2006-2007 PLANNING/OUTCOMES DOCUMENT

Name of person(s) completing form:	Peter Messier	Curriculum/Department:	Surveying Technology

Purpose/Mission Statement:	Vision Statement: (3–5 years)
To educate surveying technicians in the basic principles of Land Surveying, establish them in the techniques and procedures practiced by the Land Surveying profession, equip them to be productive surveying technicians upon graduation, and encourage them to pursue lifelong learning opportunities, higher degrees (if appropriate), and active participation in professional surveying associations. Above all, their experience in the Surveying Technology Program and SCC should inspire them to be productive and contributing professionals having concern for their fellow citizens and their community.	To be the Surveying Technology Program of choice in Western North Carolina and portions of Eastern Tennessee, up-to-date in it's teaching and equipment and expanding to meet the educational and technical needs of the land surveying, land information and land development communities in our earned market area.
Program Strengths:	**Program Weaknesses:**
The program has the encouragement and support of the surveying profession in North Carolina and of the SCC administration. The curriculum is pertinent to today's practice of surveying. The program has qualified, experienced and enthusiastic faculty in major courses as well as support courses.	Although the program has a significant modern equipment in place, it lacks GPS and robotic technology that is currently in use in professional practice.
Program Opportunities:	**Program Threats:**
Due to economic development and growth in WNC the demand for surveyors is significant. Also, for this same reason, the demand for civil engineering technicians appears to exist as well. This provides the opportunity to expand the enrollment and offerings of the Surveying Technology Program and possibly add a Civil Engineering Technology Program. In addition, NCA&T University is establishing a 4 yr. Geomatics (Surveying) Program and has structured the curriculum to include many of the surveying courses available at NC Community Colleges and has a 2+2 option for those graduating from Surveying Technology Programs in the NCCCS.	Low entering enrollment poses a real threat to the long term viability of the program. Interest in surveying as a career is relatively low compared to other technical fields. Many students and potential students are unaware or have very little understanding of this career path and the opportunities it provides.

Goal #	Values for Teaching	College Goals	2006-2007 Department Outcomes/Goals	Success Criteria (e.g. outcomes, enrollment increases)	Plan of Action (including resources needed)
1	3 4 6	1 2 7	Retain current majors and recruit new majors in the Surveying Technology Program.	At least 60% of those identified as Surveying Technology majors in fall 2005 will continue studies through spring 2006 taking into account those graduating in fall 2006. In addition, the number of new enrollees will equal to or be greater than 20% the current enrollment in program.	• Monitor enrollment and admission of surveying majors. • Provide effective advising and support to existing and new surveying students. • Visit at least 4 high schools (trig or geometry classes) during the 2005-2006 academic year, seek out career fairs and display at appropriate conferences.
2	1	1 2 5	Students will exhibit proficiency in standard field data measurement and collection systems	75% of the students to attain a grade of B or better in SRV110, SRV111 and SRV 240 as a result of their abilities to: - set-up and operate a total station instrument - correctly observe horizontal and vertical data - collect data and record it in both manual and digital formats	• Provide lecture material, equipment and class and laboratory assignments that will equip and challenge at least 75% of the students to attain a grade of B or better in Surveying I, II, and Topo/site Surveying. • Purchase new GPS equipment and a robotic total station that will bring program up to current state-of-the-art practices. • Monitor the results of course grades for grades SRV 110, SRV 111, and SRV 240.
3	1	1 2	Students will understand and know how to apply the Minimum Standards of Practice for Land Surveying mandated by NCAC 21-56.16 of the NC Board of Examiners for Engineers and Land Surveyors and in NCGS 47-	75% of the students will receive a grade of B or better in SRV 210, SRV 220, SRV 230, and SRV 260 as a result of their abilities to: - perform proper research for the definition of the	• Provide lecture material, software, and class and laboratory assignments that will equip and challenge at least 75% of the students to attain a grade of B or better in Surveying III, Surveying Law,

			30	boundaries of a parcel of land to arrive at the correct limits of ownership - perform traverse surveys and level circuits that meet minimum closure requirements - prepare plats, maps, and descriptions that meet the minimum requirements.	Subdivision planning, and filed & office practices. • Monitor the results of course grades for SRV 210, SRV 220, SRV 230, and SRV 260.
4	1 2 6 7	1 2	Students will be satisfied with the skills they are acquiring in this program. (Note: since program is an evening & weekend program in its third year since inception, no graduates are available yet to survey)	90% of students surveyed will indicate they are satisfied with the skills they are acquiring in this program.	• Monitor the results of the survey of students as part of the annual program review process.
5	6 7	1 5 6	Employers will be satisfied with the entry-level skills of current students from this program who work for them.	85% of employers surveyed will indicate they are satisfied with the entry-level skills of students from this program.	• Monitor results of the survey of employers as part of the annual program review process.

Budget Item Description: (Budget items requested from college funds)	**Current Year Budget (Total Request):**	**Ongoing Operational Budget:**	**Expansion Budget:**
Supplies – stakes, nails, rebars, ink cartridges, water resistant paper, first aid kit, and repellant.	$560	$560	$0
Equipment – GPS Surveying System, adjustment and transformation software, invar rods, equipment cabinet, data collector brackets, plus miscellaneous smaller field and office	$45,680	$1,500	$44,180
Travel – local and regional surveyor meetings, NCSS Conv., TAPS Conv., VAS Conv., high school visits, and misc. local travel on SCC business.	$4,850	$3,100	$1,750
Program Accreditation – program is not yet eligible to apply for accreditation – need first graduating class	$0	$0	$0
Other – pipe & cable locator, polar planimeter, and mirror stereoscope w/parallax bar	$7,045	$0	$7,045
TOTALS (includes 7% sales tax)	$58,135	$5,160	$52,975

Goal	Criteria Results **Be sure to utilize most current data available**	End of Year Analysis (Goals achieved, impact of equipment purchased, improvements to your program, contingencies, etc.) Describe how you used the results to improve your program
1.	70% of the students (14) returned for spring semester due to the loss of 6 students who graduated in December. There was a 41% increase (9) in enrollment due to new students planning to enter the program during the summer and fall. We performed 2 high school visits (six individual classes) during the 2006-2007 academic year. We also did a surveying & GPS demo in the two MAT 162 classes for Rudy. We exhibited the Surveying Program at the NCSS Convention this past February. We received a lot of interest in and encouragement for the program.	We have exceeded our enrollment success criteria, but need to continue to bring more students into the program. If a new Civil Engineering Technology Program is implemented in Fall 07, this should bolster enrollment in surveying courses and possibly attract new surveying majors from those who decide to double major in CIV & SRV. We need to continue efforts to attract new students via high school visits and by development of good PR with surveying firms, government agencies, and professional societies. Due to a schedule conflict this year, we missed the opportunity to participate in NCDOT's Regional Construction Career Days at Haywood Fair Grounds. We should do what it takes to make sure we attend this two-day event in the future.
2.	75% of the students enrolled in SRV 110 in Fall 2006 attained a grade of B or better in the course. SRV 111 and SRV 240 are currently in progress. New RTK-GPS equipment was obtained during the Fall 2006 semester. A new robotic total station is in the process of being secured within the next few weeks.	As a result of this effort, students have shown more proficiency in standard surveying field procedures. I need to continue to improve presentation and course content to strengthen this important goal even more. The new GPS equipment has provided great exposure to this new technology for the students. It is also providing the opportunity for students to see when GPS is appropriate and when traditional total station equipment is more appropriate for different applications.

3.	100% of the students enrolled in SRV 210 in Summer 2006 attained a grade of B or better in the course. 81% of the students enrolled in SRV 260 in Summer 2006 attained a grade of B or better in the course. SRV 220 and SRV 230 are currently in progress.	Similar to Goal 2, students have shown more understanding in and the importance of board of licensure minimum standards and related NC State Statutes. Like Goal 2, I need to continue to improve presentation and course content to strengthen this important goal even more.
4.	An in-class anonymous survey of 7 (32%) current students enrolled in the Surveying Technology Program indicates 100% are very satisfied with the skills they are acquiring in this program. We did have one student graduate last May by taking some course work at AB-Tech. A survey of the graduate performed by Delos indicates that this graduate accomplished his goals and he is currently employed in surveying. The survey also indicates he is very satisfied with the surveying program.	We appear to be on the right track with student satisfaction. I am anxious to see the results of the surveys of the six December graduates and their employers. We need to at least maintain, and preferably improve, the program in terms of quality of instruction, content of courses, up-to-date equipment and software, and responsiveness and respect for students.
5.	A phone survey of 5 employers who have employees enrolled in the Surveying Technology Program indicates that 100% are satisfied or very satisfied with the entry-level skills of their employees who are students in this program. A survey of our graduate's employer performed by Delos indicates this employer (NCDOT) is very satisfied with the graduate/employee and stated he is proficient in surveying skills and is an excellent employee. We had six more	This goal has been achieved and hopefully shows we are on the right track. We need to continue to help place students with good firms. We also need to continue to provide practical instruction that helps them to be more "job ready" and will also help them bring new skills to the firms that hire them, especially in the areas of analysis, CADD, and new technology like GPS.

	students graduate from the program last December, but they have not yet been surveyed by Delos.	