UNIVERSITY STUDIES PROGRAM

2008-09 ANNUAL REPORT

The University Studies core curriculum at North Carolina A&T State University is designed to provide a framework for critical inquiry. It is fully interdisciplinary and serves as a foundation for continuing academic development and life-long learning. Through discovery, inquiry, analysis, and application, the core curriculum promotes:

- *broad-based critical-thinking skills*
- *effective written and oral communication of ideas*
- *appreciation for diverse cultures,*
- *commitment to ongoing civic engagement and social responsibility*

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NORTH CAROLINA AGRICULTURAL AND TECHNICAL STATE UNIVERSITY

OFFICE OF THE DEAN
University Studies

June 1, 2009

Dr. Alton Thompson, Interim-Provost and Vice-Chancellor
Division of Academic Affairs

Dowdy Building
CAMPUS

Dear Dr. Thompson:

Enclosed is the annual report for the University Studies Program (UNST) for the 2008-2009 academic year. This document reports the program activities of University Studies in its third year of implementation. It highlights the major activities of the program and describes its accomplishments. Our faculty scholarly productivity continues to increase, with regard to publications and presentations. All of our accomplishments need to be considered in the light of the highly disproportionate number of student credit hours taught per faculty member each semester. This report is a testament to the dedication of the faculty and staff of University Studies for their many sacrifices to fulfill the general education mission, despite the ongoing opposition by some sectors of the university.

I am pleased to summarize our activities and share this information with you.

Feel free to contact me should you have any questions or comments.

Sincerely,

Dr. Joseph L. Graves, Jr.
Dean and Professor of Biological Sciences
Fellow, American Association for the Advancement of Science, Section G: Biological Sciences

Enclosure

A Land-Grant University and Constituent Institution of the University of North Carolina
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Part I: Executive Summary

A. Introduction:

University Studies, is the interdisciplinary general education program at NCATSU and it began instruction in the fall of 2006. This program is one of the boldest innovations in general education amongst American universities today. It redresses over a half century of malaise in higher education, in which general education course offerings were often driven by narrow departmental agendas and faculty popularity contests. In that regard it continues to struggle against unwarranted and unsubstantiated bigotry at NCATSU.

Our goal is to provide students with a framework for critical inquiry that serves as a foundation for continuing academic development and life-long learning. We apply discovery, inquiry, analysis, and application in the classroom to promote:

- *broad-based critical-thinking skills,*
- *effective written and oral communication of ideas,*
- *appreciation for diverse cultures*
- *commitment to ongoing civic engagement and social responsibility.*

The University Studies core curriculum is developing an understanding of the interdisciplinary nature of knowledge, encouraging cross-disciplinary dialogue, and promoting the development of intentional learners who will take responsibility for their learning. This marks the second year of theme cluster courses running in the curriculum. It was the intention of the curricular designers that these courses be taught by all the schools and colleges, however in academic year 2008-09 these courses still reside mainly in the College of Arts and Sciences and in the Division of University Studies. This is unfortunate because at present the College of Arts and Sciences is not offering enough sections of theme cluster courses and the Division of University Studies has never been provisioned with sufficient faculty resources to teach the entire general education core curriculum.

B. Vision

The vision of University Studies is based on the best practices in general education as illustrated in a variety of initiatives from the American Association of Colleges and Universities such as Liberal Education and America's Promise (LEAP) and Greater Expectations (The *Greater Expectations* report, http://www.greaterexpectations.org/ and *College Learning for the New Global Century*, a new report from the Liberal Education and Americas Promise (LEAP) National Leadership Council that identifies the essential aims, learning outcomes, and guiding principles for a 21st century college education, http://www.aacu.org/advocacy/leap/documents/GlobalCentury_final.pdf.) Furthermore, the University Studies curriculum is aligned with the global readiness initiatives recommended by the UNC Tomorrow Commission. Indeed, our learning objectives (fall 2005) were in place before the UNC Tomorrow commission arrived at its conclusions in 2007.

C. Mission

The mission of the Division of University Studies is to prepare globally ready students via the campus approved learning objectives for general and major education. University Studies is the core general education curriculum of NCATSU, and serves all students, in all schools and colleges. Students who successfully complete University Studies are prepared to deepen their knowledge in their chosen field of study.

D. Significant Accomplishments

The program has continued to receive national and regional attention. Faculty members of the division have presented or had papers accepted on the scholarship of teaching and learning at the 2009 Lily Conference on College Teaching and Learning, Oxford University Roundtable, American Society of Engineering Educators, and North American Colleges and Teachers of Agriculture. The program is continuing its participation in the Wabash National Study of Liberal Arts Education, Project Kaleidoscope (PKAL, interdisciplinary science education) and Global Modules (common material taught and discussed with faculty and students from international universities, Global Modules Webpage: http://www.globalmodules.net/.) In addition, individual faculty members are continuing their consulting with the Ohio State Board of Regents to assess general education compliance for technical colleges in that state.

The most important accomplishments of the division must always be in reference to student learning. Once again, the division has documented statistically significant increases in the student learning outcomes associated with its core curriculum and theme-based courses (this is documented in the appendix.) This trend has been true since the inception of this program. Despite this fact, pernicious rumors and misrepresentations of the learning that is occurring in general education core curriculum continue. One of the most ridiculous claims was presented in the Faculty Senate during spring 2009 and voted upon as if it was gospel. Professor Floyd James claimed that students who had taken Analytical Reasoning (UNST 130) performed less well in Physics 241 than students who had not taken this course. His conclusion was that AR was therefore harmful to science, technology, engineering, and mathematics majors (STEM) and that therefore these students should be exempted from the class. Needless to say this claim was made without the presentation of any data, and yet the Faculty Senate still passed this bogus resolution. The actual data on performance in Physics 241 from fall 2007 – fall 2008 showed that this claim was absolutely false (see data in appendix.) There was no statistically significant difference in performance in this class between students who had taken AR and those who had not, in fact in spring and fall 2008, students who had taken AR performed slightly better.

The division made great strides toward better integrating service learning into the general education curriculum. On November 4, 2008, our Service Learning Day attracted 646 students who performed some sort of service related activity in lieu of attending their regularly scheduled UNST class. At the same time, we registered an additional 1,496 students who signed up for projects.

Finally, several University Studies faculty have become participating faculty members in a collaborative National Science Foundation grant for a Science Technology Center with our

College of Engineering and Michigan State University. The project is entitled: Bio/Computational Evolution in Action Consortium (BEACON.) BEACON addresses cutting edge problems that unite the theory and experimental basis of organic evolution with the use of evolutionary methods in computational science. This consortium will push forward both basic research in this area as well as provide the opportunity for NCATSU students to pursue careers in this field. Dean Graves has been named the education coordinator for the BEACON consortium at NCATSU. The reviews of this consortium at NSF were stellar and there is a very good chance that the project will be funded at the amount of $500,000 over the duration for our campus.

E. Goals for Upcoming 2009-2010 Year

1. Secure clear and unequivocal support for the mission of the UNST General Education core curriculum from senior administration.
2. Continue collection of assessment data for UNST learning objectives. Improve procedures for collection of assessment data from theme-cluster elective courses that are not taught within University Studies.
3. Continue development and implementation of on-line offerings of UNST foundation and theme-based courses.
4. Improve faculty development initiatives.
5. Better integrate student service learning into University Studies Curriculum.
6. Better integrate general and major education.
7. Establish better links to University and external community, develop an external advisory board.

Part II. Overview of the Unit

A. Overview of Unit's Strategies/Role in University and Futures

The Futures vision states that: North Carolina Agricultural and Technical State University aspires to be the premier interdisciplinary-centered university in America that builds on its comparative advantages in engineering, technology, and business; a strong civil rights legacy; and status as an 1890 land-grant institution. In 2007, the Futures vision became part of a larger UNC-Wide vision, entitled UNC Tomorrow. UNC Tomorrow's recommendation 4.1.1 stated that the UNC should prepare its students for successful professional and personal lives in the 21st century, equipping them with the tools they will need to adapt to the ever-changing world. Due to the development of the University Studies general education curriculum NC A&T State University is well on the way toward implementing this curriculum. UNST is the prerequisite structure for effective student learning related to global readiness.

To accomplish the goals of UNC Tomorrow, the university must commit itself to the following tasks: the completion of the division of University Studies with regard to faculty positions, space, and other resources commensurate with the UNC Tomorrow directives, the integration of the general and major education curricula consistent with achieving globally ready students, and development of a culture of assessment with regard to student learning that allows the institution to maintain its current momentum and anticipate new global demands.

Thus, the Division of University Studies plays a key strategic role in our ability to achieve that vision. Our role is related to the fact that we teach the core, interdisciplinary curriculum for the university. Thus the degree to which NCATSU will be able to prepare our students to meet the complex needs of the global society are intimately related to how much its supports the growth and consolidation of the division of University Studies.

Thus far, under the previous three administrations (Chancellors Renick, Hackley, and Battle) little progress has been made toward fully integrating the general education core curriculum into the major curriculum. This has happened, in part, due to the resistance of sectors of the faculty toward the new general education model. The resistance has not been motivated by either scholarly objections to an interdisciplinary core or by a critical examination of the learning outcomes which have been achieved or claimed to be not achieved by the new program. In other words, no logically valid argument has been advanced as to why the University Studies model of general education is wrong. Indeed, University Studies has been shown to be absolutely consistent with the UNC Tomorrow Initiative (see NCATSU 21st Century Skills Phase I & II reports.) Neither has anyone shown student learning data that indicated that the University Studies program has not been achieving its stated learning goals or somehow negatively impacting student learning in major curricula. **Each claim of the latter has been consistently shown to be false.** Students are learning in this curriculum and it is benefiting their overall learning (see data in Annual Reports from 2006, 2007, 2008, and appendices to this report.) Since the program has been implemented, freshman to sophomore retention has increased each year from its all time low in 2005.

The resistance to University Studies has almost entirely been on the basis of "turf" or ownership of resources devoted to undergraduate education. Some of the resistance has been simple personal-ism directed at its leadership and faculty members. Given that the present nationwide financial crisis has made resources extremely limited it is imperative that the incoming campus leadership address its commitment to this model of general education. ***It must either agree that the program's methods and goals are correct and must be fully supported, or it must reject those methods and goals in favor of a new model. If the former is true than the senior leadership must reallocate resources to provide the program with the support it needs to fully achieve its mission or it must dismantle the program and partition its faculty into other units who will then take on the responsibility for general education on this campus. The status quo of ongoing neglect from the senior administration and active sabotage carried out by opponents to the program is simply no longer viable.***

B. Number of Current Faculty and Staff

During the last academic year, the division was comprised of the Dean and Interim-Associate Dean, 15.33 tenure track faculty members, 13 lecturers, 14 adjunct instructors, and 1 adjunct associate professor. We began the year with one full time and one temporary administrative staff member.

C. Number of New Faculty and Staff

No new faculty members were hired during the academic year. During spring semester the temporary administrative staff member was hired into a full time position.

D. Advisory Board

The division does not yet have an advisory board.

E. Organizational Structure: Administration

The organizational structure of the division is Dr. Joseph L. Graves, Jr, (Dean); Dr. Deborah Barnes, (Interim-Associate Dean); Ms. Karen Courtney (Administrative Assistant) and Ms. Charlene McClain Hicks, (Administrative Assistant, see Figure 1.) Dr. Barnes reports to the Dean (Dr. Graves), as does the administrative assistants. In the absence of Dr. Graves, Dr. Barnes, or the dean's designee is given administrative charge of the division.

Part III: Key Goals

1. Statement of Goals for Academic Year 2008-09

a. Establish relationship of UNST general education core curriculum to UNC Tomorrow 21st Century Global Learning Outcomes.
b. Continue collection of assessment data for UNST learning objectives in the freshman class.
c. Continue development of theme cluster courses and implementation of on-line offerings of UNST foundation and theme-based courses.
d. Resolve promotion and tenure issues for University Studies Faculty.
e. Better integrate student service learning into University Studies Curriculum.
f. Develop new web page for student/external use.
g. Establish better links to University and external community.

2. Key indicators of Progress

The key indicators of progress are that the correspondence between UNST/general education goals and UNC Tomorrow 21st Century global learning outcomes was established in the campus-wide UNC Tomorrow phase I and II reports. The evidence that student learning in UNST courses was assessed and that significant learning in those courses (foundation and theme cluster) did occur is presented in the appendix. Additional on-line courses were developed, and the reappointment, promotion, and tenure guidelines for University Studies were submitted to former Provost Brewington and approved with minor corrections. Significant progress was made with service learning, a new web site was designed and is functioning, and additional links are being forged to the external community.

3. Outcomes/Results of Goals

The following shall summarize the degree to which each of these specified goals was met in academic year 2008-09.

a. Establish relationship between UNST general education core curriculum and UNC Tomorrow 21st Century Global Learning Outcomes.

   This relationship was established in UNC Tomorrow Implementation Reports I and II. The following UNC Tomorrow learning objectives: global issues, teamwork in diverse groups, critical thinking and analytical reasoning, written and oral communication, information literacy, creativity and innovation, complex problem solving, and science and mathematics skills were demonstrated to adequately and redundantly covers by the learning objectives present in the foundation courses. The only 21st century skills competencies not addressed in University Studies learning objectives are environmental literacy, financial literacy and work ethic and professionalism. However, these global readiness competencies are dealt with in the UNST curriculum. For example, environmental literacy is a key component of both the Contemporary World and Analytical Reasoning courses. Also, an introduction to financial literacy occurs in the Analytical Reasoning course, which has a module devoted to the mathematics of compound interest. Professionalism and work ethic are dealt with both in the behavioral expectations of all students in University Studies classes, as well as in the content of University Studies 100 (the generic freshman experience course, www.ncat.edu/~univstud/ForStudents.htm.) The University Studies requirements of academic integrity, class attendance, course materials, educational etiquette, timely submission of work, and proper email communication with instructors are extra-curricular means of teaching professionalism and work ethic.

b. Continue Assessment of student learning in foundation courses

   Each of the UNST foundation courses collects copious data on student learning. This data is used to document the effectiveness of our pedagogy, specifically to allow for improvements of our curriculum on an ongoing basis. Our data from 2008-09 again conclusively demonstrate that we are succeeding at improving essential skills and adding critical knowledge in our students. We show once again, despite malicious and unfounded criticisms that the student's increases are statistically significantly greater in these learning outcomes than when they entered the course. These data are presented in the appendix.

c. Continue development of theme cluster courses and implementation of on-line offerings of UNST foundation and theme-based courses.

   The theme-cluster electives are composed of both interdisciplinary courses that are offered under the UNST moniker, as well as disciplinary courses that were approved by the faculty roundtable. A disciplinary course must meet at least two of the UNST general learning objective areas. The complete list of currently approved courses in each of the four theme clusters appears in appendix 3 (and listed on our revised website.)

It is still true that insufficient distribution of and numbers of sections of theme-cluster offerings constitute a problem for students finishing their required general education courses. In spring 2009, Dean Graves presented to the Dean's council an analysis of the enrollment patterns for all schools and colleges. This data indicate that most schools and colleges are offering significant percentages of courses that have less than 50% student enrollment (see appendix 4 in Other Appropriate Relevant Data.) This practice has significant impacts on the ability of the university to offer its general education core curriculum. ***Once again, the difficulty in offering theme cluster courses arises from two facts: the division of University Studies is overburdened and the College of Arts and Sciences, as well as other schools and colleges are not teaching their fair proportional load of general education courses.*** The facts of this are plain and simple. The percentages of undergraduate student credit hours versus the percentages of faculty are given in appendix 5. The class size disparity students experienced in some UNST courses during academic year 2008-09, resulted directly from its grossly disproportionate teaching load for freshman and sophomores compared to other units. This situation cannot continue. **Senior administration must step in and require the schools and colleges to devote a specific percentage of their faculty resources to either pay UNST for offering additional sections of general education courses, or release their faculty from major course offerings to teach theme-cluster courses. The latter course is justified by the data that demonstrates that significant numbers of courses are being offered in these units with severe under enrollment. Any proposals to reduce the number of required theme-cluster courses are not warranted; they simply reward the schools and colleges for their past bad behavior.**

In academic year 2008-09, the following UNST theme cluster courses were developed for on-line delivery: UNST 203, Technology: The Real, Fake, and Authentic; UNST 206, Scientific Revolutions and Social Change; The student evaluations received from the Center for Distance Learning indicate that there was very high student satisfaction with the UNST courses that were delivered in the on-line format (data to be supplied later.)

d. Resolve promotion and tenure issues for University Studies Faculty.

In 2007, the division's tenure track faculty worked in conjunction with the Dean to develop a set of policies and procedures, as well as standards for reappointment, promotion, and tenure. This proposal is visionary and rooted in the Boyer Commission report of 1990. It well aligned with the mission of the division to deliver high quality general education, yet does not compromise with regard to scholarship. In addition, it allows faculty members the option of requesting an external review of their scholarship for promotion and tenure consideration. These standards are therefore amongst the most rigorous RPT standards on this campus.

Subsequent hires for tenure track positions in University Studies will be made within the division. The RPT guidelines submitted and approved by Provost Brewington. She requested some minor alterations in language. So far the suggested changes have not been reviewed by Provost Thompson.

e. Better integrate student service learning into University Studies Curriculum.

The division is making progress with regard to integrating service learning into the curriculum. Service learning is coordinated through the CASE program in conjunction with the Division of Student Affairs (Lee Morgan, coordinator.) We have facilitated student ability to learn about and sign up for service learning projects by revisions in the web page (see: http://www.ncat.edu/~univstud/ForStudents1.html.) In fall 2008, the division ran a Service Learning day in conjunction with the 2008 Presidential Election. All classes in the division were cancelled and students were allowed to participate in a learning session devoted to the service learning projects. We had 636 students who participated in Service Learning Day and 1,496 students signed up for six service learning projects:

Trinidad and Tobago:	248
Green Paw Aggies:	349
Teacher Supply Warehouse:	262
Ghana Literacy:	289
Darfur Awareness Day:	348.

Despite these accomplishments, more must be done to integrate service learning pedagogically into the UNST curriculum. Last year a faculty member was paid to work on integration of service learning into the critical writing course. In addition, the division has created a service learning committee that is studying best practices in service learning.

f. Develop new web page for student/external use.

The division's redesigned web page (http://www.ncat.edu/~univstud) went on line in spring 2008. This page is more user-friendly and provides rapid access to divisional policies and procedures. It now has buttons that direct students and faculty to the appropriate links within the page. It now has a FAQ link: http://www.ncat.edu/~univstud/University%20Studies_FAQ.pdf. This provides students with simple and direct answers to the most pernicious misconceptions concerning University Studies.

g. Establish better links to University and external community.

In academic year 2008-09, the Faculty Roundtable (FRT) was chaired by Dr Robert Drake of University Studies. He was elected by representatives from all schools and colleges. We do not believe this is the optimal situation and a new election will be held in fall 2009. The faculty roundtable plays an indispensable role in communicating developments and issues in the University Studies curriculum to the campus at large. It also took a major role in championing the needs of the division and bringing those to the attention of Provost Thompson and Chancellor Battle.

The Faculty Roundtable dealt with a number of concerns raised about the UNST curriculum in academic year 2008-09. In particular, the roundtable held a forum to address concerns voiced by some science, technology, engineering, and mathematics faculty (STEM) concerning the suitability of Analytical Reasoning for STEM majors. In that forum, faculty from the AR course answered concerns about the learning outcomes achieved in the course. However, this forum did

not allay all of the concerns of all of the members. One, Dr. Floyd James of the Physics Department brought a motion to the Faculty Senate to exempt STEM majors from taking AR. His central claims were: AR hurts students in STEM, particularly students enrolled in Physics 241, transfer students are allowed to substitute AR, and the mathematics level of AR is too low for STEM majors. The Faculty Senate voted for this motion, without evidence or testimony from the faculty of AR. The motion has been forwarded to Provost Thompson for approval.

The FS motion to exempt STEM majors must be rejected for a number of reasons. First, the FRT is the curriculum body for University Studies and it reviewed and rejected the James motion. Second, the claim that AR harms STEM majors is simply false. This is evidenced by statistical analysis of the grades of students enrolled in Physics 241 for fall 2007, spring 2008, and fall 2008. These data showed that there was no negative effect of AR on these students, and in spring and fall 2008, physics 241 students who had taken AR did slightly better than those who had not taken the class. Third, we allow transfer students to waive a number of general education classes are our university, simply to facilitate their transfer. We do not do this because we think that their community college general education courses are necessarily equivalent to our interdisciplinary general education courses. Fourth, James makes his claim about the lack of mathematics rigor in AR on the basis of one topic, compound interest. He claims that STEM students do not need this topic since they understand it already. This is also false. In AR we pre-test every student and have found that they comprehend about 30% of the material taught in this class at the beginning of the semester. In addition, compound interest is not the only mathematics topic covered in the class. It includes probability and statistical reasoning as well. We have shown that the STEM majors increased their learning in all areas covered in the course, and in fact that there increases are statistically significantly higher than other majors. Thus, Dean Graves has urged that this motion not be approved by the Provost on the grounds that its premises are false and therefore its conclusion is false.

Finally, the ability of the FRT to achieve its goals is limited by the fact that it has too many junior faculty members. This weakens it on two fronts, first junior faculty members do not have the same breadth of understanding of general education issues that we would expect out of more experienced faculty members and second, tenured faculty members are more immune from reprisals that may result from them taking positions that support the general education program, especially against its irrational critics. Once again, it will be important in 2009-10 for the Deans to appoint faculty members to the roundtable who are tenured, and committed to its mission.

4. Data Summary and Productivity Measures

The division of University Studies is the general education core curriculum at NCATSU. In fall 2007 it taught approximately 16,570 SCH and in spring 2008 approximately 12,970 SCH. To fully understand these SCH figures they must be normalized by the number of faculty within the division. This ration therefore = 16,570/21.57 = **768.19** and 12,970/21.57 = **601.29** for fall 2008 and spring 2009 respectively. These figures can be compared to those for CAS = 288.65 and 281.33; BUS = 247.33 and 239.78; and ENG = 150.38 and 142.33. The data for SCH was provided by the Office of Planning, Assessment, and Research on 5.27/09. The data for faculty members was compiled from the 2008-10 Undergraduate Bulletin. Thus, University Studies teaches the highest ratio of students per faculty member by between a factor of 3 – 4 times that

of all other units. This has been true since the inception of the curriculum in 2006.

University Studies is not a major thus has no graduation rate. It is required of all NCATSU students; therefore its retention rate is the same as the overall university retention rate for freshman to sophomore and sophomore to junior in academic year 2007-08. Since the inception of this program in the fall 2006, freshman to sophomore retention rates have increased. In fall 2006, retention freshman to sophomore retention reached a 10 year low of 72%. It is now > 76%.

5. New Faculty and Administrators as Related to Goals of Capacity Building

In fall 2008, four new tenure track faculty members were added to the division, Drs. John Slade, Ron Steed, Galen Foresman, and Randall Hayes. These were to bolster the teaching of the foundation courses. In addition, Dr. Dedra Eatman was added to help with the Analytical Reasoning course. Dr. Eatman is a NCATSU alum and has her PhD in mathematics education.

IV Most Significant Accomplishments

A. Learning

1. Innovations in Pedagogy Implemented (Information and Instructional Technology)

The division of University Studies began with an emphasis on the use of cutting edge technology united with appropriate pedagogy in all its courses. Since fall 2008, the division switched over to the use of the Turning Technologies classroom response system. Turning Point is used in UNST 120, 130, and 140 as well as in some theme cluster courses.

Students in Analytical Reasoning (N = 469) were surveyed in spring 2009 to determine the degree to which the Turning Point classroom response technology aided their learning. The results are given in appendix #. The results demonstrate that students overwhelmingly endorse classroom response systems as important technology that aided their learning. Over 72% of students answered that the clickers helped them learn in the class. In addition, over 81% of students claimed that the clicker technology gave them instant feedback on how well they understood the assigned reading and homework. These results strongly support the notion that we should be adopting learning response systems across the entire campus.

In addition, in spring 2009 we began to examine the use of "Elluminate Live!" software. This program allows you to video conference with anyone anywhere in the world. In addition, it is connected to the internet so that you can post maps, data, or pictures instantly during the combination. Our session was held with Dr. Connor Brown from the University of Dublin who is an expert on international terrorism. We will be hosting him here on campus in August.

2. Accreditation/Licensure Reviews

N/A

3. Facilities Updates

In fall 2008 the Division's offices were housed in the first floor of Hines Hall and some faculty members were occupying carols in Moore Gymnasium basement. At that time, the Dean's suite was housed in less space than required by UNC-GA administration guidelines. In fall 2008, the majority of tenure track faculty members in the division did not have offices. The division had no conference room. It was also consistently hampered by business representatives from other schools and colleges who refused to offer space for the class offerings.

In Spring 2009, the Division moved to the 2nd floor of Hodgin Hall (one of the oldest buildings on campus, which does not have an elevator and therefore violates state laws requiring handicap access for students, faculty, and staff.) This move gave the majority of our tenure track faculty offices for the first time. We still share the building with the Middle College, but compared to academic year 2007-08, the number of acts of vandalism have been drastically reduced. The division clearly looks forward to the completion of the projected new General Classroom Building, which it is projected to occupy along with Honors and Global Studies in 2010 – 11.

4. Faculty Awards and Promotions

This year, the Rookie of the Year award for research was won by Dr. Wendy Hamblet, who holds a joint appointment in University Studies and Liberal Studies. Dr. Hamblet was originally recruited and hired by University Studies. Dr. Hamblet also was promoted to the rank of Associate Professor from within the College of Arts and Sciences. She was not awarded tenure however. This was a miscarriage of justice when one compares Dr. Hamblet's past and present scholarly productivity to others in her disciplinary areas within the CAS who were awarded tenure last year. Unfortunately, at no point during the process, was Dean Graves consulted about the worthiness of Dr. Hamblet for tenure. This is a glaring oversight when one considers that 2/3 of her teaching and service occurs within the Division of University Studies. In addition, Dr. Graves hired Dr. Hamblet with the express suggestion that her scholarship merited promotion and tenure to the rank of Associate Professor when she was originally hired in 2007. The remainder of University Studies faculty members was not eligible for university sponsored teaching or service awards last year.

In addition, faculty members within the division continue to garner national recognition for the significance of their work. They have presented or had papers accepted on the scholarship of teaching and learning at the 2009 Lily Conference on College Teaching and Learning, International Conference on the 1st Year Experience, American Society for Engineering Educators (ASEE) Conference 2009, North American Colleges and Teachers of Agriculture (NACTA) Conference, and the Oxford University Roundtable July 2008. Members of the division also serve on the editorial boards of Evolution: Education and Outreach, Springer-Verlag Press, and EVOS: The Journal of the Consortium of Evolutionary Studies. Dean Graves is a member of the Senior Advisory Boards of the National Evolutionary Synthesis Center (NESCENT), Project Kaleidoscope (PKAL) which focuses on interdisciplinary science education, and a presenter at the Race, Genetics, and Science symposium at Duke University. He is also scheduled to be the key note speaker at a conference at Boston College in fall 2009 commemorating the 150th anniversary of the publication of *On the Origin of Species*.

The program continues to participate in the Wabash National Study of Liberal Arts Education. Also, individual faculty members still consult for the Ohio State Board of Regents to assess general education compliance for technical colleges in that state.

5. Student Honors/Scholarships/Fellowships

Due to the fact that the division is not a major, we cannot specify any particular student honors originated in University Studies. However, given that since fall 2006, all NCATSU students took their general education training in UNST, then we can claim a part in every prestigious student honor won on this campus.

6. Alumni and Employer Feedback

N/A

7. Summary of Student Opinion Rankings

Courses within the division of University Studies were evaluated by students in the last academic year as between exceptional to superior. The overall ranking was not statistically significantly different from the overall ranking of courses at the university as a whole. Data from student evaluations in fall 2008 and spring 2009 are shown in appendix #. The results showed that students enrolled in University Studies courses ranked our instructor performance as equivalent to instructors in the entire university. Appendix #a shows that #of # UNST tenure track faculty members were ranked between superior to exceptional. Appendix ## displays how students enrolled in University Studies courses ranked lecturer performance relative to instructors in the entire university. It should be noted that # of # UNST lecturers were ranked between superior to exceptional.

B. Discovery

1. No new research awards were granted within the division in academic year 2008-09. However, several faculty members have authored grants meant to enhance our teaching and learning.

2. Scholarly Productivity

This is summarized by faculty member in the appendices: Scholarly productivity by Faculty. In general, our faculty produced scholarship that is comparable to that of any group of faculty of the same size and rank on this campus.

3. Professional Growth and Development

The division of University Studies engages in ongoing faculty development. At the beginning of the semester, orientation meetings are held for all faculty members and graduate teaching

assistants. The orientations include presentations that are planned in conjunction with the Academy of Teaching and Learning director Dr. Scott Simpkins. There is a list-serve for UNST faculty and this includes postings from the Stanford University sponsored site: Tomorrow's Professor. This site focuses on recent developments and best practices in pedagogy. The division also maintains an extensive library of materials related to effective pedagogy. Many of these materials were provided by a grant from the Academy of Teaching and Learning. These books are available to all faculty members on a sign-out basis.

This year, due to campus-wide restrictions, funds were not available for faculty development. This meant that faculty who presented at national and international meetings did so at their own expense. Several of our faculty had to cancel invited presentations at prestigious meetings. Dean Joseph Graves Jr was forced to cancel his participation on a panel commemorating the 200th anniversary of the birth of Charles Darwin at Oxford University in the UK. A similar panel was canceled at Virginia Tech University due to their lack of funds.

C. Engagement

1. Outreach and Access Activities

Faculty in the division of University Studies engaged in a variety of outreach activities in 2008-09. For example, fall 2008 service learning day engaged over 1,496 students. In summer session 2009, University Studies faculty members are playing an important role in the summer bridge program, especially as instructors for UNST 100 and UNST 110.

2. New Collaborations and Partnerships

3. Student Activities

4. Staff Activities in Support of Learning, Discovery, and Engagement

The ability of the administrative staff of the division to support its learning, discovery, and engagement activities is limited. This limitation results from the fact that the division has been chronically understaffed. The academic year 2008-09, began with 1 permanent and 1 temporary staff member. By spring semester 2009, we added an additional permanent staff member (we were able to hire the temporary staff person.) Yet, this small number of administrative staff supports a faculty that teaches over 21% of the undergraduate SCH. These administrative staff worked tirelessly to support faculty members teaching, and in many cases went above and beyond the call of duty. Examples of this included staying pass their scheduled work hours to finish tasks, coming in on weekends to help faculty members prepare examinations, or to staff divisional events.

D. Retention

Student retention is complex. There is significant scholarship which suggests that a variety of factors contribute to an individual student's decision not to return to college. Some of these are academic and some have more to do with the greater society (Tinto 1993.) Given NCATSU's student composition (95.1% African American undergraduate enrollment), we face a disproportionate loss due to societal factors external to our control. African Americans still lag behind the general society in income, and educational attainment. For example, we have more 1st generation college students compared to institutions such as UNC Chapel Hill or North Carolina State. Yet these issues are also faced by our peer institutions in the UNC system, (Elizabeth City, North Carolina Central, and Winston Salem State.) There are two possibilities: these institutions have done a better job implementing programs that promote student retention than we have, or that our standards for academic retention are stricter than theirs.

Since we cannot distinguish between these two possibilities at present, we have adopted a proactive, multifaceted approach toward retention. Indeed, the very concept of University Studies was premised upon the idea of providing academic tools that would empower students to compete in the increasingly globalized economy of the 21st century. Our goal is to provide our students with a framework for critical inquiry that serves as a foundation for continuing academic development and life-long learning. In addition our goal is to expose students to professional standards of behavior and reinforce those in all University Studies courses. Thus we concentrated on the following retention goals in academic year 2008-09.

1. Implement revision of University Experience (UNST 100)

   In fall 2007, we revised The University Experience to focus more on freshman survival skills.

2. Maintain an atmosphere of professionalism and high academic expectations in all University Studies courses.

   All University Studies courses communicate the behavioral and academic expectations in their syllabi. These codes of conduct and high academic expectations are enforced rigidly in all UNST courses.

3. Insure that most University Studies foundation courses are taught by full-time instructors.

   In academic year 2008-09 the ratio of faculty members in University Studies was 15.33 TT, 13 lecturers (full time), and 15 adjunct instructors. Thus 28.33/43.33 = 65.3% of the faculty members teaching within the division were full time employees.

4. Maintain use of innovative technologies associated with improving student academic success.

   The division of University Studies has keep assessing and approving its use of technology in our courses. The surveys demonstrating that students find the classroom

response improves their learning are presented in appendix #of Additional Relevant Data. We are evaluating new technology including the response anywhere cards (which do not require a computer) from Turning Technologies, as well as **Renfro Stuff**.

Part V: Goals for Academic Year 2009-10

1. Continue collection of assessment data for UNST learning objectives in the freshman class.
2. Develop accountability requirements for assessing theme based cluster elective courses that are offered from other departments.
3. Continue development and implementation of on-line offerings of UNST theme-based courses.
4. Better integrate student service learning into University Studies Curriculum.
5. Establish better links to University and external community.

A. Key Indicators of Progress

Goals 2 and 4 will require the most effort in academic year 2009-10. Goal one is simply a continuance of our assessment activities which began with the implementation of the curriculum in fall 2006. Goal 2 continues to be thorny. This results from the fact that not all departments have embraced University Studies as the core general education curriculum. For this reason, they offer courses that presently reside in the clusters, but are not addressing student learning in these courses in ways that are consistent with the learning outcomes of general education. This is evidenced by the poor results on surveys during academic year 2008-09 that were specifically implemented to address 21st century global competencies in major courses. In Phase II of the UNC Tomorrow 21st Century Skills report for our campus, only 10 of 35 departments surveyed returned data on the degree that they were integrating the general education goals into their major curriculum. In spring 2009, when the Faculty Roundtable requested data from departments concerning student learning in the theme cluster courses they were teaching, the responses were even more anemic. One department went so far as demanding a meeting with the chancellor to outline their reasons for not answering the request for student learning information. They claimed that University Studies might "steal their ideas and use the data they reported against them." Clearly, there is work to be done here with regard to changing the campus perception of the need to operate in a climate of assessment of student learning, and the importance of general education learning outcomes being reinforced during major training. One indicator of success would be getting the majority of departments that teach theme cluster courses to be willing to assess learning outcomes and report that data to University Studies in academic year 2009-10.

The FRT has also begun to examine the suitability of the courses that currently reside within the clusters. The number of theme clusters is now five (Science, Technology, and Society; Energy Environment, and Society; Community, Conflict, and Society; Health, Lifestyles, and Society; and Philosophy, Religion, and Society.) The goal of this review will be to remove courses from the clusters that are not truly addressing broad learning areas and/or not assessing student

learning. An indicator of progress will be that all remaining cluster courses will be actually achieving the stated mission of general education.

Goal 4 addresses better integration of service learning into the University Studies curriculum. We have already seen great progress with this in the form of last year's service learning day and the formation of the service learning committee within the division. Our progress toward building a fully integrated service learning curriculum argues for a more campus-wide systemic approach. National models of successful service learning devote much greater resources to achieving their success. For example, is service learning is to be required of all students, then there should be a campus-wide office of service learning. UNC Greensboro has such an office, and they do not currently require service learning of all students. It seems absolutely contradictory to ask the Division of University Studies to shoulder this burden, when it is already overstretched teaching the core curriculum.

Finally, goal 5 cannot be put off any longer. Achievement of this goal however is not entirely in the hands of University Studies. At present, there is significant resentment concerning the existence of this curriculum within the Faculty Senate. A motion to exempt STEM majors from taking the Analytical Reasoning course was passed in spring 2009 and is under review by the Provost. In actually, if approved the motion would reduce the teaching load of University Studies and would require the disciplinary departments to teach a greater amount of science and mathematics in general education. However, the proponents of this motion haven't developed a plan that actually addresses how this would be achieved and what learning objectives they would mandate in these courses. The other drawback of passing this motion is that it would begin the dismantling of the general education core curriculum piecemeal. This is because every discipline could claim that a general education class doesn't contain the same rigor as a class taught in their specific discipline, so their majors should be exempt from it. This thinking indicates that the majority of our faculty lack comprehension of the design and purpose of a core curriculum. Therefore, it is necessary that this campus decide how it wants to handle general education. In the three years that the University Studies curriculum has existed we have continued to show statistically significant gains in student learning in our courses. We have done this while our detractors have not been required to demonstrate that they are teaching anybody, anything. We have accomplished improving student learning under the worse conditions (lack of faculty support, not enough faculty members, large class sizes, poor facilities, inadequate administrative support, inadequate operational budgets, and sabotage and misrepresentation of our efforts by our opponents.) This has happened because there has not been a consistent voice of support for the programs aims and constituents, nor has there been adequate funding for this program from the senior administration. The treatment of this division by its opponents is simply unprincipled and unethical. **Thus goal 5 can only be achieved if the senior administration decides to either provide new resources or reallocate the existing teaching resources to adequately achieve the mission of general education.** ***If this cannot be done; then I recommend that we do not go forward with this program.*** **The latter course would be unfortunate, especially given our mandates from general administration around UNC Tomorrow. However, the faculty and staff of University Studies cannot be expected to endure this environment for much longer.**

A. Faculty Data

1. Tenure Density

Appointment	Start Date	Age	Gender	Ethnicity	Tenured?
Dean & Professor	Aug. 1, 2005	54	M	African American	Yes
Interim-Associate Dean and Assoc. Professor	Aug. 1, 2006	55	F	African American	No
Assistant Professor	Aug. 1, 2004	43	M	European American	No
Assistant Professor*	February 1, 2006	37	M	African American	No
Assistant Professor*	Aug. 1, 2006	62	M	European American	No
Assistant Professor	Aug. 15, 2007	33	F	Asian American	No
Assistant Professor	Aug. 15, 2007	37	M	European American	No
Assistant Professor	Aug. 15, 2007	33	M	African - Ghanian	No
Assistant Professor	Aug. 15, 2007	54	M	European American	No
Assistant Professor*	Aug. 15, 2007	60	F	European Canadian	No
Assistant Professor	Aug. 15, 2007	59	M	Hispanic	No
Assistant Professor*&	Aug. 15, 2007	51	F	African Caribbean	No
Assistant Professor	Aug. 15, 2007	48	M	European American	No
Assistant Professor*	Aug. 15, 2007	46	F	African American	No
Assistant Professor	Aug. 12, 2008	49	M	African American	No
Assistant Professor	Aug. 12, 2008	30	M	European American	No
Assistant Professor	Aug. 12, 2008	39	M	European American	No
Assistant Professor	Aug. 12, 2008	67	M	European American	No

* Jointly appointed, tenure held in College of Arts and Sciences
& Resigned during 2007-08 academic year.

2: Awards and Professional Recognition

1. Creation Narratives, Socially-Constructed Race, and Human Genetic Variation, paper for Oxford University Roundtable, July 16, 2008; Dr. Gary Bailey with Dr. Joseph L. Graves Jr., Dean, University Studies.

2. Participating in Project Kaleidoscope, Interdisciplinary Science Education, www.pkal.org.

3. Dr. Joseph L. Graves, Jr., Participant, Race, Genetics, and Medicine seminar, Duke University.

4. Dr. Joseph L. Graves, Jr., Speaker for Darwin Bicentennial, Virginia Tech University, June 2009 (cancelled, financial distress.)

5. Dr. Joseph L. Graves, Jr., Speaker for Darwin Bicentennial, Boston College, Fall 2009.

6. Dr. Joseph L. Graves, Jr., Speaker for Darwin Bicentennial, Gettysburg College, Fall 2009.

7. Dr. Wendy Hamblet, Rookie of the Year, Division of Research, NCATSU.

8. Dr. Wendy Hamblet, "Teaching, Research, and Public Service in NonProliferation Policy," *2008 Summer NonProliferation Institute*: Center for International Trade and Security, University of Georgia, sponsored by Ploughshares and University of Georgia. (funded faculty seminar, August 10—13, 2008)

9. Dr. Wendy Hamblet, "Democracy and Its Critics: Re-Introducing Anti-Democratic Thought into the Curriculum." Served as (invited) sole instructor for the workshop, offered as a Pre-Course Workshop to the American Political Science Association Annual Meeting. (Boston, August 26—31, 2008).

10. Dr. Wendy Hamblet, January 2009. Invitation to join Honor Society of Phi Kappa Phi, North Carolina A&T SU Chapter.

11. Dr. Wendy Hamblet, May- June, 2008- Department of Interdisciplinary Research and Development College of Arts and Sciences *Summer Faculty Research Fellowship Award* NC A&T SU ($7,500.)

3: New Research/Scholarship Initiatives

1. Each individual faculty member in the division is continuing their research programs.

2. The division is engaged in several new scholarship of teaching and learning efforts, including the Wabash Study of Liberal Arts Education, Global Modules, and Project Kaleidoscope (just awarded 7/3/)8.) Project Kaleidoscope is a consortium of universities engaged in examining the impact of interdisciplinary teaching and learning on science literacy and career completion.

4: Scholarly Productivity of Faculty

Dr. Gary Bailey

Presentations

"Teaching First-Year Students Critical Thinking Using Interdisciplinary Teams," a paper written in collaboration with Dr. Cindy Waters, NCATSU School of Engineering, accepted for the 2009 American Society for Engineering Educators (ASEE) Conference (Austin, Texas, June 14-17, 2009).

"Using 'Clickers' to Create Active, Engaging, and Deep-Learning Critical Thinking Environments in the Classroom" 2009 North American Colleges and Teachers of Agriculture (NACTA) Conference (Oklahoma City, OK, June 17-20, 2009).

"Question-Based Learning for Critical Thinking: Using Student Response Devices to Build Question-Based Learning Environments," 2009 Lilly Conference on College and University Teaching (Greensboro, NC, February, 20-22, 2009).

Peer Reviewed Publications

Creation Narratives, Socially-Constructed Race, and Human Genetic Variation, Public Policy: The Journal of the Oxford University Roundtable, 2008; with Dr. Joseph L. Graves Jr., Dean, University Studies.

Dr. Agya Boakye-Boaten

Presentations

Boakye-Boaten, A., & Ruffin, T. (2009, November). From the Classroom to the Streets: Empowering the 21st Century Student through the Ghana Street Children Literacy Initiative. The 3rd International symposium: Service Learning in Higher Education-Educators, Communities, and Students, Athens, Greece.

Boakye-Boaten, A., & Ruffin, T. (2009, February). *Empowering the 21st century student through service learning: Developing students as servant-leaders through the Ghana street children literacy initiative.* Presenter (*Invited*) at the annual conference of the Lilly Conference on College and University Teaching at Greensboro, Greensboro, NC.

Peer Reviewed Publications

Street Children: Experiences from the Streets of Accra; Research Journal of International Studies - Issue 8 (November, 2008)

Changes in the concept of Childhood: Implications on Children in Ghana. **Article submitted for publication**. (2008)

Dr. Robert Drake

Presentations

Liking and Learning: Giving Good for Good In and Out of the Classroom, presented at the 2009 Lilly Conference on College and University Teaching, March 1-3, 2009. Greensboro, NC.

Essay Preparedness and Student Success, presented at the 2009 Lilly Conference on College and University Teaching, March 1-3, 2009. Greensboro, NC.

Peer Reviewed Publications

Like Your Students Openly! (For their own good), SoTL article submitted to M*ountainRise*, May 2009.

Kristallnacht in North Carolina: Reporting on Nazi Antisemitism in Black and White, accepted for publication October 2009 or 2010, *Southern Jewish History*.

Stephen Ferguson

Peer-Reviewed Publications

"Contractarianism as Method: Rawls contra Mills" *Cultural Logic: An Electronic Journal of Marxist Theory and Practice* (2009)

Forthcoming Articles in Books, Journals and/or Anthologies

"The Heritage We Renounce: The Utopian Worldview of Afrocentrism" in Special Issue of *Socialism and Democracy* on "Philosophical Perspectives and African-American Studies" edited by John McClendon and (2010)

"Making Sense of White Privilege: Conceptual Confusion and Ideological Pitfalls" in *Science and Society* (2009)

Essay-Review of Anna Stubblefield's *Ethics Across the Color Line* in *Socialism and Democracy* (2009)

Essay-Review of Charles Mills' *From Class to Race* in *Cultural Logic* (2009)
"The Philosopher King: Dialectics in the Political Thought and Practice of Martin Luther King, Jr.," in *Philosophical Perspectives on Martin Luther King, Jr.* edited by Robert E. Birt (date pending)

Galen Foresman

Presentations

Invited Presenter "Why Batman Is Better Than Superman," Penn State Harrisburg, Spring 2009

Presenter "Moral Court: Engaging Students in Active Critical Thinking through Ethics Based Role Playing," Lilly Conference on College and University Teaching at Greensboro, 2009.

Co-Presenter (Poster Presentation) "Essay Preparedness and Student Success," Lilly Conference on College and University Teaching at Greensboro, 2009.

Peer Reviewed Publications

"The A-List," *Supervillains and Philosophy* edited by Ben Dyer (Open Court Press). (Forthcoming 2009).

"Why Batman is better than Superman," *Batman and Philosophy* edited by Mark D. White and Robert Arp (Wiley Publishing). June 2008.

Joseph L. Graves, Jr.

Presentations

Biological V. Social Definitions of Race: Implications for Modern Biomedical Research, Conference on Race, Genetics, & Health, Duke University, October 21, 2008.

Peer Reviewed Publications

Creation Narratives, Socially-Constructed Race, and Human Genetic Variation, Public Policy: Journal of the Oxford University Roundtable, 2008; with Dr. Gary Bailey, Assistant Professor, University Studies.

Biological V. Social Definitions of Race: Implications for Modern Biomedical Research, Conference on Race, Genetics, & Health, Duke University, June 19, 2009.

Wendy Hamblet

Book Manuscripts

Shame, Guilt, and the Politics of Punishment, (in progress) with support from DORED Summer Faculty Fellowship.

Book Chapters

Invited Contribution of Primary Chapter, "History of Ethical Thought" in *History of Ethical Thought*, Richard Corrigan, editor, (Gloucester, UK: Progressive Frontiers Press, forthcoming).

"Myth in Plato: Treason to Truth or Humbling Aporia?" in *Forays into Existence: From the Rim of the Pit*, J. F. Humphrey, W. C. Hamblet, Eds. (accepted to anthology under review by Peter Lang).

"Different Kinds of People" in Adam Jones, ed., *Evoking Genocide: Scholars and Activists Describe the Works That Shaped Their Lives* (Toronto: Key Publishing, 2009).

"The Good Evil of Punishment" in *Race, Ethnicity and Crime*, Dianne Williams, editor (Sudbury, Mass.: Jones and Bartlett Publishers, 2009)

Randall Hayes

Presentations

2009: **Hayes, R.D.** Aliens Among Us? Tales of Neural Curiosities. CONTACT Conference, NASA Ames, Mountain View, CA.

John Frederick Humphrey

Presentations

J. F. Humphrey, Ph.D., "W. E. B. DuBois, Double Consciousness, Martin Luther King, the White Family, and their Negro Cook," *Human Rights, International Law, and Collective Violence*," International and Interdisciplinary Conference, Society for Indian Philosophy and Religion, 1:00-3:45 P.M., Saturday, April 18, 2009.

J. F. Humphrey, Ph.D., "Forays into Existence: From the Rim of the Pit," *Chaos and Creation in Castoriadis' Interpretation of Greek Thought*. Nordiskt Sommaruniversitet, Cornelius Castoriadis Conference, "The Ancient Greek and the Modern Western Imaginary." *Creation, Rationality, and Autonomy: A Conference on the Work of Cornelius Castoriadis.* Nordiskt Sommeruniversitet, Athens, Greece, March 27-29, 2009.

J. F. Humphrey, Ph.D., "Socrates on Death," *Ethics and Psychology*, North Carolina Philosophical Society, Wake Forest University, Winston-Salam, North Carolina, February 28, 2009.

Peer Reviewed Publications

J. F. Humphrey, Ph.D., "The Transcendental Character of Money: An Exposition of Karl Marx's Argument in the *Grundrisse*." Under review. Submitted to *Cultural Logic: An Electronic Journal of Marxist Theory and Practice*.

J. F. Humphrey, Ph.D., "What Does Euthyphro Know?" Under review. Submitted to *Philosophical Frontiers*, Dr. Richard Corrigan, Editor.

J. F. Humphrey, Ph.D., "Self-Interest and the Common Good in Book One of Homer's *Iliad*," *Nordicum-Mediterraneum: Icelandic E-Journal of Nordic and Mediterranean Studies* (http://nome.unak.is), vol. 4, no. 1 (March 2009): 1-10.

J. F. Humphrey, Ph.D., "There is Good Hope that Death is a Blessing," Conference Proceedings, Making Sense of Dying and Death, Sixth Annual Conference, Interdisciplinary.net Website (http://www.inter-disciplinary.net/mso/dd/dd6/s6a.html) and (http://www.inter-disciplinary.net/mso/dd/dd6/humphrey%20paper.pdf), pp. 1-10.

J. F. Humphrey, Ph.D., "*The Two Cultures* Once More: The Ethical Imperative of a Cross Cultural Dialogue." *Convergence Review: An Interdisciplinary Journal*, Issue One (Winter 2009) 66-78.

Books

J. F. Humphrey, Ph.D. and W. C. Hamblet, Ph.D., eds. *From the Rim of the Pit: Creative Responses to the Abyss*. Collaborative, interdisciplinary book project, edited volume of collected scholarly essays on the notion of "groundlessness" in various disciplinary traditions. CFP publicized February 2008. Under review.

Book Chapters

J. F. Humphrey, Ph.D., "The Ethics of Business Ethics," in *Ethics: A University Reader* at the invitation of Dr. Richard H. Corrigan, editor, Progressive Frontiers Press and *Philosophical Frontiers*, forthcoming, 2010.

J. F. Humphrey, Ph.D., "Preface: Forays into Existence: From the Rim of the Pit," in Forays into Existence: From the Rim of the Pit, forthcoming.

J. F. Humphrey, Ph.D., "Introduction: Forays into Existence: From the Rim of the Pit," in Forays into Existence: From the Rim of the Pit, forthcoming.

J. F. Humphrey, Ph.D., "The Subjective Artist and the Abyss of the Self," in *Forays into Existence: From the Rim of the Pit*, forthcoming.

J. F. Humphrey, Ph.D., "There is Good Hope that Death is a Blessing," in *Making Sense of Death and Dying*, an e-book from the Sixth Annual Making Sense of Death and Dying Conference, Salzburg, Austria, forthcoming.

Ms. Beth Kaufka

Peer Reviewed

"The Shadows Within: Reflective Writing and Internalized Racism." *Reflective Practice*. Issue 10.2: April 2009.

Short Stories

"Dog Muncher." *Kartika Review: An Asian American Literary Review*. Issue 5. Spring 2009. (Forthcoming)

"The Strange Behavior of the Unknowing." *13th Moon*. Volume 20, Issue 2. Summer 2009. (Forthcoming.)

Academic Works Under Review
"Beyond the Classroom: Required Conferences for First-Year Students" (article under review at *The Journal of the Scholarship of Teaching and Learning*)

"Problematizing Racial Identity: Internalized Racism and the Postmodern Self" (research article at *The Journal of Cross-Cultural Psychology*)
Creative Works Under Review

"Getting Along Famously" (Short story)
"The Company of Others" (Short story)
"Dog Muncher" (Short story)
"Such a Loyal Companion" (Short story)

Dr. Philip Rubio

Presentations:

Organized panel, now accepted: "Black Labor and Citizenship Struggles in the Americas during the 19th and 20th centuries." Association for the Study of African American Life and History (ASALH) annual meeting, Cincinnati, Ohio; May 15, 2009.

Book

"There's Always Work at the Post Office!": African Americans Fight for Jobs, Justice, and Equality at the United States Post Office, forthcoming 2010, University of North Carolina Press.

Articles and Essays in Books

"Al Rubio and the Student Sit-In Campaign Against Jim Crow Public Accommodations in Urbana-Champaign, Illinois, 1937-1939." Forthcoming Fall 2009, *Journal of Illinois History*.

B. Student Enrollment Management Data

1. Enrollment, retention, and graduation rates.

All incoming students must enroll in University Studies courses. Therefore our overall retention rate is the same as that of the university as a whole. However, in fall 2008 and spring 2009, our retention advisor, Jason Moore kept track of students from all majors who were identified for intervention by UNST faculty members within their courses.

The data below show the results of retention advisor intervention with students who were **Instructor-Identified as at Risk Students.** UNST Divisional Faculty identified these students for our retention advisor based on poor student attendance, incomplete (or lack of) submission of course assignments, and poor test/examination grades.

Fall 2008
Based on 186 identified students enrolled in a UNST-designated course (reflecting 197 grade evaluations), there were:

A	B	C	D	F	W	I	Official University Withdrawal	No Grade	C or better	DWFI
6	35	34	20	57	36	1	7	1	75	114
3.05%	17.77%	17.26%	10.15%	28.93%	18.27%	0.51%	3.55%	0.51%	38.07%	57.87%

Spring 2009

The data collected reflects the final course grades for the instructor-identified students. Based on 266 identified students enrolled in a UNST-designated course (reflecting 283 grade evaluations), there were:

A	B	C	D	F	W	I	Official University Withdrawal[1]	C or Better	DWFI
12	64	56	23	73	36	1	18	132	133
4.24%	22.61%	19.79%	8.13%	25.80%	12.72%	0.35%	6.36%	46.64%	47%

These data indicate that retention advisor intervention produced 38.07 and 46.64% of students who earned a "C" or better at the end of the course (who were failing at midterm) and only 57.87 and 47% of these students became DWFI students. Of these only 3.55% and 6.36% withdrew from the university after retention advisor intervention in fall 2008 – spring 2009.

[1] This designation is made to distinguish between a Course Withdrawal (W) and the Official University Withdrawal, although still reflects a "W" in terms of a student's final grade.

2. SCH generated by program

In fall 2008 SCH was 16,570 and in spring 2009, 12,920 SCH.

C. Student Activity Data

1. Awards and Scholarships

Since University Studies is not a major, students do not register their awards with this division. However, given that University Studies is taken by all students, and impacts their GPA, all students who receive prestigious awards or scholarships can trace some of the responsibility for that award to University Studies.

2. Major Employers of Students

N/A – This would be the same as for all students in the University.

3. Internships and Coops & **D: Listing of Public Service Activities**

The division of University Studies does not engage in "internships or coops", rather students are required to engage in service learning mediated through the Division of Student Affairs. A list of these is included in this appendix:

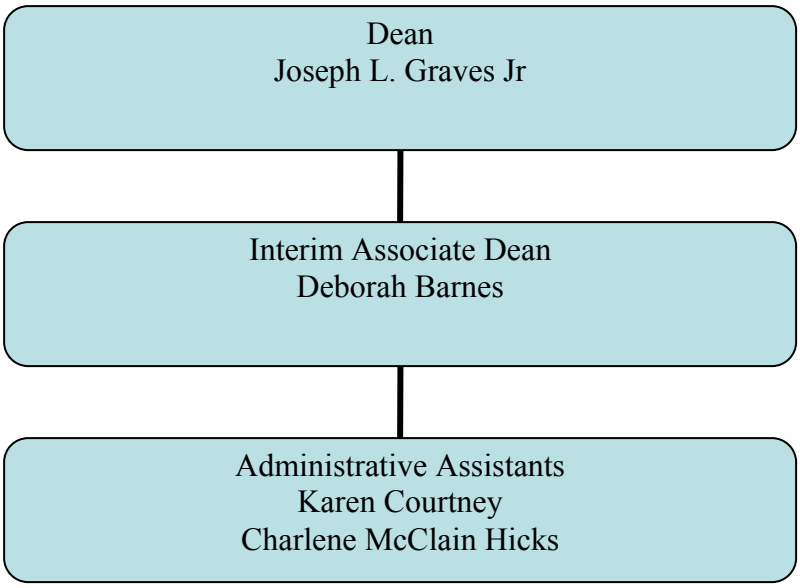
Organization	**Overview**	**Opportunities**	**Contact Person**	**Address Phone**
The Volunteer Center of Greensboro	The Volunteer Center strengthens the community by creating meaningful volunteer connections. They connect people, promote volunteerism, and support nonprofits, and build partnerships.	Fundraising, Public Relations, Drivers, Childcare, Office Support, Tutoring, Computer Support, Grant Writing, Chaperone, Bookkeeping, Mentoring, Sports & Recreation, Summer Volunteer, Special Events Assistance	Janine Griffin	1500 Yanceyville Street, Greensboro, NC 27405 336.378.6846
Adult Center for Enrichment	To enrich the lives of frail and impaired adults and their families and the community through specialized adult day services, respite care, education and support.	Fundraising, Drivers, Adult Daycare, Recreation Activities, Summer Volunteer, Special Events, Gardening, Adult Support, Program Assistant	Nancy Gore	PO Box 13048, Greensboro, NC 27415 336.274.3559
American Red Cross	The American Red Cross, a humanitarian organization led by volunteers and guided by its Congressional Charter and the Fundamental Principles of the International Red Cross Movement, will provide relief to victims of disaster and help people prevent, prepare for, and respond to emergencies.	Office Support, Special Events, Blood Services Greeter and Canteen	Anne Vestal	1501 Yanceyville Street, Greensboro, NC 27405, 336.333.2111
Senior Resources of Guilford	To serve our diverse community of older adults and their families by advocating and providing supportive services that enhance the independence, health and quality of life for older adults.	Fundraising, Public Relations, Drivers, Office Support, Special Events Coordinator, Other (Assist with hot meals to older adults in their homes)	Sharon Sciandra	301 F. Washington Street Greensboro, NC 27420, 336.373.4816 ext.249
Women's Outreach Mission Empowerment Network Inc.	WOMEN Inc.'s mission is to reduce the spread of HIV/AIDS and STD infections by providing prevention education, support and innovative programs to empower women in making informed choices to eradicate risky behaviors.	Fundraising, Public Relations Office, Support, Advocacy, Computer Support, Grant Writing, Special Events Asst., Technological Asst., Program Coordinator	Babara Hawley	3812 Herbin Street, Greensboro, NC 27407 336.218.8369

Organization	Overview	Opportunities	Contact	Address & Phone
Junior Achievement of Central NC, Inc.	To ensure that every child has a fundamental understanding of the free enterprise system.	JA Classroom Consultant, Fundraising	Aubree Martin	3220 Northline Avenue, Greensboro, NC 27408, 336.299.4339
Jamir Productions and Entertainment	To implement a way of communication for a future were children are able to speak a universal language – the language of music. With music there are no barriers to communication.	Fundraising, Public Relations, Office Support, Mentoring, Grant Writing, Special Events Assistance.	Joy Lough	1400 Battleground Ave. Suite 134-A Greensboro, NC 27408, 336.370.4555
Big Brothers Big Sisters of Greater Greensboro	The mission of Big Brothers Big Sisters of Greater Greensboro is to make a positive difference in the lives of children and youth, primarily through a professionally supported one to one relationship with caring adults, and assist them in achieving their highest potential as they grow to become confident competitors and caring individuals.	Big Brother/Big Sister	Robin Williams	211 S. Edgeworth Street, Greensboro, NC 27401, 336.378.9100
Lutheran Family Services in the Carolinas	Responding to Christ's call to serve all people, LFS in the Carolinas seeks justice, healing, renewal, and enrichment for individuals and families through service, advocacy, and education.	Drivers, Office Support, Research Advocacy, Case Manager Asst.	Lani Higgins	1031 Summit Avenue, Suite 1-E2, Greensboro, NC 27405, 336.669.0072
Black Child Development	To improve and protect the quality of life of youth and families in the Greater Greensboro Area.	Public Relations, Childcare, Office Support, Tutoring, Advocacy, Mentoring, Summer Opportunity, Special Events	Kim Powell	1200 E. Market Street, Greensboro, NC 27401m, 336.230.2138

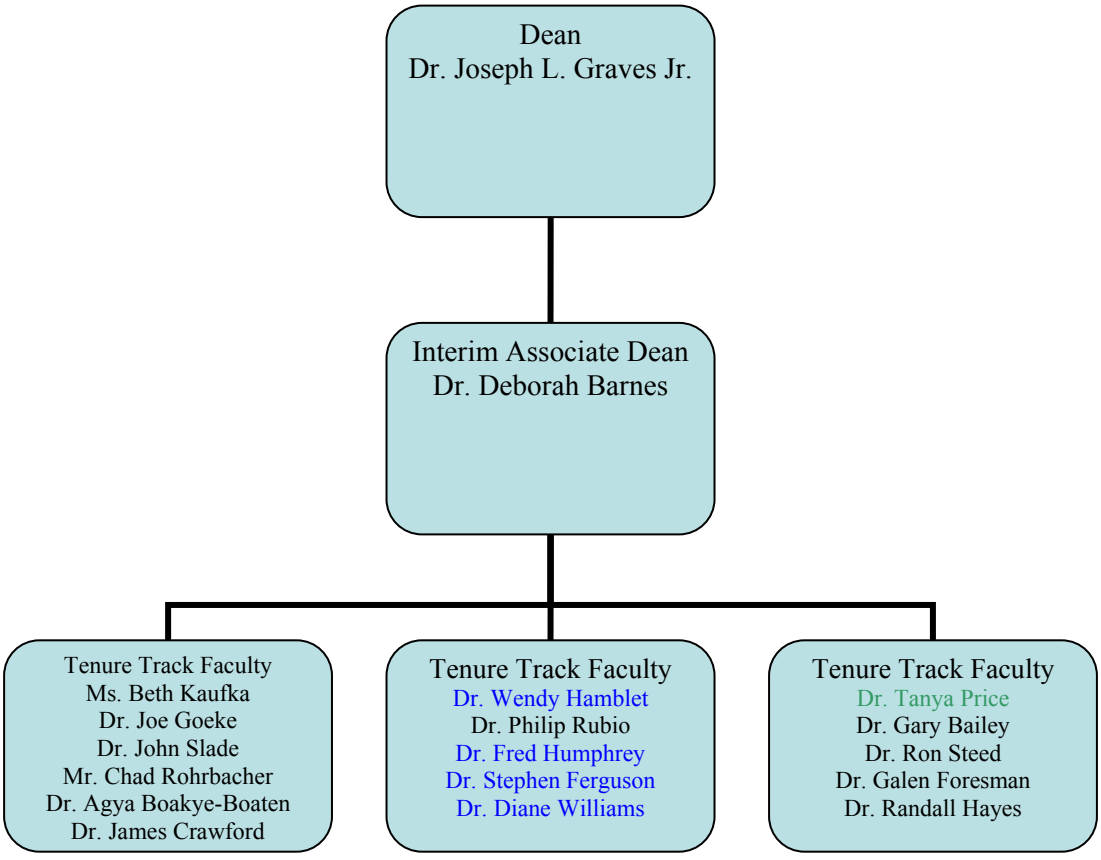
Organization	Overview	Opportunities	Contact	Address & Phone
Erwin Montessori Elementary School	Every student will become an independent life-long learner, will grow in social graces and will attain inner discipline and joy – the birthright of every human being.	Not listed	Heidi Pegram	3012 E. Bessemer Avenue, Greensboro, NC 27405, 336.370.8151
David D. Jones Magnet Elementary	School provides a well-rounded education whereby students will value knowledge, become independent readers, develop critical thinking skills in order to become productive citizens of the world. We strive to instill respect for all people in our students. We expect all students to function on or above grade level.	Horticultural Development, Tutoring, Computer Support, Grant Writing, Sports/Recreation	Jake Henry	502 South Street, Greensboro, NC 27406, 336.370.8230
Greensboro Children's Museum	Not Provided	Fundraising, Public Relations, Childcare, Office Support, Computer Support, Grant Writing, Summer Opportunities, Special Events	Tommie Lynn Sullivan	220 N. Church Street, Greensboro, NC 27401, 336.574.2898
Liberty Hospice	The mission of Liberty Home Care is to provide cost effective, quality services that will achieve optimal outcomes.	Office Support, Maintenance, Respite Care, Volunteer Care, Patient Care Volunteer, Bereavement Care Volunteer, Clerical Assistant	Sara D. Nesbitt	2311 West Cone Blvd. Suite 110, Greensboro, NC 27455, 336.545.9609
Northeast High School "Ram Potential Mentoring Program"	The purpose of the "Ram Potential" Mentoring Program is to provide support services for "at-risk" high school students with assistance from local college or university mentors.	Tutoring, Mentoring	Glenda T. Gray	6700 McLeansville Road, McLeansville, NC 27301, 336.375.2508 ext.199

4. Other Relevant Data: Administrative Structure and Assessment of Student Learning in University Studies Courses

Figure 1. Divisional Administrative Structure

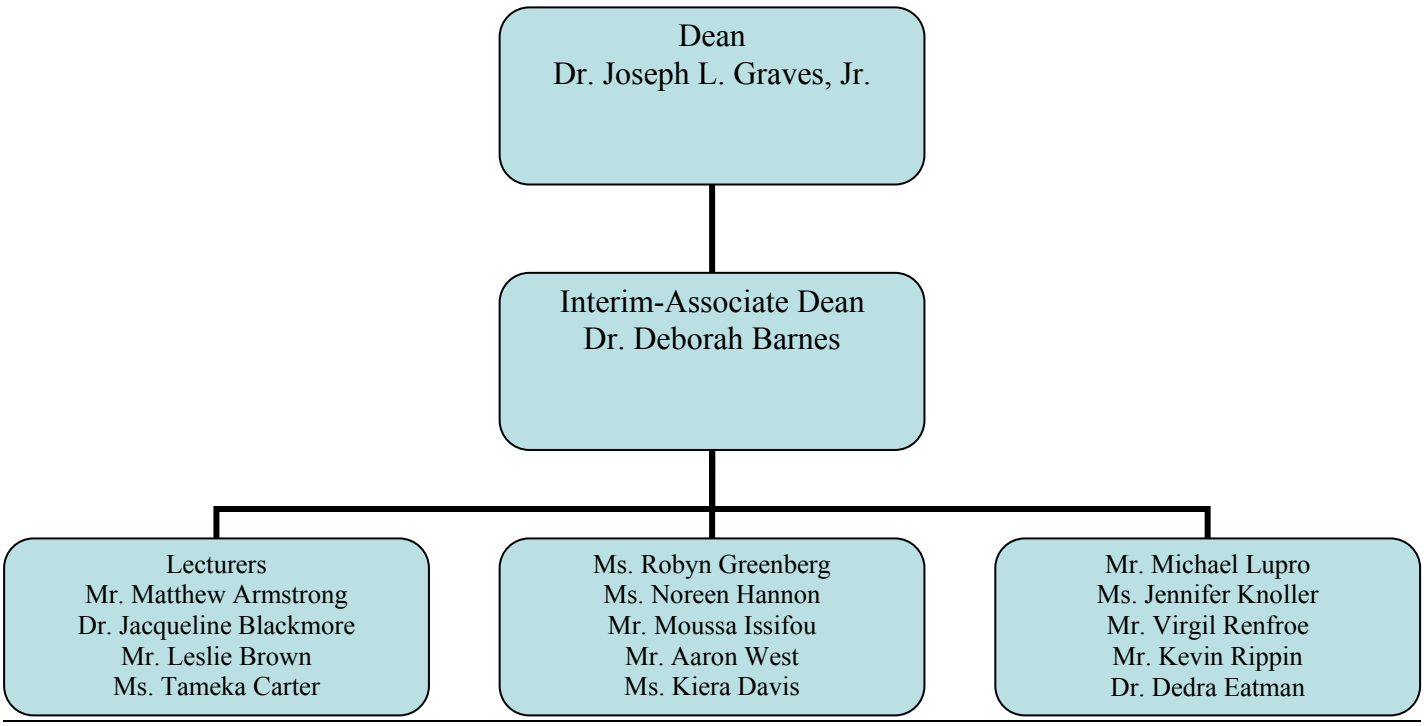


Organizational Structure: Tenure Track Faculty



- Blue = Joint appointment with Liberal Studies
- Green = Joint appointment with Sociology/Social Work

Organizational Structure: Lecturers and Adjuncts



I. The University Experience (UNST 100): UNST Learning Objectives: 10, 14, 16, and 17.

The syllabus for UNST 100 was significantly altered in academic year 2007-08 (see appendix 13 below.) The course was reorganized to meet the needs of student retention, specifically addressing study skills, time management, and test-taking skills. Students evaluated the effectiveness of faculty teaching of its learning objectives in this course as a 3 out of 4 on the Likert Scale (see appendix 13.)

Box 1: Learning Goals of the University Experience in 06-07.
10. Interact effectively with people from diverse cultures.
14. Understand and apply ethical reasoning principles to resolve moral, social, and professional issues.
16. Understand and promote principles of wellness that include nutrition, exercise, avoidance of mind-altering chemicals, development of healthy relationships and personal growth
17. Recognize behaviors that place individuals, families and communities at risk.

II. Critical Writing (UNST 110): UNST Learning Objectives: 1, 2, 3, and 4.

Fall 2007

Introduction

This course introduces students to the basics of critical thinking and communication. As such, students will work on reading comprehension, thinking and writing processes, analysis, and other basic academic skills adaptable to multiple disciplines and necessary for their success in their major courses and beyond. Students explore a course theme, problem, or issue from an interdisciplinary perspective in order to develop skills of critical engagement which allow them to solve complex, real world problems. Over the course of the semester, they learn to find, evaluate, and use appropriate learning resources; to demonstrate effective verbal and written communication skills; to develop habits of self-assessment; to work collaboratively in teams and small groups; and to use interdisciplinary content knowledge and intellectual skills to become life-long learners.

University Studies Course Objectives

Critical Writing meets the following UNST objectives: 1, 2, 3, 4, and 5.

Communication

1 Effectively use information technology to find, interpret, and evaluate, and use information discerningly
2 Effectively communicate in diverse settings and groups using written, oral, and visual means
3 Effectively employ critical thinking skills in written and oral communication
4 Effectively relate ideas and concepts, as well as modes of inquiry, across disciplines

Analytical Reasoning

5 Use analytical thinking skills to evaluate information critically

Critical Writing Course Objectives

- **Critical Writing Skills**: Students use a writing portfolio to demonstrate proficiency in writing across disciplines
- **Communication**: Students demonstrate their ability to communicate effectively and informatively (in writing, orally, and through visuals materials)
- **Research**: Students identify, evaluate, and secure pertinent information on course themes for class distribution
- **Technology**: Students use i.e. Blackboard, Turnitin.com; Track Changes, Criterion, etc. to demonstrate competency in writing technologies
- **Assessment**: Students use revision, peer-editing, and the reflective essay to demonstrate habits of self- and summative-assessment
- **Collaboration**: Students demonstrate their ability to work individually and collaboratively by producing a group project

Assessment of University Studies Learning Objectives

The faculty members in Critical Writing utilized a common rubric for all assignments in the course (the sequence of summative assessments are given in appendix 6.1.) This facilitates fair evaluation of student work across the many sections. In addition it makes statistical analysis and interpretation of the results of that analysis meaningful for assessment purposes. As a pedagogical aid, the shared rubrics also allow our students learn how to self-assess. Students are given rubrics so they explicitly understand the criteria upon which their work is evaluated and so they can internalize standards for achieving excellence. We also do a variety of collaborative assessment activities such as peer review of writing, practice presentation critiques, and group reflection exercises. (See appendix 2.2 for the rubrics). In addition, in the spring semester 2008, Critical Writing put together a rubrics revision committee. This group is in the process of redesigning the rubrics to make them more user-friendly and easier for team calibration.

Each of the summative assessments in the course meets specific University Studies learning objectives. These are outlined in appendix 6.3. To determine the degree to which students in enrolled in Critical Writing in fall 2007 mastered these learning objectives, data from each assignment connected to a learning objective were analyzed grouped by specific faculty. In fall 2007, data were collected from 10 different faculty members. Each faculty member taught multiple sections of the course and the data from all of their sections was analyzed together. The data did not include zero scores that resulted from students who did not turn in a specific assignment. Thus the data represent a measure of learning for only students who actually attempted the assignment in question. It was also determined that not all faculty members assigned all of the required assignments for each learning objective. For example, for learning objective 1: Effectively use information technology to find, interpret, and evaluate, and use information discerningly, only six of the ten faculty members for which data are available

assigned all three assignments. For this reason, all of the specific assignments are analyzed separately, and the number of groups varied for each assignment.

Communication objectives 1 and 2 had common elements. Objective 1 utilized the annotated bibliography (AB), research paper (RP), group presentation (GP) and library instructional quiz (LIQ); while objective 2 utilized the just RP and GP. The data from the library was not available for this analysis, so objectives 1 and 2 are examined by use of data from AB, RP, and GP.

Figure 6.1 represents the box plot for annotated bibliography versus instructor in fall 2007. The mean for the summative assessments on the annotated bibliography differed significantly by instructor, $F = 71.29$, $p < 0.0001$. Much of this significance is explained by instructor five, who students performed statistically differently lower than all other classes (mean = 0.27.) The mean for all 749 students who turned in this assessment was 0.74 (a C grade) with a standard deviation of 0.16. This also means that 39% of the students scored a B or better percentage (cumulative frequency from 0.80 to 1.00 was 0.39.) The mean summative assessments on the research paper (figure 6.2) also differed significantly by instructor, $F = 8.79$, $p < 0.0001$. Instructor one was significantly below, while instructors 4, 5, and 7 were significantly higher than the grand mean of 0.758, for all 801 students who turned in this assessment (a C grade) with a standard deviation of 0.19. This also means that 43.5% of the students scored a B or better percentage (cumulative frequency from 0.80 to 1.00 was 0.435.) Finally, the mean summative assessments on the group projects (figure 3) differed significantly by instructor, $F = 7.55$ $p < 0.0001$. Instructor one was significantly below, while instructor 4 was significantly higher than the grand mean of 0.815, for all 550 students who turned in this assessment (a B grade) with a standard deviation of 0.17. This also means that 63.3% of the students scored a B or better percentage (cumulative frequency from 0.80 to 1.00 was 0.633.) These data taken together are strong evidence that the vast majority of students in this sample of those enrolled in Critical Writing during fall semester 2007 mastered learning objectives 1 and 2.

Communication objective 3 utilizes AB, GP, as well as new data from the reflection papers and analysis paper (midterm, MTRP shown in figure 6.4, end of term, ETRP, shown in figure 6.5 and analysis paper, AP, shown in figure 6.) The mean summative assessments on the first reflection paper (MTRP) differed significantly by instructor, $F = 6.51$ $p < 0.0001$. Instructor five was significantly below, while instructor 10 was significantly higher than the grand mean of 0.757, for all 870 students who turned in this assessment (a C grade) with a standard deviation of 0.24. This also means that 53% of the students scored a B or better percentage (cumulative frequency from 0.80 to 1.00 was 0.530.) ETRP showed mean summative assessments that also differed significantly by instructor, $F = 37.09$, $p < 0.0001$. Instructors 1 - 5 were significantly above, while instructor 8 was significantly lower than the grand mean of 0.848, for all 734 students who turned in this assessment (a B grade) with a standard deviation of 0.12. This also means that 65.1% of the students scored a B or better percentage (cumulative frequency from 0.80 to 1.00 was 0.651.) The AP mean summative assessments differed significantly by instructor, $F = 52.21$, $p < 0.0001$. Instructors 1 and 9 were significantly above, while instructor 6 was significantly lower than the grand mean of 0.761, for all 659 students who turned in this assessment (a C grade) with a standard deviation of 0.14. This also means that 35.1% of the students scored a B or better percentage (cumulative frequency from 0.80 to 1.00 was 0.351.)

Communication objective 4 utilizes the AB, MTRP, and AP. The analyses of these items are shown in figures 2.1, 2.4, and 2.6. The mean score on these were .74, .75, and .76 respectively. The variance in score and percentage of students earning B or higher grades were similar on each. Analytical reasoning objective 5 (using analytical thinking skills to evaluate information critically) are addressed by AB, MTRP, ETRP, RP, AP, and the GP (figures 6.1 – 6.6,). In a sense, this learning objective is a summary of all items utilized to address the communication objectives. The mean scores on these items ran between 0.74 and 0.84, with roughly equivalent variances. The percentages of students earning a B on above for these assessments were between 39 to 65.1%. Thus taken as a whole, the data for learning objectives in this course suggest that the vast majority of students were highly successful in achieving the specified goals in fall semester 2007.

Additional Assessments of Student Learning in fall 2007

To determine the degree to which faculty members teaching within the Critical Writing program provided "objective" assessments of student writing, the Division of University Studies examined their scoring of student writing in comparison with an external scoring algorithm that could be considered unbiased. This was accomplished by utilizing the ETS web-based writing assessment tool Criterion.

Methods

The data analyzed in this report result from Criterion Writing Assessments that were administered to Critical Writing students at the end of fall semester 2007. Students from 11 sections of Critical Writing were scored by Criterion Writing Assessment and independently assessed by Critical Writing Instructors. Independence was confirmed by the fact that no instructor evaluated their own students in the comparison with the Criterion program.

The data were examined for the degree of match between the scores assigned by Criterion and the human instructors by use of the Chi-Squared goodness of fit test as well as by the Pearson correlation coefficient. The former asks the question what is the absolute deviation between the expected (exp) and the observed (obs) score. In this analysis, the expected score is assigned to Criterion and the observed score is assigned to the human evaluation (this was an arbitrary choice and switching the assignments would not have altered the outcome of the analysis.) The equation for Chi-Squared is given as:

$\chi 2 = \Sigma\ (obs - exp)^2 / exp$

For example, if two tests were scored by the program and a human evaluator we would have data that looks like this:

Ind.	Crit.	Hum.	o - e	$(o - e)^2$
1	5	4	-1	1
2	3	4	+1	1
			$\chi 2 =$	2

The chi-squared number is then compared against a table of values that determines the chance that a given chi-squared value results by chance alone (and therefore is not statistically significantly different). To determine the degree of statistical difference we decide how much chance of error we are willing to accept in making this assessment, generally the accepted value is 0.05 or 5% chance of incorrectly stating that these results are due to chance and a 0.95 or 95% chance of correctly stating that these results are due to chance.

Chi-squared values were determined for 11 Criterion/human evaluations of students and are listed in the table 6.1. None of the instructors in this table evaluated their individual sample in a way statistically different from Criterion at the 0.05 (critical) or even the considerably weaker (0.25) level. The total sample of 159 also does approach statistical difference between instructor and Criterion.
It is possible to advance the notion that the Chi-squared test is too stringent a statistical requirement to evaluate instructor versus Criterion difference in scoring. For example, imagine that an instructor always evaluated a 1 point difference versus Criterion. If this were so, then the most the instructor versus Criterion sum could ever attain is 15 in a sample of 15 students. This would result from adding up $(o - e)^2 = 1$, fifteen times. The number 15 would not be counted as statistically significant at either the 0.05 or 0.25 levels in this test. Yet it could be argued that if Criterion scored a 3 and the human instructor consistently scored a 2, that we a problem. An examination of table 1 shows that in 6 out 11 cases the $(o - e)^2$ value is below 10, and only exceeds 15 twice. This is not strong evidence for the 1 point consistency concern raised above.

Another way of addressing the limitations of the chi-squared analysis is to examine the degree of similarity in Criterion/human scores by a different statistical tool. The correlation coefficient is designed to address the question of how similar are a set of paired numbers. One set of numbers (Criterion) is placed in the first column (x-axis) and the second set of numbers (human rankings) is placed in a second column (y-axis). Once this is accomplished we can ask how well these numbers correspond to each other. If there is a strong correspondence when they are plotted together we should produce a straight line with a slope of one (one to one correspondence.)

Table 6.2 illustrates the correlation between the Criterion and human reviewer scores. The 0.669 correlation coefficient is highly significant (0.01, which means one chance out of a hundred that the correlation coefficient resulted from chance alone.) The correlation while highly significant is not perfect (a perfect correlation would result in a correlation coefficient of 1.00. Since the correlation is not perfect we can ask the question, which reviewer (Criterion or human) is providing the higher rating on average (remember that while one may be higher, the difference is not statistically significant.) To address that question, we can examine the frequency of the differences in score between human and Criterion. Table 6.3 indicates that Criterion gave the student a 2 point higher score than the human reviewer 9 times, a 1 point higher score 48 times, equal scores 87 times, 1 point lower score 15 times, and finally a 2 point lower score once. This indicates that while the Criterion and human scores are not statistically different from each other, the difference that does occur is that Criterion tends to be more generous in its grading of student essays than our faculty members.

The frequency histogram in figure 6.7 illustrates that reviewer – Criterion scores are biased toward negative values (reviewers more rigorous than Criterion.) Table 2.4 shows that there was

considerable variation amongst instructors with regard to how often their grades were more negative than Criterion. Instructors 5 and 7 agreed the least, while instructors 4 and 9 agreed the most with the Criterion assessments.

Conclusion: Hasty Generalization and statistical reasoning

Hasty generalization is a common logical fallacy that affects inductive generalizations (*University Studies Analytical Reasoning* text, pp.101 – 103.) An inductive generalization is made when we draw a conclusion about a group based on a sample. In this case, our Critical Writing instructors assumed the inductive generalization that the Criterion Writing Assessment program gave an incorrect (or different) evaluation of student writing than they the writing faculty would give. The data indicate that this claim was a hasty generalization. This fallacy occurs when an inductive generalization is drawn from a sample that is too small or not representative.

Statistical reasoning allows us to uncover hasty generalizations. In this case, we proposed an experiment in which we examined the correspondence between the Criterion and the human instructor assessment. To eliminate instructor bias, we used a single-blind approach, in which instructors randomly were chosen to evaluate each other's students utilizing the Criterion rubric. The null hypothesis was that the Criterion and the human instructor evaluations were equivalent. This was tested by use of the chi-squared goodness of fit test. The chi-squared analysis could not reject this null hypothesis for any individual instructor or for the pooled sample of comparisons.

We also asked the question whether the chi-squared test was too rigorous a test to uncover systemic differences between Criterion and human evaluation. To address this possibility, the Pearson correlation coefficient was computed between the Criterion and human scores. A perfect correlation would have given a coefficient of 1.00. However, our computed coefficient of 0.669 while highly statistically significant was not perfect. Further examination showed that there was a slight tendency for Criterion to award a higher score than the human instructors. It was further determined that individual instructors varied in their negative scoring compared to Criterion. Thus, instructors 5 and 7 would have been the most suspicious of Criterion, while instructors 4 and 9, the least.

There are some obvious limitations to this study. The most serious is the fact that only 15 students were evaluated per individual instructor, making it more difficult to reject the null hypothesis (N = 30 would have been more definitive.) However, the fact that the pooled comparisons (N = 159) did not exceed the critical value for rejecting the null hypothesis lessens the severity of that concern.

The other serious concern is the variability of the instructors themselves, for example instructors 5 and 7 might have differed in experience or credentials evaluating writing from the rest of the pool. A more comprehensive study would utilize a larger number of comparisons of student essays more closely match the educational and experiential backgrounds of the evaluators, and double-blind the data from Criterion and human evaluators.

The present study however, does not support the notion that Criterion produces significantly different evaluations of student writing compared to human instructors. Results such as this allow us to make data driven policy decisions concerning the use of technology or pedagogy. This is an important principle upon which the Division of University Studies operates.

Did Students Improve their Writing in Fall 2007?

Communication objective 2 calls for students to effectively communicate in diverse settings using written, oral, and visual communication. This report has provided general data demonstrating that the vast majority of students mastered this learning objective. Drilling down into objective 2, we can ask did students demonstrate better writing ability during fall semester 2007. Data addressing this was collected using the Criterion on-line writing assessment (which we demonstrated above was not different in essence from the way our human instructors evaluated student writing.) Data were collected from 147 students who took the Criterion writing assessment prior to beginning fall 2007 semester, as well as the same writing assessment at the end of fall 2007 semester. This data was analyzed using a paired-sample student T test, since for each student we had a pre- and post-semester writing assessment. The results showed that was a small overall, but highly statistically significant increase in student writing. More revealing however is the frequency distribution of Criterion writing increases. Theses data clearly show that a significant group of students improved their writing by 1, 2, & 3 grades as measured by Criterion.

Pre- and Post- tests of Critical thinking, writing, and reading

Critical Writing began fall semester assessing students in three categories: 1) Critical Thinking Basics, 2) Critical Writing Basics, and 3) Critical Reading Basics. In the first and second categories, we asked basic multiple-choice questions about the fundamentals of critical thinking (such as defining critical thinking) and the fundamentals of critical writing (such as defining plagiarism). The third category veers from this form in that it asks students to read and analyze a paragraph and an image for basic rhetorical strategies such as purpose, audience, appeals, main claim, and evidence. Although the first two sections of the pre- and post-test remain the same, the texts for the two different assessments vary.

Results from fall 2007

Over all the sections, there was an average .46 increase in the Critical Thinking Basics section from the pre-test to the post-test. There average score for the Critical Writing Basics section increased by nearly one point. However, the Critical Reading section average decreased by .29 points (figure 6.9.) The reasons for this may reside with the assessment tool itself. However, importantly, this shows us that although our students learned the basic concepts of the course, when it came to their application, they struggled. (To address this, we plan to spend more time at the beginning of the semester to work with students on basic reading comprehension.)

Between all of the sections, we see a general 3.88% increase in the overall scores from the pre-test to the post-test (see figure 6.10). The highest overall section increase is +13.47 point average, while the lowest is - 4.8 decrease in the section average. However, please note the low

scores may imply the conditions for the assessment and might not accurately reflect the learning in the classroom. Because this was our first time implementing this assessment, which we created just before the term started, the team did not establish conditions for proctoring the assessment (discussed below). Therefore, there was some confusion around whether or not the assessment was to be given anonymously or not, how to contextualize it for the students, how to help students understand the importance of the assessment and take it seriously, when to give the assessment (beginning or end of class can matter in that students may want to hurry, finish, and leave). These matters should be taken into account when reviewing the data.

Improving Pre- and Post Test Assessments

After running through this assessment process the past academic year, the Critical Writing team concluded that given the nature of what we were trying to assess, we need to substantiate our assessment, make it more comprehensive and formalized. The team has agreed that we need to add at least one more section on basic reading comprehension. We have found that students have a hard time simply understanding what they read, so an element of testing this should be added. It was discussed that we follow the SAT model of including a paragraph and asking basic comprehension questions in a multiple choice section. This should precede the Critical Reading section. Over the summer, we are developing the following:

Policy Guidebook: Ideally, we should have a document that acts as a faculty guide for our pre- and post-test assessment. This should include our policies on proctoring the assessment, reporting back, and such.

Pedagogical Uses: Some instructors used the assessment during the semester as a pedagogical tool for reviewing the information covered on the assessment. This does not seem to be significantly reflected in the increased score; however, the team might discuss a way to test this. Or the guidebook should provide some detailed ideas/activities for this kind of usage.

Proctoring: This past year, the conditions for proctoring the assessment were unstable. The team is creating specific policies around this issue. The following suggestions were provided by the course coordinator at the beginning of spring semester 2008:

- Instructors should provide some kind of incentive for taking the assessment seriously. For example, points can be assigned in a way the instructor feels appropriate. This should be uniform across all of our courses.
- Timing: A uniform policy should be developed in terms of when to give the assessment, i.e. the second day of class, at the beginning, timed, etc. We should also consider not allowing students to leave directly after completing it.
- Instructors should record the individual student names and scores and use the tool as a formative assessment.
- Assessment Duration: The assessment took a significant amount of time less than expected. Before proctoring the assessment, instructors thought it might take most of the class time of a 50-minutes course. However, we found that the assessment took most students 15-20 minutes on average. As such, it is recommended that the team revisit this matter, possibly considering adding significant substance to the assessment, particularly in the reading and application section.

Conclusion

With our overall increase in scores, this assessment reflects the team's general success teaching the basic concepts of the course and its objectives. However, as any assessment tool, particularly a newly developed one, it needs to undergo a significant review and revision process. Another success that can be mined from this experience: our pre- and post-test process functioned as a formative assessment for the team; we are able to see, with numerical data, that we need to focus more heavily on basic reading comprehension and that we need to work more collaboratively as a team to create a better tool to measure our students' learning.

Box 2: Learning Goals of Critical Writing

1. Effectively use information technology to find, interpret, evaluate, and use information discerningly.
2. Effectively communicate in diverse settings and groups using written, oral, and visual means.
3. Effectively employ critical thinking skills in written and oral communication.
4. Effectively relate ideas and concepts, as well as modes of inquiry, across disciplines.

III. The Contemporary World (UNST 120): UNST Learning Objectives: 1, 2, 11, 12.

Fall 2007

This course examines the social, economic, political, and cultural roots of the contemporary world. It focuses on the major developments, events, and ideas that have shaped world societies since the beginning of the twentieth century. Close attention will be given to the concepts and categories that allow students to grasp the nature and development of the contemporary world, thus providing them with a framework for understanding the contemporary global experience. The course helps students to develop critical thinking skills in their oral and written work and to use information technology effectively.

University Studies Course Objectives

The Contemporary World meets the following UNST objectives: 1, 2, 11, and 12.

1. Effectively use information technology to find, interpret, evaluate, and use information discerningly.

2. Effectively communicate in diverse settings and groups using written, oral, and visual means.

11. Understand and appreciate the diversity and interrelationship of cultures locally, regionally, nationally, and internationally

12. Understand the role of social, political, and economic institutions and processes in the development of societies and the factors that lead to dynamic change in societies over time.

Assessment of student learning objectives

Data concerning the degree to which students acquired learning objectives 1, 11, and 12 was determined in fall 2007 by use of a pre- and post-test. Students were given a multiple choice examination in the first week of classes. Each question on the exam was designed to address at least one of the course learning objectives and the specific questions are their results are given in appendix 7.1. The difference between the pre- and post-test was a 113.34% increase. The percent increase on each specific question is listed in column 3 of appendix 7.1. These varied between as little as 26 to 1048% increase. Thus, it is clear that students significantly increased their understanding of these specific questions which in turn measure the course learning objectives.

While it is clear that the percentage increase between the post- and pre-tests for fall 2007 were very large, the data was not reported or recorded in a way that allows the testing of the statistical significance of the increase in student scores on the post-test. Given the fact that the increases are so large, it is certain that the differences are statistically significant. To demonstrate this, a simulation of the distribution of student scores on the pre- and post-test was conducted. This was achieved by utilizing the reported percentages of correct answers on each question and constructing a population that would have the maximum variance on total student scores. This is a legitimate test of the statistical difference between the pre- and post-test since all statistical analyses of mean difference rely on three quantities, the difference in the means, the variance in the populations tested, and the sample size. The sample size for the pre-test was 305, while for the post test it was 679 students. Given that as the sample size increases, the mean difference required for statistical significance decreases, the simulated population was created at the smaller sample size = 305. To guarantee that the populations had maximum variance, each the percentage of each question correct was used to fill in columns with either 1 point for correct, or 0 points for incorrect. This was done for all 20 questions from top to bottom. This meant that rows at the beginning of the sample would receive more correct responses than those at the bottom. This would be equivalent to some students getting all the questions correct while others answered all the questions incorrectly. As a result, populations were created that had the highest variance in their scores.

The high variance in populations allows the rigorous testing of the means in the pre- and post-test. The test of statistical difference requires both a large mean difference, but a small within population variance. Thus, by recreating populations with maximum variance, we can be assured that if we achieve statistical difference, we have done so under the most difficult of conditions. In other words, if there is a large mean difference, but a small variance, statistical difference is assured by all tests. In this way, we test the simulated populations under the only conditions that would have allowed them to be statistically identical, that is, large mean difference, but large variance. Table 7.1 reports the mean and standard deviations (remember the Std. is the square root of the variance) for the simulated populations based on the percentages of correct responses on pre- and post-tests.

Table 7.2 reports an analysis of variance (ANOVA) to determine if the means of the pre- and post-test are different under the conditions of maximum variance. The F ratio = 441.02, $p < 0.001$. This means that the mean difference was so large, that even reconstructing the populations with maximum variance at these sample sizes, there was no significant overlap in the pre- and post-test distributions. This result strongly suggests that whatever the original distribution of student scores on the pre- and post-tests administered in fall 2007, that they must have been highly statistically significantly different, given the percentages of correct questions and the sample sizes collected on these exams.

Conclusion

Student learning was assessed in The Contemporary World course in fall 2007 via means of pre- and post-tests. Specifically, multiple test questions which addressed UNST learning outcomes, 1, 11, and 12 were administered and scored. Large differences were shown on all questions in the post-test assessment. A test of statistical significance indicted that these large differences were highly statistically significant. This indicates that students learned the courses desired outcomes in fall 2007.

Box 3: Learning Objective of the Contemporary World

1. Effectively use information technology to find, interpret, evaluate, and use information discerningly.
2. Effectively communicate in diverse settings and groups using written, oral, and visual means.
11. Understand and appreciate the diversity and interrelationship of cultures locally, regionally, nationally, and internationally
12. Understand the role of social, political, and economic institutions and processes in the development of societies and the factors that lead to dynamic change in societies over time.

IV. Analytical Reasoning (UNST 130): UNST Learning Objectives: 5, 6, 7, 8 (with narrative contributed by Dr. Gary Bailey, course coordinator UNST 130.)

UNST 130 Analytical Reasoning was introduced into the NCATSU general education core curriculum in the fall 2006--spring 2007 academic year. This report summarizes major formative and summative assessment data from the fall 2007—spring 2008 academic year, the second full year this course has been taught at NCATSU. For the fall 2007 semester, typical class size was 150 students. For the spring 2008 semester, typical class size was 120. Honors sections for both semesters were limited to -30 students. 864 students finished the course in the fall, while 554 students finished the course in the spring.

This report presents the course description and NCATSU and UNST general education learning objectives assigned to UNST130. The report correlates the particular course learning objectives with the general education learning objectives assigned to UNST 130 by the institution. The report then summarizes quantitative performance data from the major formative and summative course assessments. We believe that the performance data demonstrates that UNST 130 effectively

COURSE DESCRIPTION

The course engages students in scientific, quantitative, and logical reasoning processes to prepare them to interpret and solve problems encountered in everyday life. Students will consider concepts from logic and the scientific disciplines, including life, social, and physical sciences. The scientific method and a variety of analytical approaches are explored, including numerical, graphical, verbal / logical, and algebraic reasoning.

UNST 130 Analytical Reasoning is an integrated, direct skills development course. Though nominally divided into units that focus on logical, scientific, and quantitative reasoning, these three focuses cannot be theoretically separated. The section on logical reasoning focuses on the nature and types of argument (inductive and deductive), the structure such arguments take, and criteria for evaluating arguments. The section on scientific reasoning focuses on the theory of modern scientific method, the concept of objectivity, and psychological and social factors that impede objective, scientific reasoning. The section on quantitative reasoning focuses on basic methods for understanding and manipulating quantities, including fractions and percentages, central tendency, probability, and graphical presentation of data. These three units are identical in their difference and in certain ways interchangeable, insofar as all three represent types or kinds of reasoning. Reasoning is the genus, while the units focus on different species of reasoning. The identity and difference can also be seen from another point of view. Scientific reasoning is constituted by logical and quantitative reasoning and thus cannot be distinguished from them. Reference to scientific thinking, attitudes, procedures, and methods permeates the course throughout. Another way to see the identity in difference of the units lies in the fact that in popular discourse, analytical, critical, objective, and scientific thinking are often used as synonyms for one another. Though there are ways to distinguish these terms formally, their underlying identity can be seen in the popular discourse.

UNST 130 Analytical Reasoning seeks to help students develop their understanding of, and ability to perform logical, scientific, and quantitative reasoning skills. In this sense, the course is and intends, directly and in all aspects, to help students develop **broad-based analytical and critical thinking skills**. The course summative and formative assessments test student performance on specific analytical, logical, scientific, and quantitative reasoning (i.e., critical thinking) skills.

The learning objectives outlined below relate to one another as general to particular, or genus to species. The NCATSU general education learning objectives and general UNST learning objectives are established and given by the institution (NCATSU). The particular UNST 130 learning objectives are designed to foster specific skills that address (and are subsumed under) the general NCATSU and UNST learning objectives. For example, if a student can:

1) identify conclusions, supporting reasons, and evidence in written and oral passages; or
2) recognize the difference between scientific reasoning and superstition, and employ the concepts of evidence, objectivity, integrity in coherent and consistent ways; or
3) interpret statistical data and concepts (i.e., mean, median, mode, randomization,

sample size, margin of error, standard deviation, statistical significance, etc.), including data presented in graphs, charts, or tables, in various forms of documents and discourse; then we believe that that student meets in significant ways important parts of the NCATSU general education and UNST learning objectives assigned to UNST 130. Demonstrated abilities in other UNST 130 particular learning objectives also provides evidence for students meeting similar significant aspects of the NCATSU and UNST general education learning objectives.

NCATSU GENERAL EDUCATION LEARNING OBJECTIVES (assigned to UNST 130)

5. Use analytical thinking skills to evaluate information critically.
6. Apply multiple modes of inquiry, including quantitative and qualitative analysis, to formulate, describe, evaluate, and solve problems.
7. Apply scientific reasoning skills to model natural, physical, social, and aesthetic phenomena using multiple modes of inquiry.
8. Use a wide range of disparate information and knowledge to draw inferences, test hypotheses, and make decisions.

UNST GENERAL LEARNING OBJECTIVES (assigned to UNST 130)
Broad-based critical-thinking skills

UNST 130 PARTICULAR LEARNING OBJECTIVES
In this course students will:

(1) Learn to think analytically and critically about the nature of statements and arguments.
   a. Identify conclusions, supporting reasons, and evidence in written and oral passages.
   b. Identify and understand differences between arguments and other forms of communication.
   c. Understand the differences between inductive and deductive forms of reasoning.

(2) Learn to interpret statistical data and concepts (i.e., mean, median, mode, randomization, sample size, margin of error, standard deviation, statistical significance, etc.), including data presented in graphs, charts, or tables, in various forms of documents and discourse.

(3) Understand and compute probability, conditional probability, expected value, and odds.

(4) Understand and compute simple interest, compound interest, and loans as well as other forms of quantitative reasoning that affect daily life.

(5) Recognize common reasoning errors in arguments that employ inductive reasoning.

(6) Understand the basic structure of scientific method.
   a. Understand hypothetical reasoning and the differences and relationships among observation, hypothesis formation, the testing of hypotheses, and review.
   b. Understand the nature of analogical reasoning.
   c. Learn methods for analyzing arguments that employ analogical reasoning for the purpose of identifying causal connections.
   d. Understand the difference between scientific reasoning and superstition: evidence, objectivity, integrity.

REQUIRED TEXT:

Analytical Reasoning, University Studies 130. Patrick J. Hurley, Harold Parks, Charles P. McKeague and Stephen S. Carey. Thomson Wadsworth, 2008, 2007.

NCATSU GENERAL EDUCATION LEARNING OBJECTIVES (with comments on how the general NCATSU and UNST learning objectives are related to UNST 130 curriculum and particular learning objectives in italics)

5. Use analytical thinking skills to evaluate information critically.

UNST 130 is designed to help students develop their abilities to analyze and evaluate logical arguments, scientific reasoning processes and results, and quantitative reasoning processes and results.

6. Apply multiple modes of inquiry, including quantitative and qualitative analysis, to formulate, describe, evaluate, and solve problems.

UNST 130 is designed to help students learn and apply logical reasoning, scientific reasoning, and quantitative reasoning and thus develop their critical, analytical thinking skills using multiple modes of inquiry.

7. Apply scientific reasoning skills to model natural, physical, social, and aesthetic phenomena using multiple modes of inquiry.

Scientific reasoning includes logical reasoning and logical argument development, scientific, hypothetical processes of data collection and interpretation, as well as quantitative reasoning and interpretation of data. UNST 130 is designed to help students develop their skills in all three areas: logical argument, hypothetical reasoning, and quantitative reasoning.

8. Use a wide range of disparate information and knowledge to draw inferences, test hypotheses, and make decisions.

UNST 130 is designed to help students develop their abilities to understand disparate information and knowledge, including qualitative logical argumentation, scientific, hypothetical argumentation, and quantitative reasoning and argumentation. Students learn about and practice their skills in drawing inferences, testing hypotheses, and making decisions in the areas of logical argumentative reasoning, scientific, hypothetical reasoning, and quantitative reasoning.

UNST GENERAL LEARNING OBJECTIVES (comment in italics)

Broad-based critical-thinking skills

All UNST 130 particular learning objectives are designed to help students develop their general, broad-based critical thinking skills. "Critical thinking" is interpreted broadly to mean the ability to analyze information and phenomena into their constituent parts, solve problems, evaluate information and phenomena, and other similar intellectual and practical activities. UNST 130 focuses particularly on the analysis, problem solving, and evaluation of logical arguments, scientific reasoning processes, and quantitative reasoning processes.

UNST 130 PARTICULAR LEARNING OBJECTIVES (correlated with general NCATSU and UNST learning objectives)

In this course students will:

1. Learn to think analytically and critically about the nature of statements and arguments.

a. Identify conclusions, supporting reasons, and evidence in written and oral passages.
b. Identify and understand differences between arguments and other forms of communication.
c. Understand the differences between inductive and deductive forms of reasoning.

Broad-based critical thinking skills
5. Use analytical thinking skills to evaluate information critically.
6. Apply multiple modes of inquiry, including quantitative and qualitative analysis, to formulate, describe, evaluate, and solve problems.

2. Learn to interpret statistical data and concepts (i.e., mean, median, mode, randomization, sample size, margin of error, standard deviation, statistical significance, etc.), including data presented in graphs, charts, or tables, in various forms of documents and discourse.

Broad-based critical thinking skills
5. Use analytical thinking skills to evaluate information critically.
6. Apply multiple modes of inquiry, including quantitative and qualitative analysis, to formulate, describe, evaluate, and solve problems.
7. Apply scientific reasoning skills to model natural, physical, social, and aesthetic phenomena using multiple modes of inquiry.
8. Use a wide range of disparate information and knowledge to draw inferences, test hypotheses, and make decisions.

3. Understand and compute probability, conditional probability, expected value, and odds.

Broad-based critical thinking skills
5. Use analytical thinking skills to evaluate information critically.
6. Apply multiple modes of inquiry, including quantitative and qualitative analysis, to formulate, describe, evaluate, and solve problems.
7. Apply scientific reasoning skills to model natural, physical, social, and aesthetic phenomena using multiple modes of inquiry.
8. Use a wide range of disparate information and knowledge to draw inferences, test hypotheses, and make decisions.

4. Understand and compute simple interest, compound interest, and loans as well as other forms of quantitative reasoning that affect daily life.

Broad-based critical thinking skills
5. Use analytical thinking skills to evaluate information critically.
6. Apply multiple modes of inquiry, including quantitative and qualitative analysis, to formulate, describe, evaluate, and solve problems.
7. Apply scientific reasoning skills to model natural, physical, social, and aesthetic phenomena using multiple modes of inquiry.
8. Use a wide range of disparate information and knowledge to draw inferences, test hypotheses, and make decisions.

5. Recognize common reasoning errors in arguments that employ inductive reasoning.

Broad-based critical thinking skills
5. Use analytical thinking skills to evaluate information critically.

6. Apply multiple modes of inquiry, including quantitative and qualitative analysis, to formulate, describe, evaluate, and solve problems.
7. Apply scientific reasoning skills to model natural, physical, social, and aesthetic phenomena using multiple modes of inquiry.
8. Use a wide range of disparate information and knowledge to draw inferences, test hypotheses, and make decisions.

6. Understand the basic structure of scientific method.
    a. Understand hypothetical reasoning and the differences and relationships among observation, hypothesis formation, the testing of hypotheses, and review.
    b. Understand the nature of analogical reasoning.
    c. Learn methods for analyzing arguments that employ analogical reasoning for the purpose of identifying causal connections.
    d. Understand the difference between scientific reasoning and superstition: evidence, objectivity, integrity.

Broad-based critical thinking skills
5. Use analytical thinking skills to evaluate information critically.
6. Apply multiple modes of inquiry, including quantitative and qualitative analysis, to formulate, describe, evaluate, and solve problems.
7. Apply scientific reasoning skills to model natural, physical, social, and aesthetic phenomena using multiple modes of inquiry.
8. Use a wide range of disparate information and knowledge to draw inferences, test hypotheses, and make decisions.

UNST 130 employs various summative and formative assessment measures. Primary **formative assessment** measures include a pre- and post-test, daily formative clicker assessments, practice exams for all major exams, and online learning tutorials with instant feedback. Clicker questions are primarily used for immediate, in-class formative assessment: instructors and students see immediately how well the class as a whole is performing on a particular question and the instructor addresses or re-addresses the skill embodied in the question accordingly. Online tutorials and practice exams for all major exams are designed to provide students with opportunities to practice the skills they have been developing in class and provide immediate formative assessment feedback.

Major **summative assessments** include four (4) major unit examinations, sub-unit quizzes, and online graded homework with immediate feedback. The fourth major examination is a comprehensive final examination.

Formative Assessment Performance Data Summary
As described above, UNST 130 Analytical Reasoning is specifically designed directly to develop skills associated with the assigned NCATSU and UNST learning objectives (i.e., broad-based critical thinking skills, scientific reasoning skills, analytical reasoning skills, use multiple modes of inquiry to solve problems, use wide range of knowledge to draw inferences, test hypotheses, and make decisions). Because each of the assigned NCATSU and UNST general education learning objectives can be interpreted to be co-implicated in every other objective, every

summative and formative assessment question relates directly or indirectly to, or is co-implied in, each NCATSU and UNST general education learning objectives assigned to UNST 130.

Student Performance on Pre- and Post-Test Skills Assessments

Fall 2007 pre-test was given on the first day of class. Fall 2007 post-test was embedded in the final examination. Disparity between the motivational setting of the pre- and post-test prompted us to dis-embed the post-test from the final exam in the spring 2008 semester and administer the post-test during the final week of the semester.

Mean performance score comparisons on the Fall 2007 pre- and post-test demonstrate:

> **20%** performance increases by students on 9/13 (69%) of the test questions,
> **> 45%** performance increases on 7/13 (54%) of the test questions,
> **> 50%** performance increases on 6/13 (46%) of the questions, and
> **> 100%** performance increases on 3/13 (23%) of the test questions.

For example, 46.6% of the students correctly identified the following argument as inductive on the pre-test, while 86.1% correctly identified it on the post-test (**84.8% increase in performance**).

2. All U.S. Presidents have come from the contiguous 48 states. No person from Alaska can be President.

a. Deductive
b. Inductive

Pre-Test 46.6%
Post-Test 86.1%
% Increase 84.9%

In an example focused on scientific experimental design, on the pre-test 58.8% of the students were able to analyze an experiment and correctly identify the constant in the experiment, while 70.4% correctly analyzed the experiment and identified the constant on the post-test (**19.7% increase in performance**).

6. A scientist plants two rows of corn for experimentation. She puts fertilizer on row 1 but does not put fertilizer on row 2. Both rows receive the same amount of water and light intensity. She checks the growth of the corn over the course of 5 months. What is a constant in this experiment?

a. Plant height.
b. Corn without fertilizer
c. Corn with fertilizer
d. Amount of water

Pre-Test 58.8%
Post-Test 70.4%
% Increase 19.7%

In an example testing quantitative reasoning skills (computing probability in a health sciences scenario), 20.9% of the students answered correctly on the pretest, while 72.8% of the students answered correctly on the post-test (**248% performance increase**).

11. Of 1455 people who came into a blood bank to give blood, 378 people had high blood pressure. Estimate the probability that the next person who comes in to give blood will

have high blood pressure.

a. 0.179
b. 0.311
c. 0.228
d. 0.26

Pre-Test 20.9%
Post-Test 72.8%
% Increase 248%

Mean performance score comparisons on the Spring 2008 pre- and post-test demonstrate:

> 20% performance increases by students on 11/15 (73%) of the test questions,
> 41% performance increases on 8/15 (53%) of the questions,
> 50% increases on 7/15 (47%) of the questions, and
>100% increases on 4/15 (27%) of the test questions .

Similar examples as for the Fall pre/post-test could be shown. We note that at least with respect to these two semesters, there was no obvious advantage or disadvantage to embedding or dis-embedding the post-test in the final examination, with respect to student performance means. We also suggest that student participation in the course is directly responsible for the increases in student performance on these formative assessments.

Student Performance on Major Examination Skills Assessments

Student performance on the major examinations also demonstrates significant mastery of NCATSU and UNST general education learning objectives. Overall student performance on the major exams demonstrates that on average students answer correctly 55% of the questions. Over the 2007-2008 fall and spring semesters, a pattern emerged relative to mean student performance on the major examinations. Exam 1 showed lowest student performance, while exam 3 showed highest student performance, with exam 2 falling between exams 1 and 3. Mean student performance on the comprehensive final tended to drop back into the range of student performance on the second major examination. We suggest that this performance curve may be explained in part by the fact that the first two exams cover categorical logic and the logic of inductive and deductive arguments, material that most students have never formally studied previously in their educational careers, while all have previously studied the kinds of quantitative reasoning introduced in this course (percent increase and decrease, central tendency, probability, and graphing methods). Lower mean performance scores on the comprehensive final exams may reflect both the fact that the exam covers everything from the beginning to end of the course and thus requires the student to deal with a large range of material, concepts, and skills covered in the course, as well as the fact that 35% of the final exam assesses students abilities with the logic concepts and skills studied formally for the first time by most students.

Again, each question directly assesses all general education learning objectives assigned to UNST 130, including broad-based critical thinking, analytical thinking, and scientific reasoning, developing skills with using multiple modes of inquiry, leading to the ability to draw inferences, test hypotheses, and make decisions.

In the following example, students are asked to analyze an argument and identify its constituent parts. **66.3%** of the students were able to answer correctly on the spring 2008 final exam:

2. The social security system is a pay-as-you-go arrangement where the contributions by today's workers are paid out to yesterday's retirees. If part of today's contributions go into private retirement accounts, they cannot be paid out. To make up the shortage, the government will have to borrow massive amounts of money. Hence, Social Security privatization will cause a huge increase in the federal deficit.

a. nonargument; piece of advice.
b. Argument; conclusion: If part of today's contributions . . . cannot be paid back.
c. Nonargument; statement of belief.
*d. Argument; conclusion: Social Security privatization . . . federal deficit.
e. Argument; conclusion: To make up the shortage . . . massive amounts of money.

66.3%
-- broad-based critical-thinking skills
5.Use Analytical thinking skills to evaluate information critically
6. Apply multiple modes of inquiry, including quantitative and qualitative analysis, to formulate, describe, evaluate, and solve problems.
7. Apply scientific reasoning skills to model natural, physical, social, and aesthetic phenomena using multiple modes of inquiry.
8. Use a wide range of disparate information and knowledge to draw inferences, test hypotheses, and make decisions.
Bloom 3: Analyze

In contrast, only **26.63%** of the students answered correctly a much more difficult question which required the students to identify, analyze and **evaluate** an argument:

7. Either George Bush or John Kerry was elected president of the United States in 2004. John Kerry was not elected. Therefore, George Bush was elected. If the premises are true, the argument is:
a. Inductive, uncogent.
b. Deductive, valid.
c. Deductive, invalid.
*d. Deductive, sound.
e. Inductive, cogent.

26.63%
-- broad-based critical-thinking skills
5.Use Analytical thinking skills to evaluate information critically
6. Apply multiple modes of inquiry, including quantitative and qualitative analysis, to formulate, describe, evaluate, and solve problems.
7. Apply scientific reasoning skills to model natural, physical, social, and aesthetic phenomena using multiple modes of inquiry.
8. Use a wide range of disparate information and knowledge to draw inferences, test hypotheses, and make decisions.
Bloom 4 and 5: Analyze and Evaluate

However, **58.7%** of the students were able correctly to perform an operation of deductive, categorical logic on the final exam:

10. “Some A are B.”(T) “All A are B.”
Given the indicated truth values of the first statement, how is the second statement related to the first statement?

a. Contrary. (F)
b. Contradictory. (F)
c. Contradictory. (T)
d. Subcontrary. (Undetermined)
*e. Subalternation. (Undetermined)

58.7%
-- broad-based critical-thinking skills
5.Use Analytical thinking skills to evaluate information critically
6. Apply multiple modes of inquiry, including quantitative and qualitative analysis, to formulate, describe, evaluate, and solve problems.
7. Apply scientific reasoning skills to model natural, physical, social, and aesthetic phenomena using multiple modes of inquiry.
8. Use a wide range of disparate information and knowledge to draw inferences, test hypotheses, and make decisions.
Bloom 3: Application

On a question which asks students to identify a particular concept from experimental design and sampling methods, **73.01%** of the students answered correctly.

21. A teacher is studying student responses in his class to an item on a multiple choice test. He selects every fifth test and checks the answer. What is the sample in this study?

a. The tests which were selected and checked
b. The collection of all tests that were submitted in this teacher’s class
c. All tests taken by all students in this school
d. All responses on the test by students in this teacher’s class e. None of the above

73.01%
-- broad-based critical-thinking skills
5.Use Analytical thinking skills to evaluate information critically
6. Apply multiple modes of inquiry, including quantitative and qualitative analysis, to formulate, describe, evaluate, and solve problems.
7. Apply scientific reasoning skills to model natural, physical, social, and aesthetic phenomena using multiple modes of inquiry.
8. Use a wide range of disparate information and knowledge to draw inferences, test hypotheses, and make decisions.
Bloom 1 and 2: Remembering and Understanding

On a standard question dealing with experimental design and probabilities, **72.55%** of the students answered correctly:

37. An experiment consists of tossing a coin and then rolling a six-sided die, and recording the results (H for heads, T for tails, and a number for the result of the die toss). What is the sample

space for this experiment?

a. { T, H, 1, 2, 3, 4, 5, 6 } b. { H1, H2, H3, H4, H5, H6, T1, T2, T3, T4, T5, T6}

c. {T, H} ∩ {1, 2, 3, 4, 5, 6} d. {1, 2, 3, 4, 5, 6} e. None of the above

72.55%

-- broad-based critical-thinking skills

5.Use Analytical thinking skills to evaluate information critically

6. Apply multiple modes of inquiry, including quantitative and qualitative analysis, to formulate, describe, evaluate, and solve problems.

7. Apply scientific reasoning skills to model natural, physical, social, and aesthetic phenomena using multiple modes of inquiry.

8. Use a wide range of disparate information and knowledge to draw inferences, test hypotheses, and make decisions.

Bloom 2 and 3: Understanding and Applying

Retrospective and Prospective

While we hope to improve mean performance scores on the major exams in the future, we suggest that current performance levels demonstrate significant mastery by the majority of students of very important and difficult broad-based critical and analytical thinking skills as mandated by the NCATSU and UNST general education learning objectives. This report summarizes the second full year of which this course has been taught at NCATSU.

Innovations this year include the introduction of online tutorials and homework, practice exams for each major unit examination, and post-exam assessment of student performance on individual exam questions. We hypothesize that repetition and skills practice will enhance long-term retention and skills performance. The online tutorials and homework, and practiced exams, are designed to provoke students to such practice.

Changes for 2008-2009 include the introduction of Problem Based Learning exercises to enhance the students' engagements with drawing inferences, testing hypotheses, and making decisions, as well as the reduction of class sizes from 150 to 60 students per section.

Pre- and Post-test data analysis, Spring 2008

Formative assessment of student learning in Analytical Reasoning was conducted via pre- and post-test analysis. The students were given pre-tests within the first week of class. The items tested examined broad-based critical thinking, mathematical and statistical reasoning, and understanding of the scientific method. The questions were given in multiple choice format. The post-test was administered at the end of the semester and consisted of the same items that were included in the pre-test.

Table 8.1 reports the pre- and post-test scores for 7 sections of Analytical Reasoning (N = 734 students, since only students who took both examinations were included in the sample) in spring semester. Figure 8.1 shows the box plot results of pre- and post-test results in spring 2008.

Table 8.2 reports the analysis of variance for pre- and post-test results, $F = 187.15$ and $p < 0.0001$. This shows that the post-test results were highly statistically significantly higher than the pre-test results. Figure 2 shows pre- and post-test results by section. Sections 1 – 7 are pre-test scores (sections 6 & 7 were honors sections.) Sections 8 – 14 are the corresponding post-test scores for sections 1 – 7 (so, section 8 is the post-test for section 1, and so on.) The ANOVA showed no significant section effect on either pre- or post-test score. This means that while the means for the honors sections were slightly higher than the non-honors, they were not significantly so. Neither was there any significant gender effect on scores.

Conclusion

Pre- and Post-test data from spring 2008 again show a large and statistically significant increase in broad-based critical thinking, mathematics and statistical reasoning, and understanding of the scientific method for students enrolled in Analytical Reasoning. However, these data must be understood in the context of at what level our students begin their study at NCATSU. The pre-tests for Analytical Reasoning have been consistent over the last two years, indicating scores between 30 – 40% in these areas. Post-tests have also been consistent, showing an increase of between 15 – 20 percentage points by the end of the semester. Yet, this means that the majority of our students are not leaving this course with a "passing" percentage of these learning objectives which would be at least a 70% mean score. This result strongly suggests that more must be done with regard to integrating the learning we begin in Analytical Reasoning throughout the remainder of the general education and major curriculum.

Box 4: Learning Objectives of Analytical Reasoning

5. Use analytical thinking skills to evaluate information critically.
6. Apply multiple modes of inquiry, including quantitative and qualitative analysis, to formulate, describe, evaluate, and solve problems.
7. Apply scientific reasoning skills to model natural, physical, social, and aesthetic phenomena using multiple modes of inquiry.
8. Use a wide range of disparate information and knowledge to draw inferences, test hypotheses, and make decisions.

Part V. UNST 140: UNST Learning Objectives: 9, 13, 14, and 15.

The data analyzed in this report result from pre- and post-tests administered to students enrolled in the African American Experience in the fall 2007 and spring 2008 semester. These tests consisted of 50 multiple choice questions and the results are reported as the percentage of correct answers. Pre-tests were administered in the first week of class before any instruction began on the subject matter of the African American Experience (N = 526.) The post test was comprised of the exact same items, administered at the end of the fall semester (N = 468.) The final comparison contains only 343 students because this was the number that took both the pre- and the post- test. In the spring 2008 semester, these tests consisted of 26 multiple choice questions and the results are reported as the number of correct answers. As in the fall, pre- and post-tests were administered in the first week of class before any instruction began on the subject matter of the African American Experience (N = 786). The data reflect only those students who took both pre- and post-test assessments.

Results

The pre- and post-test results were analyzed using a paired student's t-test. This is because we can match the score for each student in the pre-test to their corresponding score on the post-test. Table 9.1 below gives the means, standard deviations, and standard errors for both tests. The mean score for the pre- and post-test respectively were 37.42% and 42.47%. In spring 2008, the pre- and post-test results were analyzed using a one-way analysis of variance. Table 9.2 below gives the means and standard deviations for both tests. The mean score for the pre- and post-test respectively were 59% and 65%.

Table 9.3 represents a Pearson correlation analysis between the pre- and post-test scores for individual students in fall 2007. The correlation coefficient can take values between 0.0 and 1.0, 0.0 refers to no correlation and 1.0 a perfect correlation. The correlation coefficient addresses the question of whether the post-test score of an individual student is predicted by their pre-test score. A high correlation would say that students who did well on the pre-test were also the students who scored high on the post-test. On the other hand a low correlation might have indicated that students' post-test scores were not at all predicted by their pre-test. The correlation coefficient was very high at 0.911 and was highly statistically significant ($p < 0.0001$.)

Tables 9.4 and 9.5 reports the results of the paired sample student's t-test for fall and an analysis of variance for spring semester. In fall 2007, the mean difference between the pre- and post-test was -4.746 percentage points (the sign is negative in the table because the post-test mean was subtracted from the pre-test mean.) The t value of -12.815 is highly statistically significant ($p. < 0.0001$.) In spring 2008, the analysis of variance reported an F value = 160.59, $p < 0.0001$. This again indicated that the post-test score was statistically significantly higher than the pre-test.

Figure 9.1 represents a histogram of paired differences for individual students in fall 2007 and spring 2008. The paired difference was calculated by subtracting the pre-test score from the post-test score. This means that negative differences result when a student scored worse on the post-test than on the pre-test. The histogram in figure 9.1a reveals that a significant number of students (20.7%) had scores on the post test that were equal to or less than their pre-test (Table 9.4.) In spring 2008, 49.5% of the students enrolled improved their score by at least 1 point of 26 possible, 24.2% by 3 points of 26 (~10% increase in score), and 9.4% by 5 points (~20% increase in score.)

Differences due to instructor

In spring 2008, the data was collected so that it could be analyzed by instructor. To determine if there was an instructor effect on the pre- and post-test scores, an ANOVA was run by instructor. Table 9.5 reports that analysis and shows that F = 0.454, indicating no instructor impact on student scores. Figure 9.2 is a box plot illustrating the mean scores for difference in pre- and post-test by instructor.

Conclusion: Comparison of the pre- and post-test results

Students enrolled in the African American Experience in fall semester 2007 increased by 4.74 percentage points on the subject matter represented in the pre- and post-test assessment. While the mean difference was highly statistically significant, it was also extremely modest. The 4.74 increase in this course is the smallest difference so far recorded in the Division of University Studies.

Furthermore, there was a highly statistically significant correlation between an individual student's pre- and post-test score. This can be interpreted as a failure of instructional intervention to alter the level of understanding of individual students relative to each other. For example, if the mean post-test score was higher than the pre-test, and no or a weak correlation between an individual's pre- and post-test score had been calculated, that might indicate that the instruction in the course had been transformative for some students. In other words, a "D" student coming into the class, might have been transformed into an "A" student at the end. Conversely, if the mean score had decreased on the post-test, and there was no correlation between an individual's pre- and post-test score, that would have indicated that the course was transformative in a negative way (instruction made good students into bad.)

There are significant limitations of the pre- and post-test method to measure student learning alone. For example, the tests did not off themselves measure all of the course's learning objectives. Group work and collaboration skills would not have been measured by this analysis. Better metrics associated with these learning objectives can be gathered from the assessment of the group projects. Hopefully some of the data required to achieve this will be included in the formative assessment reports that all faculty are required to submit to my office by January 31, 2008.

Finally, the data on pre- and post-test scores were not submitted in a way that would have made a full analysis of their significance possible. For example, data should have been submitted by section and instructor. In this way, comparisons could have been made between individual instructors, sections, or even time of day to determine if factors separate from quality instruction played a roll in the outcome.

Spring 2008 data are consistent with the Fall 2007 results showing approximately a 6% increase. Again, while the mean differences are highly statistically significant, they are also extremely modest. However, the data do not indicate that the course is failing all of its students. The frequency of difference data indicate that some students are improving their performance by more than modest amounts, e.g. in spring 2008, 35.5% of the students improved by greater than 10% on the post-test assessment. In other words, at least 1/3 of the students would have improved by a least a letter grade.

Finally, we are still aware that there are significant limitations of the pre- and post-test method to measure student learning alone. For example, the tests did not off themselves measure all of the course's learning objectives. Group work and collaboration skills would not have been measured by this analysis. We still need to do a quantitative analysis of the metrics associated with the learning objectives associated with the assessment of the group projects.

Box Five: Learning Objectives of the African American Experience

9. Understand African/African-American culture and traditions, including political, economic, and social challenges affecting people of African descent.
13. Understand the role of literature, music, and the fine arts in describing, defining, and celebrating the human condition in diverse world cultures.
14. Understand and apply ethical reasoning principles to resolve moral, social, and professional issues.
15. Understand the role that markets, governments and other social institutions can play in reducing social and economic inequality

Part III: Implementation and Assessment of Theme-Cluster Courses

New Courses
1. UNST 224 - Thematic Writing and Fieldwork
2. UNST 225 - Epidemiology
3. UNST 226 - A Personal Approach to Health
4. UNST 227 - Global Health and Socio-Economic Development
5. UNST 228 - Contemporary Issues in Public Health
6. UNST 229 - Contemporary Issues in Nuclear Energy
7. UNST 230 - Religion and Society
8. UNST 231 - Introduction to Christianity

Program Changes - Cluster Themes

1. Community, Conflict and Society - add UNST 224, UNST 230, UNST 231
2. Energy, Environment, and Society - add UNST 229
3. Health, Lifestyles and Society- add UNST 225, UNST 22, UNST 227, UNST 228

Appendix 1: Proposed Language for New Attendance Policy:

University Studies Attendance Policy

University Studies strives to professionalize its students; therefore, regular attendance and punctuality are mandatory in all UNST courses. Attendance will be taken at the beginning of each class. Tardiness will not be tolerated. Absent or tardy students are responsible for any missed class work, including any changes to the syllabus or assignments announced in class. In short, absences and tardiness can/will diminish your grade. If you suffer prolonged illness or misfortune, you should consider dropping the course. Persistent tardiness and failure to observe established classroom etiquette will lead to failure of the course. Student athletes must submit a schedule of days they will be absent within the first week of classes.

Students will automatically receive an "F" for missing the equivalent of two weeks of class (six absences for a M,W, F schedule; four absences for a T,R schedule). At half the allotted absences (three absences for a M,W, F schedule; two absences for a T, R schedule), students are required to meet with instructor for a mandatory one-on-one conference concerning their performance in class. If the student reaches the limit of absences, the instructor may discern to meet with the student [????]. Students are responsible for checking her/his email for instructor communication. If the instructor does not receive a response regarding an attendance conference, the opportunity is revoked.

Absence or tardiness is **only** excused for emergency situations. Students are responsible for submitting acceptable documentation for the excused absence within one week of the absence. Examples of acceptable documentation include:

- Written doctor's note specifically requesting an excused absence (with the specific time and date on the notification)
- Obituary or service
- An official written summons to court
- [TO BE COMPLETED]

Appendix 2: Course Revisions in Academic Year 2007-08

NORTH CAROLINA AGRICULTURAL AND TECHNICAL STATE UNIVERSITY

UNST 100: University Experience

Spring 2008

Instructor: Email:
Office: Phone:
Office Hours: Fax:

Course Description

This course will emphasize the role the UNST program and present a broad overview of the curriculum structure and rationale, including an introduction to a variety of interdisciplinary themes within the UNST program. Introductory discussions on critical thinking, communication skills, ethics, diversity, civic engagement, and globalization will be included.

The course will also provide students with an introduction to study skills, career exploration, University policies and procedures, as well as University support services. Students should leave the course with an appreciation of how to successfully cope with the demands of college, to overcome the challenges of college life, and to take advantage of opportunities at the University.

Required Text

Amos, L. (2007). *The successful student's guide to college, NCATSU custom version*. Littleton, MA: Tapestry Press.

Learning Outcomes

Students completing the University Experience will be able to:

1. Describe the UNST Program curriculum structure and rationale, explaining how these relate to critical thinking, interdisciplinary inquiry, and potential professional careers.
2. Explain the values and expectations associated with ethics, wellness, and healthy lifestyles.
3. Evaluate behaviors that place individuals, families, and communities at risk.
4. Explain the meaning of diversity and civic engagement in the context of the university.
5. Demonstrate knowledge of policies and practices of academic integrity, as well as appropriate academic behavior in various campus contexts using the Aggie Pride Compact as a benchmark.
6. Explain the difference between academic expectations in high school versus the university.
7. Evaluate effective study skills, time management, and test-taking practices.
8. Evaluate effective use of information technology, as well as be familiar with the use of Blackboard Learning systems, the campus website, email, and Aggie Access on-line.

Course Requirements

University Studies is a bold, new approach to general education. Until now, general education utilized distribution requirements, which asked students to choose fairly and randomly among a list of introductory courses in the humanities, social and natural sciences. Exposing students to a wide variety of subject matter and critical approaches was the primary objective of this educational tradition. Thus, little attention was paid to the ways students might synthesize or profit from the learning objectives and outcomes of different disciplines. As a result, students proceeded into their major studies with few identifiable skills and abilities gleaned from their general education experience. University Studies was conceived to redress these problems.

The rationale for an interdisciplinary approach to general education stems from the acknowledged complexities of the contemporary world. The problems facing modern humanity are rarely, if ever, understood using the perspectives and tools of a single discipline. Given that, University Studies maintains that critical thinking, logic, writing, humanistic and artistic inquiry, as well as the social and natural sciences are best understood via interdisciplinary methods. Indeed many interdisciplinary fields, such as African American Studies, Science and Technology Studies, Cultural Studies, and Women's Studies developed due to either the unwillingness or the inability of the traditional disciplines to address the issues posed in these bodies of scholarship.

All University Studies courses are interdisciplinary. This means that they combine the intellectual methods and subject matter from a variety of disciplines in order to help students learn critical thinking and problem solving. UNST courses are interconnected in such a manner that they can guarantee that a student will be exposed to specified learning objectives that address real-life concerns. During the first year, students will learn skills for critical engagement; during the second and third years, students will apply these newly honed skills in theme-based courses. In the senior year, students will exercise the skills and knowledge they have gained in a capstone experience and service-learning activity. If undertaken seriously and with intentionality, UNST students can expect to emerge with a set of useful intellectual tools that will allow them to engage effectively in a dynamic and complex world.

Academic Integrity

Academic honesty is absolutely essential. Cheating, plagiarism, sharing of clickers or other academic misconduct will not be tolerated. If you are caught cheating, you will not pass this course and will be subject to any and all penalties specified in the student honor code.

Attendance

University Studies strives to professionalize its students; therefore, regular attendance and punctuality are mandatory in all UNST courses. Attendance will be taken at the beginning of each class. Tardiness will not be tolerated. ***Doors to the classroom will be closed ten minutes after class begins. Students arriving after that point will have been marked absent.*** **Students having four unexcused absences will automatically receive an "F" for the course**.

Absent or tardy students are responsible for any missed class work, including any changes to the syllabus or assignments announced in class. In short, absences and tardiness can/will diminish your grade. If you suffer prolonged illness or misfortune, you should consider dropping the

course. Persistent tardiness and failure to observe established classroom etiquette will lead to failure of the course.

Student Athletes (and other school group participants)
Students participating in school athletics are held to the same attendance and performance expectation as non-athletes. Hence, they should coordinate their course schedules so that team practices and games do not conflict with class meetings and group work. Student-athletes should identify themselves to their instructors, submit a schedule of days you will miss class as well as the name and contact information for their coach within the first week of classes. The University Studies Department will follow the Department of Athletics Class attendance policy, which states:

- 1st Unexcused Absence: The student-athlete's coach will be notified.
- 2nd Unexcused Absence: Mr. Wheeler Brown, Interim Director of Intercollegiate Athletics, will be notified. The student athlete will be required to have a conference with Mr. Brown or his designee.
- 3rd Unexcused Absence: The student athlete will be suspended for one contest. If the student athlete is not currently in season, the suspension will apply to the following season.
- 4th Unexcused Absence: The student athlete's scholarship is subject to non-renewal.

Course Materials

Required Text
University Experience 100: 2007-2008 (2007). C. Jacobs, R. Artis, et al., eds. Littleton, MA: Tapestry Press.

Serious scholarship requires procurement of essential course materials. Students will purchase all books and materials required for UNST courses within the first two weeks of the semester. Sharing of books thereafter is prohibited.

Blackboard: The Course Website
Learning to use Blackboard technology skillfully is an important objective for this course. To insure success, students must develop a level of basic mastery of its e-learning component. Students will be personally responsible for accessing and using Blackboard.

Required Material
One three-ring binder notebook, at least one inch (1") in size.

Clickers
Sharing of clickers is never appropriate and constitutes academic dishonesty. If you lose your clicker you are required to purchase another from the bookstore at full price.

Educational Etiquette
All cell phones, pagers, and personal communication devices must be turned off for the duration of the class period. Students who fail to comply with this rule will be asked to

leave the class and will be marked absent. Campus security will be asked to escort those students from the classroom who fail to leave as requested.

There will be no eating or drinking in class (other than bottled water). Students will be respectful of their professor and colleagues. Any behavior that distracts (e.g., eating, talking while others are talking, etc.) or is disrespectful (e.g., personal attacks, studying for other courses during class, etc.) is unacceptable. Differences of opinion should be met with intellectual curiosity and rigor rather than insult, contumely, or discord.

Student success in this course depends upon the development of scholarly habits. Participation in class discussion and group work is mandatory. Collegial responsibility and respect are also compulsory.

The Contemporary World

==========
UNIT ONE: RACE, SLAVERY, & HUMAN RIGHTS
==========

W 1 Introduction & Pretest

- *Vital Signs*, "Preface," pp. 13-14; 110-117;

W 2:

- UNESCO's 2004 pdf online document "Struggles against slavery: International Year to Commemorate the Struggle against Slavery and its Abolition, from http://unesdoc.unesco.org/images/0013/001337/133738e.pdf (22 pp.)
- The Race Myth *"Questions for Dr. Joseph L. Graves, Jr.," NCA&T Dean of University Studies, on the social construction of race, from http://www.smm.org/buzz/museum/ask/graves/questions
- Graves, *The Race Myth* pp. 203-207. (Why We Should Mend Fences)

W 3

- "Has the International Community Designed an Adequate Strategy to Address Human Trafficking?" *Taking Sides: Global Issues*, Issue 12, pp. 205-246;

W 4 Instructor's Choice

W5 REVIEW & UNIT EXAM

==========
UNIT TWO: CONFLICT AND COMMUNITY
==========

W 6

- *Vital Signs* pp. 76-81, 108-109
- "Are Cultural and Ethnic Wars the Defining Dimensions of Twenty-First Century Conflict?", Yes: Samuel Huntington, *Taking Sides, Global Issues,* Issue 18, 311-328; No: Wendell Bell, pp. 329-336.

W 7

- "Has U.S. Hegemony Rendered the United Nations Irrelevant?" Yes: Tom DeWeese, *Taking Sides, Global Issues,* Issue 20, pp. 349-354.
- "Has U.S. Hegemony Rendered the United Nations Irrelevant?" No: Tharoor, *Taking Sides, Global Issues,* Issue 20, pp. 355-363.

W 8 REVIEW & UNIT EXAM

W 9: SPRING BREAK

==========
UNIT THREE: ONE PLANET
==========

W 10

- *Vital Signs*, pp. 32-33, 42-45, 90-105, 119-125.
- "Is the Threat of Global Warming Real?" Yes: Intergovernmental Panel, *Taking Sides, Global Issues*, Issue 8, pp. 114-125.
- "Is the Threat of Global Warming Real?" No: Essex and McKitrick, *Taking Sides, Global Issues*, Issue 8, pp. 126-135.

W 11.

- (on Course Blackboard) *Taking Sides: African Issues* Issue 15, "Should International Drug Companies Provide HIV/AIDS Drugs to Africa Free of Charge?", pp. 276-285

W 12 INSTRUCTOR'S CHOICE

W 13 REVIEW & UNIT EXAM

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UNIT THREE: GLOBAL ECONOMY

==========

W 14

- *Vital Signs*, pp. 50-74, 86-87.
- *Taking Sides, Global Issues,* Issue 15, "Do Global Financial Institutions and MNCs Exploit the Developing World?" Yes: Global Exchange pp. 271-276.
- *Taking Sides, Global Issues,* Issue 15, "Do Global Financial Institutions and MNCs Exploit the Developing World?" No: Larsen, pp. 277-282.

W 15

- "Is Globalization A Positive Development for the World Community?" *Taking Sides, Global Issues*, Issue 13, pp. 247-259.

W 16 INSTRUCTOR'S CHOICE

REVIEW & UNIT EXAM

North Carolina Agricultural and Technical State University
Division of University Studies
Analytical Reasoning

University Studies is a bold, new approach to general education. Until now, general education utilized distribution requirements, which asked students to choose fairly randomly among a list of introductory courses in the humanities, social and natural sciences. Exposing students to a wide variety of subject matter and critical approaches was the primary objective of this educational tradition. Thus, little attention was paid to the ways students might synthesize or profit from the learning objectives and outcomes of different disciplines. As a result, students proceeded into their major studies with few identifiable skills and abilities gleaned from their general education experience. University Studies was conceived to redress these problems.

The rationale for an interdisciplinary approach to general education stems from the acknowledged complexities of the contemporary world. The problems facing modern humanity are rarely if ever understood using the perspectives and tools of a single discipline. Given that, University Studies maintains that critical thinking, logic, writing, humanistic and artistic inquiry, as well as the social and natural sciences are best understood via interdisciplinary methods. Indeed many interdisciplinary fields, such as African American Studies, Science and Technology Studies, Cultural Studies, and Women's Studies developed due to either the unwillingness or the inability of the traditional disciplines to address the issues posed in these bodies of scholarship.

All University Studies [UNST] courses are interdisciplinary. This means that they combine the intellectual methods and subject matter from a variety of disciplines in order to help students learn critical thinking and problem solving. UNST courses are interconnected in such a manner that they can guarantee that a student will be exposed to specified learning objectives that address real-life concerns. During the first year, students will learn skills for critical engagement; during the second and third years, students will apply these newly honed skills in theme-based courses; in the senior year, students will exercise the skills and knowledge they have gained in a capstone experience and service-learning activity. If undertaken seriously and with intentionality, UNST students can expect to emerge with a set of useful intellectual tools that will allow them to engage effectively a dynamic and complex world.

COURSE DESCRIPTION

The course engages students in scientific, quantitative, and logical reasoning processes to prepare them to interpret and solve problems encountered in everyday life. Students will consider concepts from logic and the scientific disciplines, including life, social, and physical sciences. The scientific method and a variety of analytical approaches are explored, including numerical, graphical, verbal / logical, and algebraic reasoning.

LEARNING OBJECTIVES

In this course students will:

(3) Learn to think analytically and critically about the nature of statements and arguments.
   a. Identify conclusions, supporting reasons, and evidence in written and oral passages.
   b. Identify and understand differences between arguments and other forms of communication.
   c. Understand the differences between inductive and deductive forms of reasoning.

(4) Learn to interpret statistical data and concepts (i.e., mean, median, mode, randomization, sample size, margin of error, standard deviation, statistical significance, and etc.), including data presented in graphs, charts, or tables, in various forms of documents and discourse.

(3) Understand and compute probability, conditional probability, expected value, and odds.

(4) Understand and compute simple interest, compound interest, and loans as well as other forms of quantitative reasoning that affect daily life.

(5) Recognize common reasoning errors in arguments that employ inductive reasoning.

(6) Understand the basic structure of scientific method.
   a. Understand hypothetical reasoning and the differences and relationships among observation, hypothesis formation, the testing of hypotheses, and review.

b. Understand the nature of analogical reasoning.
c. Learn methods for analyzing arguments that employ analogical reasoning for the purpose of identifying causal connections.
d. Understand the difference between scientific reasoning and superstition: evidence, objectivity, integrity.

REQUIRED TEXT:

Analytical Reasoning, University Studies 130. Patrick J. Hurley, Harold Parks, Charles P. McKeague and Stephen S. Carey. Thomson Wadsworth, 2008, 2007.

GRADING

Grades for this course will be determined according to a method known as "curving." A grading curve assumes that a large group of students will perform in predictable or normal ways, resulting in a distribution of scores that can be graphed such that it looks like a "bell curve" (see pp. 266-73 or pp. 446-71 of the *Analytical Reasoning* course textbook for discussions of normal curves). In a statistically normal group, there will be a relatively small but equal number of students who perform very well and very poorly, while the majority of students will perform at or near a mid-point. Grades are assigned by dividing the distribution into five sections that correspond to excellent performance (A), superior performance (B), average performance (C), below average performance (D), and very low performance (F). In this method of grading, grades are assigned relative to the performance of all other students in the group. For this class, the group will consist of all students taking *Analytical Reasoning* during the spring semester, 2008 with the exception of the honors classes. Each student will be assigned a grade based on her or his performance in relation to all other students taking *Analytical Reasoning*, regardless of the section. Each exam will be curved using an adjusted mean and standard deviation. The mean of an exam will be a "C", and the standard deviation will be one letter grade (10 percentage points). As you will learn in this course "standard deviation" is a measure of the spread of the "bell shaped curve".

The grading curve will be adjusted to a standard scale: 100-90 = A, 90-80 = B, 80-70 = C, 70-60 = D.

Summative Grades will be determined according to the following:

Examination #1	**10%**
Examination #2	**15%**
Examination #3	**15%**
Examination #4	**30%**
Homework	**15%**
Quizzes	**15%**

QUIZZES AND HOMEWORK

Quizzes and homework may be administered through Blackboard. In order to avoid problems with Blackboard, please follow these steps:

- When completing online assignments, try whenever possible to login from one of the on-campus computer labs or Bluford Library, which has wireless laptops and numerous computer stations available. This will help you avoid network problems.
- Go to "Course Information" to locate links to quizzes. Once you begin a quiz, you cannot open a new browser window to search for information. Doing so will cause the quiz to crash and you will be "locked-out" of the quiz. Also, do not hit the "Save" button. After inputting your answers, turn in your work by hitting the "Submit" button.
- If you encounter a technical problem during a quiz, you will see a small lock icon where you would normally see your quiz score (in the online grade book). Your instructors can reset your account so that you can re-take the quiz. **Pay attention to your instructors' in-class and Blackboard announcements on the days before and during the quizzes.**
- Your quizzes will be available from 8:00 A.M. until 8:00 P.M. If a student does not attempt a quiz within the window of availability, she or he will not be allowed to make it up. There are no make-up quizzes in this course except under extraordinary circumstances (which require written documentation).

ACADEMIC INTEGRITY

Academic honesty is absolutely essential. Cheating, plagiarism, sharing of clickers or other academic misconduct will not be tolerated. If you are caught cheating, you will not pass this course and will be subject to any and all

penalties specified in the student honor code. If a student is found cheating, she or he will receive an "F" for that assignment. If a student is found cheating a second time, she or he will receive an "F" for the course.

ATTENDANCE

Regular attendance and punctuality are mandatory in all UNST courses. Attendance will be taken for each class. Tardiness will not be tolerated. Students who are not present when attendance is taken are considered absent for the day. **Students having four unexcused absences will automatically receive an "F" for the course**. Absent or tardy students are responsible for any missed class work, including any changes to the syllabus or assignments announced in class. In short, absences and tardiness will diminish your grade. If you suffer prolonged illness or misfortune, you should consider dropping the course. Persistent tardiness and failure to observe established classroom etiquette will lead to failure of the course. Student athletes must submit a schedule of days they will be absent within the first week of classes.

Student-athletes are held to the same attendance and performance expectation as non-athletes. Hence, they should coordinate their course schedules so that team practices and games do not conflict with class meetings and / or exams. Student-athletes should identify themselves to their professors and instructors, submit a schedule of days they will miss class as well as the name and contact information for their coach within the first week of classes. University Studies will follow the Department of Athletics class attendance policy, which states:

- **First Unexcused Absence** – The student-athlete's coach will be notified.
- **Second Unexcused Absence** – Ms. Dee Todd, Director of Intercollegiate Athletics will be notified. The student-athlete will be required to have a conference with Ms. Todd or her designee.
- **Third Unexcused Absence** – The student athlete will be suspended for one contest. IF the student-athlete is not currently in season, the suspension will apply to the following season.
- **Fourth Unexcused Absence** – The student-athlete's scholarship is subject to non-renewal.

COURSE MATERIALS

- **Books:** Serious scholarship requires procurement of essential course materials. Students will purchase all books and materials required for UNST courses within the first two weeks of the semester. Sharing of books thereafter is prohibited.
- **Blackboard;** Students are required to be familiar with the use of Blackboard. Information, assignments, tests and quizzes will be given on Blackboard; therefore, students must be able to navigate the site successfully in to do well in the course. If you are having problems with Blackboard, it is the student's responsibility to make the professor aware of your problems.

EDUCATIONAL ETIQUETTE

Students will demonstrate respect for their professors and colleagues. Any behavior that distracts (e.g., eating, talking while others are talking, etc.) or is disrespectful (inattention, personal attacks, studying for other courses during class, etc.) is unacceptable. Differences of opinion should be met with intellectual curiosity and rigor rather than insult, contumely, or discord.

All cell phones, pagers, and personal communication devices must be turned off for the duration of the class period. Students who fail to comply with this rule will be asked to leave the class and will be marked absent. Campus security will be asked to escort those students from the classroom who fail to leave as requested.

There will be no eating or drinking in class (other than bottled water).

Student success in this course depends upon the development of scholarly and collegial habits. Active participation in class discussion and group work is mandatory. Collegial responsibility and respect are also compulsory.

EMAIL POLICY

Official correspondence from faculty, instructors, and graduate assistants will use the NCAT email address. Students are responsible for the information received and are required to monitor their email accounts on a regular basis.

All faculty, instructors, and graduate assistants will reply to legitimate email inquiries from students within 48 hours with the exception of weekends or university holidays. If you do not receive a reply within this period, please resubmit your question(s) or phone your instructor. Leave a message if necessary.

In accordance with the Aggie Pride Code, students should consistently communicate and behave in a manner that displays integrity, honesty, and sound character when using email to communicate with faculty, instructors, or graduate teaching assistants.

Each email message must include the course name and number, section number, and a concise and clear statement of purpose in the subject line otherwise it is likely to be deleted, along with spam messages and messages potentially

containing viruses. You must also type your name, as it appears on the course roster at the end of your message.

Please make sure you consult the course outline / syllabus, other handouts, and the course website BEFORE submitting inquiries by email.

When a question cannot be easily or briefly answered by email, your instructor will simply indicate that the student should see him, her, or the appropriate TA during office hours.

Email should **NOT** be seen as an alternative to meeting with your instructor or the TA during office hours. Nor should email be used as a mechanism to receive private tutorials (especially prior to tests) or to explain material that was covered in lectures you missed.

TIMELY SUBMISSION OF WORK

All assignments are due on the dates indicated in your syllabus. **No late work will be accepted in any UNST course.** Exceptions will be made only in cases of documented medical or family emergency or religious observance. Please notify your professor by email *before the assignment is due* should an acceptable absence occur. Employment, childcare or other academic pressures do not constitute a valid excuse for late work. There is no provision for additional papers or extra credit to substitute for missed course requirements.

OPEN DOOR POLICY

Each of your instructors maintains an open door policy. You are free to visit us during the posted office hours or, if you prefer a different time, arrange an appointment. If you are having a problem with the course, please contact your instructor immediately; problems, unlike fine wines, do not improve with age.

DISABILITIES AND DIFFERENCES

Students with documented learning disabilities or differences should identify themselves to their professor and present appropriate documentation during the first week of classes. No accommodations will be made later in the semester for students who do not identify themselves at the beginning of the course.

Students who need developmental support should ask their professors for extra help or referral. All students should seek the support services of the Writing Center (A-309 GCB; 334-7764) and the Center for Student Success (312 Hodgin Hall; 334-7855).

University Studies 130 Analytical Reasoning

Dates	Outline of Topics to be Covered	Readings
January 7-11	*Pretest* *Introduction: Syllabus, Blackboard, Clickers* *Arguments, Premises, and Conclusions* *Recognizing Arguments* *Deduction and Induction*	Hurley, 1.1, 1.2
January 14-18	*Deduction and Induction* *Validity, Truth, Soundness, Strength and Cogency* *Proving Invalidity*	Hurley, 1.3, 1.4
January 22-25	***Monday Jan .21 MLK Jr Holiday*** *Fallacies of Weak Induction*	Hurley, 3.3
January 28-Feb. 1	*The Components of Categorical Propositions* *Quality, Quantity, and Distribution* ***January 31-Feb 1 Examination #1***	Hurley, 4.1, 4.2
February 4-8	*Venn Diagrams* *The Traditional Square of Opposition*	Hurley, 4.5
February 11-15	*Analogy and Legal and Moral Reasoning*	Hurley, 9.1
February 18- 22	*Hypothetical/scientific Reasoning*	Hurley, 9.5
February 25-29	*Science and Superstition* ***Feb. 28-29 Examination #2***	Hurley, 9.6
March 3-7	***Spring Break!!!!!!!!!!***	
March 10-14	*Percent, Decimals, Fractions, Sales Tax, Percent Increase/Decrease, Discount Interest*	McKeague, 5.1, 5.2, 5.3, 5.4, 5.5, Parks, 13.1, Appendix D
March 17-20	*Simple and Compound Interest and Loans* ***Friday, March 21 Holiday***	Parks, 13.2, 13.3
March 24-28	*Descriptive Statistics: Data Comparison*	Parks, 8.1, 8.2, 8.3
March 31-April 4	*Populations, Samples, Data and Survey Sampling Methods* ***April 3-4 Examination #3***	Parks, 9.1, 9.2
April 7-11	*Measures of Central Tendency and Variability*	Parks, 9.3
April 14-18	*Computing Probabilities in Simple Experiments*	Parks, 10.1
April 21-25	*Conditional Probability, Expected Value, and Odds* *April 24-25 Comprehensive Review Days(Hurley)*	Parks, 10.3
April 28-29	*Comprehensive Review Days (Parks)*	
April 29	Classes End	
April 30	Reading Day	
May 1-7	**Final Examination Week**	

This syllabus is subject to revision as necessary at any time during the semester.

Appendix 3. Theme-Cluster Courses, Academic Year 2007-08

Science, Technology, and Society		
AGEN 216	ITT 385	SOWK 415
CHEM 100/110	MATH 111	UNST 201
COMP 390	MATH 112	UNST 203
ENGL 206	PHIL 266	UNST 206
ENGL 231	PHYS 101	UNST 207
ENGL 33	PHYS 105	UNST 210
ENGL 336	POLI 410	UNST 213
GEOM 210	POLI 448	UNST 219
HIST 307	SOCI 473	UNST 221

Courses in this cluster will help students understand the complex relationships between scientific discovery, technological advances, and societal change. In addition, students will debate the ethical implications of contemporary scientific research, examine how technology is portrayed in literature and the arts, and evaluate the frequently made claim that better science and technology lead to better lives.

Energy, Environment and Society		
AGEC 300	HIST 435	POLI 448
AGEN 216	MATH 111	SOCI 200
BIOL 100	MATH 112	SOCI 300
BUAD 361	PHIL 308	UNST 205
CHEM 100/110	PHYS 105	UNST 211
EASC 201	POLI 250	UNST 212
GEOG 200	POLI 410	UNST 221
GEOG 322	POLI 415	UNST 229

Courses in this cluster will examine the role of energy in both local and world economies—how energy issues often intersect and collide with political power, social relationships, and economic development. In addition, this cluster will explore how decisions surrounding energy and environmental issues affect social justice within communities, across the country, and around the world.

Community, Conflict and Society		
BIO 100	HIST 418	UNST 204
BUAD 361	HIST 461	UNST 208
CRJS/SOCI 406	MATH 111	UNST 216
ENGL 336	MATH 112	UNST 220
HIST 203	PHIL 260	UNST 221
HIST 209	POLI 446	UNST 222
HIST 312	POLI 448	UNST 224
HIST 332	SOCI 406	UNST 230
HIST 336	SOWK 413	UNST 231
HIST 417		

Courses in this cluster help students better understand the factors that lead to conflict, and its resolution, at the local, national, and international level. Special attention will be paid to how people of different backgrounds reach peaceful solutions to difficult problems. Students will also be given opportunities to learn mediation and conflict resolution skills as part of their experience in this cluster.

Health, Lifestyles and Society		
BIO 100	PHIL 266	UNST 215
CRJS/SOCI 406	PSYC 320	UNST 217
HEFS 135	SOCI 304	UNST 218
HPED 219	SOCI 308	UNST 221
HPED 221	SOWK 370	UNST 225
MATH 111	SOWK 409	UNST 226
MATH 112	SOWK 415	UNST 227
NURS 305	UNST 202	UNST 228
NURS 315	UNST 209	
NURS 415	UNST 214	

Course in this cluster introduce students to the behavioral foundations of healthy lifestyles. Courses will also explore the impact of advances in biotechnology, medical research, medical ethics, and the operation of the heath care system on the human condition. Special attention is paid to health and lifestyle issues affecting women, the elderly, and the African American community.

Appendix 4: Calculation of Distribution of Cluster Courses and Projected Demand

College/School	STS	EES	CCS	HLS
Agric.	1	3	0	0
Arts/Sci	10	10	12	7
Bus/Econ	0	1	1	0
Educ.	0	0	0	3
Eng.	1	0	0	0
Tech.	0	0	0	0
Nurs.	0	0	0	3
UNST	6	3	5	4
Totals	18	17	18	17

This chart shows that the majority of theme-cluster disciplinary courses that are on the books reside in the College of Arts and Sciences.

College/School	3	2	1	0	
Agric.	0	11	5	1	
Arts/Sci	0	24	9	5	
Bus/Econ	0	3	6	4	
Educ.	0	3	0	0	
Eng.	0	5	2	4	
Tech.	0	2	8	0	
Nurs.	0	0	2	0	
Totals	0	50	33	14	97
Percent	0.00	0.515	0.34	0.144	

This chart shows the distribution of majors by school and college that require 3, 2, 1, or 0 theme-cluster electives in the fall semester.

	Students*	Courses needed	Totals
	811	2	1622
	536	1	536
Total	1575		2157

*Assuming that 25% of fall 2006 class will not return or will not be eligible for sophomore offerings. Estimated available seats at this point = 1385. This chart demonstrates that at present offerings, there will be a gap of 1575 – 1385 = 90 seats per semester between available courses and student demand.

Appendix 5. Undergraduate Student Credit Hours by Faculty, Fall 2007

UNST	2.41
A&S	1.32
Business	1.08
Education	0.78
Technology	0.40
Engineering	0.46
Nursing	0.69
Agriculture	0.39

The chart above shows approximate ratios for academic year 07/08 for percent of undergraduate student credit hours taught versus percent of instructors (tenure track faculty and lecturers.) The data for student credit hours was derived from the report of SCH provided by insitutional research.

Caution: the ratios must be considered in the light of other faculty demands, such as teaching graduate students, and research commitments. For this reason, we don't expect the professional schools to have undergraduate teaching ratios equivalent to those we observe in University Studies or College of Arts and Sciences. However, the class size disparity students experience in some UNST courses, results directly from the fact that it has a grossly disproportionate teaching load for freshman and sophomores compared to other units. Thus, the important comparison is between University Studies and Arts and Sciences, since the vast majority of the general education courses reside in these units. These figures show that UNST is providing approximately twice the load compared to its faculty resources than observed in the CAS. The argument that this is necessitated by the greater need of CAS faculty to provide attention to their major students is weak.

Appendix 6.1: Sequence of Summative Assessments

Assignment	Learning Domains	Description
Summary	Knowledge, Observation, Comprehension (Describe, identify, define)	A necessary component of critical inquiry is basic understanding. This portion of the class helps students develop habits of critical reading for comprehension and retention. In addition to formative assessments regarding comprehension, students are asked to complete a basis summary paper.
Analysis	Application, Experience, Analysis, Reasoning (Summarize, interpret, associate, demonstrate, solve, apply)	Once students have a handle on comprehension, they are asked to go a step further in the critical thinking process to develop their inquiry skills. They learn skills such as questioning assumptions, understanding components of argument, learning basics of rhetoric, looking at context as it affects meaning, contemplating socio-political significance of ideas, and etc. As part of these practices, students produce an analysis paper to demonstrate their analytical skills.
Reflection	Synthesis, Reflection (generalize, integrate, assess, recommend)	The habit of reflection is a useful tool for critical thinking and for making choices throughout one's life. Through reflection, students are asked to contemplate the big picture of their learning, where they fit in, how these ideas and skills affect their lives, and who they are learners and citizens. Here, students are asked to make meaning of their overall experience in the course.
Annotated Bibliography	All of the above	The annotated bibliography, synthesis paper, and presentation are linked together in a major assessment that touches on the basic triad of critical communication: visual, oral, and written communication. The annotated bibliography introduces students to the basics of the academic research process, asking students to apply all of the critical thinking skills they have thus far learned in the semester.
Other	All of the above	Individual instructors are given a portion of the grade percentage to use at their own discretion for items such as participation, journal responses, homework, other small assessments, and so forth.
Midterm Grades (This moment functions as a time for the entire team to get on the same page again to move forward for the second half of the semester.)		
Synthesis Paper	Synthesis, Application (integrate, integrate, assess, contextualize)	A key component of critical thinking is the ability to synthesize information and produce new ideas. In this assignment, students are asked to synthesize sources, understand the relationship between differing ideas, and to create their own understanding. In the broader sense of the overall assignment, students also synthesize the work they've done in the annotated bibliography with their synthesis paper with the presentation project and with each other's work and ideas.
Presentation	Evaluation Communication (Write, present, debate)	Student presentations ask students to be proficient in visual, oral and written communication. These presentations are developed and delivered collaboratively, pulling together various pieces of information, perspectives, learning styles, and communication styles.

Final Reflection	Synthesis, Reflection (generalize, integrate, assess, recommend)	In the final reflection for the course, we ask students to review the content and process of the entire semester to help them better understand their own processes and progress. This is an exercise in self-assessment. We hope, at this point, students understand themselves as learners in a more rich and complex way that will ultimately help them as they move forward in their upper level classes and beyond.
Other	All of the above	Individual instructors are given a portion of the grade percentage to use at their own discretion for items such as participation, journal responses, homework, other small assessments and so forth.

Appendix 6.2: Rubrics used for Summative Assessments in Academic Year 2007-08

SUMMARY RUBRIC

Plus sign	=	strong skill
Check mark	=	adequate skill; see comments
Minus sign	=	needs improvement; see comments
N/A	=	not applicable

	Summary is titled.
	Author and title of summarized text are clearly stated.
	Thesis of summarized text is accurately restated in writer's own words.
	Purpose of summarized text is accurately conveyed in writer's own words.
	Restates all key ideas of summarized text.
	Ideas are logically organized with a clear structure; includes transitions
	Examples are given to support the key ideas made by the author in support of his/her thesis.
	Essay maintains objectivity.
	Critical reading is evident.
	Language is vibrant and vivid, and tone is appropriate.
	Sentence structure is varied.
	Grammar reveals the writer's command of the written conventions of English.

Comments:

ANALYSIS RUBRIC

Plus sign	=	strong skill
Check mark	=	adequate skill; see comments
Minus sign	=	needs improvement; see comments
N/A	=	not applicable

	Analysis appropriately titled.
	Meets length requirement.
	Introduction grabs attention.
	Sufficiently discusses article/text being analyzed.
	Demonstrates audience awareness.
	Terms are well defined.
	Thesis is clear, narrow, and arguable.
	Author's own original thought/perspective is apparent.
	Author's criteria for judgment are apparent.
	Essay is well-organized with a clear structure.
	Includes sufficient support: details, examples, source work.
	Correctly uses and cites research.
	Counterargument is included.
	Demonstrates creativity and uses descriptive language.
	Grammar, mechanics, and usage are strong.

Comments:

REFLECTION RUBRIC

Plus sign	=	strong skill
Check mark	=	adequate skill; see comments
Minus sign	=	needs improvement; see comments
N/A	=	not applicable

	Reflection is titled.
	Meets required page length.
	Demonstrates understanding of self as a learner.
	Includes personal response and evidence of personal growth.
	Demonstrates socio-political awareness.
	Makes connections between course and own skill development.
	Includes sufficient support: details, examples, source work.
	Makes inferences, comprehends deeper meaning of learning.
	Makes connections between past, present, and future.
	Language is vibrant and vivid, and tone is appropriate.
	Sentence structure is varied.
	Grammar reveals the writer's command of the written conventions of English.

Comments:

SYNTHESIS/RESEARCH PAPER RUBRIC

Plus sign	=	strong skill
Check mark	=	adequate skill; see comments
Minus sign	=	needs improvement; see comments
N/A	=	not applicable

	Format: Paper is in correct MLA format.
	Turnitin.com: Paper has been submitted, as required, to turnitin.com.
	Thesis: Author develops a clear, debatable main point that states position on a controversial issue.
	Organization: Author has logically sequenced ideas in a clear organizational structure.
	Development: Author develops ideas with support, examples, evidence, details, etc.
	Source Legitimacy: Author finds appropriate sources for purpose and audience.
	Source Integration: Author introduces evidence from a source to support the topic sentence.
	Source Comprehension: Author accurately gives the source information (direct quote, paraphrase, or summary).
	Source Use: Author explains or interprets the source information and shows how/why it supports his/her reason.
	Synthesis: Author explains source relationships.
	In-Text Citations: Author correctly cites sources within text.
	Works Cited: Author includes correctly documented work cited page.
	Grammar & Mechanics: Author has clear handle on basic grammar and mechanics conventions.

Comments:

Appendix 6.3: Critical Writing Course Objectives

(Critical Writing meets the following UNST objectives: 1,2,3,4, and 5.)

Communication Objective 1:
Effectively use information technology to find, interpret, and evaluate, and use information discerningly

- Annotated Bibliography
- Research Paper
- Group Presentation
- Library Instructional Quiz (data with library, not with UNST)

Communication Objective 2:
Effectively communicate in diverse settings and groups using written, oral, and visual means

- Research Paper
- Group Presentation (written, oral, and visual)

Communication Objective 3:
Effectively employ critical thinking skills in written and oral communication

- Analysis Paper
- Reflection Papers (mid-term and end of the semester)
- Annotated Bibliography (asks for summary and source evaluation)
- Group Presentation

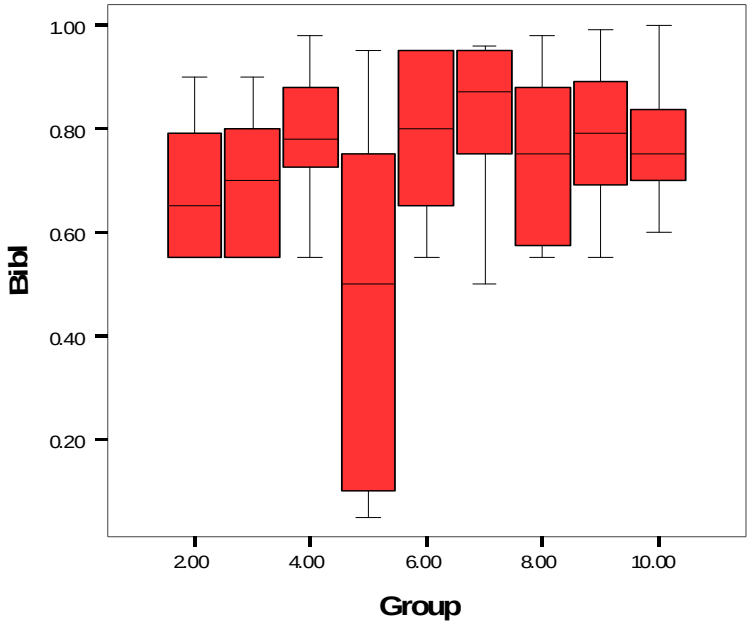
Communication Objective 4:
Effectively relate ideas and concepts, as well as modes of inquiry, across disciplines

- Analysis Paper
- Reflection Paper
- Annotated Bibliography

Analytical Reasoning Objective 5:
Use analytical thinking skills to evaluate information critically

- Analysis Paper
- Reflection Papers (mid-term and end of the semester)
- Annotated Bibliography
- Research Paper
- Presentation

Figure 6.1: Box Plot for Annotated Bibliography, Fall 2007.



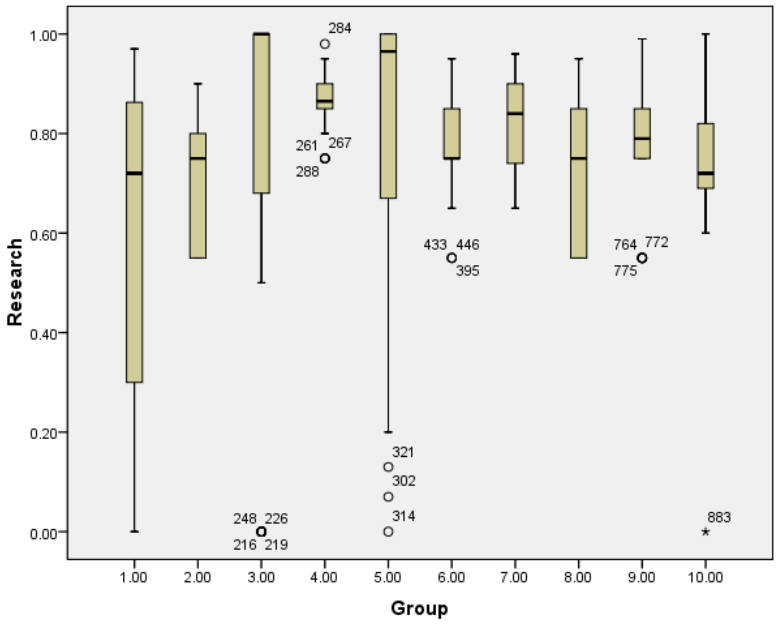
Group	1	2	3	4	5	6	7	8	9
Mean	.68	.69	.78	.27	.77	.84	.75	.79	.76
N	119	25	39	59	97	66	156	99	111
SD	.18	.13	.13	.34	.16	.09	.15	.13	.10

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Bibl	749	.05	1.00	.7469	.16986
Valid N (listwise)	749				

Mean summative assessments on the annotated bibliography differed significantly by instructor, $F = 71.29$, $p < 0.0001$. Much of this significance is explained by instructor five, who students performed statistically differently lower than all other classes. The mean for all 749 students who turned in this assessment was 0.74 (a C grade) with a standard deviation of 0.16. This also means that 39% of the students scored a B or better percentage (cumulative frequency from 0.80 to 1.00 was 0.39.)

Figure 6.2: Box Plot for Research Paper Fall 2007

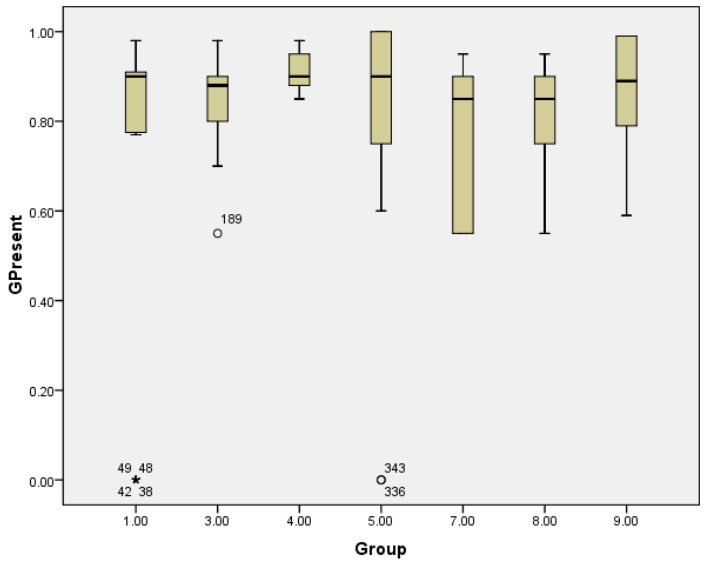


Means

Group	Mean	N	Std. Deviation
1	.5832	51	.34328
2	.7016	87	.11763
3	.7723	84	.34941
4	.8658	36	.06166
5	.8011	66	.27548
6	.7831	89	.10443
7	.8212	69	.08996
8	.7402	128	.13892
9	.7966	77	.11255
10	.7467	114	.12283
Total	.7581	801	.19939

Mean summative assessments on the research paper differed significantly by instructor, $F = 8.79$, $p < 0.0001$. Instructor one was significantly below, while instructors 4, 5, and 7 were significantly higher than the grand mean of 0.758, for all 801 students who turned in this assessment (a C grade) with a standard deviation of 0.19. This also means that 43.5% of the students scored a B or better percentage (cumulative frequency from 0.80 to 1.00 was 0.435.)

Figure 6.3: Box Plot for Group Presentations, Fall 2007.

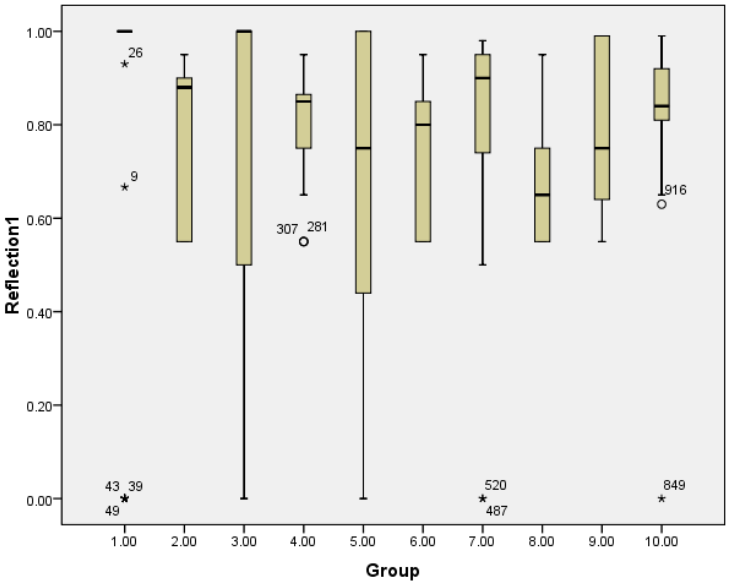


Means

Group	Mean	N	Std. Deviation
1	.7106	51	.35927
3	.8483	83	.06830
4	.9125	36	.04101
5	.8571	56	.20658
7	.7822	98	.15186
8	.8018	154	.14304
9	.8472	72	.11355
Total	.8157	550	.17505

Mean summative assessments on the group projects differed significantly by instructor, $F = 7.55$ $p < 0.0001$. Instructor one was significantly below, while instructor 4 was significantly higher than the grand mean of 0.815, for all 550 students who turned in this assessment (a B grade) with a standard deviation of 0.17. This also means that 63.3% of the students scored a B or better percentage (cumulative frequency from 0.80 to 1.00 was 0.633.)

Figure 6.4: Box Plot for Reflection Paper 1

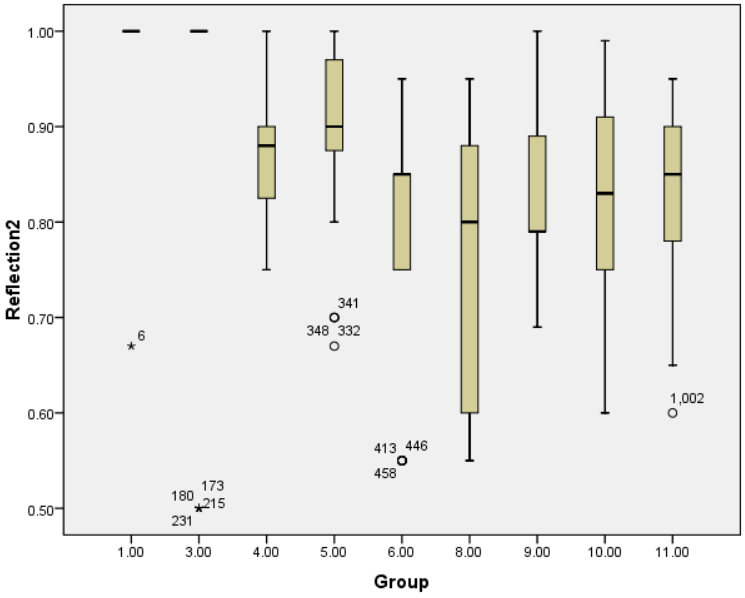


Means

Group	Mean	N	Std. Deviation
1	.7999	52	.39692
2	.7929	112	.15696
3	.7347	98	.43199
4	.8045	40	.11089
5	.6469	49	.36416
6	.7569	101	.14072
7	.8061	66	.21981
8	.6624	156	.12451
9	.7883	102	.17858
10	.8391	94	.12074
Total	.7570	870	.24245

Mean summative assessments on the first reflection paper differed significantly by instructor, $F = 6.51$ $p < 0.0001$. Instructor five was significantly below, while instructor 10 was significantly higher than the grand mean of 0.757, for all 870 students who turned in this assessment (a C grade) with a standard deviation of 0.24. This also means that 53% of the students scored a B or better percentage (cumulative frequency from 0.80 to 1.00 was 0.530.)

Figure 6.5: Box Plot for Reflection Paper 2

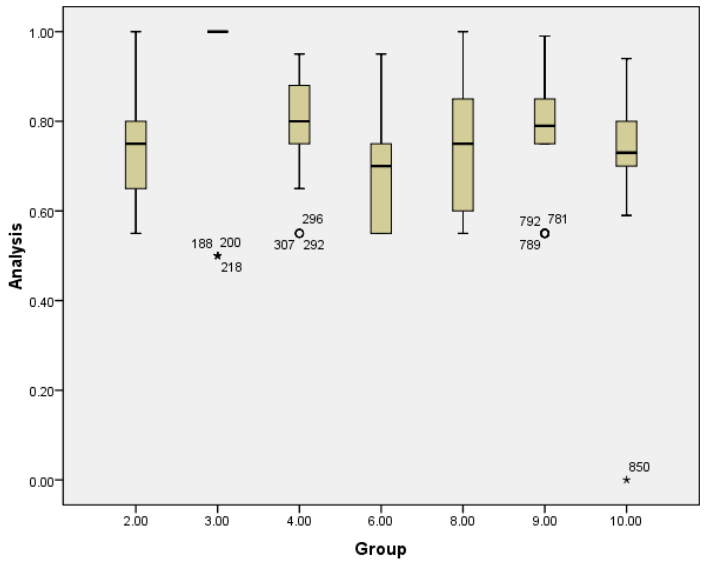


Means

Group	Mean	N	Std. Deviation
1	.9920	41	.05154
3	.9730	74	.11383
4	.8678	36	.06433
5	.9032	56	.07907
6	.8193	88	.10183
8	.7719	155	.14400
9	.8429	94	.08407
10	.8294	112	.09685
11	.8282	78	.08550
Total	.8487	734	.12323

Mean summative assessments on the second reflection paper differed significantly by instructor, $F = 37.09$, $p < 0.0001$. Instructors 1 - 5 were significantly above, while instructor 8 was significantly lower than the grand mean of 0.848, for all 734 students who turned in this assessment (a B grade) with a standard deviation of 0.12. This also means that 65.1% of the students scored a B or better percentage (cumulative frequency from 0.80 to 1.00 was 0.651.)

Figure 6.6: Box Plots for Analysis Paper



Means

Group	Mean	N	Std. Deviation
2	.7229	115	.11347
3	.9679	78	.12326
4	.7915	40	.11356
6	.7000	103	.11964
8	.7169	156	.13027
9	.7966	77	.11255
10	.7346	90	.10324
Total	.7613	659	.14342

Mean summative assessments on the analysis paper differed significantly by instructor, $F = 52.21$, $p < 0.0001$. Instructors 1 and 9 were significantly above, while instructor 6 was significantly lower than the grand mean of 0.761, for all 659 students who turned in this assessment (a C grade) with a standard deviation of 0.14. This also means that 35.1% of the students scored a B or better percentage (cumulative frequency from 0.80 to 1.00 was 0.351.)

Figures and Tables for Additional Assessment

Table 2.1: Criterion versus Human Instructor- $\chi 2$ Analysis

Inst.	Sample	$(o - e)^2$	$\chi 2$ at .05	Signif.	□2 at .25	Signif.
1	15	17	25.00	NS	18.25	NS
2	15	9	25.00	NS	18.25	NS
3	15	3	25.00	NS	18.25	NS
4	15	2	25.00	NS	18.25	NS
5	15	19	25.00	NS	18.25	NS
6	14	6	23.68	NS	17.12	NS
7	15	12	25.00	NS	18.25	NS
8	14	6	23.68	NS	17.12	NS
9	13	10	22.36	NS	15.98	NS
10	15	14	25.00	NS	18.25	NS
11	13	5	22.36	NS	15.98	NS
Total	159	103	>> 124	NS	>> 109.1	

Table 6.2: Correlations – Criterion v. Reviewer

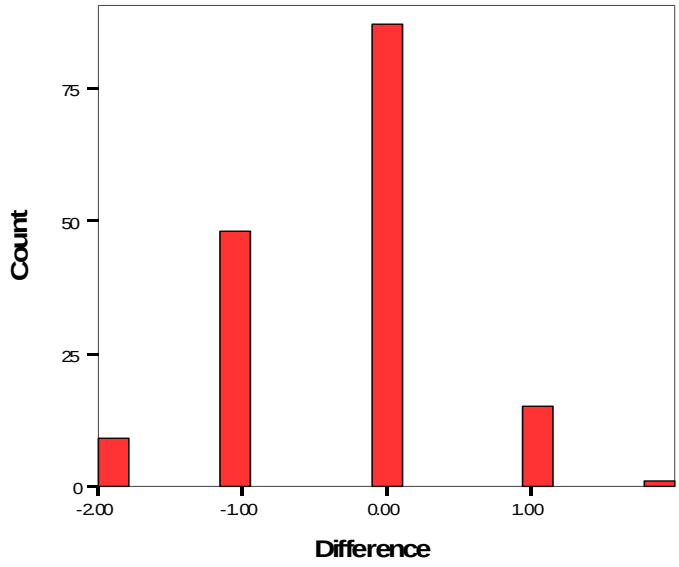
		Criterion	Reviewer
Criterion	Pearson Correlation	1	.669(**)
	Sig. (2-tailed)		.000
	N	160	160
Reviewer	Pearson Correlation	.669(**)	1
	Sig. (2-tailed)	.000	
	N	160	160

** Correlation is significant at the 0.01 level (2-tailed).

Table 6.3: Difference

Difference		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-2.00	9	5.6	5.6	5.6
	-1.00	48	30.0	30.0	35.6
	.00	87	54.4	54.4	90.0
	1.00	15	9.4	9.4	99.4
	2.00	1	.6	.6	100.0
	Total	160	100.0	100.0	

Figure 6.7: Differences in reviewer – Criterion scores

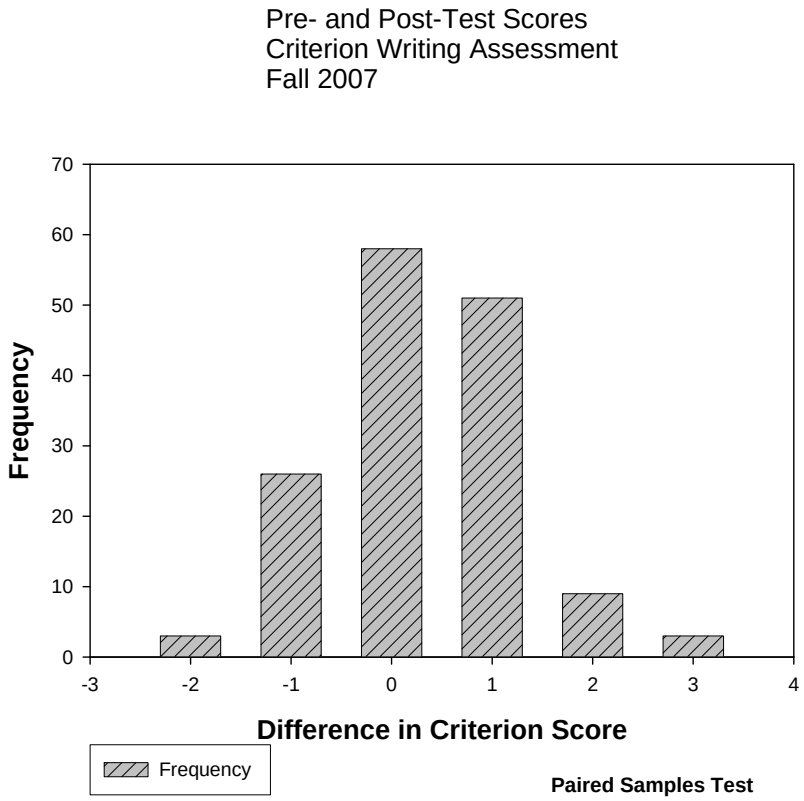


This figure shows the frequency of human reviewer – Criterion differences on the same student essay. In the vast majority of cases, human and Criterion agree on the essay score, however the frequency in which the human reviewer gave a lower score than criteria is clearly very different from vice-versa.

Table 6.4: Frequency of Negative Scores given by Instructor

Instructor	Negative	N	% Negative
1	7	15	0.47
2	4	15	0.27
3	3	15	0.20
4	1	15	0.07
5	9	15	0.60
6	5	14	0.36
7	9	15	0.60
8	5	14	0.36
9	2	13	0.15
10	8	15	0.53
11	4	13	0.31

Figure 6.8: Pre- and Post- Writing Results Measured by Criterion



Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	PreTest - PostTest	-.25676	.90442	.07434	-.40368	-.10984	-3.454	147	.001

Figure 6.9: Pre- and Post-test results fall 2007

Pre-Basics 8.14	Post-Basics 8.60	Average Change + .46
Pre-Writing 7.14	Post-Writing 8.12	Change + .98
Pre-Reading 5.78	Post-Reading 5.49	Change - .29

Figure 6.10

Pre-total % 70.19	Post-total % 74.06	% Changed 3.88%
Pre-total points 21.06	Post-total points 22.22	Total changed 1.16

Appendix 7.1: Pre and post test results by Question with UNST Learning Objectives

Question	% Pre-	% Post-	% Change
1	16	85	431
2	21	74	252
3	78	98	26
4	65	96	48
5	37	81	119
6	11	80	627
7	64	94	47
8	43	94	119
9	54	97	80
10	62	97	56
11	28	95	239
12	5	74	1380
13	9	90	900
14	19	70	268
15	36	91	153
16	7	79	1029
17	34	75	121
18	43	74	72
19	66	91	38
20	34	94	176
Overall	36.59	86.52	113.34

Appendix 7.2: Questions and Answers on Pre-/Post-Test

Question	Answers
How long has the biological concept of race existed? Learning Objective 11, 12	a) Since the beginning of recorded time (about 6,000 BCE) if not before b) Since the time of Christ (1-33 CE) c) Since the voyages of Columbus (1492-1504 CE) d) Since the 18th century European Enlightenment
Race is: Learning Objective 11, 12	a) a biological fact. b) a social construction c) a natural way to organize human beings. d) all of the above.
Slavery is a _____ phenomenon. Learning Objective 11, 12	a) a temporary b) only an historical c) both an historical and a contemporary d) just a contemporary
Econometrics is a method of analysis that involves the study of: Learning Objective 1	a) data b) cloud formations c) economic measures or indicators d) imperial economies
Which of the following is/are human trafficking pull factors? Learning Objective 11, 12	a) unmet labor demands in destination countries b) declining population rates in destination countries c) the promise of higher salaries and standards of living abroad d) all of the above
Annual profits derived from the global trafficking of people are: Learning Objective 11, 12	a) 357 million dollars b) 1.2 billion dollars c) 7 billion dollars d) 10 trillion dollars
Articles that are not first-hand accounts, but are instead scholarly interpretations of evidence, are considered examples of what bibliographical sources? Learning Objective 1	a) popular b) primary c) secondary d) plagiarized
Which of the following contains all the world's nations and serves as a forum for discussing its major issues? Learning Objective 11, 12	a. World Bank b. General Assembly c. Security Council d. North Atlantic Treaty Organization (NATO)
Which of the following is a source of greenhouse gases? Learning Objectives 11, 12	a. Automobile emissions b. Burning wood c. Aerosol propellants d. All of the above
According to most experts the warming observed over the last 50 years is attributable to: Learning Objectives 11, 12	a. solar variations b. human activities c. El Nino d. volcanic eruptions
Which of the following is an example of cultural imperialism? Learning Objectives 11, 12	a. A Pizza Hut store in New York. b. Pakistani youths reading a Koran in Karachi. c. Selling Chairman Mao's *Little Red Book* to tourists in Beijing.

	d. Disney Channel broadcasts in India.
Worldwide military spending has _____ since the end of the Cold War. Learning Objective 11, 12	a. tripled b . doubled c. stayed the same d. decreased sharply
How do structural adjustment policies (SAP's) ensure debt repayment by developing countries? Learning Objective 11, 12	a. Making them privatize (sell off) state-owned enterprises b. Making them increase the value of their currencies c. Focus on increasing imports d. Limit the rights of foreign investors
Which of the following will not be considered an International Monetary Fund (IMF) condition for contracting a short term loan? Learning Objective 11, 12	a. Privatization of state-owned businesses b. Devaluation of currency c. Job training for the unemployed d. Elimination of subsidies e. None of the above
Transnational corporations undermine the economies of developing states by… Learning Objective 11, 12	a. driving local companies out of business b. driving wages very low c. not reinvesting their profits in the local economies d. All of the above
How do SAP's ensure debt repayment by developing nations? Learning Objective 11, 12	a. SAP's raise wages and local currency values. b. SAP's require countries to cut public programs. c. Taxpayer relief.
How do IMF policies hurt workers? Learning Objective 11, 12	a. It forces governments to cut minimum wage laws. b. Asian labor can't compete with US steelworkers. c. Its handling of the 1997 Asian financial crisis created 200 million newly poor. d. a and c
A _____ occurs when a country buys more from other countries than it sells to others. Learning Objective 11, 12	a. tariff b. budget deficit c. trade deficit d. monopoly
Which of the following are diseases of poverty? Learning Objective 11, 12	a. Malaria, pneumonia, diarrheal diseases b. Measles, tuberculosis c. HIV/AIDS d. Cancer **e.** a, b, & c
"Diseases of poverty account for _____ of all deaths in the world under the age of 45 years? Learning Objective 11, 12	a. 1/5 b. ½ c. 2/3 **d.** 9/10

Table 7.1: Mean and Standard Deviations for Simulated Populations

Table 1

group	Mean	N	Std. Deviation
Pre-	.3659	305	.32843
Post-	.8652	305	.25412
Total	.6156	610	.38538

Table 7.2: Analysis of Variance, Pre- and Post-Test simulated results

Tests of Between-Subjects Effects

Dependent Variable: score

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	38.025[a]	1	38.025	441.022	.000
Intercept	231.148	1	231.148	2680.897	.000
group	38.025	1	38.025	441.022	.000
Error	52.422	608	.086		
Total	321.595	610			
Corrected Total	90.447	609			

a. R Squared = .420 (Adjusted R Squared = .419)

Table 8.1: Pre- and Post-test Results Analytical Reasoning, spring 2008

Score

Group	Mean	N	Std. Deviation
Pre-	.3345	367	.14377
Post-	.4980	367	.17826
Total	.4162	734	.18134

Figure 8.1: Box Plot of Pre- and Post-Test Results

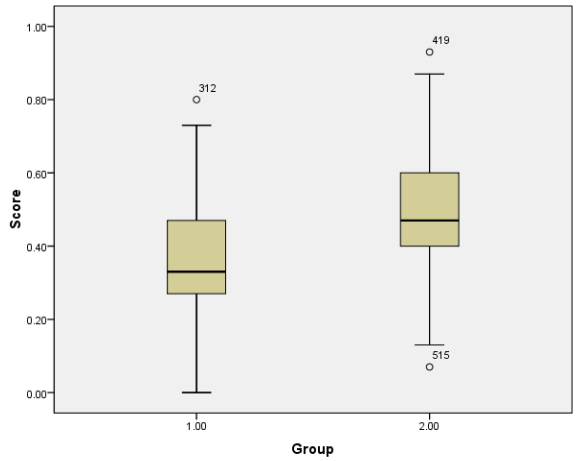


Table 8.2: Analysis of Variance: Pre- and Post- Results

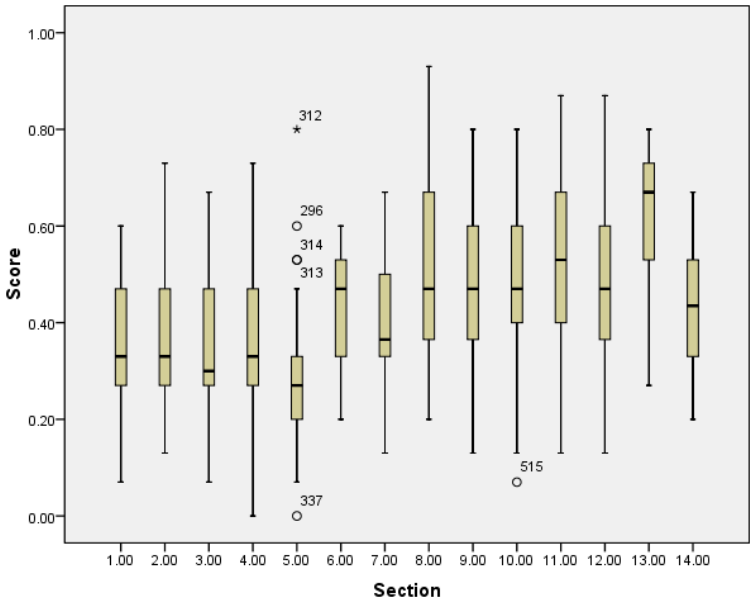
Tests of Between-Subjects Effects

Dependent Variable:Score

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4.908[a]	1	4.908	187.154	.000
Intercept	127.170	1	127.170	4849.371	.000
Group	4.908	1	4.908	187.154	.000
Error	19.196	732	.026		
Total	151.273	734			
Corrected Total	24.104	733			

a. R Squared = .204 (Adjusted R Squared = .203)

Figure 8.2: Pre- and Post-Test Results by Section, Spring 2008.



This figure shows pre- and post-test results by section. Sections 1 – 7 are pre-test scores (with sections 6 & 7 honors sections.) Sections 8 – 14 are the corresponding post-test scores for sections 1 – 7 (so, section 8 is the post-test for section 1, and so on.) The ANOVA showed no significant section effect on either pre- or post-test score. This means that while the means for the honors sections were slightly higher than the non-honors, they were not significantly so.

Formative Assessment of Learning in Analytical Reasoning

Fall, 2007

Pre-Test Total Number of Students: 597 (unsure of this number)
Post-Test Total Number of Students: 871 (unsure of this number)

Pretest Average HO1	28.89%
Pretest Average HON	57.80%
Pretest Average All	45.90%
Post-Test Average HO1	89%
Post-Test Average HON	80.10%
Post-Test Average All	66.20%

Pre- and Post-Test Comprehensive Averages for Fall, 2007.

	Pre-Test	Post-Test
Logic	62.15%	91.39%
	% In crease	47%
Scientific	47.80%	55.48%
	% Increase	16%
Quantitative	34.19%	61.88%
	Increase 27.69	
	% Increase 81%	

Spring, 2008
Pre-Test Total Number of Students: 471
Post-Test Total Number of Students: 504

	Pretest	Post-Test
Q1	0.382979	0.666667
Q2	0.280851	0.539683
Q3	0.682979	0.859127
Q4	0.110638	0.456349
Q5	0.112766	0.291667
Q6	0.282979	0.39881
Q7	0.176596	0.394841
Q8	0.27234	0.327381
Q9	0.368085	0.448413
Q10	0.16383	0.117063
Q11	0.7	0.751984
Q12	0.482979	0.559524
Q13	0.504255	0.597222
Q14	0.17234	0.40873
Q15	0.293617	0.462302
Average	0.332482	0.485317

	Pre-Test	Post-Test	% Increase
Logic	31.40%	56.27%	79.2%
Scientific	25.28%	33.73%	33.4%
Quantitative	43.06%	55.60%	29.1%

	Pre-Test	Post-Test
Comprehensive Average	33.25%	48.53%
Increase 15.28		
% Increase 46%		

Comprehensive Pre- and Post-Test Average by Subject Area, for Spring, 2008

Appendix 9 – UNST 140 Fall 2007 and Spring 2008

Table 9.1 - Paired Samples Statistics

		Mean %	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	37.72	343	13.97	.75
	Posttest	42.47	343	16.43	.88

Table 9.2 – Means and Standard Deviation for Pre- and Post-test

Exam	Mean (#)	N	Std. Deviation
Pre-	15.26	786	2.52
Post-	16.84	786	2.41

Table 9.2 -Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Pretest & Posttest	343	.911	.000

Table 9.3 - Paired Samples Test

Parameter	
Mean Diff.	-4.746
SD	6.859
SE	0.370
95% Confidence Interval	-4.017 -- -5.474
t	-12.815
df	342
Significance (2-tailed)	0.0001

Table 9.4: Tests of Between-Subjects Effects

Dependent Variable: Score

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	978.117[a]	1	978.117	160.595	.000
Intercept	404867.674	1	404867.674	66474.417	.000
Exam	978.117	1	978.117	160.595	.000
Error	9562.209	1570	6.091		
Total	415408.000	1572			
Corrected Total	10540.326	1571			

a. R Squared = .093 (Adjusted R Squared = .092)

Figure 9.1: Histogram of Paired Differences

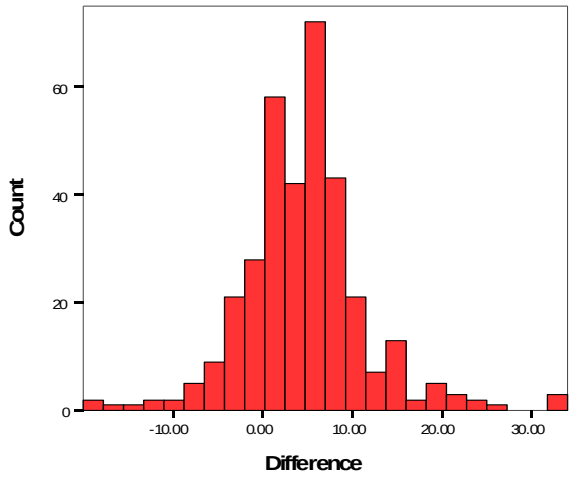


Figure 9.1a – Frequency Histogram of Differences in Pre-, Post-Test Scores – Fall 2007

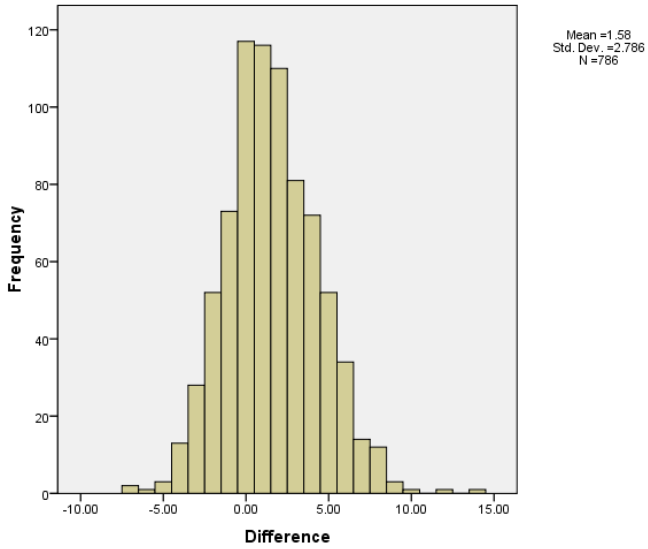


Figure 9.1b – Frequency Histogram of Differences in Pre-, Post-Test Scores – Spring 2008

Table 9.4 - Frequency of Differences – Fall 2007

Difference	Freq.	Percent	Cum. Percent	Difference	Freq.	Percent	Cum. Percent
-20.00	2	.6	.6	**7.00**	15	4.4	70.8
-16.00	1	.3	.9	**8.00**	32	9.3	80.2
-14.00	1	.3	1.2	**9.00**	11	3.2	83.4
-12.00	1	.3	1.5	**10.00**	18	5.2	88.6
-11.00	1	.3	1.7	**11.00**	3	.9	89.5
-10.00	1	.3	2.0	**12.00**	6	1.7	91.3
-9.00	1	.3	2.3	**13.00**	1	.3	91.5
-8.00	2	.6	2.9	**14.00**	5	1.5	93.0
-7.00	3	.9	3.8	**15.00**	1	.3	93.3
-6.00	2	.6	4.4	**16.00**	7	2.0	95.3
-5.00	7	2.0	6.4	**18.00**	2	.6	95.9
-4.00	4	1.2	7.6	**19.00**	2	.6	96.5
-3.00	8	2.3	9.9	**20.00**	3	.9	97.4
-2.00	9	2.6	12.5	**22.00**	3	.9	98.3
-1.00	11	3.2	15.7	**24.00**	2	.6	98.8
.00	17	5.0	20.7	**26.00**	1	.3	99.1
1.00	16	4.7	25.4	**32.00**	2	.6	99.7
2.00	42	12.2	37.6	**34.00**	1	.3	100.0
3.00	18	5.2	42.9	**Total**	343	100.0	
4.00	24	7.0	49.9				
5.00	26	7.6	57.4				
6.00	31	9.0	66.5				

Figure 9.2 – Mean difference by instructor, Spring 2008

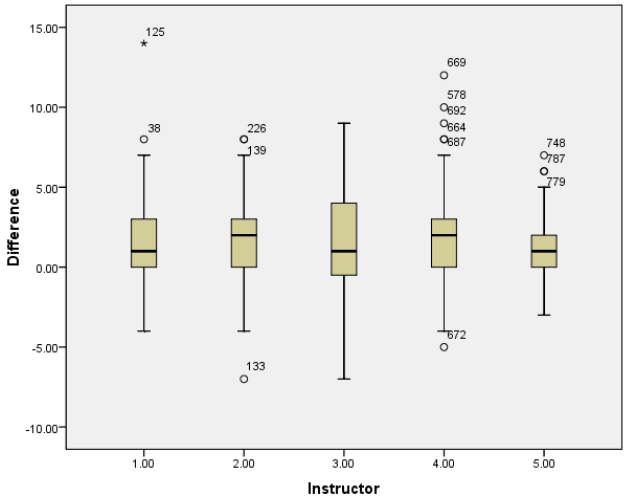


Table 9.5: Mean Difference by Instructor

Instructor	Mean	N	Std. Dev.
1	1.60	126	2.75
2	1.57	140	2.69
3	1.52	280	2.93
4	1.76	178	2.82
5	1.24	62	2.25
Total	1.57	786	2.78

Appendix 10: Results of Turning Point Classroom Response Technology

1.) The Turningpoint "clicker" technology helped me learn in this course?	Responses	
1. Strongly agree.	34	17.70%
2. Agree.	125	65.47%
3. Disagree.	22	11.72%
4. Strongly disagree.	10	5.11%
Totals	**191**	**100%**

2.) The instant feedback from the Turningpoint bar graph was useful for my learning.	Responses	
Strongly agree.	73	38.69%
Agree.	95	50.05%
Disagree.	15	7.99%
Strongly disagree.	6	3.27%
Totals	**189**	**100%**

3.) It was helpful to see how my response to clicker questions compared to other students' responses.	Responses	
Strongly agree.	74	38.44%
Agree.	86	44.66%
Disagree.	19	9.82%
Strongly disagree.	5	2.39%
Totals	**192**	**100%**

4.) The Turningoint response graphs helped me discover the correct answer to questions I had initially answered incorrectly.	Responses	
Strongly agree.	72	37.99%
Agree.	109	57.17%
Disagree.	8	4.33%
Strongly disagree.	1	0.52%
Totals	**190**	**100%**

5.) Teachers' explanations of the questions, after the feedback bar graph, helped me learn in this class.	Responses	
Strongly agree.	54	30.23%
Agree.	103	57.37%
Disagree.	19	10.60%
Strongly disagree.	3	1.81%
Totals	**179**	**100%**

6.) The clicker questions required me to pay more attention to the class presentation and discussions than not having the clicker questions.	Responses	
Strongly agree.	102	53.98%
Agree.	64	33.66%
Disagree.	19	9.92%
Strongly disagree.	5	2.45%
Totals	**189**	**100%**

7.) Using clickers gave me instant feedback on how well I understood the reading, class discussion, and presentations.	Responses	
Strongly agree.	80	42.33%
Agree.	96	50.36%
Disagree.	9	4.98%
Strongly disagree.	4	2.34%
Totals	**191**	**100%**

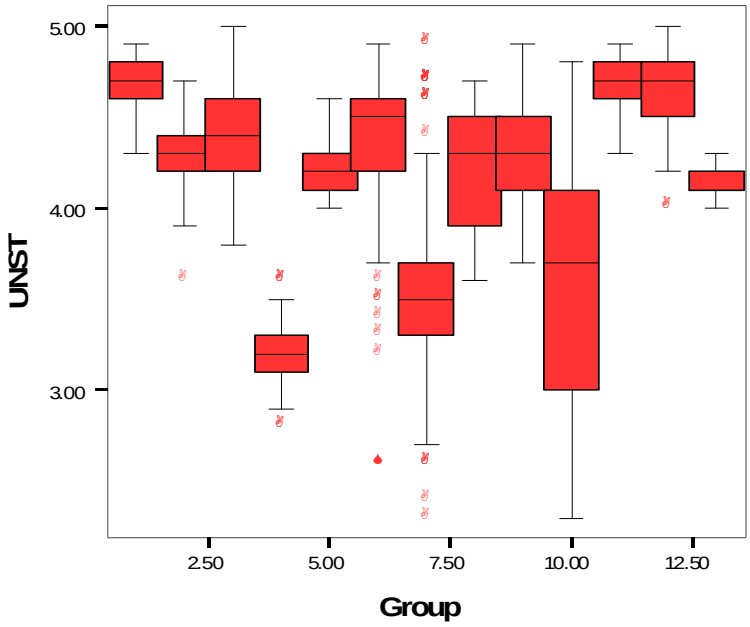
8.) I liked using the clickers in this class because it gave me a chance to participate and test my learning anonymously.	Responses	
Strongly agree.	82	42.59%
Agree.	86	44.72%
Disagree.	22	11.26%
Strongly disagree.	3	1.43%
Totals	**192**	**100%**

9.) Some parts of this course used the clicker technology more effectively than other parts.	Responses	
Strongly agree.	75	38.98%
Agree.	94	48.84%
Disagree.	7	3.55%
Strongly disagree.	7	3.55%
Totals	**193**	**100%**

10.) Upon review, how useful for your overall learning experience was the Turningpoint "clicker" technology in this course?	Responses	
Very useful.	66	35.56%
Useful.	82	43.81%
Somewhat useful.	36	19.08%
Useless.	3	1.76%
Totals	**187**	**100%**

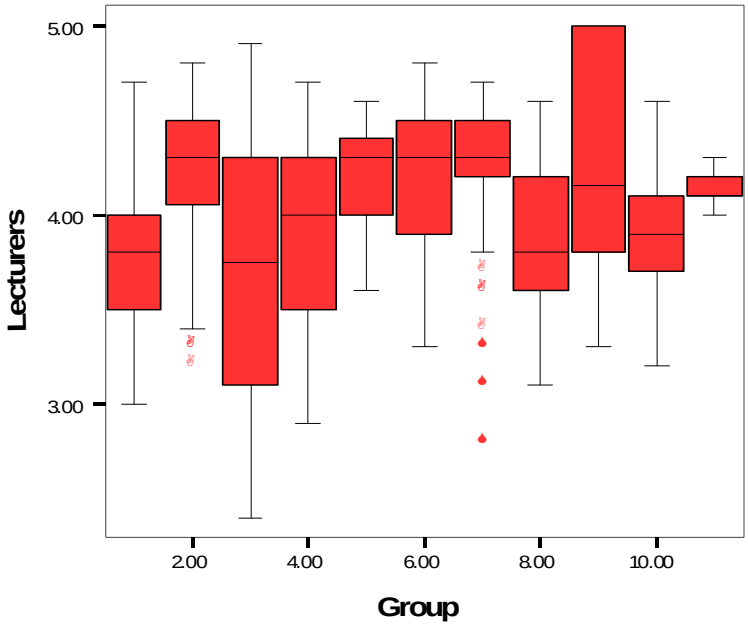
Appendix 11A: Student Evaluations of University Studies Professors – Fall 2007

This figure shows the mean student ranking for the 21 questions from the on-line campus survey which asked students to evaluate their instructor (as opposed to the course.)



The box plot above displays how students enrolled in University Studies courses ranked instructor performance relative to instructors in the entire university (last box in the graph.) Three UNST instructors were statistically significantly higher, while three were statistically significantly lower than the campus mean (computed by post-hoc Bonferroni analysis in Analysis of Variance.) Those instructors who fell below the campus mean were informed of this during annual evaluation and were informed that they were expected to review their student evaluations to find ways to improve to mean performance. It should be noted that 9 of 12 UNST instructors were ranked between superior to exceptional.

Appendix 11B: Student Evaluations of University Studies Lecturers – Fall 2007



The box plot above displays how students enrolled in University Studies courses ranked lecturer performance relative to instructors in the entire university (last box in the graph.) Two UNST instructors were statistically significantly lower than the campus mean (computed by post-hoc Bonferroni analysis in Analysis of Variance.) Those instructors who fell below the campus mean were informed of this during annual evaluation and were informed that they were expected to review their student evaluations to find ways to improve to mean performance. It should be noted that 6 of 10 UNST lecturers were ranked between superior to exceptional.

Appendix 11C: Comparison of Student Rankings of Tenure Track versus Lecturers

This table reports on 1191 student evaluations of tenure track (group 1) and 880 student evaluations of lecturers (group 2) within the division of University Studies.

Report

Instructor

Group	Mean	N	Std. Deviation
1.00	4.1718	1191	.54428
2.00	3.9727	880	.46444
Total	4.0872	2071	.52114

Tests of Between-Subjects Effects

Dependent Variable: Instructor

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	20.053(a)	1	20.053	76.531	.000
Intercept	33569.499	1	33569.499	128113.787	.000
Group	20.053	1	20.053	76.531	.000
Error	542.138	2069	.262		
Total	35158.740	2071			
Corrected Total	562.191	2070			

a R Squared = .036 (Adjusted R Squared = .035)

The mean ranking for tenure track faculty was 4.17 (Exceptional to Superior) and this was statistically significanly higher than the ranking for lecturers which was 3.97 (Superior to Satisfactory.) Please note that the ranking for UNST lecturers was not statistically significantly difference from the entire campus ranking for all instructors.

Appendix 12

SCHEDULE OF ASSIGNMENTS

THE UNIVERSITY EXPERIENCE – UNST100

Fall 2007

Date	Assignments
Week 1 – Aug. 20-24, 2007	**University Studies Program** Course Introduction Review Syllabus Readings: Amos, Preface to the Student, xviii, pp. 1 - 33. DuBois, Field and Function of the Negro College, xx.
Week 2 – Aug. 27–31, 2007	**Freshman Academic Advising** Amos, pp. 34 – 42. Assignment 1: Understanding Your University, pg. 43.
Week 3. - Sept. 3 – 7, 2007 Monday Sept 3rd no class Labor Day	**Preparing for Success in College** Amos, pp. 44 – 75. Activities pp. 76 – 78.
Week 4. Sept. 10-14, 2007*	**Becoming a Successful Student** Amos, pp. 80 – 111. Activities pp. 112 – 118.
Week 5. Sept. 17-21, 2007	**Making Time Work For You** Amos, pp. 119 – 143. Activities pp. 143 – 149.
Week 6. Sept. 24-28, 2007 **Skills**	**Improving your Memory and Learning** Amos, pp. 181 – 213. Activities pp. 214 – 216.
Week 7. Oct. 1 – 5, 2007	**Midterm Examination**
Week 8. Oct. 8 – 12, 2007	**Fall Break**

Week 9. Oct. 15 – 19, 2007**	**Listening Actively and Taking Good Notes**
	Amos, pp. 218 – 234. Activities, pp. 234 – 236.
Week 10. Oct. 22 – 26, 2007. No classes on Founder's Day Oct. 25, 2007.	**Developing Test Taking Skills** Amos, pp. 237 – 259. Activities, pp. 260 – 263.
Week 11. Oct. 29 – Nov. 2, 2007	**Surfing Information Technology** Amos, pp. 423 – 438. Activties, pp. 405 – 409.
Week 12. Nov. 5 – 9, 2007***	**Learning to Think Critically** Amos, pp. 265 – 286. Activities, pp. 287 – 293.
Week 13. Nov. 12 – 16, 2007	**Making Healthy Choices** Amos, pp. 295 – 321. Activities, pp. 287 – 293.
Week 14. Nov. 19 – 20, 2007 Thanksgiving Holiday Nov. 21 – 25, 2007	**Sharing Your World** Amos, pp. 327 – 351. Activities, 353 – 357.
Week 15. Nov. 26 – 30, 2007	**Leadership, Ethics, and Responsibiltiy** Amos, pp. 411 – 419. Activities, pp. 419 – 422.
Week 16. Dec. 3 – 7, 2007	**Final Exam**

***Library Services - September 10 - 14, 2007**. CLASSES SHOULD BE TOLD TO REPORT TO THE 2ND FLOOR MULTIPURPOSE ROOM IN BLUFORD LIBRARY. Reps. will share with the groups how to effectively utilize the library and the internet to conduct their research and class assignments.

****Career Services - October 15 - 19, 2007**. Career Services Reps. will visit each class. They will share information relevant to registering with the career services office, using the career services website to obtain employer information, resume writing, etc. Registering with the career services office (submission of resume should be required by all UNST 100 students prior to the end of the semester.) ***Civic Engagement/Community Service Office - November 5 - 9, 2007**. Reps. will visit each class to discuss the capstone community service component to the UNST curriculum and to inform students on how they can become involved in service activities and how they can record their service hours.

Appendix 13: Survey and Survey Results – UNST 100, Spring 2008

Section: UNST 100. _____

Please select the response that best reflects your level of accomplishment for each question.

1. As a result of taking this course, I have become better acquainted with the University Studies curriculum at North Carolina A & T State University.

(1) Strongly Disagree (2) Disagree (3) Agree (4) Strongly Agree

2. As a result of taking this course, I feel that I am better prepared for academic success.

(1) Strongly Disagree (2) Disagree (3) Agree (4) Strongly Agree

3. As a result of taking this course, I am better aware of how I should manage my time.

(1) Strongly Disagree (2) Disagree (3) Agree (4) Strongly Agree

4. As a result of taking this course, I have become a more effective note taker.

(1) Strongly Disagree (2) Disagree (3) Agree (4) Strongly Agree

5. As a result of taking this course, I am more likely to participate in my other classes.

(1) Strongly Disagree (2) Disagree (3) Agree (4) Strongly Agree

6. As a result of taking this course, I better understand what it takes to prepare for an examination.

(1) Strongly Disagree (2) Disagree (3) Agree (4) Strongly Agree

7. As a result of taking this course, I understand what it takes to become a better critical thinker.

(1) Strongly Disagree (2) Disagree (3) Agree (4) Strongly Agree

8. As a result of taking this course, I am more likely to make “healthy” choices.

(1) Strongly Disagree (2) Disagree (3) Agree (4) Strongly Agree

9. As a result of taking this course, I am more likely to avoid plagiarism in my work.

(1) Strongly Disagree (2) Disagree (3) Agree (4) Strongly Agree

10. The class session in the library helped me to become a more effective researcher.

(1) Strongly Disagree (2) Disagree (3) Agree (4) Strongly Agree (5) N/A

11. The class session with the Career Center was helpful and informative.

(1) Strongly Disagree (2) Disagree (3) Agree (4) Strongly Agree (5) N/A

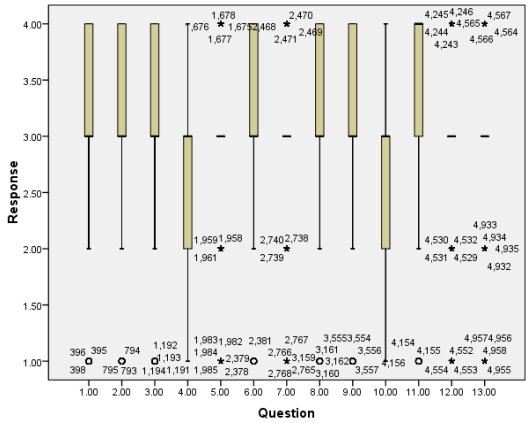
12. I have already used many of the strategies that I learned in this class.

(1) Strongly Disagree (2) Disagree (3) Agree (4) Strongly Agree

13. The amount of work assigned for this class was appropriate.
(1) Way too much
(2) A little too much
(3) About right
(4) Could have assigned more
(5) Way too little

Response

Question	Mean	N	Std. Deviation
1	3.1005	398	.80299
2	3.0377	398	.80370
3	3.1281	398	.81309
4	2.8030	396	.81230
5	2.9316	395	.79522
6	3.0328	396	.81842
7	2.9380	387	.81519
8	2.9772	394	.80519
9	3.1646	395	.86427
10	2.8537	335	.86833
11	3.3245	265	.89207
12	2.9698	398	.77042
13	2.8288	403	.56248
Total	3.0004	4958	.81195



Appendix 14: Electronic Retention Initiatives

Activity: Blackboard Reconfiguration.

- Responsible Party: Virgil Renfroe.
- Measure of Success: Four Blackboard home pages equipped with all tools mentioned herein and all working properly.
- Timeline: To be completed by the first day of class for each summer session.

Activity: Fill course eLibraries with links tailored to 110, 120, 130 and 140, to include Course Periodicals, Interdisciplinary Links, Language Resources and Search Engines folders.

- Responsible Party: All participants, in that all participants were expected to deliver Mr. Renfroe appropriate links for their courses.
- Measure of Success: All links within eLibrary working properly for each course, and the identification of appropriate supplemental materials for each course.
- Data: Number of times particular folders within the eLibraries have been accessed.
- Timeline: Folders to be completed by the end of the first week of first summer session.

- Activity: Identify and capture "bottleneck" lectures. Make these available for student consumption and interaction.

  - Responsible Party: All participants.
  - Measure of Success: Ten to twelve audio files instructors feel will help students grasp difficult and key course materials. Four innerTOOB pages with at least three working audio lectures each.
  - Data: The files themselves, the number of times these files were accessed, and the innerTOOB pages.
  - Timeline: Recorded and available at least one week before lecture will be delivered in class.

Activity: Capture all "After-the-Fact" lectures/supplemental materials. Supply these to enrolled students via links to audio files.

- Responsible Party: All participants.
- Measure of Success: Audio files in which instructors address students outside of class and supply them with materials they feel will shed light on previous or upcoming discussions/lectures.
- Data: The files themselves and how many times students accessed the files. Instructors will be asked to produce at least two of these.
- Timeline: The nature of these will not allow for a specific timeline, although all "After-the-Facts" will be available before final exams.

• Activity: Video record a minimum of two "Check-ins" for each course and make available to enrolled students.

- Responsible Party: All participants.
- Measure of Success: Audio/video files containing short clips of instructors assessing how they feel the course as a whole is proceeding, where it is succeeding, and where it appears the students are having difficulties. Participants will be asked to direct students to "bottleneck" lectures when appropriate.
- Data: The video-recordings themselves and how many times students accessed these recordings.

Activity: Create questionnaires designed to gauge outcomes of using these technologies. Create these for both students and faculty, for both pre and post project[2].

- Responsible Party: All participants, with aid from Dr. Barnes, Dr. Simkins, Dr. Williams, Dr. Graves.
- Measure of Success: Completion of questionnaires by all students/participants and breakdown of responses into percentages for study.
- Data: Percentages that can lead us toward strong conclusions about effects of these technologies over the summer.
- Timeline: To be completed by August 15th 2008.

[2] 1) Survey in what ways implementation of eReading Rooms, eLibraries and TOOB Lectures, has affected faculty strategy for teaching their courses. 2) Survey how Blackboard use (and usefulness) in student body's prior college education compares to student body's summer education. 3) Analyze student use of TOOB lectures, eReading Rooms and eLibraries, in an attempt to establish any relationships between usage and final grade. 4) Survey student confidence level for success in college courses in the past, and whether having on-demand access to "bottleneck" lectures, or participating in eReading Rooms, contributed to a change in confidence level. 5) Survey how much students participated in summer courses versus courses they took in the fall and spring semesters. 6) Survey student and instructor satisfaction with eReading Rooms and TOOB Lectures.