

2007-2008 PLANNING/OUTCOMES DOCUMENT

Name of person(s) completing form:	Peter Messier	Curriculum/Department:	Civil Engineering Technology
Purpose/Mission Statement:		Vision Statement: (3-5 years)	
<p>To educate civil engineering technicians in the basic principles of Civil Engineering, establish them in the techniques and procedures practiced by civil engineering technicians, equip them to be productive upon graduation, and encourage them to pursue lifelong learning opportunities, higher degrees (if appropriate), and active participation in civil engineering and related associations. Above all, their experience in the Civil Engineering Technology Program and SCC should inspire them to be productive and contributing individuals having concern for their fellow citizens and their community.</p>		<p>To be the Civil Engineering Technology Program of choice in Western North Carolina, portions of Eastern Tennessee, and Northeast Georgia, up-to-date in it's teaching and equipment and expanding to meet the educational and technical needs of the civil engineering and land development communities in our earned market area.</p>	
Program Strengths:		Program Weaknesses:	
<p>The program has the encouragement and support of the surveying profession in North Carolina, the NCDOT, and the SCC administration. The curriculum is pertinent to today's practice of civil engineering technology. The program has qualified, experienced and enthusiastic faculty in major courses as well as support courses.</p>		<p>The program needs to purchase a significant amount of modern equipment to for soils, materials and hydraulics laboratories. Since it is a brand new program, it needs to develop credibility and a good reputation within the civil engineering and land development communities in Western North Carolina.</p>	
Program Opportunities:		Program Threats:	
<p>Due to economic development and growth in WNC the demand for civil engineering technicians is significant. This provides the opportunity to expand the enrollment in the program. In addition, several NC and other regional Universities offer four year civil and/or construction programs which graduates of our program could pursue for a related B.S. degree.</p>		<p>Low entering enrollment is a potential threat. If current recruitment and advertising efforts are not maintained, a drop off in enrollment could develop and threaten the long term viability of the program. A significant downturn in the economy could also threaten demand for our graduates.</p>	

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 Civil Engineering Technology Program.	At least 60% of those identified as Civil Engineering Technology majors in fall 2007 will continue studies through spring 2008. In addition, the number of new enrollees will be equal to or greater than 10% the current enrollment in program.	<ul style="list-style-type: none"> • Monitor enrollment and admission of civil majors. • Provide effective advising and support to existing and new civil 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 and lab data measurement and collection systems and in CADD based drafting.	75% of the students to attain a grade of B or better in SRV110, SRV111 and CIV125 as a result of their abilities to: <ul style="list-style-type: none"> - 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 - correctly insert and depict results in a CADD system 	<ul style="list-style-type: none"> • 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 Civil/Survey CAD courses. • Upgrade CAD software to AutoCAD Civil 3D 2008. • Monitor the results of course grades for grades SRV 110, SRV 111, and CIV 125.
3	1	1 2	Students will be proficient in the computational procedures needed to compute a closed traverse, a closed level circuit, and earthwork volumes.	75% of the students will receive a grade of B or better in SRV 110, SRV 111, SRV 210 as a result of their abilities to: <ul style="list-style-type: none"> - apply the necessary gross and systematic error corrections, and random 	<ul style="list-style-type: none"> • Provide lecture material, software, and class & laboratory assignments that will equip and challenge at least 75% of the students to attain a grade of B or better in Surveying I, Surveying II, Surveying III. • Monitor the results of course

				<p>error adjustments to traverse and leveling observations</p> <ul style="list-style-type: none"> - correctly compute the horizontal and vertical positions. - correctly calculate earthwork volumes by various methods. 	grades for SRV 110, SRV 111, and SRV 210.
4	1 2 6 7	1 2	Students will be satisfied with the skills they are acquiring in this program. (Note: since program is in it's first year, 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.	<ul style="list-style-type: none"> • 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.	<ul style="list-style-type: none"> • 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 - construction materials to be tested in labs, ink cartridges, water resistant paper, plotter paper.	\$435	\$435	\$0
Equipment - soils and materials lab equipment, soils and hydraulics software, 9 seats of CADD software 2008 upgrade, plus miscellaneous smaller lab and office items.	\$78,865	\$2,500	\$76,365
Travel - local and regional civil engineering meetings, high school visits, and misc. local travel on SCC business.	\$1,000	\$1,000	\$0
Program Accreditation - program is not yet eligible to apply for accreditation - need first graduating class	\$0	\$0	\$0
Other/Expansion - half the cost of computer lab to be shared with SRV.	\$11,000	\$0	\$11,000
TOTALS (includes 6.5% sales tax)	\$91,300	\$3,935	\$87,365

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.	<p>Please note that some of the results under each goal are identical or similar to the Surveying Technology Program because the two programs are so intertwined and it is hard or impossible to separate out some of the responses or results.</p> <p>Goal 1 results:</p> <p>Goal criterion was met. 83% of the students (15 out of 18) returned for spring semester due to the loss of 3 who apparently dropped out. There was a 28% increase (5) in enrollment due to new students entering the civil program for the spring and summer 2008. Net enrollment now stands at 20 (11% increase in enrollment).</p> <p>We conducted a career day event here on campus, and we held an open house for the Surveying and Civil Engineering Technology Programs. We have received positive feedback from both events.</p>	<p>We have exceeded our enrollment success criteria, but need to continue to bring more students into the program. The new Civil Engineering Technology Program seems to be attracting new students as the word gets out. Just this past week I had two new students for Civil make appointments to enroll in our program. At least half of the students in both programs indicate an intent to double major in CIV & SRV. We have had decent success, but like Surveying we still need to be vigilant.</p> <p>We need to continue efforts to attract new students via high school visits, career days, and by continued development of good PR with engineering firms, government agencies, and professional societies.</p> <p>I need to make a concerted effort to get involved with the Western Chapter of the NC Section of the American Society of Civil Engineers. Where that time comes from remains to be seen. Hopefully that can be resolved by the addition of a second full time faculty person for Civil.</p> <p>I believe our recruitment efforts for Surveying spills over some and helps the Civil program due to double majors</p>

		and by students who discover the Civil program by taking a look at Surveying.
2.	<p>Goal criterion was met. 78% of the students enrolled in SRV 110 in Fall 2007 attained a grade of B or better in the course, and 76.5% of the students enrolled in CIV 125 in Fall 2007 attained a grade of B or better in the course. SRV 111 is currently in progress and Civil majors were not enrolled in SRV 111 last spring.</p> <p>New robotic total station equipment obtained during the Fall 2007 semester along with new GPS equipment that was obtained last year were fully implemented into the program.</p> <p>New soils and materials lab equipment was obtained in January 2008.</p>	<p>As a result of this effort, students have shown at least minimum proficiency in standard surveying field procedures and in the insertion and editing of field data in a CADD system. I need to continue to improve presentation and course content to strengthen this important goal even more.</p> <p>The new GPS and robotic 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. They are also witnessing the improved efficiency that robotic equipment can provide.</p> <p>New soils and materials lab equipment obtained in January 2008 will have an influence on the goals and results for the 2008-2009 Advanced Planning Goals & Outcomes.</p>
3.	<p>Goal criterion was met. 78% of the students enrolled in SRV 110 in Fall 2007 attained a grade of B or better in the course. SRV 111 is currently in progress and Civil majors were not enrolled in SRV 111 last spring. They will not be taking SRV 210 until this summer (SRV 210 offered last summer did not have Civil majors enrolled).</p>	<p>Similar to Goal 2, students have shown understanding in and the importance of correct procedures for standard surveying and earthwork computations associated with civil engineering projects. Like Goal 2, I need to continue to improve presentation and course content to strengthen this important goal even more.</p>

<p>4.</p>	<p>Goal criterion was met. An in-class anonymous survey of 12 (27%) of students enrolled in the Civil Engineering Technology and the Surveying Technology Programs indicates that 92% are satisfied or very satisfied with the skills they are acquiring in this program. Please see scan of student surveys provided with this review on the W drive.</p> <p>Since we do not have graduates from the program yet, an SCC survey of graduates by Delos has not been conducted.</p>	<p>We are doing fairly well with student satisfaction.</p> <p>We still need to improve the program in terms of quality of instruction, content of courses, responsiveness to and respect for student needs.</p> <p>I believe we are doing very well on the equipment side for a new program. We still need equipment for hydraulics, hydrology and erosion analysis.</p>
<p>5.</p>	<p>Goal criterion was met. An email survey of employers (7 out of 8 responses) who have employees enrolled in the Civil Engineering or Surveying Technology Programs indicates that 100% are satisfied or very satisfied with the entry-level skills of their employees who are students in this program. Please see scan of emails provided with these results on the W drive.</p> <p>Since we do not have graduates from the program yet, an SCC survey of employers of graduates by Delos has not been conducted.</p>	<p>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 and agencies that hire them.</p> <p>The areas we need to prepare them in are routine analysis of survey and civil field data, CADD, GPS, survey robotics, soils, materials, stormwater and erosion control.</p>