: Academic Advising, Technology Service to Students, Technology in Teaching.

General Education.

General Education is consistently assessed and monitored by a General Education Committee. This department provides an example of a developing process for use of assessment for 2011-2012, improved to acceptable in 2012-2013, and even more to exemplary in 2013-2014 and 2014-2015. The TTU General Education program is founded on the principle that all students should develop college-level competencies and perspectives that enhance their professional and personal lives. It connects a wide range of traditional academic disciplines and seeks to highlight the relationships among bodies of knowledge, developing the cognitive process of reasoning essential for productive lives and self-directed learning. Specifically, these attributes may be obtained through studies in communication, mathematics, social/behavioral and natural sciences, and humanities, with the aim of developing a student's ability

- to think logically, critically, and creatively
- to communicate effectively both orally and in writing
- to read extensively and perceptively
- to explore moral and aesthetic values, social relationships, and critical thinking through the humanities

- to understand the importance of key social institutions, ethics and values, and how individuals influence events and function with others in these institutions throughout the world
- to appreciate creative and aesthetic expressions along with their impact on individuals and cultures
- to express, define, and logically explore questions about the world through mathematics
- to use computer technology to communicate and to solve problems
- to use acquired facts, concepts, and principles of the physical and natural sciences in applying the scientific process to natural phenomena
- to perceive the importance of wellness and values in human life
- to manifest a commitment to lifelong learning

Beyond the General Education core, these abilities are developed further through the curriculum of the major and participation in campus events and activities, all of which support the University's vision of "producing practical, ready-to-work graduates from a broad range of academic disciplines prepared to compete in a technologically driven world."

This program is assessed in multiple ways. The results of the Annual Unit Report is used to enhance general education competencies. The assessment of core competencies occurs by means of direct assessment methods, including embedded course work in the relevant General Education courses (MATH 1130, ENGL 1020, SPCH 2410), and the CCTST administered to seniors nearing graduation. The learning outcomes in writing, oral communication, and mathematics are established by the TBR Office of Academic Affairs. For example, the following tables show results for the past three years:

Table 2: Mathematics Outcome to be Assessed	2012-13		2013-14		2014-15	
	Sat %	Unsat %	Sat %	Unsat %	Sat %	Unsat %
Students are able to use mathematics to solve problems and determine if results are reasonable	57.5	42.5	36.8	63.2	63.5	36.5
Students are able to use mathematics to model real-world behaviors and apply mathematical concepts to the solution of real life problems.	64.3	35.7	63.1	36.9	56.3	43.7
Students are able to make meaningful connections between mathematics and other disciplines.	52.2	47.8	64.2	35.8	55.2	44.8
Students are able to use technology for mathematical reasoning and problem solving	45.4	54.6	71.9	28.1	56.6	43.4
Students are able to apply mathematical and/or basic statistical reasoning to analyze data and graphs.	68.5	31.5	49.1	50.9	59.5	40.5

Table 3: Oral Communication Outcome to be Assessed	2012-13		2013-14		2014-15	
	Sat %	Unsat %	Sat %	Unsat %	Sat %	Unsat %
Students are able to distill a primary purpose into a single, compelling statement.	98.2	1.8	96.0	4.0	95.9	3.6
Students are able to order major points in a reasonable and convincing manner based on that purpose.	97.7	2.3	94.9	5.1	96.3	3.6
Students are able to develop their ideas using appropriate rhetorical patterns (e.g., narration, example, comparison/contrast, classification, cause/effect, definition).	97.7	2.3	94.0	6.0	95.0	5.0
Students are able to employ correct diction, syntax, usage, grammar, and mechanics.	97.7	2.3	95.1	4.9	96.7	3.3
Students are able to manage and coordinate basic information gathered from multiple sources.	95.4	4.6	93.0	7.0	90.7	9.3

Table 4: Writing Outcome to be Assessed	2012-13			2013-14			2014-15	
	Sat %	Unsat %		Sat %	Unsat %		Sat %	Unsat %
Students are able to distill a primary purpose into a single, compelling statement.	53.0	47.0		65.7	34.3		62.8	37.2
Students are able to order major points in a reasonable and convincing manner based on that purpose.	48.9	51.1		68.1	31.9		58.2	41.8
Students are able to develop their ideas using appropriate rhetorical patterns (e.g., narration, example, comparison/contrast, classification, cause/effect, definition).	67.9	32.1		77.6	22.4		70.0	30.1
Students are able to employ correct diction, syntax, usage, grammar, and mechanics.	74.2	25.8		82.4	17.6		76.8	23.3
Students are able to manage and coordinate basic information gathered from multiple sources.	72.4	27.6		55.2	44.8		64.5	35.5

Table 5: California Critical Thinking Skills Test by TTU College	2012-13 Results			2013-14 Results			2014-15 Results		
	#	TTU Avg.	Nat'l Avg.	#	TTU Avg.	Nat'l Avg.	#	TTU Avg.	Nat'l Avg.
Agriculture & Human Sciences	179	17.1	-	90	18.3	-			
AN	**			35	18.1				
Arts & Sciences	320	17.6	-	333	17.4	-			
Business	193	17.7	-	174	17.8	-			
Education	304	17.8	-	178	17.3	-			
Engineering	406	17.6	-	272	18.0	-			
Interdisciplinary Studies	52	16.8	-	41	16.8	-			
Nursing**	**			57	17.6				
TTU Total	1551	17.6	16.8	1410	17.7	17.1	1411	17.3	17.1

Program modifications and actions due to results also occur in the four theme areas of Mathematics, Oral and Written Communication, and Critical Thinking. Oral Communication: The scores in the student learning outcomes continue to

be strong, with at least 90% of the students assessed in SPCH 2410 attaining satisfactory or superior results in all five learning outcomes, and a majority of those in the latter group. Speech Communication faculty have also begun to supplement this assessment with one that focuses on "speech anxiety," the Personal Report of Communication Apprehension (PRCA-24). All students enrolled in SPCH 2410 are required to take the survey as a graded assignment, both at the beginning and at the end of the semester. However, the response rate was 55%. This lower number can be due to two factors. Students still can choose not to take the survey thus affecting their overall grade. Secondly students who take the measure at the beginning of the year may not be actively attending at the end of the semester. So the response rate may be lower than hoped due to simple attrition; approximately 200 responses were dropped because of missing data from either the beginning or the end of the semester.

The communication apprehension (CA) total score showed a significant reduction in communication anxiety with an overall reduction of 9.64 in the mean. This is important to note since prior research has found that high levels of CA have a negative effect on student assertiveness, and student ability to recall lecture material if they are expected to interact in class. Going beyond the classroom, the National Association of Colleges and Employers (NACE) states that oral/written communication, teamwork, and professionalism/work ethic are essential requirements for new college graduates. The description of these requirements pertains to communication skills. The results suggest that the SPCH 2410 class increases students' confidence in their ability to interact with others, which hadan effect on their academic as well as their employment goals. Writing: It is important to note that the program is measuring one year's students against an entirely different group of students in the following year, rather than measuring learning that happens longitudinally (i.e., assessing a group of students' learning over time). Comparing entirely different groups of students from year to year certainly limits claims that might be made about the validity of data. Given these variables, it may be impossible to measure annual instructional improvement directly through student performance in a statistically valid manner within the confines of this mandated annual assessment.

Mathematics: Students were inconsistent in how they responded to related questions. Because of this inconsistency throughout the semester it is difficult to say whether students are "learning for the test" or "learning for the next class." A generalization could be made that most students evaluated have a "learn for the test" approach to mathematics. A skills-driven pedagogy continued to be used to better serve the needs of the Mathematics Department in preparation for MATH 1830. Making connections between ideas throughout the semester continues to be a weakness of the "Mastery Learning" approach that has had varying degrees of success. Modifications on the implementation of this pedagogical approach are still being made. Critical Thinking:The TTU overall result of 17.3 is down from last year (17.7), but still above the national average score in the CCTST. This year the administering of the test was changed from a centralized approach managed by the Provost's Office to a decentralized approach managed by each college. It cannot be determined whether this change accounts for the somewhat lower average TTU student score; however, the University mean as a whole scores above the national mean. Link to Flight Plan:Improve undergraduate experience, Academic Advising, High-Demand Course Capacity, Efficiency and Effectiveness.

Distance Learning Programs.

Distance learning programs were found to have consistent planning and assessment processes with their on-campus counterparts. Measurable student learning outcomes are established, and assessment processes are in place that allow these programs to continuously monitor and improve their strategies for student learning. The following programs are reported above, under the college in which they are offered. The College of Interdisciplinary Studies (CIS) and Extended Programs and Regional Development (EPRD) aspire to be recognized as the partner of choice in expanding access to a broad array of high-quality educational alternatives, thus impacting the cultural, economic, and social growth for citizens in TTU's service area and beyond with expansion into the global economy. The EPRD, for example, has a goal to "Develop and sustain a wide range of credit and non-credit campus classes for faculty, staff, students and community members," with two objectives (Objective 1.1: Provide non-credit and credit community interest courses; and Objective 1.2: Deliver Emergency Medical Training and Paramedic certification programs). Overall, Goal One, is to improve the workforce environment. Progress in meeting the goal was assessed by tracking contact hours, graduation rates, and awarded professional licensure points. Further, satisfaction surveys were conducted to assess the degree to which the goal is being met. Modifications and continuous improvement for the Office of Extended Programs and Regional Development include moving to Southwest Hall to more effectively provide focus on outreach and community development. Consequently, more opportunities were developed to provide additional activities (conferences, seminars, and workshops) to faculty, staff, and credit/noncredit students. The expected objectives include (a) strengthening and developing strategic alliances and relationships with federal and state agencies, industry, and private sector companies to further enhance EPRD's actions, and (b) strengthening existing and developing new conferences, seminars, and workshops in response to participant demand. These conferences, seminars, and workshops reflected the changing business climate as directed by surveys and planning committee meetings thus providing current information to all participants.

The following are other programs that include distance learning and are discussed above.

o **Business Administration (MBA)**– Exemplary throughout 2011-2014
o **Exercise Science, Physical Education & Wellness (MS)** – Acceptable 2011-2012 to Exemplary 2013-2014
o **Nursing (MSN)** – Developing 2011-2012 to Exemplary 2013-2014
o **Professional Studies (MSP)** – Developing 2011-2012 to Exemplary 2013-2014
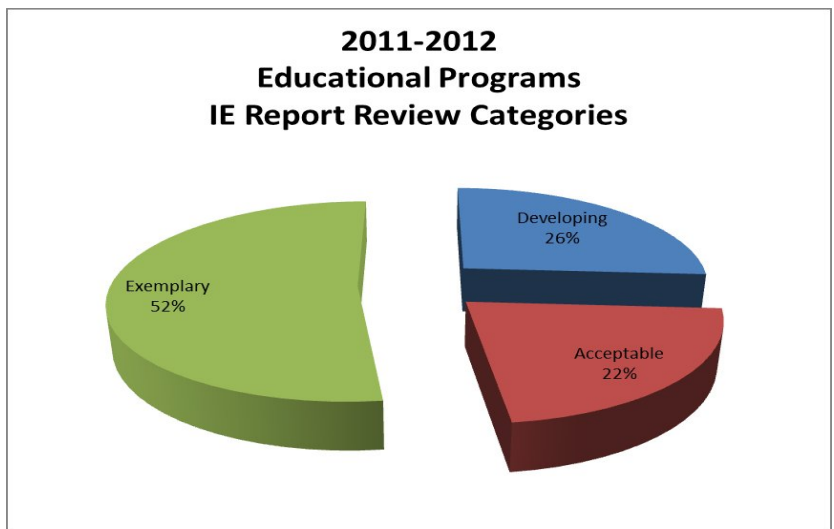
Programs with components at off-site locations.

Programs with components at off-site locations were also found to have planning and assessment processes consistent with their on-campus counterparts. Measurable student learning outcomes are established, and assessment processes are in place that allow for these programs to continuously monitor and improve their strategies for student learning. Students have the same access to resources as those on campus, and have the choice in the method of delivery of instruction, as well as the assessment of instruction and performance. A great example of this can be found in the College of Education section of this report. The following programs are reported above, under the college in which they were offered.

o **Curriculum & Instruction 2 + 2 (BS)** – Exemplary 2011 to 2014
o **Interdisciplinary Studies (BS)** – Developing in 2012 to Exemplary in 2014

Follow-Up on Departments Categorized as "Developing" for the 2011-2012 Compared to 2013-2014 Reporting

Units categorized as developing in 2011-2012 were trained and monitored by the TTU IE Committee. Committee members provided very specific feedback to units in relation to the IE Committee evaluation rubric attached. The percent of units found to be at the developing stage in the 2011-2012 reporting year (26%) reduced to 0% over the following two reporting years (2012-2013 and 2013-2014). For academic programs in the 2014-2015 reporting cycle, 96% of units were found to be using an exemplary process of IE, and 4% were found to use an acceptable process of IE. This committee continued to evaluate and monitor IE processes of these units and strive to encourage all units to be exemplary in their IE processes and reporting (See Figures 1 & 2 below).

Figures 1 and 2. Academic programs change in review category.

2011-2012
Educational Programs
IE Report Review Categories

Developing
26%

Exemplary
52%

Acceptable
22%

2014-2015 Educational Programs IE Report Review Categories

Developing 0%

Acceptable 4%

Exemplary 96%
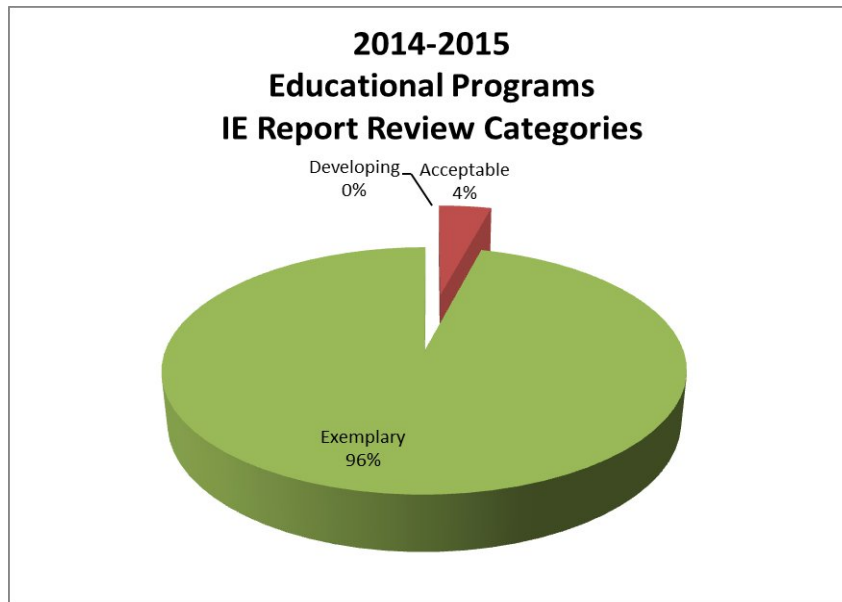
Conclusion

Through this extensive review process and the development of new reporting tools, all academic programs have now identified measurable student learning outcomes. They either have assessment tools in place, added new assessment tools, or are in the process of developing them. Many deficiencies were discovered in the use of assessment for program changes. The addition of Section VII "Improvements to Assessment Plan" in the reporting template allowed the units to strategically improve plans for assessment and use of results for modifications. Off-site and distance learning programs were found to have planning and assessment procedures that are consistent with on-campus programs as reported above.

SACSCOC feedback led the University to recognize the need to improve the process for institutional effectiveness reporting. A new process, templates, and reporting deadlines have been established to monitor institutional effectiveness continually and consistently across campus. Annual reporting requirements include the submission of these reports at the end of each academic year to the Office of Academic Affairs University Assessment. This new process allowed Institutional Effectiveness to be continually monitoring for the improvement of student learning outcomes and assessment plans. In July 2012, the University began a review of 2011-2012 reporting and monitored progress on Institutional Effectiveness processes from 2011-2014 on all departments, especially those departments that have made substantial changes to learning outcomes, strategies, and assessment plans. Budget expenditures in relation to modifications and Strategic Flight Plan initiatives are requested and approved through Academic Deans and Divisions leaders.

All reporting for this planning period is available for each unit/department in final pdf format by academic/fiscal year at www.tntech.edu/provost/institutional-effectiveness/, in addition to live access on the Campus Labs TTU Planning site.

Campus Labs planning module for institutional effectiveness. Future reporting includes the implementation of a planning platform for reporting Institutional Effectiveness information, and deadlines that are more fluid to align with the IE process [9]. IE reports for academic programs, administrative support services, academic and support services, and research and service areas are collected regularly and continually monitored by the Office of Academic Affairs and the Office of University Assessment. A program (Campus Labs) with planning tools for submitting reports efficiently and consistently was purchased, and was implemented for collecting IE reports in the 2014-2015 academic year. Modeled on the report guide and template training and reporting from 2011-2014, the Campus Labs Planning Module allowed TTU to move forward starting in 2014-2015 to a process of annual reporting phases in institutional effectiveness processes both efficiently and effectively.

Planning platform IE reporting training took place in the fall semester of 2014. Units were asked to enter sections I-III of the IE reporting template, including the unit definition, goals/outcomes, and assessment information. During the 2014-2015 year, unit leaders updated the results as collected and discuss changes with unit constituents. Changes and modifications were reported during the summer to enable updates and revisions to IE planning before the following semester. This process has allowed for the institutional effectiveness planning to be consistently reported and reviewed for the entire campus. A guide to entering and editing information was developed to aid unit leaders with the process [10]. The process of institutional effectiveness demonstrates that TTU is in compliance with Comprehensive Standard 3.3.1.1 (Institutional Effectiveness: Educational Programs).

Documents for Current Reporting

Rubric for Evaluating Assessment Plans and Reports [8]

Campus Labs IE Planning Platform Training Roll Out [9]

TTU Training Guide to Edit and Enter IE Reporting into Campus Labs [10]

References

Palmer, M. Institutional Effectiveness Audit Form. Rev 2011.
_____. Through the Eyes of an Institutional Effectiveness Evaluator (2012)
Principles of Accreditation: Foundations for Quality Enhancement (2011)
http://www.sacscoc.org/pdf/PrinciplesOfAccreditation.PDF

Sources

- [02] Institutional Effectiveness Guide and Template
- [03] IE Audit Form Share
- [04] Deadlines for Reporting
- [05] 2011_2012 Dept Chart
- [06] 2012-2013 Annual IE Reports Dept Chart
- [07] 2013-2014 Academic IE Reports Dept Chart
- [08] Rubric for Evaluating IE Plans w Exemplary Acceptable Developing
- [09] Campus Labs IE Planning Platform Training Roll Out
- [10] Guide to Entering and Editing IE Reporting 2015 and Beyond
- SACS Website
- SACSCOC Institutional Effectiveness
- TTU Assessment
- TTU Unit Audit Matrix
- University Website