

Columbus State University

College of Science

PHILOSOPHY, VISION AND GOALS

The College of Science is responsible for the delivery of core instruction and a rich variety of undergraduate measures in traditional university disciplines of philosophy, mathematics, natural sciences, and social sciences. We also provide applied programs in computer science, health science, and nursing. Graduate programs are provided in computer science and environmental science.

It is our vision to:

- Provide opportunities for undergraduate students to acquire positive learning experiences and develop skills in these science-related disciplines.
- A diverse assortment of opportunities to complete baccalaureate degrees in science-related discipline.
- Place a high value on student engagement as a mechanism for successful learning.
- Place a high value on excellence in the development and presentation of P-16 education in mathematics and science.
- Place a high value on provide life-changing educational experiences through opportunities for international study related to scientific disciplines.
- Prepare graduates with outstanding personal and professional habits, quality learning experiences, and effective knowledge and skills.
- Sustain graduate programs that serve regional needs and engender an enhanced learning environment for undergraduates.
- Employ faculty who are professionally competent, student-centered, personally engaged, and leaders committed to life-long professional growth and development.

GOALS

1. Cultivate a student-centered approach focusing on the academic best interests of students. This implies delivery of curricula that are rigorous, interactive, and with a focus on student engagement in appropriate activities.
2. Design strong academic programs creating an environment in which students, faculty, and staff focus on life-long commitment to intellectual growth, rational behavior, and professional growth.
3. Develop an enrollment plan, which emphasizes rational, non-destructive growth; focus on recruiting and retaining students qualified to succeed.
4. Areas of Excellence in the College of Science:
 - Engagement of undergraduate students in professional experiences through research, service experiences, and leadership experiences.
 - Engagement of students in international experiences related to College of Science disciplines.
 - Preparation of undergraduate students qualified to gain admission to graduate and other professional schools.
 - Preparation of qualified secondary mathematics and science teachers.

- Preparation of qualified graduates providing needed services in our geographic region:
 - Through quality core instruction in philosophy, mathematics, and science, prepare scientifically literate graduates from Columbus State
5. Commit to recruiting and retaining students and faculty from societal groupings underrepresented in the science disciplines.
 6. Increase Visibility of College of Science through:
 - Student and faculty achievements in research, international activities, and leadership.
 - Regionally significant graduate programs in computer science and environmental science
 - Preparation of secondary teachers in mathematics and science
 - Center for Academic Excellence in Information Assurance Education,
 - Outreach services such as the programs of Oxbow Meadows Environmental Learning Center, Coca Cola Space Science Center, mathematics and science outreach, the Columbus Regional Science & Engineering Fair, the Mathematics Tournament, and the Science Olympiad.
 - Preparation of well-qualified graduates in nursing, health science and computer technology.
 - Success in placing graduates in graduate and other professional schools.
 - Professional accomplishments and contributions of faculty.
 7. Develop a model of professional growth for faculty, which minimally provides sufficient funding to participate in one national meeting per year as well as funding sufficient to provide incentives for faculty engagement in research or other appropriate professional activities.
 8. Operate with a dynamic planning cycle for adding and maintaining laboratory facilities and equipment necessary for (a) basic instructional quality and (b) instructional quality.
 9. Develop a faculty development initiative that provides funding to support summer faculty engagement in research or other appropriate professional activities.
 10. Maintain high standards of access to and competence in technology, understanding that in the sciences, technology includes much more than computer applications.

**COLLEGE OF SCIENCE
AY 2003-2004 Level 2 Plan
Assessment in 2004**

COLLEGE/DIVISION: **Science**

GOAL	PLANNING INITIATIVE	ASSESSMENT
1,2,3,4,5, 6,7,9 I	Increase undergraduate opportunities for research and summer field experiences in appropriate departments	Biology, computer science, geology, psychology, and sociology students presented research at off campus venues and won a number of awards. Others presented at CSU student colloquium.
1,2,4,5,6 7,8,9 II	<p>In its efforts to continue meeting the regional educational needs and recognizing our development as a comprehensive undergraduate and graduate institution, the College of Science (COS) will continue to promote and enhance the Masters of Environmental Science, Masters of Computer Science and Applied Computer Science. The curriculum in the Health Sciences component of the MPA degree will be reviewed for modification.</p> <p>The College will also continue its efforts to foster support of the Master of Science degree in Occupational Therapy (collaborative program with MCG). Growth is expected in the B.S. in Radiological Science (with MCG).</p> <p>A graduate certificate in Actuarial Sciences is in the planning stage. A feasibility study to change the current B.S. in Health Science to a degree in Community Health should be undertaken.</p> <p>A joint doctoral program in Conservation Science with UGA is being investigated for possible implementation.</p>	<p>Dr. Gore and several other faculty brought in significant sums for research grants, and the graduate rate of graduate students continued to improve. Four graduate students will present papers in Vancouver, BC in June. Both environmental science and health science went through comprehensive program reviews. The external review committee praised the environmental science program and considered it a miracle in light of the apparent lack of institutional support. This program was financially the most economical in the college. With the loss of Jim Gore, the strength of environmental science and the possibilities of the joint doctoral program are lost. Health science is in desperate condition. The radiological science degree was terminated. Mathematics faculty has been preparing in actuarial science.</p>

GOAL	PLANNING INITIATIVE	ASSESSMENT
1,2,6,8,9 III	<p>Continue to review courses for deletion and the subsequent addition of new courses as required by community and program needs:</p> <ol style="list-style-type: none"> 1. Add an optional lab section for ENV5 1105 2. Delete some health science courses and add possible Community Health alternatives 3. Add a lab for Environmental Chemistry 4. Make a summer field camp a regular part of the geology program 5. Increase the visibility and offerings in engineering 	<ol style="list-style-type: none"> 1. No action taken, but we recommend that all core science courses have laboratories 2. No action on health science. 3. Did not have sufficient funds to improve environmental chemistry and biochemistry labs as needed. 4. Nothing done on summer field camp. 5. Engineering students continue to perform well, but no other actions taken.
1,2,3,7 IV	<p>Initiate repairs and minor renovation to office, classroom and research areas in LeNoir Hall, Faculty Office Building (FOB) (1st and 2nd Floors), Arnold 106,107 and Stanley Hall). Determine the extent of renovation needed after faculty move from Stanley Hall and FOB to the new Center for Commerce and Technology.</p>	<p>Renovation done in FOB for mathematics, philosophy, psychology, and sociology. Both departments were able to set up new departmental offices. Set up freshwater mussel research center in one of the Stanley Hall offices. The mussel research grants are now the largest in environmental science.</p>
1,2,6,8,9 V	<p>Continue upgrading of primary teaching equipment throughout the COS. This includes replacing microscopes, autoclaves, computers, growth chambers, analytical equipment, psychology equipment, physics and engineering equipment and the addition of equipment such as a scanning electron microscope.</p>	<p>Some computer upgrades have taken place. The return of laboratory fees to the biology, chemistry, and geology budgets has allowed some improvements to be made, but the big-ticket items are still suffering from neglect. Will need a way to accumulate several years of laboratory fees to replace these pieces of equipment.</p>
1,2,3,5,6,7,8 VI	<p>The College will continue to promote the participation of its faculty in scientific research and/or professional development activities. The College will encourage faculty to apply for external funding in support of their professional efforts and will expect faculty to include graduate and /or undergraduate students in their research efforts.</p>	<p>Faculty in the two departments with graduate programs were quite productive. Excessive teaching and advising loads for other faculty make significant professional work difficult. Never-the-less, several faculty did publish and present papers.</p>

GOAL	PLANNING INITIATIVE	ASSESSMENT
1,2,3,7,8,9 VII	With a rapidly growing nursing and health sciences program and dwindling area for offices and classrooms, it is appropriate to consider the feasibility of private funding of a New Nursing and Health Sciences Facility adjoining Illges Hall (Two floors with Illges footprint at total of 15,540 sq ft for offices and classrooms and special labs) (Estimated at \$ 3.5 M including furnishing)	Nothing done; apparently no one knew about this goal.
2,4,8,9 VIII	Units within the College will develop plans to recruit and retain students who are more academically prepared for training in its disciplines. Since previous enrollment goals in some programs have been exceeded, more effort will be placed on retention by identifying qualified applicants and better advising current students. A staff member in the Dean's office will coordinate the COS marketing activities locally and internationally.	Recruitment staff has made valiant efforts to work with COS on recruitment; however, they want to recruit for biology, computer science, and nursing. Psychology and sociology have had significant increases in students' numbers and also have difficulty meeting their needs. We have enough or too many students in these disciplines. We need recruiting in chemistry, geology, and mathematics, but recruiters say that these fields are too difficult to recruit.
1,2,3,4,5,6,7,9 IX	The College will continue to recruit and employ highly prepared, diverse faculty as replacements for retiring faculty and for new positions in programs being developed to meet regional and state requirements. Efforts will be made to recruit faculty who will provide different cultural perspectives in the teaching of their discipline. New faculty needed include Health Science faculty (2) Psychology faculty (1) Replacement for Dr. Stinson (Math) Joint appointment position - Environmental Chemist (preferably atmospheric chemist) Nursing faculty (1)	We replaced Stinson and Thomas in mathematics and philosophy. Several nursing positions were filled, and some nurses were lost. Nursing lost one full-time position. Retirements in biology and physics were replaced.

GOAL	PLANNING INITIATIVE	ASSESSMENT
1,2,3,4,5, 9 X	Continue to support international travel and research and educational opportunities for students and faculty	Biology continued to be successful in this regard; classes to Andros Island and Australia (36 students). Geology tried, but could not fill the class. Julie Ballenger appointed assistant director of international studies.
1,2,3,4,7 XI	Secure funding to increase the level of salaries of underpaid faculty, provide for adequate funding of new faculty and decrease the disparity between private and state educational positions.	Done for Dr. Cruzen and for nursing faculty. Nothing else done.

Roman Numerals Represent College Goals

COLUMBUS STATE UNIVERSITY
COLLEGE OF SCIENCE
 FY 2004 LEVEL 2 PLAN

Goal*		Planning Initiative	Cost	Planned Impact
Institutional	Unit			
		Respond to comprehensive program review of environmental science and health science as well as the departure of the department chair and graduate program director.		
9	--	Discontinue the Department of Environmental and Health Science		<ul style="list-style-type: none"> ▪ Reassign programs <ul style="list-style-type: none"> ○ Return graduate program to status as a collaborative effort of biology and chemistry/geology, revive departmental investment ○ Health science reports to dean
1,2,4,9	1,2,3,6,9,10	Resolve the future of the graduate program in environmental science		

		<ul style="list-style-type: none"> • Identify interim leadership for 2004-2005 • Appoint faculty to serve as dissertation advisors <ul style="list-style-type: none"> ○ Invite Dr. Gore to serve as adjunct member of those committees. • Restructure advisory committee • Develop a quality improvement plan for the graduate program in environmental science in association with the university self study. <ul style="list-style-type: none"> ○ Review curriculum; plan future space ○ Search for new director and two new research faculty in the natural sciences. ○ Design incentives to encourage broader faculty participation ○ Develop recruitment plan • Increase and improve teaching and research assistant support <ul style="list-style-type: none"> ○ Increase TA stipends to \$10,000/yr. (04-5) ○ Add 3 new positions teaching assistants. 	<p>Adjust teaching loads, employ part-time or temporary faculty, increase use of TA's.</p> <p>\$ 15 K</p> <p>\$ 30 K</p>	<ul style="list-style-type: none"> ▪ Avoid loss of reputation & continue environmental research services to region. ▪ Maintain, improve motivational atmosphere for undergraduate students and faculty. ▪ Continue income from externally funded research grants ▪ Provide graduates for employment in various environmental science fields in region ▪ Provide teaching assistants in for undergraduate science programs
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Goal*		Planning Initiative	Cost	Planned Impact
Institutional	Unit			
		Respond to and fulfill commitment to ICAPP Nursing grant and regional need for nursing graduates		
1,2,4,5,7	1,2,3,4,5,6	<ul style="list-style-type: none"> ▪ Maintain nursing program enrollment of least 70 students per year (each fall) with ICAPP funding renewal OR 56 per year without ICAPP funding. <ul style="list-style-type: none"> ○ Maintain full-time nursing faculty. <u><i>This requires immediate addition of one full time nursing faculty position to replace one lost last year, beginning fall 2004.</i></u> ○ Fill two ICAPP funded temporary full-time nursing faculty positions to keep enrollment at 70 per year (if we get ICAPP) ○ Continue to implement revised nursing pay scale from 2003 	<p>\$45 K</p> <p>\$ 0 K</p>	<ul style="list-style-type: none"> ○ Graduate maximum number of RNs to help meet crisis level nursing shortages now and into the next 25 years. ○ Maintain Georgia Board of Nursing approval and NLNAC national accreditation. ○ Fulfill commitment to ICAPP grant. ○ Provide fewer nursing graduates if we don't ○ Loss of matching funds (ca \$396K), if we don't ○ Loss of student access to more than \$600K in scholarships
1,6,7	1,2,3,4,5,6,10	Maintain and update nursing clinical laboratory, increasing departmental operating budget by \$12,000	<p>\$ 6 K (05)</p> <p>\$ 6 K (06)</p>	<ul style="list-style-type: none"> ▪ Respond positively to National League for Nursing Accreditation Commission's recommendation on their site visit that "outdated manikins, beds and other equipment in the skills lab" be replaced and updated.

Goal*		Planning Initiative	Cost	Planned Impact
Institutional	Unit			
		Begin to fulfill University commitment to a center of excellence in mathematics and science education and in teacher preparation		
1,2,3,4,5,9	1,2,3,4,5,6	Develop COS component of Center for Excellence in Mathematics and Science Education <ul style="list-style-type: none"> ○ Add a tenure-track mathematics-education faculty member ○ Add a tenure-track chemistry-science education faculty member to join the life science and physics members ○ Add a tenure-track earth science education faculty member ○ Add a tenure-track biology or environmental science education faculty member ○ Employ Dr. Gardner as a part-time professor to teach life in space for 2 semesters ○ Employ Dr. Gardner as a consultant to the COS regarding science-education 	\$ 46 K \$ 46 K \$ 46 K \$ 45 K \$ 6 K \$ 6 K	<ul style="list-style-type: none"> ▪ Create a COS focus on preparation of secondary teachers of mathematics, life science, physical science, and earth-space science ▪ Develop a council to plan and coordinate <ul style="list-style-type: none"> ○ Advising of teacher candidates ○ Recruitment of students ○ Integration of efforts with three COS departments and COE ○ Make constructive input into COE preparation of elementary and middle school mathematics and science education ○ Contribute to leadership and operations of science fair and science Olympiad ○ Plan science education laboratories ○ Plan distribution of NASA and other equipment acquired by Dr. Gardner ○ Move science education laboratory from Illges Hall by May 2005
1,2,3,5	1,2,3,4,5	New math faculty participation in Project NExT <ul style="list-style-type: none"> ○ Cindy Henning in 2004-2005 ○ Brian Muse in 2005-2006). 	<u>\$ 3.5 K (05)</u> <u>\$ 4.5 K (06):</u> <u>\$ 1 K (07):</u>	<ul style="list-style-type: none"> ○ Influx of new ideas for improving our programs and attracting new math majors ○ Development of academic leaders who will aid program assessment and development ○ Heightened involvement of disciplinary faculty in teacher education ○ Improved mathematics instruction

Goal*		Planning Initiative	Cost	Planned Impact
Institutional	Unit			
		Respond to comprehensive program review recommendations and increases in student enrollment in core and in certain upper level programs.		
1,2,3	1,2,3,4	<ul style="list-style-type: none"> • Three tenure-track position in mathematics • Two tenure-track positions in psychology <ul style="list-style-type: none"> ○ One replacement • Two tenure-track positions in sociology 	\$ 141 K \$ 44 K \$ 96 K	<ul style="list-style-type: none"> • Respond to CPR recommendations from program faculty and visiting committees. • Respond to CPR recommendation that full-time faculty become more involved in core instruction (mathematics) • Provide more core classes • Attempt to improve retention and graduation rates by relying less upon part-time faculty in disciplines characterized by high numbers of poorly performing students.
1,2,3	1,2,3,4,6	<ul style="list-style-type: none"> • Tenure-track position in health science <ul style="list-style-type: none"> ○ Consider seeking a director • Tenure-track position as director of graduate program in environmental science <ul style="list-style-type: none"> ○ Replacement • Tenure-track position in ecology to support graduate program in environmental science • Tenure-track position in chemistry to support graduate program in environmental science 	\$ 46 K \$ 55 K \$ 85 K \$ 55 K \$ 55 K	<ul style="list-style-type: none"> • Respond to CPR recommendations for health science • Replace director of graduate program in environmental science • Respond to CRP recommendations for environmental science program by adding faculty whose responsibilities will include procuring grants funds and supporting graduate students
1,6,9	8,10	Improve property and safety inventories in COS <ul style="list-style-type: none"> ○ Add a stockroom manager and safety coordinator 	\$ 40K	<ul style="list-style-type: none"> ▪ Comply with CPR recommendation for chemistry ▪ Supervise completion of biannual chemical inventory in COS ▪ Help maintain equipment ▪ Inventory supplies and equipment ▪ Assist students and faculty

Goal*		Planning Initiative	Cost	Planned Impact
Institutional	Unit			
1,2,3,4,5,8,9	1,2,3,4,6	<p>Develop college emphasis on undergraduate research participation</p> <ul style="list-style-type: none"> ○ Seek formal affiliation with the Council on Undergraduate Research <ul style="list-style-type: none"> ○ Identify a faculty liaison to replace Stanton ○ Provide funds for faculty to attend CUR meetings ○ Evaluation student participation in CUR programs ○ Develop required undergraduate research participation in programs to be identified ○ Provide elective undergraduate research participation in programs to be identified ○ Appoint committee to consider development and funding sources for undergraduate research 	<p>\$ 0.7 K membership</p> <p>\$ 4 K meetings</p>	<ul style="list-style-type: none"> ▪ Formal recognition of college commitment to undergraduate engagement in discipline related productivity ▪ Stimulation of more and better quality student engagement ▪ Development of plans for encouraging and funding undergraduate research participation ▪ Contribute to retention and satisfaction rates
1,2,3,4,5,8,9	1,2,3,4,6	<p>Develop college emphasis on international educational experiences related to COS disciplines</p> <ul style="list-style-type: none"> ○ Identify programs offering international course opportunities ○ Work on plans for finding funding sources for international educational experiences related to COS disciplines 		<ul style="list-style-type: none"> ▪ Benefit COS students ▪ Provide interesting work opportunities for faculty ▪ Support CSU goal

1,2,9	1,2,7	<p>Establish college workload policy</p> <ul style="list-style-type: none"> ○ Develop workload goals for non-tenure track faculty with minimal service and prof. Devel. <ul style="list-style-type: none"> ○ 30 contact hours per year ○ Develop workload goals for tenure-track faculty <ul style="list-style-type: none"> ○ 24 contact hours per year ○ Develop workload goals for faculty supervising research grants and students <ul style="list-style-type: none"> ○ Commensurate with responsibilities 	Indirect	<ul style="list-style-type: none"> ▪ Better meet demands for core instruction ▪ Clarify work responsibilities for non-tenure track faculty ▪ Provide more appropriate credit to faculty who are supervising research, winning and supervising grants
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Goal*		Planning Initiative	Cost	Planned Impact
Institutional	Unit			
3,9	1,2,7	<p>Improve support (and expectation) for faculty development</p> <ul style="list-style-type: none"> ○ Provided department budgets with funds for faculty to attend the equivalent of one national meeting per year (\$1K/tenured & tenure track faculty member) <ul style="list-style-type: none"> ○ Currently 61 tenured & tenure track ○ When funds are available; expect appropriate professional involvement in professional societies, including attendance and contributions to annual meetings. 	\$61K/yr	<ul style="list-style-type: none"> ▪ Tenure track faculty provided support to attend annual meetings or workshops; increase expectations that they do so ▪ Tenured faculty provided support to attend annual meetings, participate in leadership and by presenting work at these meetings; increase expectations that they do so.

1,2,4	1,2,3,6	<p>Coordinate premedical student advising and ensure that departments or programs receive credit for students enrolled in COS</p> <ul style="list-style-type: none"> ○ Establish formal concentrations for premedical students in BA biology, BA biology, BA chemistry, and BS psychology ○ Designate at least one premedical advisor in each of those departments ○ Establish COS Premedical Advisory Board <ul style="list-style-type: none"> ○ Each department appoints or elects one advisor to serve on the board ○ Three board members recommend to dean one additional board member from COS ○ Board elects chair to serve 2-year term ○ Board recommends policies, standards, and procedures to their chairs and dean ○ Board is responsible for execution of policies and provides annual report to their chairs and dean 	\$2K for travel to workshops	<ul style="list-style-type: none"> ▪ Increase success of COS graduates seeking professional school admission ▪ Improve retention and graduate rates ▪ Ensure that academic departments receive credit for students served
8	1,2	Develop plans to establish scholarships in the COS (Justify programs)		<ul style="list-style-type: none"> ▪ Improve student quality, improve retention, improve graduation rates

Goal*		Planning Initiative	Cost	Planned Impact
Institutional	Unit			
8,9	1,2,4,5,6,8,9,10	Planned approach to increasing levels of external funding in COS (grants, contracts, and gifts)		▪
1,2,5	1,2,4,5,6	Develop a plan to review and increase faculty salaries to appropriate, published standards		<ul style="list-style-type: none"> ▪ Make adjustments in the pay rates of extant faculty appropriate to a standard ▪ Improve ability to make competitive offers to new faculty
1,2	1,2,6	Sponsor faculty completion of Society of Actuary exams <ul style="list-style-type: none"> ○ Lisa Peterson – exams 2 and 3 ○ Somebody else – exams 1 and 2 	\$ 0.74K	<ul style="list-style-type: none"> ○ Establish credibility of actuarial science concentration; increase visibility ○ Improve faculty knowledge base
1,2,3,4,5,9	1,2,4,6	Increase the Computer Science faculty to thirteen.	\$ 90 K	<ul style="list-style-type: none"> ▪ With nearly 500 majors, the department has to employ a number of part-time faculty and meet student needs for making timely progress toward graduation.
1,2,3,5	1,2,5	Employ student assistants to cover 19 hours/week in the Math Office and in the Math Computer Lab	<u>\$ 9.79K/yr</u> = \$5.15 / hour × 38 hours per week × 50 weeks/year	<ul style="list-style-type: none"> • Improve student performance in core mathematics course work • Improve retention
1,2,3,5	1,2,5	Improve Math Lab <ul style="list-style-type: none"> ○ Directly involve math faculty in assistant selection ○ Increase tutor pay from minimum to \$7.50/hr. ○ Employ individuals qualified to tutor students taking elementary statistics and applied calculus. ○ Employ math-educator to supervise math tutoring services 	<ul style="list-style-type: none"> ○ <u>\$ 0</u> ○ <u>\$ 4.47K</u> ○ <u>\$17.10K</u> ○ <u>\$50K</u> 	<ul style="list-style-type: none"> • Improve student performance in core mathematics course work • Improve retention

1,2,3,5	1,2,3,5	Establish and assess a placement testing system for math courses, required of all planning to enroll in MATH 1111, 1112, 1113, 1125, or 1131. (Accuplacer = \$1.45/student)	\$2700 / year	<ul style="list-style-type: none"> ○ Improve student performance in core mathematics course work. ○ Improve retention
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Goal*		Planning Initiative	Cost	Planned Impact
Institutional	Unit			
1,3,6	1,2,10	<p>Establish a technological acquisition, maintenance and repair fund for Chemistry:</p> <ul style="list-style-type: none"> • Acquire Instrumentation (these should also include service contracts, though the cost estimates do not include service): <ul style="list-style-type: none"> • Gas chromatograph \$15,000 • NMR (would also require daily upkeep in terms of liquid Nitrogen) \$250,000 (probably only possible if supported by grant in which case we would need to provide matching funds). • Annual service contracts for existing instruments: <ul style="list-style-type: none"> • Thermofinnigan GC-Mass Spec \$14,000 • Varian/Cary Fluorescence Spectrophotometer \$2200 • Cary uv-vis Spectrophotometer \$2340 • IR Spectrophotometer \$2028 • AA \$5000 (estimate) • Repair/renovation for existing instruments: <ul style="list-style-type: none"> • Single crystal X-ray diffractometer \$8,000-\$10,000 not including room modifications for shielding and licensing. 	<p>Including both acquisitions : \$265,000</p> <p>Including all listed service contracts: \$23,068</p> <p>\$10,000</p>	<ul style="list-style-type: none"> ▪ Increase student instruction based upon use of instrumentation. ▪ Increase interest, success, and retention of chemistry (and biology) majors. ▪ Better support environmental science. <p>Failure to fund will result in absence of essential instructional equipment, decline of chemistry program, weaker preparation in biology and environmental science.</p>
1,3,6	1,2,10	<p>Establish software budget for the Department of Chemistry and Geology to include software licensing purchases or annual licensing subscriptions as appropriate. For example: AutoCAD license for LH 124, MatLAB for LH 124 Software for Chemistry program (upgrades of ChemDRAW and Spartan molecular modeling software) So far the use of these has been restricted to individual faculty machines because licenses for one seat have been bought. Geology software (groundwater modeling, Rockware). If they are to be useful for students, these must also be installed in LH 123. These would be used in upper-level courses.</p> <p>Contribution to ArcView.</p> <ul style="list-style-type: none"> ○ Graphics software for assembling poster presentations (CorelDRAW is less expensive but people here seem to use Adobe – I do not know how much this would cost to be available on the computers in LH 124. 	<p>\$ 7K/yr \$16K \$ 2K/yr for chem.-geol</p>	<ul style="list-style-type: none"> ▪ AutoCAD essential for engineering program; maintain or drop program ▪ Other software is needed to catch up after years of neglect, bring chemistry and physics into the computer age.

		Biology and Environmental science has needs too Replace autoclave Replace growth chambers		
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College of Science: Recommendations for Faculty Positions

ICAPP Agreement 1 nursing: full time (04-5)	\$ 45 K
Teacher Preparation 1 mathematics – education 1 chemistry – education	\$ 46 K \$ 46 K
CPR Response 2 mathematics 1 psychology replacement 1 director environmental science replacement	\$ 90 K \$ 44 K \$ 88 K
Enrollment Growth Response 1 computer science	\$ 90 K
CPR Response 1 mathematics 1 psychology 2 sociology 1 health science – program director 1 environmental chemist (grad prog) 1 ecologist (grad prog) 1 health science 1 safety & inventory manager	\$ 45 K \$ 44 K \$ 88 K \$ 48 K \$ 55 K \$ 55 K \$ 42 K \$ 35 K
Teacher Preparation 1 earth science – education 1 life science – education	\$ 46 K \$ 46 K
16 new faculty positions 2 replacements 1 staff	\$786 K \$ 132 K \$ 35 K \$953 K

Columbus State University
College of Science
Executive Summary

Not only is this my first experience preparing a level 2 plan, I think it is my first opportunity to even see one. The following plan is based extensively upon level 3 plans submitted by the departments. When it became evident that several chairs were struggling to submit plans in time, I asked that they each provide, at least, their top three goals. With these I began to build a level 2 plan and have reviewed this several times with the chairs, reorganizing in response to each session. It would probably be challenging reality to say that this plan represents a consensus, but at least, all chairs know what it looks like.

I use the following criteria to prioritize College of Science needs in this plan:

1. Response to university strategic plan (Goal 3) to support select mission areas that will strengthen CSU as a distinguished academic institution. Both faculty morale and equity argue that the COS has a role in meeting this goal. Two selection mission areas have been identified that provide such an opportunity
 - a. Science, Mathematics and Technology Education (P-16)
 - b. Educator Preparation
2. Response to BOR Policy 205.01 by using comprehensive academic program review for progressive improvement and adjustment of programs within the context of the institution's strategic plan.
3. Respond to commitments made in the nursing ICAPP agreement
4. Respond to CSU strategic plan Goals 1 and 2 by meeting demands of rapidly increasing student enrollment and demands for courses in mathematics and science core and in several degree programs.

In response to criterion one, the COS has agreed to, in accordance with BOR recommendations, collaborate with the COE by assuming primary responsibility for the recruitment, advising, and preparation of secondary mathematics and science teachers, and eventually contributing to the development of excellent programs in elementary and middle school mathematics and science. To that end we have redirected three positions to mathematics and science teacher preparation. In this plan we recommend four new positions in the COS to add another mathematician, a chemist, a geologist, and a life scientist to the college's math-science-education team. We also plan to employ Professor Francis Gardner for one year as a part-time professor to continue his integrated science course and to serve as a consultant to the dean in science-education. We also propose supporting mathematics faculty participation in Project NeXT, increased support for undergraduate research participation, and increased support for discipline-related international studies.

CPR has targeted programs in chemistry, geology, environmental science, psychology, and sociology; in response to criterion two we recommend upgrading these programs in various ways. Environmental science requires a new director, at

least two more faculty members whose assigned duties include responsibility for winning research grants and supporting graduate students. Since Dr. Gore has clearly demonstrated a strong relationship between support for graduate students and graduation rates, we recommend increasing and improving our support for graduate students in the form of teaching assistants of \$5K per semester. We also recommend a restructuring of the advisory committee and a review of the curriculum, with consideration given to incorporating archeological elements. We also recommend development of incentives to encourage additional faculty participation in the graduate program. To fulfill CPR recommendations for the mathematics program, we recommend the addition of four additional faculty members. At least one of these should be associated with teacher preparation, responding to both criteria one and two. Recommendations for chemistry may be met by adding a chemist-educator and a research, environmental chemist. A geologist-educator could be a response to the recommendations for that program. CPR and enrollment growth suggest that we add two additional psychologists and that we replace Judy Purnell with a sociologist and add a new sociology position. We support the new African Studies project. In addition, health science was subjected to CPR. To continue this program, additional faculty, including a director with a doctorate, are required. For 2004-5, we recommend that the department of environmental and health science be dissolved. I recommend that the dean's office carry out the functions of the director, and if it is agreeable to Dr. Church and the department, assign him to the Department of Chemistry and Geology. I recommend that Tara Redmond be appointed as interim director of health science and that she report to the dean and supervise James Hiers. I recommend that we explore the degree of community support for this program, and if Dr. Laska approves, pursue sources of external support through those who want us to continue the program. We recommend employment of a safety and inventory manager for LeNoir Hall. This was recommended by the chemistry CPR, and is needed to keep up with safety and inventory requirements. The demands upon faculty are such that it is no longer feasible to ask them to do these tasks.

It is clear that somehow a full-time position was taken away from nursing. We recommend that this position be restored so that the department has 13 full-time faculty plus two temporary, full-time faculty, if ICAPP is continued. We have committed to a first phase of salary increases for nursing faculty. The department has recommended two additional phases, but I would prefer that they pursue salary adjustments in a manner common to the entire faculty. Nursing has also requested more space and support for maintaining laboratory and instructional equipment. By the end of the 2004-5 academic year, a new location for science-education laboratories should be identified, and the SEOC laboratory should be removed from Illges Hall. Part of Dr. Gardner's consulting will be to assist with this. LeNoir 250, used by Dr. Gardner as an office, should also be vacated by that time. This space was originally designated as a biology computer laboratory, but it may be a suitable area for a science-education center. Nursing also requests conversion of a room into a computer laboratory. The dean and the chairs need instruction on the way in which room use is evaluated by the BOR, and we need to work on a strategy for obtaining special purpose rooms we need while developing a record of efficient room use. We should evaluate the efficacy of the gerontology and occupational therapy programs and determine their contributions to the well being of CSU.

The faculty is insufficient across the college to provide the core and the quality we need. We are experiencing significant growth in biology and nursing. Psychology and sociology have also grown in the past year or two, and although computer science growth appears to have become asymptotic, they have the largest student enrollment in the college. Biology is now unable to meet the demands for core, required junior-level, and senior elective courses. To meet these demands they need more faculty members. Administrative changes have exacerbated the problem by reducing teaching power. Although the former dean is now available as a full time biology instructor, he does not fit into the niches vacated. We can provide some relief to the core problem if we can add more graduate teaching assistants, and perhaps we could find part-time instruction to help here. In the advanced courses, however, those solutions are not satisfactory. The faculty member to support environmental science and a second life science-educator should help resolve the problem. Recommendations for most other programs are made under criterion two, but computer science also requests a new position so that they can do a better job of moving majors through in four years.

The allocation of laboratory fees back to biology and chemistry-geology has helped with supplies and maintenance. However, these fees are insufficient for annual technology fees, maintenance and replacement of large equipment and sophisticated technology. Engineering, chemistry, and environmental science have the most significant problem with technology charges, while biology, chemistry, and environmental science have equipment that needs maintenance or replacement. If we are going to increase faculty in response to enrollment growth, we will need more faculty offices and more laboratory space for biology, environmental science, and science education. Clearview II could be converted into offices and perhaps science education laboratories. Perhaps the changes in Jordan Hall might open up some space for science education laboratories there; however, I would prefer something closer to LeNoir Hall so that we maximize integration of science and science-education and have easier access to equipment and materials from LeNoir. If any of the houses around Clearview Circle are available, they might suffice as temporary laboratories for environmental science research. Of course, if there were any way to save Clearview I, that would be excellent space.