

**COLUMBUS STATE UNIVERSITY**  
**COLLEGE OF SCIENCE**  
**AY 2001-2002 LEVEL 2 PLAN**  
**PART 1. PHILOSOPHY**

Embracing the mission statement of Columbus State University, the College of Science has the following specific mission which encompasses its diverse educational role for the community and the state: The Columbus State University College of Science is committed to excellence in all programs within its purview. Professional offerings within the school are broad in scope, but there continues to be a stronger emphasis upon development and growth of baccalaureate and graduate degrees. Targeted community needs will be met within the sciences by specialized programs and workshops of short duration. All associate degree programs have been terminated except the AAS in Computer Science which still serves a community need. The College of Science is committed to employing the latest technological advances in the transfer of knowledge, the search for truth and the elimination of mediocrity. Faculty of the College of Science will continue to motivate students to test their intellectual limits and to find their proper role in local, state, national and international arenas. Research and other scholarly activity by faculty and students will be encouraged.

The **College of Science** is committed to achieving the following university **goals**:

1. Become a nationally recognized educational and research unit
2. Improve the quality of education and service to students
3. Improve the quality and performance of personnel
4. Encourage cultural diversity
5. Identify and support programs of excellence
6. Develop a reputation for technological innovation
7. Improve the quality of life in the institution's service area
8. Increase funding sources and endowment of programs and units
9. Make an institutional commitment to action

The **College of Science** will provide programs for which national and international reputations of excellence may be achieved. These programs will emphasize interdisciplinary collaboration among academic units of the college and university. The College of Science shall promote the following as centers of excellence:

**The Department of Biology**

**The Department of Chemistry and Geology**

**The Department of Computer Science and Graduate Programs**  
**The Department of Environmental Sciences and Graduate Programs**  
**The ICAPP Program**  
**The Department of Mathematics**  
**The Department of Nursing and Collaborative Programs**  
**The Department of Psychology and Sociology and Graduate Programs**  
**The Coca-Cola Space Science Center and Observatory**  
**The Oxbow Meadows Environmental Learning Center**  
**The Science Education Outreach Center**

The **College of Science** has faculty, staff and facilities to accomplish the described mission. The support of other constituencies of the University is necessary for the fulfillment of all aspects of the College of Science mission.

### **Mission Statements of the College of Science Units**

#### **Department of Biology**

The Department of Biology is committed to:

1. Collaborating with students as active partners in an educational process and assisting students in the identification of diverse personal goals
2. Preparing students to think and work critically, to produce and communicate effectively, and to be scientifically and technologically literate
3. Preparing students to develop tolerance and appreciation of divergent views and recruiting and supporting students from under-represented populations
4. Providing students an opportunity to develop professional skills related to biological research and providing an environment that encourages students and faculty to work
5. Providing a supportive environment that encourages faculty and staff to continue their intellectual and professional growth and to pursue innovative activities
6. Providing biological education, research and service needs of the region

#### **Department of Chemistry and Geology**

The Department of Chemistry and Geology is committed to:

1. Elevating the level of faculty research and scholarly activities
2. Increasing enrollment in astronomy, chemistry, engineering, geology and physics
3. Developing a reputation for innovation
4. Improving services to students

5. Attracting additional federal, corporate and private funds
6. Enhancing faculty professional growth

### **Department of Computer Science**

The Department of Computer Science is committed to:

1. Serving the technologically expanding needs of students from the campus and regional business and industry
2. Providing the finest state-of-the-art equipment for students and faculty
3. Improving quality of instruction in computer science
4. Increasing opportunities for faculty to engage in professional development & research
5. Preparing students to think and work critically and creatively
6. Enhancing the quality of professionals by offering appropriate graduate degrees
7. Increasing diversity of graduates from under-represented groups
8. Providing instruction using latest software development technologies & methods
9. Providing instruction using the latest development tools and system architectures.
10. Providing a quality master's degree program in applied computer science on campus as well as specialized on-line opportunities available internationally

### **Department of Environmental Sciences**

The Department of Environmental Sciences is committed to:

1. Preparing students for service to the community and region in those disciplines represented: archeology, environmental science, health science and public health
2. Making students and community aware of environmental and public health issues and ways of solving related problems
3. Increasing the awareness of students to research methods through experience
4. Providing a supportive environment that encourages faculty to continue their intellectual and professional growth and to pursue innovative activities
5. Continuing to attract federal, state and private funding for research and teaching
6. Recruiting students for both undergraduate and graduate degree programs
7. The Environmental Science Graduate Program is committed to providing business, industry and government with graduates prepared to deal more effectively with increasing problems related to environmental issues and maintaining environmental quality in the face of increasing population and industrial growth.

### **The ICAPP Program**

The ICAPP Program is committed to tailoring education to meet the needs of college students in computer programming classes designed to prepare them for professional careers in applied computer science. This often involves students acquiring a second degree. This program facilitates business and industry needs with university educational capabilities aided by increased state funding using faculty from both the

College of Science and College of Business. A new graduate degree program of the College of Science, Master of Science in Technology Information Management, was initiated in 2000 and involves faculty from all Colleges.

### **Department of Mathematics**

The Department of Mathematics is committed to:

1. Increasing abilities of students to engage in problem-solving and critical thinking
2. Providing technologies for quality teaching of mathematical principles & applications
3. Increasing opportunities for students to develop professional skills related to mathematical and philosophical research
4. Providing an environment that encourages faculty to continue their intellectual and professional growth through innovative activities in research and teaching
5. Attracting funds to meet the demands of innovative teaching and research in mathematics, philosophy and actuarial sciences (future program)
6. Increasing the number and diversity of students studying mathematics and philosophy
7. Increasing the opportunities for students to develop the necessary skills to continue their education into graduate studies and to take positions in business and education

### **Department of Nursing**

The Department of Nursing is committed to:

1. Developing plans to better prepare students for the changing national and state nursing care systems, both urban and rural
2. Maintaining collaboration with other health care educational institutions involved in preparation of professionals at undergraduate and graduate levels
3. Increasing opportunities for students to be actively involved in critical thinking
4. Increasing the technological capabilities of faculty and students
5. Creating an environment and opportunities for the intellectual growth and professional development of faculty
6. Providing technical support for health care issues and technical advice for hospitals, government agencies and business

### **Department of Psychology and Sociology**

The Department of Psychology and Sociology is committed to :

1. Motivating students to be actively involved in critical thinking
2. Providing multi-cultural opportunities for students and increasing the diversity and numbers of students enrolled in professional majors and minors
3. Investigating graduate opportunities for students in behavioral and related sciences and maintaining high standards in the Graduate Certificate in Gerontology
4. Increasing external funding for innovative teaching and research projects
5. To providing the finest state-of-the-art equipment for students and faculty.

6. Involving more students in research activities with faculty
7. Encouraging faculty to continue to seek professional development opportunities and providing an environment for intellectual growth

*Cooperative Venture between the Colleges of Education and Science:*

**The Center for Excellence in Math, Science and Education (CEMSE)**

This multifaceted program of the Colleges of Education and Science is committed to increasing the quality of teachers of science and mathematics in P-16 schools. The three components of CEMSE under the operational auspices of the College of Science are the **Coca-Cola Space Science Center** for space-related student and teacher education, the **Oxbow Meadows Environmental Learning Center** for preparation of environmentally-knowledgeable students and teachers and the **Science Education Outreach Center** designed to strengthen capabilities of science education professionals in the public schools with workshops and science enrichment activities.

COLUMBUS STATE UNIVERSITY  
**College of Science**  
 FY 2001-2002 STRATEGIC PLANNING ASSESSMENT  
 Of the AY 2000-2001

GOAL*		PLANNING INITIATIVE	ASSESSMENT OF RESULTS
INSTITUTIONAL	UNIT		
1,2,3,4 5,7,8,9	I	Develop additional on-line courses and degree programs across the College	In the Fall 2000, 10 online courses were offered from COS. The first on-line graduate of the MS in ACS graduated in Summer 2000.
1,2,5,6,7,8,9	II	Promote and enhance graduate level and health programs	<p>Students began to enroll in the Graduate Certificate in Gerontology Program. Preliminary plans were evaluated which will lead to the program being offered online. Nursing students passed the NLN national board exams at 100% pass rate for the second year in a row.</p> <p>The MPA Health Sciences curriculum was not reviewed because of personnel changes. It will be examined during the next year. The First OT class graduated and a new class began. The MSN program continued and a new specialty (Critical Care) was in the planning stages.</p>
1,2,5,6,7,8,9	III	Support of Oxbow Meadows Environmental Learning Center, Coca-Cola Space Science Center and for Science Education Outreach Center (SEOC)	The endowment for the CCSSC reached \$1,000,000. The endowment for the Oxbow Meadows was initiated. New grants were received by the Science Education Outreach Center and a service course, Life in Space was initiated.

GOAL*		PLANNING INITIATIVE	ASSESSMENT OF RESULTS
INSTITUTIONAL	UNIT		
1,3,9	IV	COS will continue to develop organizational plans to maximize educational and fiscal effectiveness	The BS in Respiratory Therapy was terminated. The last class in the ASN program graduated. Health Sciences combined with Environmental Science and Archeology to form the Department of Environmental Sciences. The BSN Program is now administratively the Department of Nursing.
1,2,5,9	V	Maintain accreditation of programs and seek additional program accreditation	RT accreditation was terminated with the program. Nursing continued with accreditation. The SACS examination of the substantive change (ACS online) was approved. The initiation of a plan to seek accrediting of the CS program continued to be postponed until a permanent chair could be hired.
1,2,3,5,6,7,8,9	VI	Promote faculty participation in research and professional development. Encourage faculty to seek external funding to meet their research and teaching requirements	External funding for the year was again over \$1 million. New equipment including a state-of-the-art spectrofluorometer was purchased. Numerous research activities resulted in publication of findings in referred journals. Three faculty are involved in doctoral studies.
1,2,6,9	VII	Positive environment for faculty and students for teaching excellence	Software and computers were upgraded. Additional space was acquired for research activities and graduate students. State money was not available for the needed increase in technological upgrades.

GOAL*		PLANNING INITIATIVE	ASSESSMENT OF RESULTS
INSTITUTIONAL	UNIT		
2,4	VIII	Increased efforts in recruitment and retention of students	New efforts in assuring proper advisement of students were continuing. An ad campaign resulted in a positive increase in COS students. The first student to receive a graduate degree in Computer Science with a thesis graduated. A new initiative to recruit graduate students from Asia online (applied computer science) resulted in the signing of a five-year agreement.
1,2,3,4,5,6,7,9	IX	Recruit and employ highly prepared faculty and leadership to meet needs and increase diversity	Two new faculty in nursing were hired, one nearing completion of her doctorate. Two faculty (both with doctorates from Columbia University) were hired for Philosophy and Public Health. Two of the four new faculty were minority, both female.
1,2,3,4,6,8	X	Planning and site identification of teaching and research sites for new tropical institute	Visits by faculty were made to Bahamas (Andros Island), Ecuador, Peru and Panama during the year. No single site has been identified.
1,2,3,4,6,8	XI	Continue feasibility of program for restoration and discovery of prehistoric remains	No action during the year.
1,2,3,5,6,7,8,9	XII	Continue activities of the Center for Innovative and Applied Research	Concept delayed for lack of funding.
1,2,3,6	XIII	Complete college-wide inventory of major equipment	Postponed until 2001-2002

GOAL*		PLANNING INITIATIVE	ASSESSMENT OF RESULTS
INSTITUTIONAL	UNIT		
1	XIV	Phase out associate degree programs	Only a single AAS (in computer science) remains of the 12 programs in existence in 1996 in COS. This program will be maintained for the near future due to community demand.

\*Institutional Goal is goal established in the University Strategic Plan. Unit Goal addresses the Institutional

**Columbus State University**  
**AY 2001-2002 Level 2 Plan**  
**Part 2. Plans**

COLLEGE/DIVISION: **Science**

<b>GOAL</b>	<b>PLANNING INITIATIVE</b>	<b>COST</b>	<b>PLANNED IMPACT</b>
1,2,3,4, 5,7,8,9  I	Develop additional on-line courses across the College, develop a better procedure(s) for on-line testing (Gerontology and possibly Actuarial Science courses)	\$ 24,000  External funding	Continue to increase the number and diversity of students capable of taking advantage of the COS curriculum at Columbus State University (CSU) in other parts of the country/world and increase the quality of teaching and learning.

GOAL	PLANNING INITIATIVE	COST	PLANNED IMPACT
<p>1,2,5,6, 7,8,9</p> <p>II</p>	<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 and the Masters of Information Technology Management programs. The curriculum in the Health Sciences component of the MPA degree will be revised. The Graduate Certificate in Gerontology will be placed online (see Goal I). The College will also continue its efforts to foster support of the Bachelor of Science degree in Occupational Therapy (collaborative program with MCG). Plans are to increase existing graduate assistantships and internships to provide additional support for these students.</p> <p>A plan for a graduate certificate in Actuarial Sciences is in the planning stage. A plan for a Master of Public health degree is in the initial planning stage.</p>	<p>\$ 25,000</p> <p>external funding</p>	<p>CSU will continue to supply the region with the needed health care professionals with the level of skill and training demanded by the community. CSU will also work towards becoming nationally recognized as a center of expertise and source of trained professionals in the areas of health science, gerontology, computer science, environmental science and public health.</p>

GOAL	PLANNING INITIATIVE	COST	PLANNED IMPACT
<p>1,2,5,6, 7,8,9</p> <p>III</p>	<p>The College will continue its support of CEMSE through oversight of the Space Science Center, Center for Science Education Outreach and Oxbow Meadows Environmental Center</p>	<p>External and endowment funding as available</p>	<p>There will be a continued and enhanced development of unique curricular and educational opportunities at CSU integrated learning centers. Greater coordination of program development and implementation will lead to increased numbers of public school students receiving training. Units will continue to identify new sources of external funding to promote their activities.</p>
<p>1,3,9</p> <p>IV</p>	<p>The College will continue the evolution of an organizational plan that will positively impact effectiveness of all units.</p>	<p>N/A</p>	<p>Departments will continue to reduce administrative redundancy and hierarchical complexity. The plan will involve the union of programs and departments into more responsive, functional units.</p>
<p>1,2,3,6,9</p> <p>V</p>	<p>Initiate upgrading of primary teaching equipment and water purification systems in LeNoir Hall. This includes replacing equipment installed when the building was new, now approaching a decade of use (microscopes, autoclaves, growth chambers, analytical equipment, scanning electron microscope)</p>	<p>\$500,000</p>	<p>Old equipment is reaching replacement at a catastrophic level and requires addressing by major capital funding. New technologies require adequate equipment.</p>

GOAL	PLANNING INITIATIVE	COST	PLANNED IMPACT
1,2,3,5, 6,7,8  VI	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.	\$300,000  External  funding	The COS will strengthen its reputation as a center for regional research efforts and technological expertise. Provide professional service to the region through research and development efforts. Increased funding base for professional research and publication of findings. Science graduates will be more familiar with requirements for development and implementation of scientific research and/or other professional endeavors.
1,2,6,9  VII	The College will continue to provide a positive environment for student learning and the professional activities of its faculty. This will be accomplished through the purchase of new and updated equipment and the renovation of existing work and teaching spaces to make them more appropriate for accomplishing College goals.	\$ 50,000  External funding and new initiatives	The College will continue to update equipment for its teaching laboratories in all areas that will make the graduates better prepared for careers or advanced education. Faculty will have workspaces more appropriate to their professional activities. Research and learning activities will increase across the COS.
2,4  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 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.	\$ 10,000	Producing a higher proportion of graduates through a more aggressive enrollment process will more effectively spend the limited resources in the College. Better advising will facilitate keeping students already in degree programs. Marketing by newspaper will be utilized to promote the programs of the College of Science.

<b>GOAL</b>	<b>PLANNING INITIATIVE</b>	<b>COST</b>	<b>PLANNED IMPACT</b>
<p>1,2,3,4, 5,6,7,9</p> <p>IX</p>	<p>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.</p>	<p>Built into the next fiscal year state budget</p>	<p>The College will continue to provide talented instructors to maintain high levels of academic excellence. The College will continue to provide graduates in fields to meet regional needs, promote new programs providing graduates to a burgeoning technological society and provide superior core courses to enlighten new generations of students.</p>

<b>GOAL</b>	<b>PLANNING INITIATIVE</b>	<b>COST</b>	<b>PLANNED IMPACT</b>
1,2,3, 4,6,8  X	Continue planning and foreign site identification for activities of the proposed International Institute for Tropical Studies	New initiative	To focus science fields upon the environmental resource and biomedical opportunities in the tropics, particularly Latin America where we already have Archeology, Biology, Environmental Science and Geology faculty working in Panama, Peru and Ecuador
1,2,3, 4,6,8  XI	Examine the feasibility and funding opportunities for a program of historic restoration and prehistoric evaluation and discovery	N/A	Meet local and international requirements for application of advanced technology to artifact and structural preservation and study.
1,2,3,4 6,9  XII	Seek approval to hire the following in 2001-2002 for the Fall 2002 academic year:  Two tenure track faculty in computer science (New) One Tenure track Biologist (New) One Tenure track Analytical Chemist (New) One Tenure track Sociologist (New) One Tenure track Mathematician (Replacement not hired in 2001)	\$360,000          N/A	International online students will require additional sections of graduate courses. Faculty in biology have been utilized in multiple areas requiring replacement in the classroom. An analytical chemist is needed to respond to community and graduate program needs. The gerontology program has expanded at the expense of the sociology program, now requiring an additional sociologist. A retiring faculty member was not replaced in 2001 in mathematics.
1,2,3, 6  XIII	Complete a college-wide inventory of major equipment		Provide an accurate list of resources for the COS for planning
1, 7	Upgrade telephone service (as present on the remainder of the campus) in Nursing and Psychology/Sociology Departments.	\$ 10,000  Institution	Campus has been upgraded but these departments were not. Faculty in Illges cannot communicate between floors. We were told that if we wanted adequate phone service we would be required to

GOAL	PLANNING INITIATIVE	COST	PLANNED IMPACT
XIV			find the funds. Since this was not true in other academic programs across campus we seek relief from this cost.
1,2,3,4, 5,5,9  XV	Provide funding to search for Chairs for the following Departments:  Computer Science Nursing	\$190.000	The Computer Science Department does not have a Chair. The funds for the Chair were removed in 2000 with the Chair of that Department to another position on campus. The acting Chair in Nursing will need to be replaced with a doctorally prepared person in Fall 2002. Accrediting agencies require a Nurse Faculty member with a doctorate to hold this position.
	Roman Numerals Represent College Goals		