

**1991-2001, THE FIRST TEN YEARS: A DECADE OF EXCELLENCE
THE SCHOOL OF SCIENCES AND MATHEMATICS
OF THE COLLEGE OF CHARLESTON**

A. Achievements

The concluding chapter of this annual report for the academic year 2000-01 is also the concluding chapter of the tenth year of existence of the School of Sciences and Mathematics at the College of Charleston. This was a decade of remarkable growth and achievement by the faculty and by the departments. These achievements are due in part to a running start, as already in place was a highly qualified faculty that identified strongly with the vision of the College as a liberal arts institution committed to the education of undergraduates. From this springboard came an impressive growth in scope of activities, programmatic sophistication, and a succession of achievements too numerous to list. The following can give only a hint of the accomplishments of the past ten years.

- The external funding attracted by the faculty increased by a factor of 10 to over \$2.5 million per year.
- Undergraduate research has been embraced by all the departments in SSM and has received significant institutional funding. The Student Research Poster Session has flourished, and the College strengthened its domination of student participation in the South Carolina Academy of Sciences.
- Academic program reviews by the Commission of Higher Education provided dramatic, objective evidence of the quality of programs in Sciences and Mathematics at the College of Charleston.
- The perfect record of Commendations of Excellence from CHE drew the respect and admiration of political and educational leaders throughout the State. Not insignificant was the further increase in respect of the Administration and the School's own self-respect.
- The South Carolina Legislature gave a firm commitment for a new building for the School of Sciences and Mathematics. In addition, the Science Center will be completely repaired and renovated to enable the faculty to offer undergraduate educational experiences equal to those that will occur in the new building. Although long in coming, the way to this new building was paved by sustained planning by the faculty, accompanied by persuasive evidence of the need for additional facilities. The Commendations of Excellence provided the final leverage.
- The recognition of the quality of SSM programs has resulted in consistent leadership among the public universities in South Carolina by the College of Charleston in producing baccalaureate graduates in the sciences. The College consistently produces more undergraduate degrees in the physical sciences than any other public university in the State.
- The number of faculty lines increased from 73 to approximately 120. This 65% increase was in part due to a commitment to pay competitive starting salaries and to institutionalize the practice of providing start-up support for new faculty.
- The School adopted a nine-hour teaching load for all faculty actively engaged in faculty-student research.
- The Teacher-Scholar model has become the norm. There has been a significant increase in the number of faculty and students doing research, an increase in the numbers of papers published, and a significant increase in the number of faculty members on nine-hour teaching loads.
- The support infrastructure for the academic programs was significantly enhanced. Additional departmental Administrative Assistants were hired, technicians and laboratory managers were added, the Grants and Research Office was greatly strengthened, the School and some departments hired Business Managers, and a machine shop was added.
- Decisions were made to incorporate environmental studies into the academic programs. Sciences and Mathematics assumed the leadership in developing the Masters Degree in Environmental Studies and the undergraduate Environmental Studies minor.
- A new MS in Mathematics was added at the beginning of the decade and an MS in Computer Science and Information Systems at the end.

- Faculty contributions to Pre-College Education grew in importance and scope and gradually evolved into the Lowcountry Hall of Science and Mathematics.
- The School of Sciences and Mathematics made important contributions to the education of pre-service science and math teachers. These include a new Master of Education in Sciences and Mathematics degree. Sciences and Mathematics is playing a leadership role in the establishment of a campus-wide Teacher Education Council, and there is now widespread acceptance that SSM has a fundamental responsibility in the education and preparation of teachers.
- The School has selectively added strong programs—graduate degrees, concentrations, minors, and interdisciplinary programs. A formal relationship with the University of the Virgin Islands was established. Two departments have had name changes that reflect program expansion, and two others are being contemplated.
- Early relationships between SSM faculty and the National Aeronautics and Space Administration were not only sustained but were developed into a number of important programs that include the South Carolina Space Grant, the NASA Southeastern Regional Clearing House (SERCH), and increased participation in EPSCoR.
- Sciences and Mathematics developed an increased sense of community. There were a number of contributing activities, including a polished newsletter, the Conrad Festa Community Lecture Series in Sciences and Mathematics, regular school picnics and receptions, and encouragement of interdepartmental activities.
- Partly through faculty efforts and partly through institutional support, every department now has access to computer laboratories and smart classrooms. There have been numerous major purchases of equipment that enhance the laboratory and classroom experiences of SSM students.
- An already strong commitment to teaching grew even stronger in the past decade. Promotion and tenure packets continue to look ever more impressive with the increasing efforts by faculty to produce Teaching Portfolios. A number of departments have developed peer reviews of teaching that include classroom visitations. The SSM now has Teaching Seminars, formal mentor programs, and the increasing acknowledgment of undergraduate research as perhaps the single most effective tool for the education of students.
- Recruitment and encouragement of minority students to consider careers in sciences and mathematics play an important role on campus and have achieved their own external funding through the SCAMP program of the NSF.
- Departments established clear senses of direction. Vision and Mission Statements and Five-Year Staffing Plans were implemented.
- The total of the departmental Operating Budgets (excluding Personnel) approximately doubled in ten years.
- At the urging of SSM, the College modified its business procedures to permit the establishment of restricted Indirect Cost accounts that “roll over” at the end of the academic year. A policy that permits 50% of these Indirect Cost funds to be returned to SSM was approved. In addition, SSM won approval from the Provost to retain “released salaries,” those salary funds released when faculty members attract grants that pay a portion of their academic year salaries. Finally, SSM persuaded President Harry Lightsey to establish a Grant-Matching Account. These three changes in College procedure provided powerful incentives for research and submission of grants.
- The School of Sciences and Mathematics owes much of its success to the outstanding department Chairs that led the individual departments through the School’s first decade. Committed to hard work and high standards, these Chairs worked in an open and collegial manner with each other and with their faculty to produce not only the best possible programs for their departments but for the School and the College as well. Their institutional perspective and loyalty have contributed substantially to the accomplishments of the School.

B. Still in Need of Attention

Consideration of the remarkable progress of Sciences and Mathematics at the College of Charleston leads naturally to the acknowledgment that there still are areas in need of attention. The addition of regular faculty has lowered only slightly dependence on adjunct instruction. Figure 4-8 in Chapter 4 shows that the percentage of classes taught by adjuncts has remained at about 35 percent for a number of years. (Even when the official numbers are adjusted by subtracting graduate teaching assistants, the average is approximately 30 percent). Decreasing this percentage is the primary academic change that must be made to achieve the quality to which the School aspires.

Another of these is the Sciences and Mathematics contribution to General Education. The campus-wide discussions on General Education were particularly valuable to the faculty in Sciences and Mathematics. It is now easier to articulate the purposes of SSM courses for non-science majors, the meaning of science literacy for non-science and science majors alike, and the various dimensions of the complex subject of Critical Thinking. Whereas the existing requirement of a two-semester science sequence in a single department has successfully maintained the desired standards, it has not permitted the richness appropriate for a General Education program worthy of a nationally preeminent arts-and-sciences university. In particular, SSM is still inhibited from offering interdisciplinary courses for General Education credit, and does not offer sufficient inducement for students to take valuable courses that consider, for example, the role of science and mathematics in society. With the increased discussions of these issues and the current level of interest of SSM faculty, it is likely that the General Education programs in sciences and mathematics will soon improve significantly. The science departments will prepare proposals for interdisciplinary sequences for General Education credit.

The most conspicuous need, the one most limiting further growth in excellence of SSM programs, is campus-wide. Despite the increase in program support described above, the lack of adequate support is still a serious problem. The transition of the College of Charleston from a small, local college to a regional university has exceeded the capacity of some support units to keep pace. With limited resources, the College has made the correct decision in allocating the preponderance of its funds directly to the academic programs. The cost has been the lack of adequate support in some nonacademic areas. It is these support areas that now constitute the most serious limits on our ability to grow further. These include the repair, maintenance, and care of physical facilities. They also include some administrative offices that have not been able to match the Office of Research and Grants and the Office of Institutional Research (for example) in providing the levels of support required by a comprehensive university of 11,000 students. Once the infrastructure of the support units is strengthened and more effectively integrated into their service roles that support the primary missions of the academic program, the College will be able to take another step forward toward its goal of being a nationally recognized liberal arts and sciences institution.

C. A Supportive Administration

Even with the strength of its faculty and programs, the School of Sciences and Mathematics would not have reached its present heights over the last ten years without a highly supportive upper administration. The gains described in this section would not have been possible without the support of the College's President, Alex Sanders, and two sympathetic and capable provosts, Conrad Festa and Andy Abrams. The School is grateful for the numerous times that they were able to respond to its entreaties when opportunities presented themselves in unpredicted ways.