

INSTITUTIONAL EFFECTIVENESS
SUMMARY REPORT

1 August 2000

Isaac S. Metts, Jr., Ph.D.

Dean of Planning and Assessment

171 Moultrie Street
Charleston, SC 29409
(803) 953-5155
FAX (803) 953-7084

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INTRODUCTION

The Citadel's Institutional Effectiveness Plan has been revised to put it in concert with the Strategic Plan of the College approved by the Board of Visitors on February 3, 1996 and revised in January 1997 to reflect the Performance Funding Indicators approved by the Commission on Higher Education. The 2000 summary report for The Citadel includes: full reports on the Business Administration and Foreign Language majors, interim reports on the Chemistry and Physics majors, and a report on library resources.

The Citadel has adopted a formal planning/assessment/budget process, and through institutional planning efforts, the following areas have emerged in recent years as being most critical for The Citadel in recent years and for the next few years:

1. Recruiting for the Corps of Cadets
2. "Fine-tuning" the cadet lifestyle
3. Increasing the level of external funding (supplemental to state support and student fees)
4. Continuing emphasis on the planning/assessment/budget cycle of the College
5. Deferred maintenance and building replacement
6. Assimilation of women into the Corps of Cadets to include implementation of women's sports programs

1. Majors and Concentrations

Full Reports

In the 1999-2000 academic year, The Citadel had program reviews for its Business Administration Programs and its Foreign Language Programs.

Business Administration

Since receiving initial accreditation in 1996, the Department of Business Administration has steadily used departmental processes--particularly those related to program assessment--to bring about a number of program improvements.

A. Improvements Related to Vision Statement

In the 1994-95 *Self-Analysis*, three major goals in the undergraduate Vision Statement were identified:

1. integrating lessons from the *barracks leadership laboratory* into classroom instruction,
2. creating *participatory classrooms* which better reflect the realities of the work place, and
3. developing a comprehensive four-year program of job-market preparation which we call *coaching the career*.

Highlights of the success in integrating the leadership lab include these changes:

- Management and Law courses now use examples from the Corps of Cadets to illustrate concepts such as ethical issues, organizational structure, delegation, responsibility and authority, and diversity which are covered in classes.

- Nine of the faculty have volunteered to serve as either Company Academic Advisors or Barracks Officers-in-Charge (OC) in order to spend time in the cadet barracks interacting with cadets and gaining first-hand knowledge of their daily routines and procedures. These experiences also provide opportunities for gathering material to use in writing case studies for use in the classrooms.
- Cases have been developed based upon actual barracks experiences reported by students or observed by faculty first-hand while serving as Company Academic Advisors or Barracks OC's.
- Exam questions, out-of-class assignments, and other projects based upon the cadet experience are interspersed with more traditional business environment assignments and projects in Management and Law courses.

Tremendous progress has also been made in creating *participatory classrooms*. One hundred percent of the department faculty now use some form of interaction between the professor and students in the classroom as a teaching technique.

The vision's third theme was *coaching the career*. Since 1996, we have:

- hired two full-time Executives-in-Residence who are former CEO's of major companies,
- initiated the Krause Foundation Business Plan Competition which has teams of cadets developing plans for new entrepreneurial businesses (In what will now be an annual event, teams composed solely of Citadel students compete for a first prize of \$20,000 and a second prize of \$10,000),
- created two new elective courses, *Professional Selling* and *Business Presentations*, and
- created an Executive Speakers Bureau comprised of retired upper-level corporate managers who live at Seabrook Island Resort just outside of Charleston.

B. Improvements Related to Assessment Results

Assessment data from surveys of alumni, graduating seniors, and recruiters who hire our graduates identified some specific parts of the program which needed attention. Paying attention to these results, several steps have been taken to give students more exposure to the international aspects of business, made a concerted effort to improve the quality of the department's faculty advising, and changed *Communication in Business* from an elective course to a required course. The ratings in all of these areas have increased significantly on three types of surveys since the implementation of the changes.

C. Total Revision of the MBA Curriculum

The department faculty looked at the education needs of a number of constituent groups in the Lowcountry. Surveys of the Department's Advisory Board, current MBA students, entering MBA students, individuals contemplating entering an MBA program, and members of the Chamber of Commerce were conducted. A task force of faculty members spent several weeks researching curriculum innovations in other leading MBA programs around the country. After much debate and discussion, a major change in the MBA curriculum was introduced in response to the changing needs of the business world in the Lowcountry and the global marketplace. The new curriculum is tailored to

better meet the demands of today's MBA student, whether that student is a recent graduate with a degree in business or a returning older worker with a different degree earned years ago who sees his/her prospects changing. The Department developed a curriculum which enables us to prepare individuals of these divergent backgrounds to graduate well prepared to meet the challenges of today's business environment.

The Citadel has received a draft report on the Business Program review from Dean Jo Ann Jones, Dean of the J. Whitney Bunting School of Business at Georgia College and State University. The Citadel offered a few comments on that draft report but found no errors in fact. A final report has not been received, but Dean Jones offered the following summary statement in her draft report:

"My visit to The Citadel was truly an enjoyable experience. The administration of the College was very helpful and gracious. The meetings with the students and faculty were informative and congenial. The Department of Business at The Citadel demonstrates overall high quality in its programs. The Chair of the Department provides effective leadership for the Department and is knowledgeable and committed to the continuous improvement of the program. The mission of the Department contributes significantly to the unique mission of the College. Processes are in place for the continuous review and improvements of the curriculum. The Department has a strong enthusiastic faculty and provides opportunities for continued faculty development. Sufficient library and technology support is available to support the instructional needs of the program. Special programs of the Department that merit special recognition for their quality and originality include:

1. The Krause Foundation Business Plan Competition
2. the two executives in residence
3. the linkages of the barracks program in leadership to the classroom
4. the Executives Speakers Bureau
5. Participatory Classrooms

Opportunities for continuous improvement include:

1. continued support for faculty development
2. increased participation of students in travel abroad activities
3. continued efforts to increase the number of women and minorities in the student body and in the faculty
4. increase in the amount of multi-media equipment available in the classrooms for instruction
5. assessment of the new MBA curriculum
6. more frequent meetings with the business advisory committee for strategic planning purposes
7. consider creating a student advisory committee to meet with the Department Chair

Recommended status of programs:

BSBA - Approval

MBA - Approval

The Citadel will address each of the recommendations provided by Dean Jones. Two fully-equipped multimedia systems on carts have already been purchased for the Department of Business Administration. These systems include a computer and projector.

Foreign Languages

The Citadel presented the CHE on December 1, 1999, the institutional self-studies of its three Foreign Language Programs: French, German, and Spanish. The CHE Program Review visit was conducted by the team of consultants on April 13, 2000. While The Citadel has not yet received the draft report from the consultants, the exit interview was very positive. The team was especially complimentary regarding student/faculty relations in the Department of Modern Languages and the many and varied interactions between students and faculty outside the classroom.

Interim Reports (Physical Sciences)

Chemistry

The Citadel's Chemistry Program was reviewed in fall 1996 (self-study was developed in the 1995-96 academic year). In the institutional response to the consultants' report, The Citadel presented several concerns and observations:

1. Those institutions which elected to "fund" a campus visit definitely had an advantage in this review. The Citadel made the commitment at that time never to miss a consultant visit, regardless of the cost.
2. The Citadel requested clarifications regarding several comments in the initial draft report. No clarifications were forthcoming, and the comments were still included in the consultants' final report.

The recommendation of the last CHE Program review was that The Citadel's Chemistry Programs be continued.

The following information has been extracted from the Annual Assessment Report of the Department of Chemistry.

Departmental Mission

It is the mission of the Department of Chemistry to provide for all students a firm background in the theory and practice of chemistry. In this manner, the intent and implications of the science requirements in the Core Curriculum of the College are partially met. Those students desiring either a major or minor in chemistry build upon the Core Curriculum foundation as they undertake continued studies in chemistry. In addition to its own curriculum, the Chemistry Department supports in this manner the curricula of other departments as well as the general mission of the College.

The courses of study for students majoring in chemistry are designed to prepare them to

enroll as graduate students in full standing at leading universities; to provide the foundation for pursuing careers in medicine, dentistry, and other professions; and to fill positions as chemists in industrial laboratories. The department accomplishes this preparation by offering two degree curricula, the BS in Chemistry degree and the BA in Chemistry degree. Both of these curricula embody training in the four fundamental subdivisions of the science: inorganic, organic, analytical, and physical chemistry.

The BS in Chemistry curriculum is accredited by the American Chemical Society and is intended for those students who plan to go to graduate school in chemistry or chemical engineering or to fill positions in industrial laboratories. Students receiving this prestigious degree are awarded a certificate by the American Chemical Society documenting their status as professional chemists and are frequently given preferential treatment as candidates for professional positions.

The BA curriculum provides great flexibility in choosing electives. This permits a program to be designed to fit the student's individual aspirations. It is intended for those planning to enter medical, dental, other health-related professional schools, military service, or to fill positions in industry.

Expected Results (Goals and Skills Acquired)

Goals

BA Program in Chemistry. Students who successfully complete this degree plan will have a background in the general theories of chemistry that are further augmented by the four major areas of chemistry: analytical, inorganic, organic, and physical. The level of coverage will allow the student to enter programs that have post-graduate studies in chemistry, medicine, dentistry, law, business, etc. Additionally, they will have a sufficient foundation in chemistry to enter industrial positions in the same general areas. While these areas are diverse, such flexibility is possible since the student will be able to tailor his/her degree plan to match graduation expectations.

BS Program in Chemistry. Students who successfully complete this degree plan will have a more in-depth background in chemistry than is provided in the BA in Chemistry program. As a result of this higher level of coverage, the students who successfully complete this program will be able to pursue the more "research-oriented" areas of chemistry in addition to the same opportunities as the BA degree holders. In particular, this program will prepare students for research positions in industry, entrance into Ph.D. programs in Chemistry, and graduate programs in Chemical Engineering.

Skills

BA Program in Chemistry. Once this program is completed, the successful candidate will have a very broad background in chemistry as a discipline. The student will have a knowledge of the

general ideas and theories that comprise the basic foundation for the study of chemistry. On this foundation, the students will then acquire expertise in the four traditional areas of chemistry: organic, inorganic, physical, and analytical. In particular, it is expected the student will develop a firm understanding of chemical kinetics and thermodynamics, quantum mechanics, designing chemical synthesis, mechanisms of chemical processes, organic and inorganic reactions, quantitative and instrumental analytical techniques, and professional abilities such as literature searches, oral presentations, and written reports. Additionally, the laboratory aspects of these courses are designed to reinforce the principles described above.

BS Program in Chemistry. The student will acquire the same skills as described for the BA Program in Chemistry. However, these skills will be supplemented by more in-depth coverage of cross-discipline topics such as spectroscopic chemical analysis; biochemical systems; independent research projects; and advanced synthesis techniques involving organic, inorganic, and organometallic compounds.

Assessment Tools

The BS and BA programs are assessed overall by consolidating the assessments of each individual course required in the program. This report deals only with lecture courses. Lab courses will be reported on in 2000-01.

For each course, a plan has been in place for three years that defines goals/skills to be acquired and data collection methods; sets the standards; evaluates the data; and outlines assessment procedures. The methods for gathering assessment data include administering a "basic skills test" for each individual course, placing designated questions on final examinations to test for specific knowledge or skills, inserting on tests and final exams questions from the American Chemical Society standardized exam, lab exercises requiring students to design common instrumentation, and specific writing assignments.

Assessment Results/Actions Taken

No major problems were uncovered in the upper-level major lecture courses. Stated goals for each program are being met.

In response to documented program deficiencies in laboratories and lab equipment, the department has received a grant of approximately \$500,000 from an alumnus, Dr. Harvey Schiller (Class of '60 at The Citadel) and nearly \$250,000 in funding from the College and The Citadel Development Foundation. With this additional funding, the department has been able to meet 75% of the equipment deficiencies noted in previous reports, renovate three laboratories to include new hoods, flooring, fixtures, ceiling, lighting, and counter tops. Currently, the work has not been completed; but, the costs have been determined and the work is being bid/scheduled. This newly purchased equipment and the lab renovations have enabled the Department of Biology and Chemistry to develop a joint minor in Bio-Chemistry.

Physics

The Citadel's Physics Program was reviewed in fall 1996 (self-study was developed in the

1995-96 academic year). The consultants' report recommended full program approval. This report raised issues of diversity, sabbatical leaves, and pedagogical approaches used in the two basic Core Curriculum physics sequences. While no faculty openings have enabled the College to address the diversity issue, two of the six faculty members have been awarded sabbatical leaves, and the two basic Core Curriculum physics sequences have been completely redesigned with new, computer driven lab experiments.

The following information has been extracted from the Annual Assessment Report from the Department of Physics.

Mission

The primary mission of the Department of Physics is to provide full academic support for:

- a. the BS major in Physics and a minor in Applied Physics,
- b. the Core Curriculum through basic sequences in Physics on calculus and algebra levels, as well as general elective courses in astronomy, in order to meet the needs of all non-physics majors,
- c. the engineering programs through professional elective courses.

Expected Results

Physics majors should be adequately prepared for graduate study in physics or closely related disciplines. The curriculum will be broad enough to prepare all physics majors for a wide range of careers in education at the secondary level, research and industrial scientific laboratories, high-technology branches of the Armed Forces, as well as other careers that require analytical thinking with a mathematical and scientific background.

After completing the physics core curriculum sequence, engineering and non-physics science majors will be adequately prepared for passing the physics portions of standard graduate or professional school qualifying examinations such as GRE or MCAT.

The important (if not the principle) objective of the College Physics sequence is to influence the students' attitudes towards physics, which for an average student is difficult, mathematical in nature, and concentrates on questions of little relevance for an "ordinary person."

For this reason, the assessment of this physics sequence is heavily weighted toward its initial attraction for students (at least 15% of the non-science majors in each class will select PHYS 203/204 to address their Core Science Requirement) and student retention (at least 85% of the students who begin PHYS 203 will complete it and at least 90% of these students will continue with PHYS 204 and complete the sequence). In addition, the level of understanding and appreciation of physics will be reflected in the overall success of the students (at least 90% of these who pass the course will do it with grades of C or higher).

Assessment Tools

The department head conducts interviews with graduating seniors to ask for their opinions on the quality and structure of the Physics major. Due to historically small numbers of graduating majors and their divergent career interest,

The assessment of the structure and content of the basic Core Curriculum sequences is carried out by a department faculty survey. These sequences are compared with those in other institutions. The department head also visits the engineering and science departments asking for their assessment of the preparations of their students in the basic concepts of physics.

Assessment Results

For many years all our majors who expressed interest in graduate study have been accepted by one of the schools of their choice. The rest found no difficulty with finding desirable employment. Two physics majors graduated in 2000. One of them intends to continue in a graduate school in pedagogy after a one-year teaching internship, and the other has accepted a commission in the Air Force.

The results of the assessment of the lower division course offerings can be summarized as follows:

The liberal-arts sequence has been redesigned to better address the College's science core requirements. Its laboratory component places more emphasis on understanding of concepts of physics through discovery experience rather than on developing specific bench skills for work in a scientific laboratory. However, since some biology majors now take this course, the text has been changed and the coursework involves more problem solving than before. The course continues to be a success.

Satisfying the different expectations for the calculus-based sequence has turned out to be a difficult task. Considerable improvement in this sequence has been achieved by formally incorporating Modern Physics into it and replacing the system of four three-credit-hour lectures by a block of three three-credit-hour lectures supplemented by an additional hour for physics majors and minors and BS chemistry majors. The main difficulty in implementing the new system is the division of the course material between the three-hour main course and one hour additional topics lecture. The transition to the new system was relatively easy in the trials when most of the students were taking both sections. However, an unexpected problem in implementing the new system arose when it was offered to the engineering audience. While it is easy for a faculty to relegate portions of the material to the "extra hour" section, it turned out to be psychologically difficult to skip them altogether in the semester when the extra hour is not offered. In consequence, in the first attempt, more material was taught than students could absorb. The drop rate was unacceptable, approximately 20%, and the number of student complaints was large.

The problem will be resolved. A different textbook, more modular in style, and thus better suited to apportioning material between two variants of the course was adopted effective with the fall 2000 semester, and a more rigid, department-wide syllabus for this course will be adopted.

No final decision will be possible on the format of the entire revised sequence without thorough assessment of the actual trials with full-size classes which began in the 1999-2000 academic year.

The Department of Physics has moved from traditional lab experiments to experiments conducted through computer-interfaces. These experiments are driven by MacIntosh computers. All new experiments were purchased, installed, and tested before they were used in an actual instructional lab environment. In 1998-99, The Citadel Development Foundation provided \$90,071 to purchase the lab experiments for the Physics with Calculus II Lab, the Modern Physics Lab, and the Nuclear Physics Lab. The mechanics and heat labs were developed in spring 1998 and offered first in fall 1998. The modern physics lab offered for the first time in spring 1999. The final lab in electromagnetism was

developed in 1999-00.

Much of the assessment effort of the Department of Physics in the past two years has dealt with ensuring the successful implementation of the new Core Curriculum sequences. These efforts have consisted in the main of faculty surveys, discussion of course and lab content, and comparison of coverage of the new courses with that of comparable programs at other institutions.

2. Transfers

Data in this area already submitted.

3. Library Resources and Services

The Daniel Library of The Citadel participates in the teaching, research, and public service programs of The Citadel: by providing access to scholarly information; through the acquisition, organization, management, preservation, and arrangement of collections for access and use; through the provision of supportive reference and instruction services; and through a variety of cooperative and reciprocal programs in the local area, the region, and the state. The Daniel Library will continue to be a place where information resources are physically and electronically available. However, through electronic networking we seek ways to deliver information to users at the place and moment of need.

The Library has five major areas in which it delivers services and expects concrete, measurable results. Those major areas are:

- The provision of access to scholarly information through circulation and inter-library loan services;
- The acquisition, organization, and management of scholarly collections;
- The provision of instruction and reference services both to groups and one-on-one;
- The organization of networked systems;
- Public service through the Daniel Library Friends.

Information regarding student access to and use of library resources is gathered through a variety of methods:

1. Circulation and Interlibrary Loan statistics are gathered and analyzed;
2. A Student Research Survey was initiated;
3. Pre/Post-Test results are analyzed from workshops for students on how to use library reference sources, on-line databases, and the Internet.

Assessment Results and Actions Taken

If there were one single theme to this report it would be that the Library is increasingly becoming an electronic service point. Students come to the Library to use electronic databases and the Internet more than they come to check out books. Database hits have skyrocketed. Students report that they increasingly connect to library resources from the Barracks. Students' satisfaction level is highest with an easy connect to a full text database, and lowest when they go through the process of locating and using microfiche or film. The expenditure implications for

this trend are obvious. More funds are being spent each year on full text, electronic resources. Document delivery accounts have been set up with national vendors. Interlibrary loan uses sophisticated Internet delivery software to speed delivery of far-flung articles.

There are several challenging implications from the assessment data:

1. Faculty tend to be more print reliant than students. Some departments, especially Chemistry, Physics, and Math are reluctant to switch to electronic alternatives--maintaining files in both print and electronic format is expensive.
2. In the preceding academic year the Library paired its print serial holdings by over \$80,000 using the savings to invest in electronic, full text databases. Continual culling of print files is problematic. Finding other monetary sources to fuel an expanding electronic effort will be difficult.
3. Electronic alternatives for books are in the incipient stages. For example, Blackwell, our book vendor, has an emerging electronic book archive composed of many out of copyright books plus a smattering of new titles. Until this promise bears fruition the Library continues to invest substantial sums in printed books.

Increasingly the Library is a connecting point, bringing together the expertise of library faculty and staff to interact with student needs. Librarians are locating, training and teaching students, listening and helping solve their research problems. Their service gets top marks. The Citadel is a regional university that prides itself on its teaching. Good teaching involves extensive use of library resources. It is interesting to note that the Faculty Survey of spring 2000 bears this out. When asked whether they had assigned a paper or project this semester that required library use, an amazing 74% responded yes. Learning at The Citadel is not a passive, textbook and lecture only affair. It is an energetic, student oriented process. The Library continues to play a central role in that process.

A. Information Access through Interlibrary Loan and Circulation

1. According to the Freshman Pre/Post Test, students checked out books from the Daniel Library 4.7 times during the school year.
2. According to the results of the Student Research Survey, 100% of the students used books and journal articles from the Daniel Library, while 50% of those students used materials from Interlibrary Loan, borrowing on average 4 items.
3. According to the Daniel Library User Survey of October 1999, 96% of Cadets rated the service they received as excellent or good, while 81% of those students reported that they were able to find what they were looking for.

Actions taken included:

- a. reorganization of staffing of Circulation Services so that all LTA's served on the public service desk.
- b. improvement of seating options with the purchase of 40 new carrels and chairs.

B. Provision of Scholarly Collections

1. The Daniel Library User Survey, October 1999 showed that 76% of graduate students came to the library to do research, while 48% of Cadets came to the library to do research.
2. When students in The Student Research Survey of April 24, 2000 were asked where they

did their research, 79% stated in the Daniel Library, while 29% stated on their own computer. The comments section of this survey revealed collection gaps: "...Library did not have any of the resources needed." And "Should have more books on military matters." And "Rather spare on military, political and diplomatic history", and "Daniel Library had only 2 sources that I needed, bulk of my research was done at C of C using many journals and primary sources, especially J Stor", and "Library does not have enough research materials on hand—need to expand."

Actions taken included:

- a. An additional \$60,000 worth of full text electronic subscriptions were added including IDEAL, a full text version of ABI Inform, full text Education ProQuest, and many more electronic titles.
- b. The Library worked with the Education Department to assure accreditation by NCATE and purchased over \$15,000 in new material for the Education Resource Room.
- c. The Hardin collection of over 2,000 German language materials was cataloged and dedicated.
- d. Over \$10,000 of CDF funds were spent to enhance the Criminal Justice Collections.

C. Bibliographic Instruction and Reference Services

1. Bibliographic Instruction and Reference Statistics

Three Reference Tallies were taken, in October, November and April, with totals of 408, 374, and 384 research questions answered. Bibliographic Instruction classes taught: 177 with a total of 3,955 students.

2. Significant improvement was shown on the freshmen pre/post test scores, with an average pretest score of 2.15 and an average post test score of 5.23. Freshmen students were given a quiz at the beginning of the freshmen orientation and again at the end of the school year. The posttest showed that students visited the Daniel Library approximately 40 times during the school year and used a computer database at least 31 times during the year.
3. The Student Research Survey of April 2000 revealed that 71% of the students felt that devoting 2 whole class periods to bibliographic instruction was worthwhile and important. When asked if they had received adequate reference assistance when they individually visited the Library, 64% responded that they did. Comments were telling: "yes, incredibly helpful," and "Yes, Nath is God," and "Wonderful and hospitable" and "The research experience was as close to perfect as it could possibly be," and "good experience, able to find all resources without having to go anywhere."
4. The Daniel Library User Survey of October 1999 showed that for the Cadets the need for a place to study (51%) was slightly ahead of the need for research (48%). Graduate students, on the other had, had a greater need for research (76%) than for a place to study (43%). This survey also gave the library high marks for service; 97% of the student group, which included both Cadets and graduate students, gave a positive rating to the library staff/faculty and 95% of the faculty were also positive in their assessment of service.

Actions taken included:

- a. full implementation and use of the new Library Instruction Laboratory with a goal of improving student information literacy and retrieval skills
- b. full maintenance of in house databases including the Web Subject Guides, Knob Knowledge, and Nath Knowledge.

D. Networked Systems

1. Web Statistics showed that over 84,000 hits were made on our Web site during the year with ABI/Inform used over 11,000 times, the IAC full text databases used over 21,000 times, and PsycLit used over 22,026 times. The Web site receives high praise as being user friendly and up to date. The Web Team met regularly to improve and enhance the web site.
2. OCLC costs were closely monitored with expenditures including \$12,234 for cataloging, \$4,294 for communications, \$7,156 for Interlibrary Loan, and \$44,640 for electronic databases.
3. The Student Research Survey of April 2000 showed the great importance of electronic web based databases to research. When asked what sources were used to find research material for their paper, students responded: 57% Historical Abstracts, 68% America: History & Life, 48% Expanded Academic Index, 54% World Cat, 89% Daniel Library catalog, and 43% Internet Web sites. All of these resources are electronic systems based sites.
4. Even more telling was the Freshman Pre/Post Test. While students came to the Library 4.7 times a year to check out a book, they came to the library 31 times a year to use a computer database.

Actions taken included:

- a. The DRA system performed at an acceptable level. Improvements include implementation of on-line renewals of books. Major efforts were undertaken to make the system Y2K compliant.
- b. Cataloging was completed for Proquest electronic journals including ABI/Inform, CJPI, Education Complete. This is a unique achievement as it makes all journals available through our online catalog.