

THE CITADEL

INSTITUTIONAL EFFECTIVENESS

SUMMARY REPORT

1 August 2008

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INTRODUCTION

The Citadel's approach to Institutional Effectiveness integrates the three fundamental components: strategic planning, assessment, and budgeting. The Citadel requires periodic assessment of the programs and services of its budgeted departments and units. The Citadel's approach to assessment is in the main decentralized. That is, the school, department, or operational unit responsible for providing a program or service is responsible for the quality of that program or service and thus for its assessment. It is expected that assessment will be more effective if developed and monitored by the unit providing the program or service. It has also been found that assessment tools that are imbedded in normal operations are in general more effective than "tack-on" or external assessment requirements.

Through the annual assessment report, each budgeted department of the College presents its Mission, measurable Expected Results on which the success of meeting that mission will be judged, Assessment Tools that are used to measure results, the actual Assessment Results, and the Actions Taken or Resources Needed to address issues that have surfaced in the assessment process. In those cases where additional resources are needed to address assessment issues, a Supplemental Assessment Matrix is also presented to summarize the assessment issue and the needed resources. These matrices are presented to the Provost and Vice Presidents to facilitate the inclusion of assessment results in the budgeting process of the College.

Annual assessment reports are collected in electronic format and provided to the President, Provost, and each Vice President to be used in the institution's budgeting process. These reports provide the context in which the Strategic Plan Coordination and Implementation Committee, now the Strategic Planning Council (SPC), monitors the implementation of the Strategic Plan. Since the 2002-03 academic year, annual assessment reports have been available electronically on The Citadel's webpage.

The Citadel is reporting on academic advising and two majors – Civil and Environmental Engineering and Electrical and Computer Engineering.

ACADEMIC ADVISING

The Citadel has developed and revises periodically an Academic Advising Handbook. The following four sections have been extracted from that manual.

I. Academic Advising Mission Statement

The Citadel recognizes that academic advising is integral to the educational process and is committed to providing a comprehensive program of academic advising for all its students. The mission of academic advising is to assist students to attain their academic goals through developing and evaluating their educational and career plans. This process begins with academic orientation and continues until graduation.

The advising process is the responsibility of both the student and the advisor. The College publishes in the annual catalog information about requirements, policies, and procedures and assigns each student a knowledgeable advisor who can assist the student to fulfill degree requirements. Specifically, advisors assist students to clarify their career goals and to develop an educational plan for realizing these goals. In addition, advisors monitor students' progress and act as a source of referral to other campus agencies.

II. Administrative Responsibility

The Associate Provost for Academic Affairs is assigned administrative responsibility for academic advising.

III. Roles and Responsibilities of Advisors and Students

Responsibilities of Advisor:

- Familiarize yourself with current college programs, policies, and procedures.
- Provide accurate and current information regarding academic policies and requirements to include core curriculum and major requirements and requirements for continuance, senior classification, cadet ring, and participation in commencement.
- Assist students with major/career choice.
- Help students define and develop realistic goals.
- Monitor students' progress.
- Provide referrals and encourage students to utilize services on campus.

Maintain confidentiality of information discussed in advising sessions.
Keep records of information discussed with student.

Responsibilities of Student:

Read the College Catalog to become knowledgeable about college programs, policies, and procedures.
Meet regularly with advisor.
Prepare a tentative course schedule prior to pre-registration conference with advisor.
Clarify personal values and goals.
Accept responsibility for decisions.
Understand that it is your responsibility to adhere to college policies and to meet degree requirements

IV. Goals and Characteristics of Good Academic Advising

Goals of Advising:

To help students clarify their academic and career goals
To help students choose or confirm a choice of major
To help students to understand better the nature and purpose of higher education (help students choose courses--especially electives--that will broaden their horizons)
To provide accurate information about requirements, policies, procedures
To monitor and evaluate educational progress
To guide students to appropriate resources

Characteristics of Effective Advising:

Emphasizes short-term and long-term goal setting
Emphasizes decision making and problem solving
Emphasizes the shared responsibility of student and advisor

Academic advising is NOT:

Primarily an administrative function or a paper or computer relationship
Providing a signature or a pin number for class scheduling
A dictatorship
Personal counseling

The Citadel begins the advising process before the new students arrive on campus as the Office of the Registrar leads these students through the selection of an academic major and develops a schedule for the fall semester. Once the student arrives on campus, he/she is assigned four advisors:

Academic Faculty Advisor—A tenured or tenure track faculty member in the department/school in which the student is majoring. The student must meet with his/her faculty advisor at least once each semester to receive a PIN to enable the student to register online.

Company Advisor—Because cadet life is such an essential component of a cadet's educational experience, each cadet company has a member of the faculty or staff who is responsible for advising students and monitoring their well being within the living environment in the barracks.

Company Tactical Officer—Each cadet company has a full-time member of the staff who works for the Commandant of Cadets and has an office in the company area in the barracks. These retired military commissioned and non-commissioned officers are available to advise students, council them on available resources, and serve as mentors in leadership.

Cadet Academic Officer—The Provost selects for each cadet company, battalion, and for the regiment a senior cadet who has as his/her responsibility to monitor the academic well being of the cadets in his/her cadet unit. Special emphasis is placed on making sure that freshman cadets are aware of available academic support services and use these services as their performance warrants.

Academic Orientation begins as soon as the new cadet arrives on campus. The focus of our orientation is to inform the new cadet of the academic support services available and to gather information to enable us to determine the areas in which the student seems to need extra assistance—reading tests, grammar diagnostic, writing sample, language placement, mathematics placement, etc.. Each entering student meets with his/her department head/dean and faculty advisor prior to the beginning of classes.

The advising for entering freshman cadets is supplemented through ORTN 101, The Citadel's version of University 101 that is required for each entering freshman cadet. This is an example of the advising exercises that are presented in this course.

CITADEL 101 ACADEMIC POLICIES

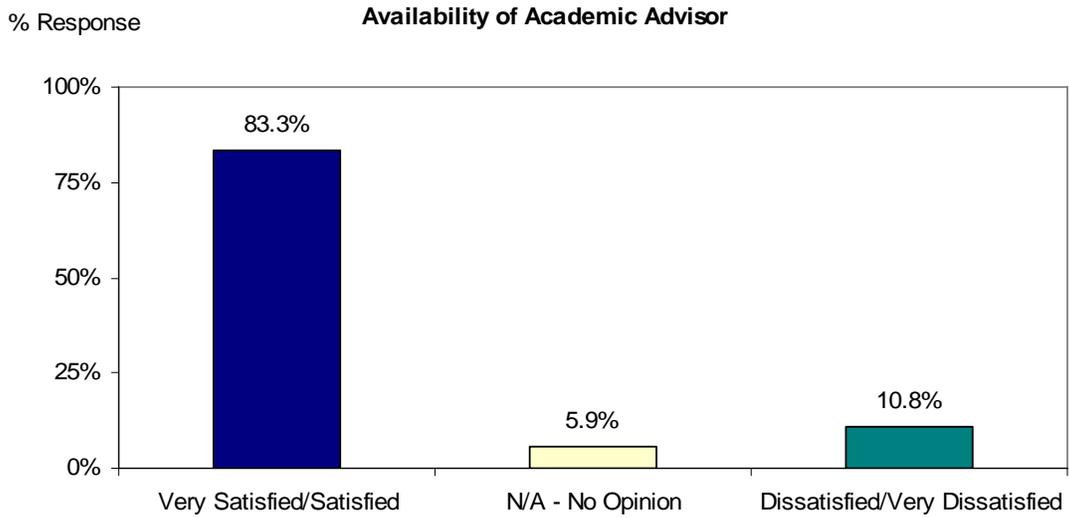
While each cadet should become familiar with all academic policies presented in his or her catalog of record, these are the major academic requirements to stress for your freshmen cadets.

1. Cadets must be full-time students. That is, a cadet must be enrolled in at least 12 credit hours at all times. Dropping below 12 credit hours could lead to a discharge from The Citadel.
2. To be eligible to return for the next academic year, cadets must earn at least 24 credit hours and attain an appropriate GPR (see catalog of record). Hours earned before a cadet officially matriculates at The Citadel (**AP credits, IB credits, credits taken at other colleges, or credits taken at The Citadel in the summer before matriculation**) do not count toward these required 24 credit hours. If a cadet does not earn the required 24 credit hours and attain the appropriate GPR, he or she will receive a letter from the Associate Provost describing what must be done over the summer to be eligible to return to The Citadel for the next fall semester. This official notification is a courtesy. It is each cadet's responsibility to understand and meet minimum requirements for continuance.
3. If a cadet has met the minimum GPR requirements for continuance but has not passed at least 24 credit hours in the fall and spring semesters, courses may be taken in the summer from an accredited college or university and transferred back to The Citadel. To ensure that transfer courses will be accepted by The Citadel, prior approval must be obtained from the Office of the Registrar (a form is available in the Office of the Registrar), and grades of C or higher must be earned on each course being considered for transfer. Courses in which grades below C have been earned will not be accepted for transfer.
4. If a cadet's Citadel GPR is below standards, that GPR can only be improved by taking courses at The Citadel. The Citadel GPR cannot be improved by taking courses at other institutions.
5. Cadets who fail to pass 24 credit hours and meet minimum GPR requirements will be given an Academic Discharge for the following semester. There are no exceptions. While on Academic Discharge, the student is not allowed to take courses for transfer back to The Citadel. The rationale is that if the student is not eligible to make academic progress at The Citadel, he or she cannot make academic progress at another institution.
6. South Carolina students who are currently receiving the Life Scholarship and/or Palmetto Fellow Award or are attempting to earn these awards for the first time need to keep in mind that they must earn at least 30 credit hours each academic year and maintain a GPR of at least 3.000. The hours earned and the GPR for retaining the Life Scholarship or earning it for the first time include all coursework taken at any college or university during the fall and spring semesters and the summer sessions. However, courses taken at another institution **WILL NOT AFFECT THE CITADEL GPR**. The hours earned and the GPR for retaining the Palmetto Fellows Scholarship or earning it for the first time include all coursework taken at the home institution during the fall and spring semesters and the summer sessions.

Exercise at Mid-Semester: Based on your mid-semester grades, where are you in terms of meeting minimum requirements for continuance? Have you passed at least 12 credits? Does your mid-semester GPR meet minimum requirements for continuance?

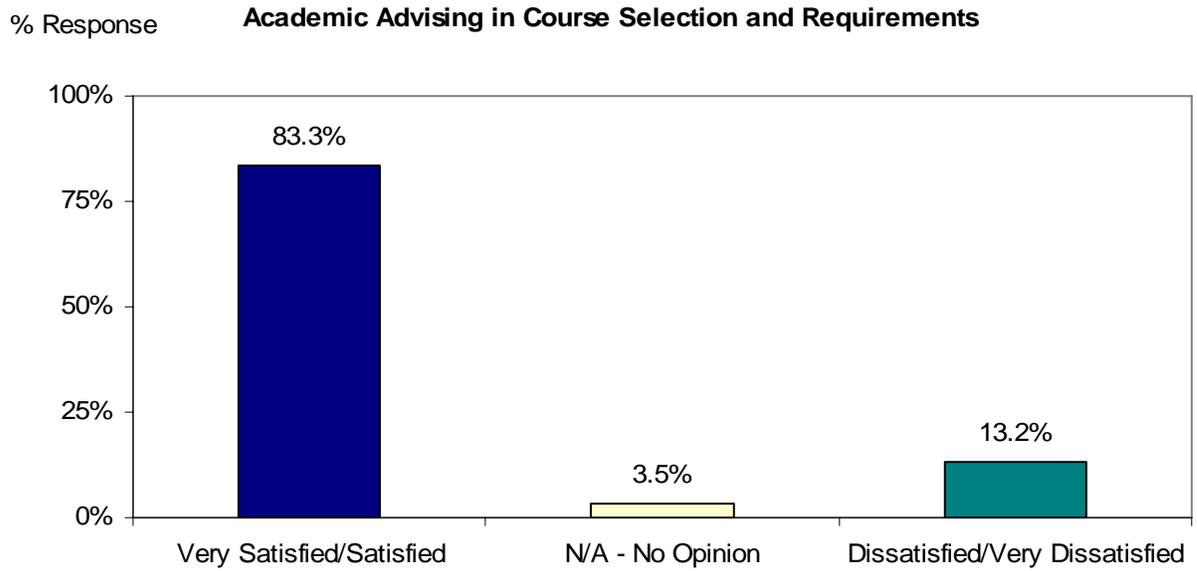
The academic advising process is evaluated annually through The Citadel Experience Survey that is completed by each graduating senior. These students are asked to evaluate each aspect of our advising process and to provide recommendations for improving them. The results of these evaluations are distributed widely.

Please rate your satisfaction with the quality of each of the following by choosing the appropriate response.



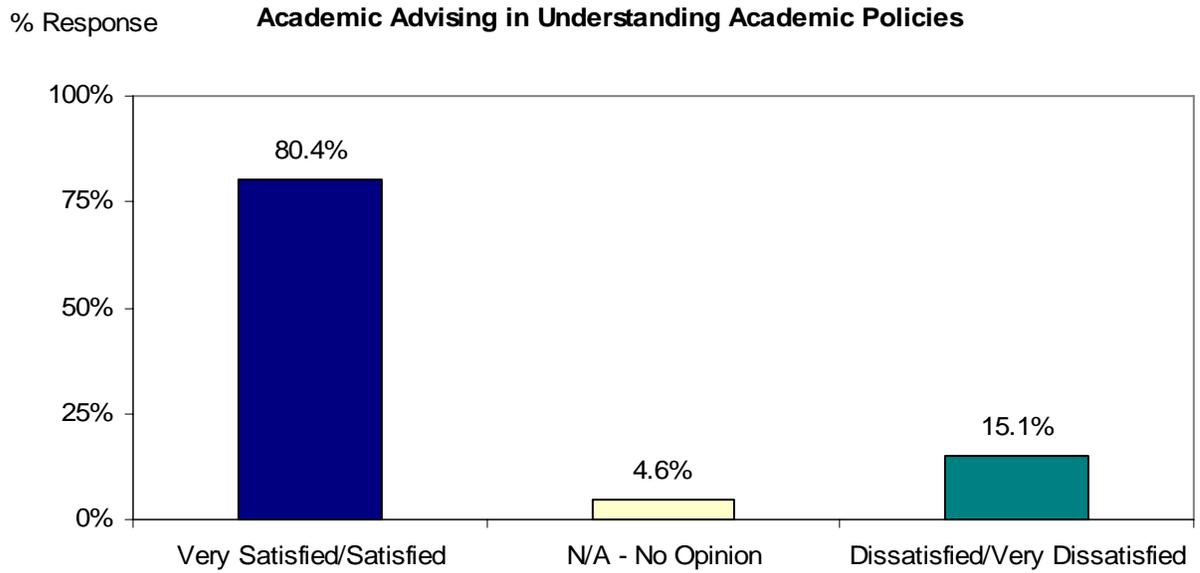
Availability of Academic Advisor		
Response	Frequency	Percent
Very Satisfied	165	44.35
Satisfied	145	38.98
No Opinion	14	3.76
Dissatisfied	21	5.65
Very Dissatisfied	19	5.11
(No Response)	8	2.15
Total	372	100.00

Please rate your satisfaction with the quality of each of the following by choosing the appropriate response.



Academic Advising in Course Selection and Requirements		
Response	Frequency	Percent
Very Satisfied	134	36.02
Satisfied	176	47.31
No Opinion	10	2.69
Dissatisfied	34	9.14
Very Dissatisfied	15	4.03
(No Response)	3	0.81
Total	372	100.00

Please rate your satisfaction with the quality of each of the following by choosing the appropriate response.



Academic Advising in Understanding Academic Policies		
Response	Frequency	Percent
Very Satisfied	117	31.45
Satisfied	182	48.92
No Opinion	15	4.03
Dissatisfied	42	11.29
Very Dissatisfied	14	3.76
(No Response)	2	0.54
Total	372	100.00

MAJORS

I. Department of Civil and Environmental Engineering

Mission Statement:

The mission of the Department of Civil and Environmental Engineering (CEE) is:

To provide a nationally recognized student-centered learning environment for the development of principled leaders in the civil and environmental engineering community through a broad-based, rigorous curriculum, emphasizing theoretical and practical engineering concepts, strong professional values, and a disciplined work ethic.

The Civil and Environmental Engineering program educational objectives are listed below.

Design:

Graduating students who are successful in engineering based on a course of study focused on design, including a solid theoretical and practical foundation that leads to successful employment in the private and public sectors.

Sustainable Success:

Graduating students who have sustainable career success and participate in leadership roles through demonstration of lifelong learning, effective communication, contributions on multidisciplinary teams, and broad based perspective of engineering and societal needs.

Broad-Based Education:

Graduating students who have a broad educational background that leads to good citizenship through leadership, management, decision making and problem solving abilities.

As part of this mission, the department's faculty members are committed to improving and enhancing their teaching effectiveness and qualifications through professional development and scholarly activity. Consistent with the high aims of the civil engineering profession, this department seeks to ensure a broad-based curriculum that is underpinned by a strong ethical foundation. In addition, the department seeks to provide the student with opportunities to use modern and leading edge technology.

Expected Results:

The department has identified a number of assessment areas. These areas include freshman preparation, student performance, graduation performance, faculty effectiveness, and administration.

Freshman preparation

Freshman preparation covers such items as: recruitment, Scholastic Aptitude Test (SAT) scores, and retention of freshman students. *The department expects no decrease in freshman enrollment in any three-year period as minimum criteria. The average SAT score for incoming civil engineering freshman should exceed the average score for the entering freshman class and should approach or exceed 1090. Finally, after the first year the department would retain at least 60% of all students in the civil engineering program.*

Student performance

Student performance covers the Fundamental of Engineering (FE) examination and senior perception of the department. *The department expects that at least 80% of all students who complete degree requirements in a given academic year will take the FE examination. The closest Carnegie classification will be monitored to help identify courses where improvement may be needed. Student performance data will be reported each year to faculty. Faculty will be encouraged to monitor this data to assess the need for potential improvement actions. If the average student score in a specific area taught within the department is consistently significantly lower than the corresponding Carnegie score, the course will be considered for possible improvement actions through formal department mechanisms. Action may not be necessary for courses that are taught after the majority of students*

typically take the test. The assessment of the senior's perception of the department comes from the senior exit interview form, which is expected to show a minimum rating of very good.

Graduation performance

Graduation performance covers such areas as employment placement of students, graduate school acceptance, and professional registration. *It is expected that all seniors seeking employment should average two employment offerings. Seventy percent of all students entering graduate school on a full-time basis will receive some financial support. Finally, at least 60% of alumni who respond to an alumni questionnaire five years after graduation should have obtained full professional registration.*

Faculty effectiveness

Faculty effectiveness covers the area of teaching, scholarly activity/professional development, service, and the curriculum. Teaching, scholarly activity/professional development and service is assessed through the faculty evaluation process. *Faculty evaluation should average "exceeds expectation." The curriculum should be assessed every two years by the department's curriculum committee, which at the minimum should report that the curriculum provides a satisfactory program of study.*

Administration

The area of the administration of the department is composed of Department Head's performance, equipment, budget, learning environment, and administrative staff. *Based on a questionnaire from the faculty the department head should be performing at a minimum level of good. The equipment purchase should be on track based on a five-year plan. The budget should be adequate to fund mission related functions. The learning environment should be rated as satisfactory. The Administrative staff should receive a minimum rating of satisfactory. These ratings are subjective evaluations by the department head in consultation with individual faculty members.*

Assessment Procedures:

Freshman preparation

The Office of Associate Provost for Academic Affairs compiles statistics in each area of interest each year.

Student performance

The department receives results each year from the fall and spring administrations of the Fundamentals of Engineering (FE) examination, and these results are analyzed to extract the data needed for assessment of student performance. In addition, the Office of Institutional Research conducts a Senior Survey each spring of all graduating seniors, and the department administers its own surveys of the graduating class.

The Office of Institutional Research monitors graduation rates for civil engineering students in the College of Graduate and Professional Studies.

Graduation performance

The Office of Institutional Research conducts a Senior Survey each spring of all graduating seniors, and the department administers surveys of its graduating class. The Office of Institutional Research also surveys alumni of the College on a two-year cycle.

Administration

The department faculty evaluates the performance of the department head annually, as does the Dean of Engineering.

Actual Results:

Freshman preparation

Enrollment increased this year for the fourth straight year. Freshmen retention to the sophomore year was slightly less than 60%, which is the target percentage which the department seeks to achieve. Since The Citadel has an open policy on selection of major, a number of freshmen change majors within the first several weeks. Hence, counting the students after the first semester may provide a

better representation of those who truly felt that civil engineering was going to be their major. If retention is determined using the students completing CIVL 101 (Engineering Graphics) in the Spring of 2008 as the number of entering freshmen, the retention rate would be 81%.

- SAT averages for entering civil engineering students continues to be higher than the average SAT for the overall entering freshman classes. The average SAT of 1100 for entering CEE students exceeds the department's goal of an average SAT of 1090.
- 22 out of 30 students (73%) passed the FE Exam (Civil Specific)
- 0 out of 1 students (0%) passed the FE Exam (Environmental Exam)
- 22 out of 31 (71%) passed the FE Exam (Overall)
- The national passing rate was 72% (60% for Carnegie 3) on the Civil Specific and 74% (60% for Carnegie 3) on the Environmental Exam
- Citadel students exceeded the national average for peer institutions and almost matched the national average for all schools

Student performance

This year out of 40 students eligible to take the Fundamentals of Engineering (FE) Examination, the department had 31 students take the examination in the fall and three more in the spring (85% of the eligible students). This exceeds the expectation of 80% for the year. The spring results are based on responses provided on the senior exit survey. Out of those who completed the senior exit survey, there were three that had not taken the test in the fall that took the test in the spring. At the time of writing of this document, the results for the spring examination have not been received by the department from the State Registration Board, so the data shown below are based on the fall figures.

In the college-wide Senior Survey of cadets who were on schedule to graduate in May or August 2008, the following results were obtained:

- 100% were either satisfied or very satisfied with their major program of study;
- 100% were either satisfied or very satisfied with instruction in the major;
- 96.6% were satisfied or very satisfied with academic advising related to course selection;
- 93.1% were satisfied or very satisfied with academic advising as related to understanding academic policies;
- 93.1% agreed or strongly agreed that their professors in their major were interested in their progress as a student
- 100% agreed or strongly agreed that their professors were accessible

In the department's senior exit survey, quality of instruction in the department, quality of advising in the department, quality of departmental computer support, quality of laboratory instruction, and availability of faculty for help outside the classroom were rated on a basis of 1 to 5, with 5 being the highest. The following results indicate the percentage of students that rated the category with either a 4 or a 5:

- Quality of instruction in the department – 100%
- Quality of advising in the department – 76%
- Quality of departmental computer support – 55%
- Quality of laboratory instruction – 88%
- Availability of faculty help outside the classroom – 94%

Graduation performance

Based on the departmental Scholarship, Research, and Professional Activities Committee 2007-2008 Annual Report, 18 of 24 day students responding to a committee survey had applied for full time employment as of April 14, 2008. Three of these students had not yet accepted a job offer at the time of the survey and one student had not received an offer. Based on data from this survey, the expectation of two job offers per student was exceeded.

Nine of nine evening students responding to the committee survey indicated that they had applied for full time employment. Three of these students had not accepted an offer by the time of the survey. On

the average the graduates applied for 2.3 jobs, had 1.6 interviews, and had 2.0 offers. Based on the available data, it appears that the expectation of two job offers per student was met.

Seven day students were accepted to graduate school. Two students plan to attend without initial funding. Four students seeking funding for graduate school and attending graduate school full time will be receiving funding in Fall 2008. At the time of the survey, one student remained undecided on a graduate school. Those planning to attend graduate school had been accepted by Auburn University, Clemson University, and North Carolina State University. None of the evening school students indicated plans to attend graduate school.

An alumni survey conducted during Spring 2008 showed that 35.1% of the respondents have worked for five or more years and that 16.2% of the respondents had earned a Professional Engineer's license. Since only the 35.1% of respondents who have worked five years or more are potentially eligible to complete requirements for the PE license, the percentage of eligible respondents completing requirements for a PE license is 46%. This is less than the target percentage of 60%. However, it is noted that the sample size was small and that the distribution of the survey was focused on young engineers to better assess the department's program educational objectives. For this reason, it is not certain how meaningful these data are.

Faculty effectiveness

Overall, the performance of the faculty's performance in 2007-2008 was very good in teaching, scholarly and professional activity, and service. Overall, faculty evaluations averaged "exceeds expectation" or higher. The faculty remains highly committed to teaching. In the most recent department course assessment report (2007-08), results from a total of 422 embedded indicators produced a valuable distribution of measurements within the curriculum where department standards were met. The embedded indicators also served as a means for organizing examples of student work graded at various levels of achievement. Additionally, 28 Level II course improvement items (actions to be performed by a subcommittee) and four Level III course improvement items (actions to be performed by the department) were generated and tracked. Department committees also planned and completed a number of improvement items. During 2007, 100% of the faculty published at least one refereed publication at a national or regional conference or a journal and/or made presentations to colleagues. During 2007, department faculty members received the following awards: the 2007 American Society of Civil Engineers ExCEED New Faculty Excellence in Teaching Award, the 2007 Lowcountry Professional Development Provider of the Year (awarded by the Project Management Institute's Charleston Chapter), the 2007 American Society for Engineering Education PIC V Best Paper Award, and two 2007 Forty Under 40 Awards (awarded by the Charleston Business Journal).

Administration

The department was provided \$126,601 during 2007 in support of faculty and cadet travel, equipment, and software. Overall, funding support has been excellent. The recent ABET accreditation report shows that the five-year plan has been met and that the learning environment is satisfactory. The administrative staff is performing at a satisfactory level.

Summary

In summary by all measures this year has been a good year for the Civil and Environmental Engineering Department. It has seen the following accomplishments:

- High enrollment of freshmen
- Continuing efforts in FE preparation and assessment of data
- Continuing support through donations to the department
- Improvement in the asphalt/concrete laboratory equipment
- Improvement in computer equipment and software for instructional support
- Improvement in recruiting materials
- Continuing development of the department's assessment process, including the department's Blue Sky assessment process

II. Department of Electrical and Computer Engineering

Mission

The mission of the Department of Electrical and Computer Engineering is:

To prepare the individual for professional work or for graduate study in the fields of electrical and computer engineering and to provide as many of the elements of a broad education as can be included in a program of professional study leading to the degree of Bachelor of Science in Electrical Engineering.

Program Objectives

The Department of Electrical and Computer Engineering's program objectives were reviewed and modified significantly in spring 2007 to ensure the objectives are appropriate to constituent needs and to better align these key educational objectives with ABET Criterion 2 guidelines, which follow:

The Citadel Department of Electrical and Computer Engineering program prepares graduates to:

- Succeed in the practice of electrical engineering, by ethically and judiciously applying knowledge of science, mathematics and engineering methods to solve problems facing a technologically complex society.
- Apply and operate current hardware and software tools, equipment, and development environments to conduct and/or lead engineering analysis, design and research.
- Value and pursue lifelong learning, not only to keep current in electrical and computer engineering fields, but also to sustain awareness of engineering-related issues facing contemporary society.
- Pursue graduate education and/or professional registration as desired or required.
- Be principled leaders with strong communications and team-building skills.

Expected Results

1. An absolute expectation is to maintain national accreditation by the ABET Engineering Accreditation Commission. The ABET review and evaluation of our engineering program provides an independent assessment based on national recognized standards.
2. Students are the foundation of any program. The following expectation assesses the attractiveness of our program to qualified candidates. A goal of attracting approximately 7.5% of the entering freshman class is appropriate for our institution. Better than average college entrance scores is appropriate to our course of study. It is expected to enroll a minimum of 50 incoming electrical engineering students with an average SAT approaching 1150 and with SAT math scores approaching 650 each fall, and to retain at least 50% of the students that meet the expected SAT math score.
3. It is expected that at least 75% of the enrolled sophomore electrical engineering students will meet or exceed the minimum grade requirement of a "C" in ELEC 201 and ELEC 202. Demonstrated proficiency in ELEC 201 and ELEC 202 (Electric Circuits I & II) is necessary for students to advance in the electrical engineering program.
4. It is expected that at least 75% of the enrolled sophomore electrical engineering students will have successfully completed MATH 131, 132, 231, 234, and PHYS 221, 222, 271, and 272 prior to the start of their fifth semester. The successful completion of these courses provides an adequate foundation for the student to enroll in junior level electrical and computer engineering courses.
5. It is expected that at least 80% of the students entering the junior electrical engineering curriculum will complete the two-semester sequence successfully.
6. Students who transfer into The Citadel Graduate College under the '2+2' program with area Technical Colleges will enter in the junior year of the electrical engineering major. Attrition in this program should be minimal, and it is expected that 80% of these students will complete degree requirements within four years of transferring to The Citadel.
7. It is expected, but not required that at least 80% of seniors eligible to graduate within 9 months will take the Fundamentals of Engineering Exam. Senior students' performance on the Fundamentals of

Engineering exam is evaluated annually. The detailed analysis aids in identifying areas in the engineering program requiring attention, and verifies strengths of the program. The passing percentages are expected to be equal to or above the national averages for electrical engineering seniors.

8. The Department expects that at least 90% of its graduates, other than those receiving commissions in the Armed Forces or entering graduate school, will be employed as professional engineers within six months of their graduation date.
9. At least once every six years an Electrical Engineering Graduate Questionnaire is mailed to the electrical engineering graduates of the past ten years. The Department uses this instrument to assess our graduates' professional status and growth, including progress toward an advanced degree, progress toward professional licensure, professional society involvement and continuing education activity, as well as military rank advancement of those graduates serving in the armed forces. The survey results are used to aid in identifying program deficiencies.
10. In assessing teaching effectiveness, the Department expects the mean score on the twenty core items addressed by the college's evaluation of instruction to exceed 4.25 on at least 85% of the core items and that no item score be will be less than 3.9. Faculty members summarize their teaching evaluation results in their annual Personal Data Sheets.

Assessment Tools

The following data, surveys, and methods are used to assess the expected results of the Electrical Engineering program.

- Data
 - Data from surveys listed below
 - SAT scores of incoming ECE freshman
 - Comprehensive final exam averages
 - Videotapes and Proceedings of CEEDS Symposium
 - Graduate school admission of Electrical Engineering graduates
 - National Council of Examiners for Engineering and Surveyors (NCEES) data
 - Results and comments from prior ABET visits
- Surveys
 - Student Evaluation of Teaching Surveys
 - Student Evaluation of Learning Surveys
 - Alumni surveys of Electrical Engineering graduates
 - Employer surveys of Electrical Engineering employers
 - Electrical Engineering Senior exit surveys
 - Citadel Experience Survey
- Methods
 - End of Term Meetings
 - Annual Assessment Reports
 - ECE student retention analysis
 - Faculty and Staff Performance Evaluation Process
 - Analysis of basic Science, Mathematics and Electrical Engineering Grades

Assessment Results

1. The Electrical Engineering Program at The Citadel is fully accredited by the Engineering Accreditation Commission (EAC) of the Accrediting Board for Engineering and Technology (ABET).
2. In fall 2007, ECE enrollment included 50 entering freshmen and two active duty students, exceeding the goal of 50 matriculates for the first time in four years. Retention of AY 2007 ECE freshmen to AY 2008 ECE sophomores stands at 63%, up from 58% the previous period and well above the 50% goal. While the SAT averages for entering electrical engineering students consistently exceed those of the entering freshman class as a whole, we continue to fall short against our objectives of 1150 overall and 650 in Math. Although the 1134 average SAT for electrical engineering students entering in fall 2007 was substantially stronger than that of the entering class, the Department remains concerned by the

quantity and quality of entering students choosing to major in electrical engineering, and continues to work with the Dean of the School of Engineering to develop programs to target and attract outstanding engineering students.

3. Only 72% of the sophomores passed ELEC 201 with a C or better, comparing poorly to the previous year when 92% of the students obtained this goal. 95% (18 of 19) ELEC 202 students earned a “C” or better in the spring of 2008, up slightly from 90% in spring 2007.
4. Seventy-three percent of the enrolled electrical engineering sophomore students completed the first four semesters of the required Math (16 of 22) by the beginning of their fifth semester at The Citadel. All of the sophomore class completed Physics on schedule and have pre-registered for the fifth semester of the electrical engineering curriculum.
5. Ninety-four percent of electrical engineering cadet juniors (15 of 16) completed their junior year successfully and have the necessary background to undertake a major design project along with senior elective courses in their areas of interest. Four cadets from previous classes will begin their senior year in fall 2008, as will seven CGC “2+2” students, bringing the total number of senior studying ECE during AY2008/2009 to 26.
6. Seventeen members of the South Carolina Corps of Cadets received Electrical Engineering degrees at the May 2008 graduation ceremony. Fifteen (88%) completed their degrees within four years of beginning the program at The Citadel.
7. Ten '2+2' students graduated in May 2008 from The Citadel Graduate College earning the Bachelor of Science in Electrical Engineering degree. All completed degree requirements within four years of transferring to The Citadel.
8. Nineteen AY 2006-2007 ECE seniors sat for the national Fundamentals of Engineering Exam during the fall term. Several more chose to take the test during spring 2008. Performance on the Fall FE exam was four percentage points higher than the overall national average, and 6 percentage points higher than the Carnegie Masters Comprehensive (CMC) institutions with which The Citadel compares. Results from the spring test are not yet published. Citadel electrical engineering students tested better than the average of the CMC institutions in 11 of the 12 subject areas.
9. Six 2008 electrical engineering graduating cadets accepted commissions as officers in the US armed forces upon graduation, and four are now employed in engineering positions with the Department of Defense or Department of Defense support contractors. Ten have confirmed their acceptance of engineering jobs in the private sector, and one is pursuing full time graduate study in engineering. The employment status of the remaining graduates is uncertain, but all are believed to be employed as engineers.
10. 15 of 17 graduating ECE cadet seniors chose to participate in the Office of Institutional Research’s 2008 Citadel Experience Survey. Participation is up from thirteen in 2007. The departmental results continue to fair well against the institutional averages on this survey, as shown below for both in TABLE V, for 2007 and 2008.

TABLE V

The Citadel Experience Survey Question concerning the following:	% Very Satisfied or Satisfied			
	2007		2008	
	ECE	Institution	ECE	Institution
Major program of study	100	93.7	93.33	93.5
Instruction in Major program	100	93	100	91.7
Academic advising, course selection/ requirements	84.6	77.1	100	83.3
Academic advising – understanding policies	92.3	77.7	93.33	80.4
Availability of advisors	92.3	78.1	100	83.3
Curriculum prepared me for my discipline	100	94	100	93.3
Professors were interested in my progress	100	89.4	100	89.5
Professors were accessible	100	94.4	100	95.2
Professors had enthusiasm for the subjects	100	94.4	100	95.7