TEXAS TECH UNIVERSITUY

DECENNIAL REPORT ON THE CORE CURRICULUM

JUNE 2013

This report responds to the Texas Higher Education Coordinating Board requirement that each public institution of higher education in Texas shall review and evaluate its core curriculum every 10 years. The previous such report was submitted by Texas Tech University in 2004.

1. **Purpose and substance of the Texas Tech University core curriculum**

The following statement appears at the beginning of the section of the Texas Tech University catalog on the core curriculum. It summarizes the purpose and substance of the TTU core.

> The core curriculum is designed to expose all Texas Tech University graduates to areas of study that are traditionally regarded as basic to the intellectual development of a broadly educated person. These areas of study include the following: life and physical sciences; social and behavioral sciences; mathematics; language, philosophy, and culture; creative arts; United States and Texas history and government; and the tools of communication and thought. The Texas Tech University core curriculum complies with Texas statutes and Texas Higher Education Coordinating Board rules.

In addition, each component area is headed by a statement of purpose. These statements are replicated in Table 1.

2. **Extent to which the core curriculum is consistent with the elements of the core curriculum recommended by the Board**

The Texas Tech University core curriculum is consistent with the elements of the Board recommended core curriculum.

TABLE 1
RATIONAL FOR COMPONENT AREAS OF THE TEXAS TECH UNIVERSITY CORE CURRICULUM

Communication (Written and Oral)

Courses in this core component area focus on developing ideas and expressing them clearly, considering the effect of the message, fostering understanding, and building the skills needed to maximize the potential for effecting change through communication. Courses involve the command of oral, aural, written, and visual literacy skills that enable people to exchange messages appropriate to the subject, occasion, and audience.

Mathematics and Logic

Courses in this core component area focus on quantitative literacy in logic, patterns, and relationships. Courses involve the understanding of key mathematical concepts and the application of appropriate quantitative tools to everyday experience.

Natural Sciences

The objective of the study of the natural sciences component of a core curriculum is to enable the student to understand, construct, and evaluate relationships in the natural sciences, and to enable the student to understand the bases for building and testing theories. The natural sciences investigate the phenomena of the physical world.

Humanities

The objective of the humanities in a core curriculum is to expand the student's knowledge of the human condition and human cultures, especially in relation to behaviors, ideas, and values expressed in works of human imagination and thought. Through study in disciplines such as literature and philosophy, students will engage in critical analysis and develop an appreciation of the humanities as fundamental to the health and survival of any society.

Visual and Performing Arts

The objective of the visual and performing arts in a core curriculum is to expand the student's knowledge of the human condition and human cultures, especially in relation to behaviors, ideas, and values expressed in works of human imagination and thought. Through study in disciplines such as the visual and performing arts, students will engage in critical analysis, form aesthetic judgments, and develop an appreciation for arts as fundamental to the health and survival of any society.

Social and Behavioral Sciences

Courses in this core component area focus on the application of scientific methods in the understanding of what makes us human. Courses involve the exploration of behavior and interactions among individuals, groups, institutions, and events, examining their impact on the individual, society, and culture.

Table 2 demonstrates that the Texas Tech University core curriculum includes all of the required core component areas. Texas Tech University has opted to require 3 SCH of mathematics or logic and 3 SCH of oral communication as its component area options. In addition, 2 SCH of science laboratory are required as an institutional option because our faculty believe that a laboratory experience is vital for developing an understanding of the processes of scientific

discovery. The laboratory requirement increases the natural science component area requirement to a total of 8 SCH and the full core to a total of 44 SCH.

In addition to the 44 SCH core curriculum, Texas Tech University also requires that students take a multicultural course (3 SCH) that may also be a designated core curriculum course (generally in humanities or individual or group behavior) and requires that all students take 6 SCH of writing intensive courses in their major. The latter are intended to address writing across the curriculum by familiarizing students with writing conventions and vocabulary in their chosen discipline.

3. Extent to which the core curriculum is consistent with the Texas Common Course Numbering System

Table 2 indicates TCCNS equivalent courses and numbers. For Communication, United States History, and United States and Texas government, the primary courses that satisfy the component area requirement have TCCNS equivalents. In the other component areas, 2 out of 8 oral communication courses, 14 out of 19 mathematics/mathematics or logic courses, 33 out of 43 natural science courses, 12 out of 71 humanities courses, 15 out of 38 visual and performing core courses, and 19 out of 81 individual or group behavior courses have TCCNS equivalent course numbers. This provides students planning to transfer from a Texas public institution with a wide range of Texas Tech University courses with TCCNS numbers from which to select.

4. The extent to which the core curriculum is consistent with the Assumptions and Defining Characteristics

The Assumptions and Defining Characteristics are embedded throughout the core curriculum.

Reading. Every course in the core curriculum requires reading. In some courses this may be restricted to a textbook or workbook, while other courses may require reading of a variety of materials that range from original sources in history and related areas to technical materials in

TABLE 2
TEXAS TECH UNIVERSITY CORE CURRICULUM (SPRING 2013)

COMPONENT AREAS AND COURSES WITH TCCNS WHERE APPLICABLE	
010	**Communication (6 SCH)**
	ENGL 1301, Essentials of College Rhetoric (TCCNS ENGL 1301)
	ENGL 1302, Advanced College Rhetoric (TCCNS ENGL 1302)
011	**Oral Communication (3 SCH)**
	CFAS 2300, Communication, Civility and Ethics
	CHE 2306, Exposition of Technical Information
	COMS 1300, Introduction to Communication Studies (TCCNS SPCH 1311)
	COMS 2300, Public Speaking (TCCNS SPCH 1315)
	COMS 3358, Business and Professional Communication
	ENGR 2331, Professional Communication for Engineers
	MCOM 3310, Professional Communication
	MGT 3373, Managerial Communication
020	**Mathematics (3 SCH)**
	MATH 1300, Contemporary Mathematics (TCCNS MATH 1332)
	MATH 1320, College Algebra (TCCNS MATH 1314)
	MATH 1321, Trigonometry (TCCNS MATH 1316)
	MATH 1330, Introduction to Mathematical Analysis I (TCCNS MATH 1324)
	MATH 1331, Introduction to Mathematical Analysis II (TCCNS MATH 1325, MATH 1425)
	MATH 1420, College Algebra with Review (TCCNS MATH 1414)
	MATH 1430, Introductory Mathematical Analysis with Review
	MATH 1451, Calculus I (TCCNS MATH 2413, 2417, 2513, 2517)
	MATH 1452, Calculus II (TCCNS MATH 2414, 2419, 2519)
	MATH 1550, Precalculus
	MATH 2300, Statistical Methods (TCCNS MATH 1342, 1442, 2342, 2442)
	MATH 2345, Introduction to Statistics with Application to Business
	MATH 2360, Linear Algebra (TCCNS MATH 2318,MATH 2418)
	MATH 2370, Elementary Analysis I (TCCNS MATH 1350)
	MATH 2371, Elementary Analysis II
	MATH 2450 Calculus III (TCCNS MATH 2415)
021	**Mathematics and Logic (3 SCH)**
	Any of the 020 mathematics courses above or one of the courses below:
	AAEC 3401, Agricultural Statistics
	PHIL 2310, Logic (TCCNS PHIL 2303)
	PSY 3400, Statistical Methods
030	**Natural Sciences (6 SCH)**
090	**Natural Sciences Laboratory (2 SCH, Institutionally designated option)**
	ANSC 3404, Consumer Selection and Utilization of Meat Products
	ANTH 2100, Physical Anthropology Laboratory (TCCNS ANTH 2101)
	ANTH 2300, Physical Anthropology (TCCNS ANTH 2301)
	ASTR 1400, Solar System Astronomy (TCCNS PHYS 1304/ASTR 1401 + 1101, 1304 + 1104, 1401)
	ASTR 1401, Stellar Astronomy (TCCNS PHYS 1303, PHYS 1303+1103, 1403; ASTR 1303+1103, 1403)
	ATMO 1300, Introduction to Atmospheric Science (TCCNS GEOL 1347, 1447)

TABLE 2, Cont.

ATMO 1100, Atmospheric Science Laboratory (TCCNS GEOL 1147, 1447)
BIOL 1305, Ecology and Environmental Problems (TCCNS BIOL 2306, 2406, ENVR 1301, 1401)
BIOL 1113, Environmental Problems Laboratory (TCCNS BIOL 2106, 2406, ENVR 1101, 1401)
BIOL 1401, Biology of Plants (TCCNS BIOL 1411)
BIOL 1402, Biology of Animals (TCCNS BIOL 1413)
BIOL 1403, Biology I (TCCNS BIOL 1406)
BIOL 1404, Biology II (TCCNS BIOL 1407)
CHEM 1305, Chemistry and Society I (TCCNS 1305)
CHEM 1105 Experimental General Chemistry I Laboratory (TCCNS CHEM 1105)
CHEM 1306, Chemistry and Society II (TCCNS 1307)
CHEM 1106, Experimental General Chemistry II Laboratory (TCCNS 1107)
CHEM 1307, Principles of Chemistry I (TCCNS CHEM 1311)
CHEM 1107, Principles of Chemistry Laboratory (TCCNS CHEM 1111)
CHEM 1308, Principles of Chemistry II (TCCNS CHEM 1312)
CHEM 1108Principles of Chemistry II Laboratory (TCCNS CHEM 1112)
GEOG 1401, Physical Geography (TCCNS GEOG 1301)
GEOL 1303, Physical Geology (TCCNS GEOL 1303, GEOL 1403)
GEOL 1101, Physical Geology Laboratory (TCCNS GEOL 1103, GEOL 1403)
GEOL 1304, Historical Geology (TCCNS GEOL 1304, GEOL 1404)
GEOL 1102, Historical Geology Laboratory (TCCNS GEOL 1104, GEOL 1404)
GEOL 1350, History of Life
GEOL 1105, History of Life Laboratory
HONS 2405, Honors Integrated Science I
HONS 2406, Honors Integrated Science II
NS 1410, Science of Nutrition
PHYS 1401, Physics for Non Science Majors (TCCNS PHYS 1310)
PHYS 1403, General Physics I (TCCNS PHYS 1401)
PHYS 1404, General Physics II (TCCNS PHYS 1402)
PHYS 1406, Physics of Sound and Music
PHYS 1408, Principles of Physics I (TCCNS PHYS 2425)
PHYS 2401, Principles of Physics II (TCCNS PHYS 2426)
PSS 1411, Principles of Horticulture (TCCNS HORT 1401, AGRI 1415)
PSS 2330, Urban Soils
PSS 2130 Urban Soils Laboratory
PSS 2401 Introductory Entomology (TCCNS AGRI 1413)
ZOOL 2402, Human Anatomy and Physiology
ZOOL 2403, Human Anatomy (TCCNS BIOL 2401)

040 Humanities (3 SCH)

ANTH 2306, Anthropology at the Movies
ARCH 2311, History of World Architecture c. 3000 BC to c. 1600 AD (TCCNS ARCH 1301)
ASL 3312, Introduction to Deaf Culture and Linguistics
CLAS 3302, Classical Mythology
CLAS 3303, Sports and Public Spectacles in the Ancient World
CLAS 3320, The World of Greece
CLAS 3330, The World of Rome
CLAS 3350, Comparative Mythology
COMS 3311, Rhetoric in Western Thought
COMS 3318, Persuasion and Social Movements
ENGL 2305, Introduction to Poetry
ENGL 2306, Introduction to Drama
ENGL 2307, Introduction to Fiction

TABLE 2, Cont.

ENGL 2308, Introduction to Nonfiction
ENGL 2351, Introduction to Creative Writing (TCCNS ENGL 2307, 2308)
ENGL 2388, Introduction to Film Studies
ENGL 2391, Introduction to Critical Writing
ENGR 4392, Engineering Ethics and Its Impact on Society
EVHM 1301, The Natural History Tradition
FREN 3302, Major French Writers
FREN 3390, French Culture
GERM 3301, German Culture and Society
GERM 3304, Introduction to Literature
GERM 3306, Contemporary Germany
GERM 3312, Literature of the Holocaust
GERM 3313, Northern Myths and Legends
HIST 1300, Western Civilization I (TCCNS HIST 2311)
HIST 1301, Western Civilization II (TCCNS HIST 2312)
HIST 2322, World History to 1500 (TCCNS HIST 2321)
HIST 2323, World History since 1500 (TCCNS HIST 2322)
HIST 3341, Women in European Civilization (Cross listed with WS 3341)
HIST 3351, History of Spain
HONS 1301, Honors First-Year Seminar in Humanities
HONS 2311, Seminar in International Affairs
HONS 3301, Honors Seminar in Humanities
HUM 2301, The Western Intellectual Tradition I (TCCNS HUMA 1301)
HUM 2302, The Western Intellectual Tradition II (TCCNS HUMA 1302
ITAL 3390, Italian Cinema
JOUR 3350, History of American Journalism
LAIS 2300, Latin America and Iberia: An Interdisciplinary Introduction
LAIS 3300, Topics in Latin American and Iberian Studies
LAIS 4300, Seminar in Latin American and Iberian Studies
LARC 3302, Development of Landscape Architecture
PHIL 2300, Beginning Philosophy (TCCNS PHIL 1301)
PHIL 2320, Introduction to Ethics (TCCNS PHIL 2306)
PHIL 2350, World Religions and Philosophy (TCCNS PHIL 1304)
PHIL 3301, Classical Greek Philosophy
PHIL 3302, Asian Philosophy
PHIL 3303, Modern European Philosophy
PHIL 3304, Existentialism and Phenomenology
PHIL 3320, Introduction to Political Philosophy
PHIL 3322, Biomedical Ethics
PHIL 3324, Philosophy of Religion
PHIL 3332, Feminism and Philosophy
PHIL 3351, Philosophy of Literature
PHIL 3342, Philosophy of Film
PORT 3307, Luso-Brazilian Civilization and literature
RUSN 3301, Russian Civilization through Literature in the 19th Century
RUSN 3302, 20th Century Russian Civilization through Literature in Translation
RUSN 3304, Russian Culture
SLAV 3301, The Vampire in East European and Western Culture
SPAN 3306, Introduction to Hispanic Life, Culture
SPAN 3307, Introduction to Hispanic Literatures
SPAN 3344, Mexican Life and Culture

TABLE 2, Cont.

SPAN 3390, Hispanic Culture and Civilization
SPAN 3391, Hispanic Film in Translation
SPAN 3392, Hispanic Literature in Translation
TURK 3307, Turkish Culture
VPA 3301, Critical issues in Arts and Culture
WS 2300, Introduction to Women's Studies
WS 3341, Women in European Civilization (Cross listed with HIST 3341)

050 Visual and Performing Arts (3 SCH)

ANSC 2310, Horses in World Art
ARCH 2315, History of 18th, 19th, and 20th Century Architecture (TCCNS ARCH 1302)
ART 1302, Design Introduction (TCCNS ARTS 1311)
ART 1303, Drawing Introduction (TCCNS ARTS 1316)
ART 1309, Art Appreciation (TCCNS ARTS 1301, 1313)
ARTH 1301, Art History Survey I (TCCNS ARTS 1303)
ARTH 2302, Art History Survey II (TCCNS ARTS 1304)
DAN 3313, Dance History
DAN 4301, World Dance Forms
EMC 3308, Visual Communications
HONS 1304, Honors First-Year Seminar in Fine Arts
HONS 2314, Honors Seminar in International Cinema
HONS 3304, Honors Seminar in Fine Arts
HONS 3305, European Fine Arts
ITAL 3315, Italian Filmmakers
MUAP 1123, Group Keyboard Instruction I (TCCNS MUSI 1114, 1181)
MUAP 1124, Group Keyboard Instruction II (TCCNS MUSI 1115, 1182)
MAPI 2123, Group Keyboard Instruction III (TCCNS MUSI 2114, 2181)
MUAP 2124, Group Keyboard Instruction IV (TCCNS MUSI 2115, 2182)
MUEN 3101, Choir
MUEN 3102, Music Theatre
MUEN 3103, Band
MUEN 3105, Jazz Ensemble
MEUN 3106, Small Ensemble
MUEN 3110 Medium Ensemble
MUEN 3201, University Choir
MUEN 3202, Music Theatre
MUEN 3203, Band
MUEN 3204, Orchestra
MULH 1308, Music in Western Civilization (TCCNS MUSI 1306, 1307, 1308)
MULH 3304, History of Jazz
MUHL 3310, History of Rock and Roll
MUSI 2301, Essential Elements of Music (TCCNS MUSI 1304)
MUTH 1300, Songwriting
THA 2301, Introduction to Acting
THA 2302, Principles of Acting I (TCCNS DRAM 1351)
THA 2303, Theatre Appreciation (TCCNS DRAM 1310)
THA 2304, Introduction to Cinema (TCCNS DRAM 2366)

Social and Behavioral Sciences

060 U.S. History (6 SCH)

HIST 2300, History of the U.S. to 1877 (TCCNS HIST 1301)
HIST 2301, History of the U.S. since 1877 (TCCNS HIST 1302)
HIST 3310, History of Texas

TABLE 2, Cont.

HIST 3323, History of Women in America (Cross listed with WS 3323)
WS 3323, History of Women in America (Cross listed with HIST 3323)
The following courses will satisfy the U.S. History requirement for students with junior or senior classification.
HIST 3313, The Old South
HIST 3314, The South Since the Civil War
HIST 3321, Twentieth Century American West
HIST 3330, The Vietnam War
HIST 3331, History of United States Military Affairs to 1900
HIST 3332, History of United States Military Affairs since 1900

070 Political Science: U. S. and Texas Government (6 SCH)

POLS 1301, American Government Organization (TCCNS GOVT 2305)
POLS 2302, American Public Policy (TCCNS GOVT 2306)
The following courses may be substituted for POLS 2302 by students who earn an AP score of 3 or better or a grade of A or B in POLS 1301.
POLS 3323, Legislation
POLS 3325, Political Parties
POLS 3326, Women in Politics (Cross listed with WS 3326)
POLS 3327, The American Presidency
POLS 3339, Religion and Politics
POLS 3341, The Administrative Process (Cannot satisfy both U.S. Government and Individual or Group Behavior requirement)
POLS 3346, Public Policy Analysis
POLS 3351, The Judicial Process (Cannot satisfy both U.S. Government and Individual or Group Behavior requirement)
POLS 3352, Constitutional Law—Powers
POLS 3353, Constitutional Law—Limitations
POLS 3360, United States Foreign Policy
WS 3326, Women in Politics (Cross listed with POLS 3326)

080 Individual or Group Behavior

AAEC 2305, Fundamentals of Agricultural and Applied Economics (TCCNS AGRI 2317)
ADRS 2310, Understanding Alcohol, Drugs, and Addictive Behaviors
ADRS 3325, Family Dynamics of Addiction and Recovery
ADV 4313, International Advertising
AGED 2300, Introduction to Agricultural Education
ANTH 1301, Understanding Multicultural America
ANTH 2301, Introduction to Archaeology (TCCNS ANTH 2302)
ANTH 2302, Cultural Anthropology (TCCNS ANTH 2351)
ANTH 3305, Anthropological Linguistics
ANTH 3306, Women in Culture and Society (Cross listed with WS 3306)
ARCH 1311, Design, Environment, and Society (TCCNS ARCH 1311)
CLAS 3335, Archaeologies of the Classical World
COMS 1301, Interpersonal Communication (TCCNS SPCH 1318)
COMS 2350, Introduction to Communication Disorders
COMS 3313, Persuasion
COMS 3331, Nonverbal Communication
COMS 3332, Intercultural Communication
COMS 3334, Gender and Communication (Cross listed with WS 3312)
COMS 3353, Small Group Communication
COMS 3355, Communication in Organizations
COMS 3356, Leadership and Communication

TABLE 2, Cont.

ECO 2301, Principles of Economics I (TCCNS ECON 2302)
ECO 2302, Principles of Economics II (TCCNS ECON 2301)
ECO 2305, Principles of Economics
EDEL 2300, Schools, Society, and Diversity
EDSE 2300, Schools, Society, and Diversity
ESS 3352, Gender Issues in Sports
ESS 3354, Sport in World Cultures
GEOG 2300, Human Geography (TCCNS GEOG 1302)
GEOG 2351, Regional Geography of the World (TCCNS GEOG 1303)
GEOG 3337, Economic Geography
HDFS 2303, Life Span Human Development (TCCNS PSYC 2311, 2314)
HDFS 2322, Partnering: The Development of Intimate Relationships
HDFS 3301, Theories of Human Development and the Family
HDFS 3321, Human Sexuality through Family Life Cycle (Cross listed with WS 3321)
HDFS 3322, The Family in the Community
HDFS 3331, Parenting
HDFS 3332, Aging in the Family
HLTH 1305, Human Sexuality (Cross listed with WS 1305) (TCCNS PSYC 2306, SOCI 2306)
HLTH 2302, Environmental Health and Awareness
HLTH 3325, Health Concerns in Chemical Dependencies
HONS 1303, Honors First-Year Seminar in Social Sciences
HONS 3303, Honors Seminar in Social Sciences
IE 3301, Engineering Economic Analysis
JOUR 4330, Public Opinion and Propaganda
MCOM 1300, Introduction to Mass Communication (TCCNS COMM 1307)
NS 4380, Cultural Aspects of Food
PFP 3301, Personal and Family Finances
PHIL 3321, Philosophy of Law
PHIL 3331, Philosophy of Social and Human Sciences
POLS 3326, Women in Politics (Cross listed with WS 3326)
POLS 3341, The Administrative Process (Cannot satisfy both U.S. Government and Individual or Group Behavior requirement)
POLS 3351, The Judicial Process (Cannot satisfy both U.S. Government and Individual or Group Behavior requirement)
POLS 3361, International Politics
POLS 3371, Comparative Politics
PSY 1300, General Psychology (TCCNS PSYC 2301)
PSY 2301, Child Psychology ITCCNS PSYC 2308, 2309)
SOC 1301 Introduction to Sociology (TCCNS SOCI 1301)
SOC 1320, Current Social Problems (TCCNS SOCI 1306)
SOC 2331, The Sociology of Marriage (Cross listed with WS 2331) (TCCNS SOCI 2301)
SOC 2335, Homicide
SOC 3324, American Minority Problems
SOC 3325, Gendered Lives (Cross listed with WS 3325)
SOC 3327, Sociology of Law and Policing
SOC 3331, Sociology of the Family (Cross listed with WS 3331)
SOC 3332, Sociology of Bureaucracy
SOC 3335, Family Violence
SOC 3337, Inequality in America (Cross listed with WS 3337)
SOC 3368, Sociology of Deviance
SOC 3383, Alcohol, Drugs, and Society

TABLE 2, Cont. SOC 3393, Development of Sociological Theories
SOC 3394, Contemporary Sociological Theories
SW 1300, The Why and How of Social Services
SW 2311, Introduction to Social Work (TCCNS SOCW 2361)
SW 3311, Human Behavior and the Social Environment: Systems
WS 1305, Human Sexuality (Cross listed with HLTH 1305) (TCCNS PSYC 2306, SOCI 2306)
WS 2331, The Sociology of Marriage (Cross listed with SOC 2331) (TCCNS SOCI 2301)
WS 3306, Women in Culture and Society (Cross listed with ANTH 3306)
WS 3312, Gender and Communication (Cross listed with COMS 3334)
WS 3321, Human Sexuality Through Family Life Cycle (Cross listed with HDFS 3321)
WS 3325, Gendered Lives (Cross listed with SOC 3325)
WS 3326, Women in Politics (Cross listed with POLS 3326)
WS 3331, Sociology of the Family (Cross listed with SOC 3331)
WS 3337, Sociology of the Family (Cross listed with SOC 3337)
WS 4399, Women's Studies Seminar

mathematics, the sciences, or individual or group behavior and literature in the humanities and certain performing arts.

Writing. The core curriculum requirement in writing is formally satisfied through ENGL 2301, Essentials of College Rhetoric, and ENGL 2302, Advanced College Rhetoric. These courses are both taught as hybrids that combine face-to-face instruction with on-line submission of writing assignments and grading. The writing program at Texas Tech University is recognized as a pathfinder in development of on-line evaluation of student writing. Information on the program can be found at http://www.english.ttu.edu/fyc/fyc_mainpage.asp.

The oral communication component area option also contributes to the development of writing skills because students usually write at least a portion of their class presentations and those are usually evaluated by the course instructor.

Approximately 40% of Texas Tech University students take writing courses here with the remaining 60% transferring courses from another institution, using dual credit or AP courses or passing a CLEP examination. Data collected by the Office of Institutional Research indicates that students who take ENGL 2301 and 2302during their first year at Texas Tech University have higher retention and completion rates than students do not. (See Appendix A)

Many courses elsewhere in the core curriculum, especially in the humanities and visual and performing arts also require substantial writing, but the amount varies greatly, depending on the discipline, course enrollments, and other factors.

Not in the core curriculum, but relevant to student attainment of writing skill is the Texas Tech University writing across the curriculum program that is supported by the writing intensive requirement. This requirement is intended to build on writing embedded in the core curriculum in order to extend student writing experience to the types of writing required in the academic area in which the student is specializing.

Speaking. Texas Tech University identified oral communication as one of its component area options when the core curriculum was first approved in 1989 and it has remained as an option since that time. This 3 SCH requirement is specifically intended to help students develop their speaking skills in formal or semi-formal settings. Oral communication core curriculum courses are required to have a minimum of 3 graded speaking exercises and to base at least 50% of the course grade on students' oral communication performance. Course instructors are encouraged to work with students to develop specific techniques for commonly used speaking formats such as narrative, PowerPoint presentations, and explanation of graphs and charts, as appropriate for the discipline in question.

Listening. As with reading, listening skills are developed throughout the core curriculum. Lecture courses require students to process information and transmit it to their notes. Oral communication courses train students to be listeners as well as speakers. Courses that call for group projects such as science laboratories also help students develop good listening skills.

Computer Literacy. Until fall 2012 Texas Tech University had a 47 SCH core curriculum that included a 3 SCH technology and applied science requirement. This requirement was established at a time when students entered the university with limited computer skills and when much computing was conducted in centralized computer centers. Over time it became quite clear that different disciplines require different computer skills and the criteria for competence

varies from program to program. Thus, the Technology and Applied Science requirement became increasingly less relevant for students. The culminating factor was the new core curriculum standards that limit the core to 42 SCH and will go into effect in fall 2014. The Technology and Applied Science requirement was eliminated as of fall 2012. This requirement was replaced by a catalog statement that "[a]ll academic units will incorporate teaching of discipline-specific technology into required courses so that graduating students will gain technological knowledge and skill appropriate for employment or continued education at the graduate level." Since most academic programs were already providing discipline-appropriate training in computer technology, this was an easy transition. Assessment is at the program level.

5. Perspectives in the Core Curriculum

The Texas Tech University core curriculum contains courses that collectively address all of the perspectives. Table 3 indicates the component areas that address the perspectives while the text that follows lists individual courses under the relevant component areas that contain content that specifically addresses the perspective in question.

Individual in relationship with society and world**.** Courses that deal with this perspective are mainly, but not exclusively, lodged in humanities and individual and group behavior. Courses in anthropology (ANTH 2306, Anthropology at the Movies, ANTH 1300, Understanding Multicultural America, and ANTH 2302, Cultural Anthropology), classics (CLAS 2302, Classical Mythology; CLAS 3350, Comparative Mythology), environment and the humanities (EVHM 1301, The Natural History Tradition) honors studies (HONS 2311, Honors Seminar in International Affairs) humanities (HUM 2301 and 2302, The Western Intellectual Tradition I and II) communication studies (COMS 3332, Intercultural Communication), geography (GEOG 2300, Human Geography and GEOG 2351, Regional Geography of the World), history (HIST 1300 and 1301, Western Civilization I and II, HIST 2322 and 2323, World History to 1500 and World

History since 1500), human development and family studies (HDFS2303, Life Span Human Development, HDFS 3332, Aging in the Family), political science (POLS 3361, International

TABLE 3
TEXAS HIGHER EDUCATION COORDINATING BOARD CORE CURRICULUM PERSPECTIVES IN THE TEXAS TECH UNIVERSITY CORE CURRICULUM

CORE CURRICULUM PERSPECTIVE	RELEVANT COMPONENT AREA
Establish broad and multiple perspectives on the individual in relationship to the larger society and world and world in which he or she lives, and to understand the responsibilities of living in a culturally and ethnically diversified world	Social and Behavioral Sciences Humanities
Stimulate a capacity to discuss and reflect upon individual, political, economic, and social aspects of life in order to understand ways in which to be a responsible member of society	Social and Behavioral Sciences (especially U.S. & Texas govt.) Texas Tech University multicultural requirement (not part of core curriculum)
Recognize the importance of maintaining health and wellness	Certain courses in the Social and Behavioral Sciences Certain courses in the Natural Sciences
Develop a capacity to use knowledge of how technology and science affect students' lives	Natural Sciences
Develop personal values for ethical behavior	The Texas Tech University Quality Enhancement Plan which was submitted as part of the university's reaffirmation of accreditation with SACSCOC in 2005 focused on ethics. Students are exposed to ethical values, issues of academic integrity, professional standards of conduct, and related content in courses across the curriculum. Natural Sciences student learning outcomes consider ethical issues related to the sciences and ethics is also a focus of certain humanities courses.
Develop the ability to make aesthetic judgments	Visual and performing arts Literature courses in humanities
Use logical reasoning in problem solving	Mathematics and logic and throughout the core curriculum
Integrate knowledge and understand the interrelationships of the scholarly disciplines	Throughout the core curriculum and across the entire TTU curriculum

Politics and POLS 3371, Comparative Politics), and sociology (SOC 1301, Introduction to Sociology and SOC 1320, Current Social Problems), for example, address this theme.

Discuss and reflect upon ways to be a responsible member of society. This perspective is, perhaps, best dealt with in the United States and Texas government courses (POLS 1301

American Government Organization and 2302, American Public Policy). Social responsibility is also addressed in a wide range of humanities and individual or group behavior courses such as ADRS 2310 (Understanding Alcohol, Drugs, and Addictive Behaviors), ANTH 1301 (Multicultural America), COMS 1301 (Interpersonal Communication), ECO 2301 and 2302 (Principles of Economics I and II), SOC 1301, 1320, and 3324 (American Minority Problems), SW 1300 (The Why and How of Social Services) and 3311 (Human Behavior and the Social Environment: Systems).

Recognize the importance of maintaining health and wellness. Covered in a small selection of natural science courses: NS 1410 (The Science of Nutrition) and ZOOL 2403 Human Anatomy) and in several social and behavioral science courses: ADRS 2310 (Understanding Alcohol, Drugs, and Addictive Behaviors) and 3325 (Family Dynamics of Addiction and Recovery), HDFS 3301 (Theories of Human Development and the Family), 3332 (Aging in the Family), and 3325 (Health Concerns in Chemical Dependencies), HLTH 1305 (Human Sexuality) and 3302 (Environmental Health and Awareness), PSY 1300 (General Psychology) and 2301 (Child Psychology), SOC 3335 (Gendered Lives) and 3383 (Alcohol, Drugs, and Society).

Develop a capacity to use knowledge of how technology and science affect their [students'] lives. All of the natural sciences address this perspective, but especially ANTH 2300, (Physical Anthropology), ATMO 1300 (Introduction to Atmospheric Science), BIOL 1305 (Ecology and Environmental Problems), CHEM 1305 and 1306 (Chemistry and Society I and II), GEOG 1401 (Physical Geography), and NS 1410. Also in the individual and group behavior component area, ADRS 2310, ANTH 2302, ARCH 1311 (Design, Environment, and Society), GEOG 2300 and 2351, HLTH 2302 (Environmental Health and Awareness) and 3325, and PSY 1300 each deals in some way with how technology and science affect students' lives.

Develop personal values for ethical behavior. The following courses address values and ethical behavior: CLAS 2302 (Classical Mythology), ENGR 4392 (Engineering Ethics and Its Impact on Society), GERM 3312 (Literature of the Holocaust), PHIL 2320 (Ethics), 2350 (World Religions

and Philosophy), 3322 (Biomedical Ethics), 3324 (Philosophy of Religion), and POLS 3339 (Religion and Politics).

Develop the ability to make aesthetic judgments. This is covered in all of the Visual and Performing Arts courses as well as in many humanities courses, especially ARCH 2311 (History of World Architecture c. 3000 B.C. to c. 1600 AD), all the English literature classes, ITAL 3390, (Italian Cinema), and VPA 3301, (Critical Issues in Arts and Culture).

Use logical reasoning in problem solving. This perspective is covered in mathematics, natural science, individual or group behavior, and philosophy courses, among others.

Integrate knowledge and understand the interrelationships of the scholarly disciplines. By their nature, most academic disciplines are integrative, borrowing from each other to develop theories, establish research or creative techniques, and advance understanding in their individual realms of activity. However, these relationships rarely are dealt with explicitly in discipline-based core curriculum courses. Such courses instead tend to focus on presenting basic facts and concepts from a disciplinary focus that fails explicitly to indicate relationships among different disciplines. Understanding of relationships among disciplines might be achieved by offering integrated courses that reach across academic realms. However it has proven difficult at Texas Tech University to develop such courses because of problems assigning faculty workload and academic priorities. Exceptions are VPA 3301, which is team taught by faculty in art, music, and theatre and HONS 2405, 2406 (Honors Integrated Science), which is taught by faculty from biology, chemistry, geosciences, and physics.

In practice, this means that Texas Tech University undergraduate students are largely left to discover the relationships among disciplinary areas on their own. Because they tend to think largely in terms of their major discipline and/or career goals it is probably safe to say that our students have at best a relatively naïve knowledge and understanding of relationships among scholarly disciplines and that they have not developed an appreciation for differences between

empirical science research approaches and those from the arts and humanities that are more inferentially based.

6. Extent to which the educational goals and EEOs are being achieved:

Assessment strategies. Table 4 below shows the various assessments conducted by Texas Tech University to determine the extent to which students have achieved the core curriculum goals. It should be noted that the university opted not to use any nationally normed assessments (CLA, CAAP, etc.) following 2011-12 because of the core curriculum changes that will be implemented in fall 2014. The fall 2014 revised core introduces new competencies that will require quite different assessment strategies.

TABLE 4

TEXAS TECH UNIVERSITY ASSESSMENT CYCLES FOR GENERAL EDUCATION COMPETENCIES

THECB CORE CURRICULUM or TTU CATEGORIES	A.Y. 2007 -08	A.Y. 2008 -09	A.Y. 2009 -10	A.Y. 2010 -11	A.Y. 2011 -12	A.Y. 2012 -13
COMMUNICATION						
Collegiate Assessment of Academic Performance (CAAP) Writing Skills Module				X	X	
English 1301 and 1302 Embedded Assessment	X	X	X	X	X	X
Collegiate Learning Assessment (CLA)	X	1	X		X	
Oral Communication assessments (Fr, So)			X		X	
Oral Communication Assessments (all levels)			X	X	X	
College Senior Survey (CSS)	X		X		X	
Fall 2011 Core Curriculum Faculty Survey					X	
Core Curriculum Communication Essay	X					
MATHEMATICS						
Collegiate Assessment of Academic Performance Mathematics (CAAP) Module				X	X	
Collegiate Learning Assessment (CLA)	X	1	X		X	
Embedded Math Assessment	X	X	X	X	X	X
Mathematics Placement Exam		X	X	X	X	X
Graduating Student Survey	X	X	X	X	X	X

(GSS)						
Educational Benchmarking (EBI)/Undergrad Survey (Business majors)	X	X	X	X	X	X
Fall 2011 Core Curriculum Faculty Survey					X	
Online Senior Assessment (OSA)	X	X	X			X
NATURAL SCIENCE						
Collegiate Assessment of Academic Performance (CAAP) Module (Senior & Juniors)				X	X	
Collegiate Learning Assessment (CLA)	X	1	X		X	
Core Curriculum Essay (CCE)	X					
Online Senior Assessment (OSA)	X	X	X			X
Graduating Student Survey (GSS)	X	X	X	X	X	X
Fall 2011 Core Curriculum Faculty Survey					X	
HUMANITIES						
Online Senior Assessment (OSA)	X	X	X			X
Collegiate Learning Assessment (CLA)	X	1	X		X	
Core Curriculum Essay (CCE)	X					
Graduating Student Survey (GSS)	X	X	X	X	X	X
Fall 2011 Core Curriculum Faculty Survey					X	
Embedded Assessment, history, English lit, landscape arch.	X		X	X	X	
California Critical Thinking Skills Test				X		
Core Curriculum Humanities Essay	X					
VISUAL AND PERFORMING ARTS						
Online Senior Assessment (OSA)/VPA-only Questions	X	X	X	X	X	X
Collegiate Learning Assessment (CLA)	X	1	X		X	
Core Curriculum Essay (CCE)	X					
California Critical Thinking Skills Test				X		
Graduating Student Survey (GSS)	X	X	X	X	X	X
Fall 2011 Core Curriculum Faculty Survey					X	
Embedded Assessment		X	X	X	X	X
SOCIAL AND BEHAVIORAL SCIENCES						
California Critical Thinking				X		X

Skills Test (CCTST)						
Collegiate Learning Assessment (CLA)	X	1	X		X	
SBS Embedded Assessments		X	X	X	X	X
Online Senior Assessment (OSA)	X	X	X			X
Core Curriculum Essay (CCE)	X					
Graduating Student Survey (GSS)	X	X	X	X	X	X
Fall 2011 Core Curriculum Faculty Survey					X	
College Senior Survey (CSS)	X		X		X	

[1]Data not useable due to administration error.

7. Evidence relating to the extent of attainment for each Core Curriculum competency

Texas Tech University has developed college-level competencies for each core curriculum component area that establish the core curriculum knowledge and skills students should be able to demonstrate at the point where they complete their undergraduate degree. The competency for each component area is listed below in Table 5 and also in each section that summarizes the assessment results.

For each competency, evidence is presented to document the performance of students at different academic levels on direct and indirect assessments selected or developed by faculty with content area expertise related to the competency. For each competency, a summative statement which triangulates recent assessment findings is included and italicized to provide evidence to determine the extent to which students have attained it.

Communication

Communication Competency Statement: *Students graduating from Texas Tech University should be able to demonstrate the ability to specify audience and purpose and make appropriate communication choices.*

TABLE 5
TEXAS TECH UNIVERSITY COLLEGE-LEVEL COMPETENCIES

Communication Competency Statement:[1] Students graduating from Texas Tech University should be able to demonstrate the ability to specify audience and purpose and make appropriate communication choices.

Mathematics Competency Statement:[2] Students graduating from Texas Tech University should be able to demonstrate the ability to apply quantitative and logical skills to solve problems.

Natural Sciences Competency Statement: Students graduating from Texas Tech University should be able to explain some of the major concepts in the natural sciences and demonstrate an understanding of scientific approaches to problem solving, including ethics.

Humanities Competency Statement: Students graduating from Texas Tech University should be able to think critically and to evaluate possible multiple interpretations, cultural contexts, and values.

Visual and Performing Arts Competency Statement: Students graduating from Texas Tech University should be able to construct, present, and defend critical and aesthetic judgments of works in the creative arts.

Social and Behavioral Sciences Competency Statement: Students graduating from Texas Tech University should be able to demonstrate the ability to assess critically claims about social issues, human behavior, and diversity of human experience.

[1]Includes both written and oral communication.
[2]Includes both mathematics and mathematics and logic.

Summary of findings. T*he evidence below demonstrates that student performance on direct and indirect assessments surpasses the attainment benchmarks set for the Communication competency.*

The assessments, which were selected for their specific relevance to the Communication competency, include the following direct assessments: CAAP Writing Skills, spring 2012 and spring 2011, CLA in 2009-2010, 2007-2008, course embedded assessment 2007-08, 2009, 2010, 2011 and 2012 for each long semester, and the2008 Core Curriculum Communication Essay. Texas Tech's English 1301 and 1302 are taught in hybrid fashion and all assignments are evaluated on established criteria by two reviewers in blind fashion. Assignments are submitted and evaluated via an online portal which allows for assessment across all sections on all assignments and criteria,

TABLE 6
COMMUNICATION ASSESSMENT RESULTS

Instrument/ Student Level	*Benchmark*	*TTU Scores*	*TTU Sample Size = n*	*Bench-mark Met: Yes/No*
Spring 2012 CAAP Writing Skills Test (Seniors)	*National Mean: 63.0 SD:* 5.1	*Mean: 62.7 SD:* 5.2 p-value: 0.3436	*264*	*Yes*
Spring 2012 CAAP Writing Skills Test (Juniors)	*National Mean: 63.1 SD:* 4.7	*Mean: 63.5 SD:* 4.8 p-value: 0.3227	*136*	*Yes*
Spring 2011 CAAP Writing Skills Test (Seniors)	*National Mean: 63.2 SD:* 5.1	*Mean: 62.7 SD:* 4.6 p-value: 0.1145	*263*	*Yes*
Spring 2011 CAAP Writing Skills Test (Juniors)	*National Mean: 63.1 SD:* 4.8	*Mean: 62.9 SD:* 4.9 p-value: 0.6372	*129*	*Yes*
Spring 2011 Oral Communication Assessments (Freshmen, Sophomores)	*70% receive a C grade or better on final oral presentation*	*COMS 1300, 92% COMS 2300, 93% COMS 3358, 93% CFAS 2300, 98%*	*4365*	*Yes*
Fall 2011 English 1301 and English 1302 Embedded Assessments (Freshmen, Sophomores)	*70%*	*Overall Average, English 1301: 77.57%Overall Average, English 1302: 80.47%*	*607*	*Yes*
Fall 2011 Oral Communication Assessments (All Student Levels)	*70% receive a C grade or better on final oral presentation*	*COMS 1300, 91% COMS 2300, 89% COMS 3358, 97% CFAS 2300, 92% MGT 3373, 97%*	*1970*	*Yes*

Fall 2011 Faculty Core Curriculum Survey (Juniors, Seniors)	*70%*	*SLO 1: 87.2% SLO 2: 80.8% SLO 3: 85.3%*	*Faculty Response Rate: 31.4% n = SLO 1 - 2002 SLO 2 - 2125 SLO 3 - 2014*	*Yes*
2009-10 CLA Critical Thinking Written Communication (Freshmen, Seniors)	*At Expected*	*Near Expected*	*100*	*No*
Fall 2010 English 1301 Embedded Assessment (Freshmen, Sophomores)	*70%*	*80.18%*	*1741*	*Yes*
Fall 2010 English 1302 Embedded Assessment (Freshmen, Sophomores)	*70%*	*86.61%*	*367*	*Yes*
Fall 2010 Oral Communication Assessments (All Levels)	*70% receive a C grade or better on final oral presentation*	*COMS 1300, 96% COMS 2300, 93% COMS 3358, 94% CFAS 2300, 91% MGT 3373, 97%*	*2358*	*Yes*
Spring 2010, English 1301 (Freshmen, Sophomores)	*70*	*81%*	*348*	*Yes*
Spring 2010 English 1302 (Freshmen, Sophomores)	*70%*	*87%*	*1559*	*Yes*
Spring 2010 Oral Communication	*70% receive a C grade or better on*	*COMS 1300, 89% COMS 2300,*	*2100*	*Yes*

(All Levels)	*final oral presentation*	*93% COMS 3358, 95% CFAS 2300, 95% MGT 3373, 96%*		
Fall 2009 English 1302 Embedded Assessment (Freshmen, Sophomores)	*70%*	*89%*	*355*	*Yes*
Fall 2009 English 1301 Embedded Assessment (Freshmen, Sophomores)	*70%*	*81%*	*1795*	*Yes*
2007-08 CLA Critical Thinking and Written Communication (Freshmen, Seniors)	*At Expected*	*Above Expected*	*100*	*Yes*
2008 Core Curriculum Communication Essay (Sophomores, Juniors)	*40.0*	*40.5*	*220*	*Yes*
2007-08 College Senior Survey 14.18 Writing ability compared to average person your age 14.12 Public speaking ability compared to average person your age (Seniors)	*3.50 3.5*	*3.59 3.48*	*750*	*Yes No (-.02)*
English 1301 Embedded	*70%*	*69%*	*2496*	*No (-1%)*

Assessment (07-08) (Freshmen, Sophomores)				
English 1302 Embedded Assessment (07-08) (Freshmen, Sophomores)	***70%***	***78%***	***2551***	***Yes***

resulting in rich data for analysis and assessing attainment of student learning outcomes. Indirect assessment includes TTU surveys of graduating students, and a survey in fall 2011 that asked faculty to rate the performance of students in their core curriculum class for that semester. Texas Tech University students scored above or within .5 of the national means in writing skills (CAAP). On the CLA, Texas Tech students scored Above Expected or Near Expected in critical thinking and written communication depending upon the year of administration. In embedded assessment, Texas Tech students consistently exceeded benchmarks for expected performance.

Mathematics

Mathematics Competency Statement. *Students graduating from Texas Tech University should be able to demonstrate the ability to apply quantitative and logical skills to solve problems.*

Summary of Findings. *The evidence below demonstrates that student performance on direct and indirect assessments surpasses the attainment benchmarks set for the Mathematics competency.*

The Mathematics Core committee selected additional externally developed assessments to provide more specific feedback on student performance, in addition to

TABLE 7
MATHEMATICS ASSESSMENT RESULTS

Instrument/Student Level	*Benchmark*	*TTU Scores*	*TTU Sample Size = n*	*Benchmark Met: Yes/No*
2013 Online Senior Assessment (Seniors)	*50%*	*56.9%*	*1,578*	*Yes*
Spring 2012 CAAP Mathematics Test (Seniors)	*National Mean: 56.6 SD:* 4.0	*Mean: 59.1 SD:* 4.2 p-value < .0001	*222*	*Yes*
Spring 2012 CAAP Mathematics Test (Juniors)	*National Mean: 58.1 SD:* 4.3	*Mean: 58.5 SD:* 3.8 p-value: 0.2183	*177*	*Yes*
Spring 2011 CAAP Mathematics Test (Seniors)	*National Mean: 56.8 SD:* 4.1	*Mean: 59.6 SD:* 4.0 p-value < .0001	*225*	*Yes*
Spring 2011 CAAP Mathematics Test (Juniors)	*National Mean: 58.0 SD:* 4.3	*Mean: 60.7 SD:* 4.4 p-value < .0001	*175*	*Yes*
Spring 2011 Mathematics Embedded Assessment (All Levels)	*70%*	*Math 1330:* *SLO #1: 52.8%* *SLO #2: 67.8%* *SLO #3: 76.1%* *SLO #4: 70.4%* *Math 1420:* *SLO #1: 62.6%* *SLO #2: 61.3%* *SLO #3: 48.5%* *SLO #4: 51.5%* *Math 2370:* *SLO #1: 61.0%* *SLO #2: 75.6%* *SLO #3: 85.4%* *SLO #4: 53.7%*	*444* *238* *131*	 *No* *No* *Yes* *Yes* *No* *No* *No* *No* *No* *Yes* *Yes* *No*
Fall 2011 Mathematics Embedded Assessment	*70%*	*Students performed above the benchmark on*	*367*	*Yes- 3* *No - 1*

(All Levels)		***3 of the 4 student learning outcomes, but scored below on SLO#3 (Using mathematical and logical reasoning to evaluate the validity of an argument).***		
Fall 2011 Core Curriculum Faculty Survey (All Levels)	***70%***	***SLO # 1: % of Students whose level of attainment of the Core Competency was Satisfactory, Good, or Excellent: 69.3%*** ***SLO # 2: % of Students whose level of attainment of the Core Competency was Satisfactory, Good, or Excellent: 68.7%***	***Faculty Response Rate: 35.6% n = SLO 1 - 2376 SLO 2 - 2375***	***No (-.7%)*** ***No (-1.3%)***
Spring 2010 Mathematics Embedded Assessment (All Levels)	***70%***	***MATH 1331 SLO #1: 36.5% SLO #2: 58.3% SLO #4: 55.8%*** ***MATH 1352 SLO #1: 60.4% SLO #2: 30.2% SLO #4: 26%***	***MATH 1331 604 424 409*** ***MATH 1352 169 169 151***	***No No No*** ***No No No***

		MATH 2345 *SLO #1:* *78.8%* *SLO #2: 76.1%* *SLO #3: 68.4%* *SLO #4: 74.6%*	*MATH 2345* *n = 1022*	*Yes* *Yes* *No* *Yes*
2009-2010 CLA Analytical Reasoning and Problem Solving (Freshmen, Seniors)	*At Expected*	*Near Expected*	*100*	*No*
2010 Online Senior Assessment (Seniors)	*50%*	*62.3%*	*755*	*Yes*
2009 Online Senior Assessment (Seniors)	*50%*	*43.4%*	*704*	*No*
Fall 2009 Mathematics Embedded Assessment (Freshmen, Sophomores)	*70%*	*MATH 1300* *SLO #1: 65.3%* *SLO #2:* *64.2%,* *SLO #3: 70.5%* *SLO #4: 23.2%* *MATH 1320* *SLO #1: 48.1%* *SLO #2: 68.9%* *MATH 1351* *SLO #1: 50.8,* *SLO#2: 50.8%* *SLO #3: 12.3%* *SLO #4: 51.5%* *MATH 2371* *SLO #1: 48%* *SLO #2: 93%* *SLO #3: 76%* *SLO #4: 83%*	*Math 1300* *n=95* *Math 1320* *n = 106* *Math 1351* *n = 130* *MATH 2371* *n = 30*	*No* *No* *Yes* *No* *No* *No* *No* *No* *No* *No* *No* *Yes* *Yes* *Yes*
2007-08 CLA Analytical Reasoning and Problem Solving (Freshmen,	*At Expected*	*Above Expected*	*100*	*Yes*

Seniors)				
2008 Online Senior Assessment (Seniors)	***50%***	***44.1%***	***368***	***No***
2008 Core Curriculum Math Essay (Sophomores, Juniors)	***40.0%***	***37.6%***	***368***	***No***

the locally-developed and embedded assessments conducted since 2008.The following direct assessments include: CAAP Mathematics Tests, spring 2012 and spring 2011; CLA 2010 and 2008; the Online Senior Assessment from 2008, 2009, 2010 and 2013; mathematics course embedded assessment, which is carried out on a four semester rotation with each course being assessed every other year; logic course assessment; and the 2008 Core Curriculum Mathematics Essay. Indirect assessment comes from TTU surveys of graduating students, and a survey in fall 2011 that asked faculty to rate the performance of students in their core curriculum class for that semester.

Texas Tech University students performed slightly above the national means on both the CAAP and 2007-2008 CLA. The 2009-2010 CLA results were “Near Expected.” Embedded mathematics course assessment generally shows students performing below the departmentally established benchmarks (70) with improvement in Fall 2011. Although results of embedded assessment have improved since 2008, the Department of Mathematics is examining these assessment strategies to provide more focused data to improve student learning. The On-Line Senior Assessment failed to meet the benchmark. In 2010 the wording of the problems was revised and scores in that year and 2013 now surpass the benchmark.

Texas Tech University has established mathematics or logic as one of its institutional options. Students may take 3 hours of mathematics in addition to the state-mandated 3-hour requirement, or they may substitute the introductory logic course offered through the Department of Philosophy (PHIL 2310). Students in the logic course are assessed through embedded assessment. Results for the most recent fall 2011semester show performance above the benchmark for three of the four SLOs. Students performed below the benchmark on SLO # 3, using mathematical and logical reasoning to evaluate the validity of an argument.

Natural Sciences

Natural Sciences Competency Statement. *Students graduating from Texas Tech University should be able to explain some of the major concepts in the natural sciences and demonstrate an understanding of scientific approaches to problem solving, including ethics.*

Summary of Findings. *The evidence below demonstrates that student performance on direct and indirect assessments surpasses the attainment benchmarks set for the Natural Sciences competency.*

The following direct assessments provide specific data related to the Natural Sciences competency: CAAP Science Tests, fall 2011 and fall 2010; CLA 2010 and 2008; the Online Senior Assessment from 2008, 2009, 2010 and 2013; and the 2008 Core Curriculum Natural Sciences Essay. Indirect assessment in fall 2011 asked faculty to rate the performance of students in their core curriculum class for that semester. Texas Tech University seniors scored slightly above the national mean on the science CAAP

TABLE 8
NATURAL SCIENCES ASSESSMENT RESULTS

Instrument/Student Level	*Benchmark*	*TTU Scores*	*TTU Sample Size = n*	*Benchmark Met: – Yes/No*
2013 Online Senior Assessment (Seniors)	*70%*	*66.3%*	*1,578*	*No*
Fall 2011 CAAP Science Test (Seniors)	*National Mean: 60.4 SD:* 4.8	*Mean: 61.6 SD:* 4.3 p-value: 0.0005	*196*	*Yes*
Fall 2011 CAAP Science Test (Juniors)	*National Mean: 61.3 SD:* 4.7	*Mean: 61.2 SD:* 4.2 p-value: 0.7835	*169*	*Yes*
Fall 2011 Core Curriculum Faculty Survey (All Levels)	*70%* *70%*	*77.1% of Students whose level of attainment of the Core Competency was Satisfactory, Good, or Excellent.* *78.1% of Students whose level of attainment of the Core Competency was Satisfactory, Good, or Excellent.*	*Faculty Response Rate: 52.1% n = SLO 1 – 6976 SLO 2 - 6801*	*Yes*
Fall 2010 CAAP Science Test (Seniors)	*National Mean:* 60.7 *SD:* 4.8	*Mean:* 61.3 SD: 4.1 p-value: 0.1058	*161*	*Yes*
Fall 2010 CAAP Science Test (Juniors)	*National Mean: 61.4 SD:* 4.7	*Mean: 61.4* SD: 4.1 p-value: 1.0000	*161*	*Yes*

2010 Online Senior Assessment (Seniors)	***70%***	***70.0%***	***755***	***Yes***
2009 Online Senior Assessment (Seniors)	***70%***	***70.3%***	***704***	***Yes***
2009-2010 CLA Critical Thinking, Analytical Reasoning, and Problem Solving (Freshmen, Seniors)	***At Expected***	***Near Expected***	***100***	***No***
2008 Online Senior Assessment (Seniors)	***70%***	***69.20%***	***398***	***No (-.8)***
2008 Core Curriculum Natural Sciences Essay (Sophomores, Juniors)	***40.0***	***38.9***	***398***	***No (-1.1)***
2007-2008 CLA Critical Thinking, Analytical Reasoning, and Problem Solving (Freshmen, Seniors)	***At Expected***	***Above Expected***	***100***	***Yes***

in 2010 and juniors were at the national mean. For 2011 scores for both cohorts were above the national mean. CLA scores were above expected for critical thinking in 2007-2008 and near expected in 2009-2010. Online Student Assessment results hover around the benchmark average established for the Natural Sciences, with 1 year at the benchmark, one year slightly above, and two years below. However, the content questions on the natural sciences portion of the Online Student Assessment are oriented toward biology and earth science, which may disadvantage students who

took another science to satisfy their core curriculum requirement. Therefore, we believe that the results from the nationally normed science assessments have greater validity than the OSA.

Humanities

Humanities Competency Statement. *Students graduating from Texas Tech University should be able to think critically and to evaluate possible multiple interpretations, cultural contexts, and values.*

Summary of Findings. *The evidence below demonstrates that student performance on direct and indirect assessments surpasses the attainment benchmarks set for the Humanities competency.*

The following direct assessments include: CLA 2010 and 2008; the Online Senior Assessment from 2008, 2009, 2010, and 2013; and the 2008 Core Curriculum Essays. Indirect assessment findings come from a survey in fall 2011 that asked faculty to rate the performance of students in their core curriculum class for that semester.

The CLA does not test for humanities knowledge directly, but it does assess critical thinking, which is a principal humanities student learning outcome. CLA results indicate that Texas Tech University students performed near expected in the 2009-10 administration and above expected in the 2007-08 administration. It is relevant to note here that the Social and Behavioral Sciences Core committee utilized the CCTST to evaluate critical thinking students in Core social and behavioral sciences classes, and the results indicated that the Texas Tech student respondents scored above the national mean for their comparison group, and these findings are related to the critical thinking component of the Humanities competency as well. The Online Senior

TABLE 9
HUMANITIES ASSESSMENT RESULTS

Instrument/Student Level	*Benchmark*	*TTU Scores*	*TTU Sample Size = n*	*Benchmark Met– Yes/No*
2013 Online Senior Assessment (Seniors)	*70%*	*69.1%*	*1,578*	*No*
Fall 2011 Faculty Core Curriculum Survey (All Levels)	*70%*	*Satisfactory, Good, or Excellent: 85.3%*	*Faculty Response Rate: 52.9% Students represented: 2413*	*Yes*
Fall 2011 Embedded Assessments – History1300, 1301, 2322, 2323 (Freshmen, Sophomores, Juniors)	*70%*	*SLO #1 HIST 1300 – 97% HIST 1301 – 88% HIST 2322 – 90% HIST 2323 – 99%* *SLO #2 HIST 1300 – 99% HIST 1301 – 93% HIST 2322 – 83% HIST 2323 – 93%* *SLO #3 HIST 1300 – 76% HIST 1301 – 80% HIST 2322 – 83% HIST 2323 – 79%* *SLO #4 HIST 1300 – 75%*	*392*	*Yes* *Yes* *Yes* *Yes*

		HIST 1301 – 88% ***HIST 2322 – 89%*** ***HIST 2323 – 93%***		
Spring 2011 California Critical Thinking Skills Test (Freshmen, Seniors)	***Graduating students will score significantly higher than first-year students.***	***Total scores indicate that TTU students demonstrate critical thinking skills comparable to those of their peers in other 4-year colleges. Results showed that seniors scored significantly higher than first-year students on two scale scores (Deductive Reasoning and Inference, ps < .05), as well as on the total CCTST score (p < .05).***	***40 first-year students enrolled in General Psychology, 31 advanced students enrolled in one of three senior-level capstone courses (English, Geography, and Dance)***	***Yes***
Fall 2010 Embedded Assessments (English courses that fulfill the Humanities requirement) (Juniors, Seniors)	***70%***	***ENGL 2305 – 90.3%*** ***(4 sections)*** ***ENGL 2306 – 81.7%*** ***(4 sections)*** ***ENGL 2307 – 87.6%*** ***(24 sections)*** ***ENGL 2308 – 78.6%***	***120*** ***120*** ***720*** ***180*** ***180*** ***75***	***Yes***

		(6 sections) *ENGL 2351 - 97.6%* *(10 sections)* *ENGL 2388 – 95.8%* *(3 sections)* *ENGL 2391- 84.6%* *(4 sections)*	*68*	
Fall 2010 Embedded Assessments – Landscape Architecture (Sophomores, Juniors)	*70% on Post-Test*	*Post-Test Scores:* *Question 1: 68%* *Question 2: 85%* *Question 3: 88%* *Question 4: 30%* *Question 5: 70%* *Question 6: 75%*	*117*	*Yes*
2009-2010 CLA Critical Thinking Analytic Reasoning, and Written Communication (Freshmen, Seniors)	*At Expected*	*Near Expected*	*100*	*No*
2010 Online Senior Assessment (Seniors)	*70%*	*72.1%*	*755*	*Yes*
2009 Online Senior Assessment (Seniors)	*70%*	*73.3%*	*704*	*Yes*
2007-2008 CLA Critical Thinking Analytic Reasoning, and Written Communication (Freshmen, Seniors)	*At Expected*	*Above Expected*	*100*	*Yes*

Fall 2007 Embedded Assessments – Landscape Architecture (Sophomores, Juniors)	***70% on Post-Test***	***Post-Test Scores: Question 1: 95% Question 2: 95% Question 3: 86% Question 4: 89% Question 5: 85% Question 6: 86%***	***120***	***Yes***
2008 Online Senior Assessment Humanities (Seniors)	***70%***	***69.4%***	***368***	***No (-.6)***
2008 Core Curriculum Humanities Essay (Sophomores, Juniors)	***40.0***	***40.12***	***368***	***Yes***

Assessment results, which cannot be compared with other groups, contained four questions that asked students to evaluate a short essay. Results from all four administrations of the OSA (2008, 2009, 2010, and 2013) are quite consistent. Student scores were in the high 80s for two questions, in the mid-to-high 60s on another and between 48-50% on one question. However, the developers of this local instrument have raised questions about the wording of some of the questions which may result in lower scores. The 2009 and 2010 administrations of the OSA segregated students who had taken their humanities course at TTU from those who had taken the course elsewhere.

The 2009 results did not have a statistically significant difference between the two groups, but in the 2010 administration there was a statistically significant difference with

students who had taken their humanities course elsewhere scoring better than Texas Tech University students on one of the questions.

Finally, the Humanities Core committee and participating academic units have designed a number of embedded assessments that are administered routinely or annually. These assessment findings, reported above, indicate that students are performing above the expected levels indicated by the benchmarks.

Visual and Performing Arts

Visual and Performing Arts Competency Statement. *Students graduating from Texas Tech University should be able to construct, present, and defend critical and aesthetic judgments of works in the creative arts.*

Summary of Findings *The evidence below demonstrates that student performance on direct and indirect assessments surpasses the attainment benchmarks set for the Visual and Performing Arts competency.*

Locally-developed embedded and online assessment activities have been designed by the Visual and Performing Arts core committee as closely related to the competency statement. The direct assessments include: CCTST 2011; CLA 2007-2008 and 2009-2010; 2008, 2009, and 2010 Online Senior Assessment; 2008 Core Curriculum Essay; and embedded assessment in courses. Indirect assessments include the 2011 Faculty Core Curriculum Survey. The Visual and Performing Arts questions differ from those of other Core areas in requiring students to provide written responses to a series of questions that are designed to assess their ability to construct, present, and defend critical and aesthetic judgments. The student responses were evaluated by graduate students from the College of Visual and Performing Arts using a rubric designed for this

TABLE 10
VISUAL AND PERFORMING ARTS ASSESSMENT RESULTS

Instrument/Student Level	*Benchmark*	*TTU Sample Scores*	*TTU Sample Size = n*	*Benchmark Met: Yes/No*
Fall 2011 Faculty Core Curriculum Survey (All Levels)	*70%*	*86.8% of students whose level of attainment was Satisfactory, Good or Excellent*	*Faculty Response Rate: 42.6% Students represented: 2857*	*Yes*
Spring 2011 California Critical Thinking Skills Test (Freshmen, Seniors)	*Scores between the 45th and 52nd percentiles*	*Total scores indicate that TTU students demonstrate critical thinking skills comparable to those of their peers in other 4-year colleges. Results showed that seniors scored significantly higher than first-year students on two scale scores (Deductive Reasoning and Inference, ps < .05), as well as on the total CCTST score (p < .05).*	*40 first-year students enrolled in General Psychology, 31 advanced students enrolled in one of three senior-level capstone courses (English, Geography, and Dance)*	*Yes*
Fall 2010 - Spring 2011 VPA Online Assessment	*3.0*	*The mean overall rating was 3.26 on a*	*351 reported responses coming from*	*Yes*

(questions from Online Assessment administered in face-to-face format in sections with Sophomore, Juniors, and Seniors)		***5-point scale which placed it in the "acceptable" range.***	***15 sections across 9 courses in the VPA core course inventory.***	
2009-10 CLA Critical Thinking, Analytical Reasoning, Problem Solving, and Written Communication (Freshmen, Seniors)	***At Expected***	***Near Expected***	***100***	***No***
2009 Online Senior Assessment VPA questions (Seniors)	***3.0 on a 5.0 scale***	***3.2***	***199***	***Yes***
2007-08 CLA Critical Thinking, Analytical Reasoning, Problem Solving, and Written Communication (Freshmen, Seniors)	***At Expected***	***Above Expected***	***100***	***Yes***
2008 Online Senior Assessment VPA questions (Seniors)	***3.0 on a 5.0 scale***	***2.9***	***138***	***No***

purpose. In 2008 and 2009 the results fell slightly below the benchmark score (70%). For Fall 2010 and Spring 2011, the Visual and Performing Arts assessment, previously administered in online format, was embedded in Core curriculum courses and administered in face-to-face format to control for the interaction effect of online

administration. Courses were grouped into four groups, each of which is assessed every two years.

Student performance on the VPA component of the Online Senior Assessment has improved over the years and exceeds benchmarks. Performance on CCTSK exceeded the mean for comparable institutions and the Critical Thinking component of the CLA, was Above Expected in 2008 and Near Expected in 2009-10. Given the careful linkage of the locally-developed instruments for measuring performance on the Visual and Performing Arts competency, and triangulating the findings across instruments and years, the weight of evidence supports our finding of exceeding benchmarks for this competency.

Social and Behavioral Sciences

Social and Behavioral Sciences Competency Statement *Students graduating from Texas Tech University should be able to demonstrate the ability to assess critically claims about social issues, human behavior, and diversity of human experience.*

Summary of Findings *The evidence below demonstrates that student performance on direct and indirect assessments surpasses the attainment benchmarks set for the Social and Behavioral Sciences competency.*

The following direct assessments include: The California Critical Thinking Skills Test 2011; CLA 2007-08 and 2009-10; and 2008, 2009, 2010, and 2013 Online Senior Assessment; the 2008 Core Curriculum Essay; and embedded assessment in courses. Indirect assessments include the 2011 Faculty Core Curriculum Survey.

The California Critical Thinking Skills Test results place Texas Tech University students in selected Social and Behavioral Sciences courses on a par with a nationwide sample.

TABLE 11
SOCIAL AND BEHAVIORAL SCIENCES ASSESSMENT RESULTS

Instrument/Student Level	*Benchmark*	*TTU Sample Scores*	*TTU Sample Size = n*	*Benchmark Met– Yes/No*
2013 Online Senior Assessment (Seniors)	*70%*	*51.4%*	*1,578*	*No*
Spring 2011 California Critical Thinking Skills Test (Freshmen, Seniors)	*Scores between the 45th and 52nd percentiles*	*Total scores indicate that TTU students demonstrate critical thinking skills comparable to those of their peers in other 4-year colleges. Results showed that seniors scored significantly higher than first-year students on two scale scores (Deductive Reasoning and Inference, ps < .05), as well as on the total CCTST score (p < .05).*	*40 first-year students enrolled in General Psychology, 31 advanced students enrolled in one of three senior-level capstone courses (English, Geography, and Dance)*	*Yes*
Spring 2011 TTU Social and Behavioral Sciences Assessment of Student Learning Outcomes (ASLO) – a 20-item multiple choice test (Freshmen, Seniors)	*Graduating students will score significantly higher than first-year students.*	*Correlations with the CCTST indicate that the Assessment of Student Learning (ASLO) is a valid measure of broad critical thinking skills that underlie the two specific student learning*	*40 first-year students enrolled in General Psychology, 31 advanced students enrolled in one of three senior-level capstone courses (English,*	*Yes*

		outcomes. Seni ors scored significantly higher than first-year students on the SLO1 total score (p < .05), and marginally significantly higher on the SLO2 total scores (p < .10).	***Geography, and Dance)***	
Spring 2011 SBS ASLO Embedded Assessment Student Learning Outcome #1 (All Levels)	***50%***	***Students got 50.4% of SLO1 items correct in Spring 2011, compared to 56.7% correct in Fall 2010 and 49.4% in Spring 2010***	***1975 students***	***Yes***
Spring 2011 SBS ASLO Embedded Assessment Student Learning Outcome #2 (All Levels)	***50%***	***Students got 54% of SLO2 items correct in Spring 2011, compared to 62% correct in Fall 2010 and 44% correct in Spring 2010***	***1975 students***	***Yes***
Fall 2011 SBS ASLO Embedded Assessment Student Learning Outcome #1 (PSY 1300) (Freshmen, Sophomores)	***50%***	***On average, students scored about 51% correct, which is significantly lower than the average of 56% correct across three previous semesters t(4232) = 3.180, p < .01. However, when the analysis is restricted to PSY 1300 only, there***	***758 students***	***Yes***

		is actually a significant increase in scores Fall 2011 = 51%, Fall 2010 = 47%; t(1154) = -2.702, p < .01.		
Fall 2011 SBS ASLO Embedded Assessment Student Learning Outcome #2 (Various courses) (All Levels)	*50%*	*On average, students scored about 48.8% correct, which is significantly lower than the average of 53.7% correct across three previous semesters t(5118) = 6.714, p < .001. However, when the analysis is restricted to courses for which we have data in both Fall 2010 and Fall 2011, the decline in scores is not significant (Fall 2011 = 45.7%, Fall 2010 = 48.2%; t(1843) = 1.852, p > .06 %*	*1280 students*	*No*
2011 Faculty Core Curriculum Survey (All Levels)	*70%*	*SLO 1 – 85.5%*	*37.4% of faculty responded. n = 6926*	*Yes*
2009-10 CLA Critical Thinking (Freshmen, Seniors)	*At Expected*	*Near Expected*	*100*	*No*
2010 Online Senior Assessment (Seniors)	*70%*	*54.5%*	*755*	*No*
Spring 2010 SBS	*50%*	*Across 10*	*Overall N =*	*No*

ASLO Embedded Assessment Student Learning Outcome #1 (All Levels)		***courses, students averaged 39.0% correct, with individual course averages from 21.7% to 72.7% correct***	***777; individual course ns from 23 to 436.***	
Spring 2010 SBS ASLO Embedded Assessment Student Learning Outcome #2 (All Levels)	***50%***	***Across 5 courses, students averaged 47.0% correct, with individual course averages from 44.3% to 73.3% correct.***	***Overall N = 549; individual course ns from 21 to 438.***	***No***
2009 Online Senior Assessment (Seniors)	***70%***	***51.8%***	***704***	***No***
2007-08 CLA Critical Thinking (Freshmen, Seniors)	***At Expected***	***Above Expected***	***100***	***Yes***
2008 Online Senior Assessment (Seniors)	***70%***	***42.5% 60.5%***	***381***	***No***
2008 Core Curriculum Essay (Sophomores, Juniors)	***40.0***	***43.47***	***381***	***Yes***

Seniors scored significantly higher than first-year students on deductive reasoning and inference and on the total CCTST score. Results of the OSA for 2008, 2009, 2010, and 2013 are fairly consistent and well below the benchmark. The average score in 2008 was 60.1, in 2009 it was 54.5 in 2010 it was 51.8 and in 2013 it was 51.4. Sample variation may account for the decline in average scores between 2008 and 2013. Another issue might be the great variation in the subject matter and theoretical approach of the more than 80 courses in the Social and Behavioral Sciences

component area. CLA critical thinking scores were above expected in 2007-08 and near expected in 2009-10. Again, differences in the sample size and composition may account for the difference in scores. The Social and Behavioral Sciences Committee conducts an annual embedded assessment across several courses and sections that utilizes a series of multiple choice questions. The results of these assessments show some variation around the 50% range, exceeding the benchmark for expected performance.

8. Utilization of assessment results to improve the core curriculum

Overall, assessment results have led to improvements in the core curriculum at Texas Tech University at the core level and also at the course level.

Core-level improvements include enhanced training and supervision of graduate student instructors in English rhetoric and humanities courses, COMS 3358, 1300, 2300, MCOM 3310, all mathematics core courses, GEOL 1303/1101, NS 1410, PSS 1411, CLAS 3302, and 3303.. The Department of History has reinstated discussion sections that were dropped many years ago. This change is based on assessment in the U.S. history and government courses that suggest discussion sections improve student mastery of the material.

Several course coordinators have adjusted lecture content based on assessment results that indicate students are not meeting benchmark results on certain content elements. This includes providing more focus and revising lectures on concepts that students have had trouble grasping. There is also improved emphasis on preparing on-line or Blackboard-based materials to support lectures and, in the case of the sciences, laboratory work.

Several departments also report increased efforts to coordinate instruction across sections of multiple section courses. This involves both graduate student instructors and longer-term instructors. For example, the Department of History has developed syllabus guidelines and created a common reader for HIST 2300 and 2301. Likewise, the Department of Chemistry has standardized the curriculum for all of the sections of CHEM 1307 and CHEM 1308, which are the higher level general chemistry courses taken by STEM majors.

At the individual course level, the science departments have undertaken laboratory safety as a major initiative following an unfortunate accident in which a chemistry graduate student was injured in a laboratory accident. Many science labs now include specific content on safety as part of the syllabus.

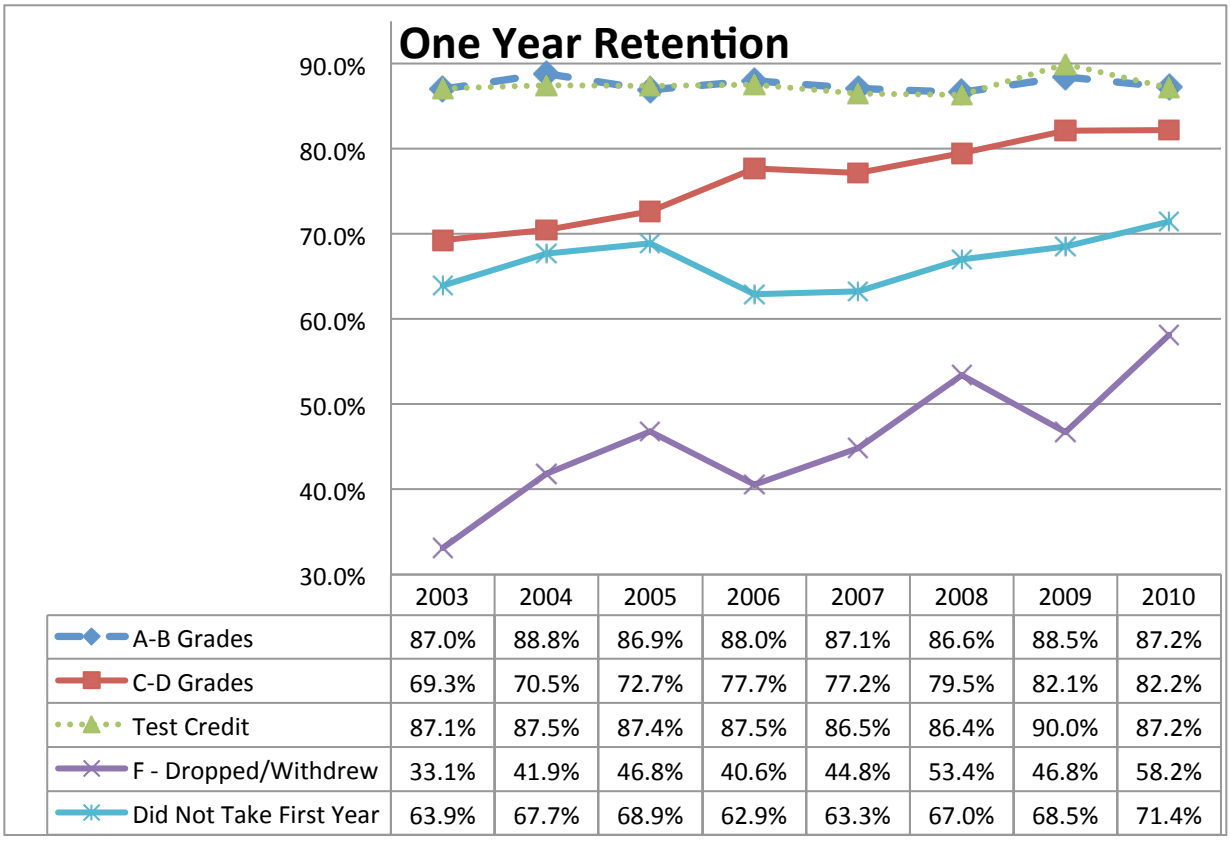
The Department of Chemistry has developed a bridge course to prepare incoming first-year students for the course designed for STEM majors. Depending on how students perform on a required placement examination they are enrolled in a “pre-chemistry” course to prepare them for the more advanced introductory chemistry classes. This seems to have worked well and the number of drops and failures has been reduced.

More uniform approach across all sections of chemistry core courses.

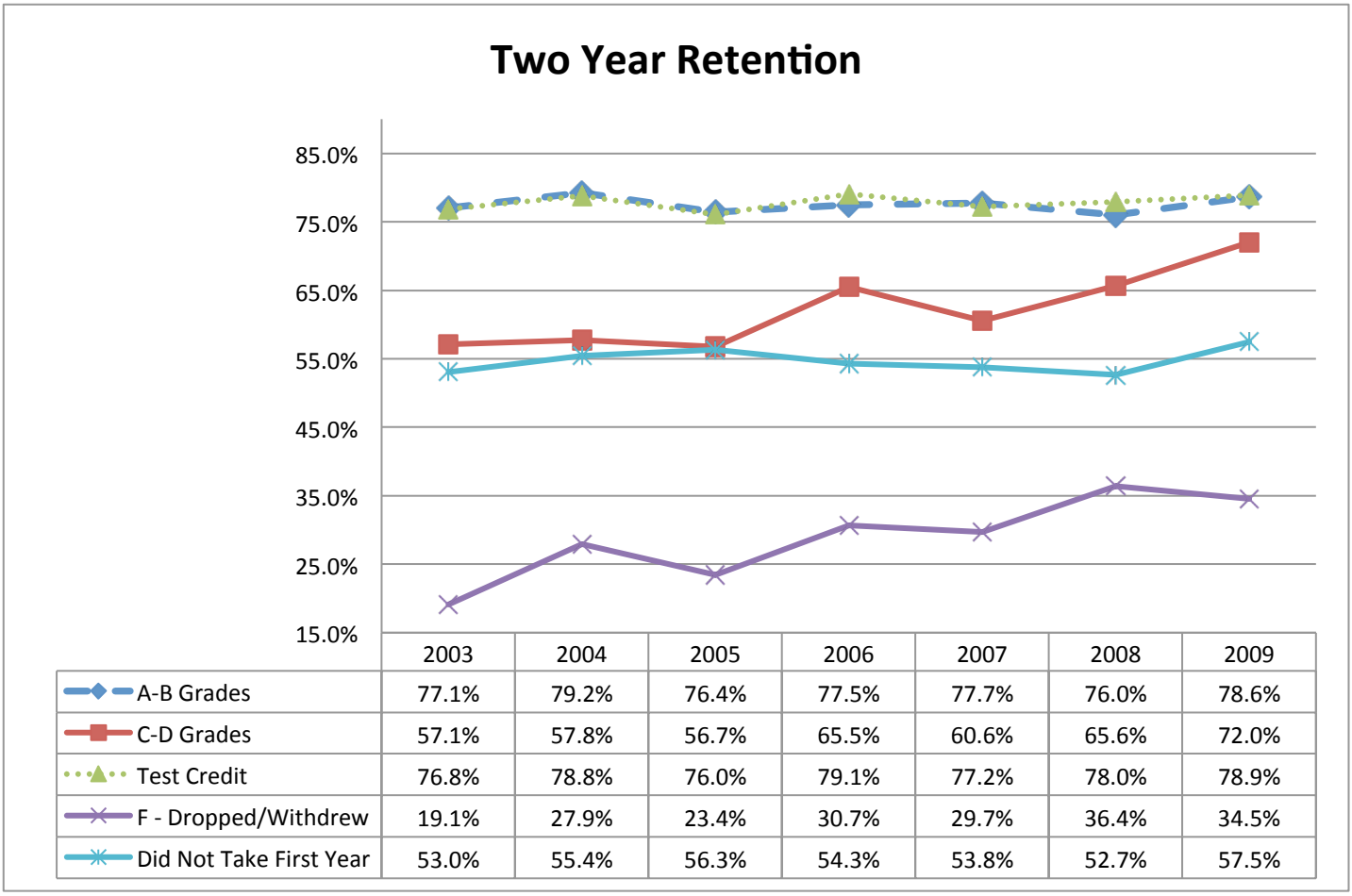
Assessment has led many instructors to become more student-centered in their teaching of core curriculum courses. That is, they are looking for strategies that help students to master the material whereas in the past they might have assumed that low student success rates in their courses were the result of student inability to learn.

APPENDIX A

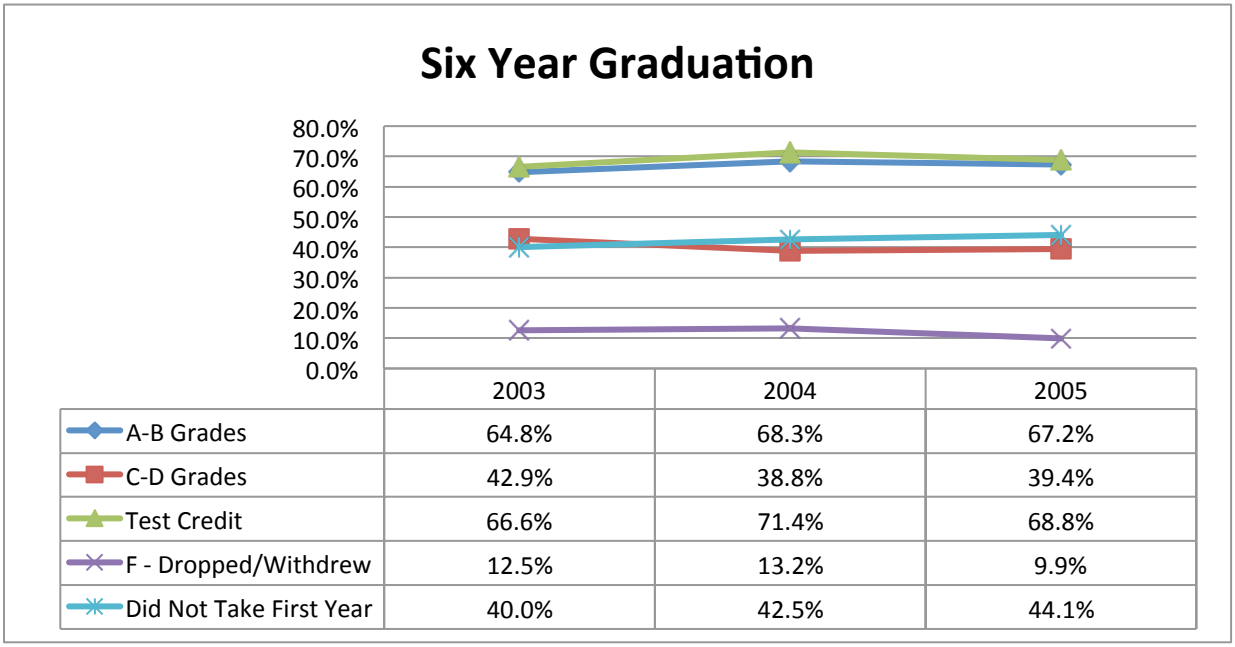
Fall 2003-2010 Cohort
ENGL 1301 Retention/Graduation
Based on Full-Time, FTIC students and first attempt to complete ENGL 1301
(*grade status at end of first year)*



	2003	2004	2005	2006	2007	2008	2009	2010
A-B Grades	87.0%	88.8%	86.9%	88.0%	87.1%	86.6%	88.5%	87.2%
C-D Grades	69.3%	70.5%	72.7%	77.7%	77.2%	79.5%	82.1%	82.2%
Test Credit	87.1%	87.5%	87.4%	87.5%	86.5%	86.4%	90.0%	87.2%
F - Dropped/Withdrew	33.1%	41.9%	46.8%	40.6%	44.8%	53.4%	46.8%	58.2%
Did Not Take First Year	63.9%	67.7%	68.9%	62.9%	63.3%	67.0%	68.5%	71.4%



	2003	2004	2005	2006	2007	2008	2009
A-B Grades	77.1%	79.2%	76.4%	77.5%	77.7%	76.0%	78.6%
C-D Grades	57.1%	57.8%	56.7%	65.5%	60.6%	65.6%	72.0%
Test Credit	76.8%	78.8%	76.0%	79.1%	77.2%	78.0%	78.9%
F - Dropped/Withdrew	19.1%	27.9%	23.4%	30.7%	29.7%	36.4%	34.5%
Did Not Take First Year	53.0%	55.4%	56.3%	54.3%	53.8%	52.7%	57.5%



	2003	2004	2005
A-B Grades	64.8%	68.3%	67.2%
C-D Grades	42.9%	38.8%	39.4%
Test Credit	66.6%	71.4%	68.8%
F - Dropped/Withdrew	12.5%	13.2%	9.9%
Did Not Take First Year	40.0%	42.5%	44.1%