For more than 125 years, the State University of New York (SUNY) College at Buffalo, herein-after referred to by its unofficial name, Buffalo State College, has consistently provided quality education to students in pursuit of both undergraduate and graduate degrees. Founded in 1871 as the Buffalo Normal School, its sole purpose was to train teachers for service in the public school system. Since its humble inception, BSC has become the largest university college in the SUNY system. Offering close to 70 undergraduate degrees and over 30 graduate degrees, more than 11,500 students were enrolled in BSC during the 1997-1998 school year.

Situated on 115 acres, the Buffalo State College campus consists of 37 buildings specifically designed to enhance academic opportunities and encourage scholastic achievement. The Butler Library contains more than a half-million volumes and 3,000 periodical titles. Furthermore, students have access to more than 250 personal computers located strategically throughout the campus. Each computer has access to user-friendly, on-line catalogs to assist students in maximizing research endeavors.

The diverse atmosphere at Buffalo State College is echoed in the directives of the BSC Mission Statement:

**Buffalo State College is committed to the intellectual, personal, and professional growth of its students, faculty, and staff. The goal of the college is to inspire a lifelong passion for learning, and to empower a diverse population of students to succeed as citizens of a challenging world. Toward this goal, and in order to enhance the quality of life in Buffalo and the larger community, the college is dedicated to excellence in teaching and scholarship, cultural enrichment, and service.**

Academic variety and challenge is provided through the comprehensive and diverse programs offered and an extensive faculty system. With a faculty and professional staff of nearly 700, the Undergraduate College offers degree programs in 60 major courses of study. The Graduate College, with a contributing faculty and staff of nearly 300, offers master’s degrees in 28 programs. Buffalo State College has created academic programs that meet the challenges of today and tomorrow. The College has maintained a flexible and supportive attitude toward the student who does not fit the traditional mold. Most of Buffalo State’s graduate enrollment of 1,760, or approximately 15% of total enrollment, is comprised on non traditional part-time students. These students are often commuters who balance jobs and other responsibilities with higher learning. To date, more than 20,000 have earned master’s degrees.
As this success rate would indicate, Buffalo State College is an ardent advocate for learning. Whether for professional advancement or intellectual enrichment, education should not cease with the attainment of a certain number of credit hours or a degree. This commitment is demonstrated by the 1983 opening of a Lifelong Learning Center, a facility tailored to meet the needs of adult and evening students who strive to attain their academic goals.

Buffalo State College is a comprehensive, metropolitan institution dedicated to educational excellence as corroborated by quality instruction, continuing program development, program reviews, student evaluations, and student support services. BSC intends to address the social and economic challenges of New York State by providing an atmosphere of research, public service, and innovation in the scholastic arena.

Of the 11,500 students at Buffalo State College, 16.8% came from under-represented populations and the 65% of enrolled freshmen were first generation students who also received need-based financial assistance. With the support of the Computer Science, Engineering, and Mathematics Scholarships (CSEMS) program from the National Science Foundation (NSF), some of these students would have the academic and financial support necessary to ensure the attainment of their individual goals: including undergraduate degrees in computer information systems, engineering technology, and mathematics.

The Engineering Technology Department,  
Electrical and Mechanical Programs

History

Engineering Technology (ET) at Buffalo State College began in 1971 with the Electro-Mechanical Engineering Technology program leading to the Bachelor of Technology degree. In the following year, electronics and mechanical options were created. Today Buffalo State College has two ET programs: 1) Mechanical Engineering Technology, and 2) Electrical Engineering Technology. The Electrical Engineering Technology program contains two options: 1) Electronics, and 2) Power and Machines (similar to the original Electro-Mechanical Engineering Technology program). Most of the ET students select the mechanical program and the electronics option in about equal numbers. The ET enrollment during spring 1998 consisted of 103 full-time majors and 127 part-time majors. The part-time enrollment has decreased slightly over the past decade and full-time enrollment has declined from a peak of 187 in 1991 but has changed little over the past three years.

Faculty and Classes

The seven full-time faculty of Engineering Technology all have Ph.D. degrees and also have several years of teaching and industrial experience. A normal full-time teaching load consists of 9 credit hours and 15 contact hours. Each faculty member advises approximately 36 students. The ET program offers day and evening classes in about equal numbers. The average class size is 13 students. BSC uses the typical fifteen-week semester system. One credit-hour normally represents a total of three preparation hours plus one class hour of work per
Most classes have laboratory components that are taught by the professors instead of assistants.

**Student Demographics and Graduates**

Most BSC students entering an Engineering Technology program hold Associate Degrees or equivalent while a smaller number come to BSC as Freshmen. The diversity of ET students at BSC is a large challenge/opportunity that has been addressed in a recent paper by the principal investigator (PI) of this proposal [1] (see the reference list in section D). ET graduates are in demand as evidenced by the 61 companies that have requested resumes through the BSC Resume Referral Service in addition to the 14 companies that have recruited on campus and at job fairs.

**Accreditation**

The Accreditation Board for Engineering Technology awarded ABET accreditation to the Electrical and Mechanical Engineering Technology programs in 1983. As a result of accreditation, the programs have been periodically reevaluated to maintain currency and quality of subject matter. The most recent visit from the Technology Accreditation Commission (TAC) of ABET occurred in 1998; six years of accreditation is expected.

**Philosophy**

The basic philosophy of the Engineering Technology program is to provide students with a firm foundation in the fundamental theories associated with each discipline, and at the same time, through laboratory experience, familiarize them with the practical applications of these theories to designing, developing, testing, and manufacturing. To accomplish this, most of the ET courses have a laboratory associated with them. Such courses are scheduled to meet for a total of five contact hours per week (three credit hours). The instructor can exercise some discretion as to how these five hours are divided between lecture, recitation, demonstration, and laboratory experience. Some courses are more heavily weighted to laboratory and demonstration, while others are more heavily weighted to the lecture format of instruction. The instructor has the option of using the five hours for lecture for one or more weeks, then devoting one or more complete weeks to work on student projects or especially long experiments. This format has proven to be highly successful. It has allowed students to work on significant experiments and major design projects which could not be accomplished during a regularly scheduled laboratory period. In addition, it has allowed instructors to occasionally spend more time ensuring that the fundamental theory is understood before it is demonstrated in the laboratory.

**Computer Emphasis**

To prepare the student for the lifelong learning process on which he/she embarks after graduation, the curriculum also requires the student to demonstrate a knowledge of computer programming with a high level language such as C++. Each student is required to complete two courses: one dealing with the language itself and one with the use of personal computers to implement various software packages frequently used in Engineering Technology. Computer
usage is emphasized and encouraged by the faculty in the various technical courses, in addition to the courses devoted to computer usage. The faculty consider the use of computers to be a significant instructional aid in both the performance of technical work and in the presentation of results. Two computer labs managed by the Technology Department provide access to 50 personal computers that contain software used in the courses. These computer labs and other microcomputer labs around campus are used for classroom instruction and also open labs for students. All BSC faculty, staff, and students have accounts on the college mainframe computer which provides Internet and e-mail capability through 32 dial-in modems, 250 networked PCs, and numerous computer terminals conveniently located around campus. Also, most lecture and laboratory rooms used for ET instruction have computers and terminals that provide access to local software and the mainframe computer. In addition, students who have computers at home with modems can connect to the campus mainframe computer by direct dial-in or telnet sessions from the Internet. The Principal Investigator of this proposal has been using a computer-managed homework system in his classes since Fall semester 1996 [2].

Other Courses, Liberal Arts, and the Library

Computer science, mathematics, physics, and chemistry are important prerequisite subjects for the study of engineering technology at Buffalo State College. To insure that the student is not just trained in one narrow discipline, he/she is also required to complete 24 credit hours in the liberal arts, including nine hours of communications. The library is used as a working tool by many instructors. Normally, in addition to a required textbook, an instructor will give students a list of recommended references to supplement the text and course notes. Also, many experiments and projects require the student to make use of handbooks and various other sources of information contained in the library.

The Mathematics Department

The Mathematics Department at Buffalo State College offers three undergraduate programs and one graduate program. The undergraduate programs are B.S. in Mathematics, B.A. in Mathematics, and B.S. in Mathematics Education. The total enrollment for these programs is 169 full-time students. The students in our mathematics education program complete the same mathematics courses as students in our other two mathematics programs. The graduate program is a M.S. in Secondary Mathematics Education with an enrollment of 72 part-time students. For more information about these programs please see www.buffalostate.edu/~math.

We are a department of 13 full-time faculty and 16 part-time faculty. Our programs have a heavy emphasis on the use of technology in the learning, doing, and teaching of mathematics. Graduates of our mathematics programs attend graduate schools such as Syracuse University and North Carolina State University. All education majors go on to complete a master’s degree as a result of state certification requirements, and they have a 99% employment rate over the past three years. Our programs are Middle States accredited and our education program is also NCATE accredited.
The Computer Information Systems Department

Overview

Computer Information Systems (CIS) prepares individuals with technical knowledge and management skills for use within the computer field. It particularly emphasizes the communication between programmers and users of data. It combines the knowledge of data processing hardware, software, and languages, as well as management skills necessary to supervise data processing tasks. Computer Information Systems includes the analysis, design, development, and implementation of systems that record, transmit, store, and process information. It includes business, scientific, mathematical, and industrial control systems and emphasizes software applications.

CIS Students

Our 241 students include high school graduates, two- and four-year college transfers, and working professionals completing their B.S. degree through evening course offerings. Students are admitted upon successful completion of Computer Based Information Processing I (CIS 151) and with good standing overall.

CIS Courses

CIS major courses are offered day and evening, with most courses limited to 30 students. All major classes are taught by faculty or by visiting professionals from local industry; we do not use graduate students. Internships at a variety of local companies are offered every term, including summers.

Major Courses

The bachelor’s degree in CIS consists of a set of major requirements, designed with the help of local computer professionals, and a set of general education requirements designed to complement and broaden the educational experience. The department has a strong internship program with local companies.

Required Courses

- Information Processing I (C++)
- Information Processing II (C++)
- Systems Analysis
- Microcomputer Applications
- Computer Organization and Structure
- Comprehensive COBOL
- Operating Systems
- Database Management Systems
- Networking and Telecommunication
- Advanced Systems Development
Elective Courses

- Visual Basic
- Object Oriented Dev. (Java)
- Advanced Database
- Advanced C
- Internship
- Project
- Seminar

Computer Facilities

All Buffalo State students have active computer accounts with e-mail and Internet access. The college has a local area network in which more than 250 student-access workstations can connect to several DEC Alpha mainframes (VMS, Unix) or to a variety of PC-based servers. The department has several servers (Unix and NT) for student use.

The workstations, which are mostly Pentiums running Windows NT, are located in four general access labs. The network supports 32 dial-in lines at up to 28.8 kbs. Most CIS courses are taught in "smart" classrooms with computer projection capability.

A separate professional lab is available for CIS students. This lab has state of the art machines, peripherals and software.

CIS Faculty

Eight full-time CIS faculty average more than 20 years of teaching and professional experience in information systems and computer science. The expertise of the faculty includes computer systems technology, object oriented programming, database design and analysis, information management, computer pattern recognition, and networking.

The Proposal

Purpose

The purpose of this proposal is to obtain a Computer Science, Engineering, and Mathematics Scholarships (CSEMS) grant from the National Science Foundation (NSF). Four faculty members from three departments prepared the CSEMS proposal and pledge their support for its successful implementation and administration. The significant parts of this proposal include the following scholarly activities:

- providing $1250 scholarships per semester to full-time juniors and seniors who have Pell Grant eligibility and demonstrated academic maturity enabling them to pursue
baccalaureate degrees in Computer Information Systems, Engineering Technology, and Mathematics at Buffalo State College, and

• developing a monthly colloquium specifically for the CSEMS recipients, but open to all students.

The CSEMS colloquium program will be discussed in detail in a later section. Support for forty (40) students is requested (the maximum NSF grant) for a period of two years.

CSEMS Recipient Selection Criteria

With this NSF award, students at Buffalo State College who are juniors or seniors majoring in Computer Information Systems, Engineering Technology, and Mathematics will have the opportunity to receive $1250 scholarships per semester based on two sets of qualifications. In accordance with the NSF 99-121 Program announcement, the following primary qualifications will be REQUIRED of all scholarship recipients:

• United States citizens, nationals, or aliens admitted as refugees at the time of the interview,
• eligibility for U.S. Department of Education Pell Grant,
• full-time status (at least 12 semester hours), and
• academic maturity and talent (defined by the second set of criteria in the next paragraph.)

The following criteria will be used to assess the academic maturity and talent of the students. Since there will be more students who meet the qualifications than there are scholarships available, the students who demonstrate the primary qualifications and who also have the strongest academic talent will be awarded the scholarships. Faculty and employers who write letters of recommendation for the students should identify as many of the following criteria as possible:

• at least 3.0 grade-point average (GPA) in the major,
• at least 3.0 GPA over all courses,
• indicators of professional success such as part-time employment in a related industry,
• exceptional leadership potential, professionalism, and other characteristics of academic maturity,
• applicants who come from diverse backgrounds and with diverse career goals,
• motivation, ability to manage time and resources, and communication skills, and
• recorded attendance at the CSEMS colloquium (for subsequent grants).

Those students who would make the transition from part-time status to full-time status because of the CSEMS grant will also be considered. The major requirements of the students after meeting the qualifications listed previously are the willingness to (1) interview with the CSEMS selection team, (2) maintain a full-time status during the semester of the scholarship, and (3) attend and participate in the CSEMS colloquium series.
CSEMS Scholarship Recipient Selection Process

The PI and Co-PIs will compile two lists of student names from each of their departments. The first list will be those students who meet the primary qualifications of the CSEMS program. The second list will be those students who lack only the full-time status prior to the award. Letters which describe the CSEMS program and which list all the qualifications for CSEMS grants will be mailed to those students informing them of their preliminary qualification. Students who intend to apply for scholarships may ask faculty members and employers for letters of recommendation. Students will interview with the CSEMS selection team whose members include the PI and Co-PIs. Students will be selected for the CSEMS awards based on the results of the interviews.

The PI and Co-PIs will compile a second list of part-time students who meet all other qualifications. We want to anticipate the possibility that some part-time students could become full-time as a result of CSEMS grants, although we have no indication of the likelihood of this scenario. To those part-time students, a similar letter will be mailed that stresses the full-time qualification.

Interviews will be scheduled with the interested students as soon as possible after grades are available from the previous semester; this will give them maximum planning time. Each interview will result in a single numerical score which is the average team score. An interview checklist containing points for each criterion will be used to determine the score. The point distribution for the qualification items will be determined by the selection team prior to the interviews. The selection team will have the freedom to change the point distribution each semester as necessary. Top scores will receive the CSEMS grants. A scholarship will automatically be renewed each semester provided the student continues to meet all qualifications. The PI will independently confirm that each scholarship recipient meets the primary qualifications prior to the first award notification and for each continuing award. Each scholarship will be $1250 per semester applied to tuition and other academic charges normally billed to all full-time students.

The PI and Co-PIs of the three departments will use computer databases that are readily available to generate lists of students who (1) meet the minimum 3.0 GPA requirement, (2) have part-time status, and (3) have full-time status. For those students who are possible CSEMS-grant recipients, the director of the Financial Aids office will identify to the PI and Co-PIs those who qualify for Pell Grants. The director of the Financial Aids office, the PI, and Co-PIs are all aware of the privacy issues related to the Pell Grant, and therefore every effort will be taken to protect that information in all literature and reports about the CSEMS grant. The Financial Aids office will also identify the students who meet the citizenship requirements of the CSEMS grant. The PI will be ultimately responsible for insuring that all CSEMS grant recipients meet the primary qualifications. The committee members who select the CSEMS-grant recipients will be responsible for selecting the most-qualified students. An equitable distribution of scholarships among the three disciplines will be secondary to a distribution based on qualifications. Students may decline the CSEMS opportunity for any reason without penalty.
Data available for Spring and Fall 1999 indicate as many as fifty students could receive CSEMS grants each semester as shown in Table 1, but the NSF grant limit of forty scholarships is requested.

<table>
<thead>
<tr>
<th>Departments</th>
<th>ET</th>
<th>CIS</th>
<th>Mathematics</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Students</td>
<td>230</td>
<td>241</td>
<td>169</td>
<td>646</td>
</tr>
<tr>
<td>At least 3.0 GPA</td>
<td>92</td>
<td>154</td>
<td>42</td>
<td>286</td>
</tr>
<tr>
<td>3.0 GPA &amp; Full Time (FT)</td>
<td>23</td>
<td>64</td>
<td>42</td>
<td>129</td>
</tr>
<tr>
<td>3.0 GPA &amp; FT &amp; Pell Grant</td>
<td>8</td>
<td>29</td>
<td>13</td>
<td>50</td>
</tr>
<tr>
<td>Estimated Total Scholarships</td>
<td>7</td>
<td>23</td>
<td>10</td>
<td>40</td>
</tr>
</tbody>
</table>

Of the eight ET students eligible for CSEMS grants each year, it is estimated that approximately four students will be in the electrical program and four will be in the mechanical program. However, the qualifications of the students will be considered more important than in which program the students are enrolled. Also when students are selected from the three departments (ET, CIS, and Mathematics), qualifications of the students will be considered more important than the estimated distribution shown in Table 1.

If a scholarship recipient fails to meet the requirements of the award during the award period, he/she will be allowed to reapply for the scholarship along with the other first-time candidates. One example is a student who is forced to become a part-time student during the award period through factors beyond his/her control. Students who continue to meet the qualifications and requirements of the award will receive automatic scholarship renewals. The PI will confirm the qualifications for each renewal.

**Grant Management and Administrative Plans**

- Verification - The PI will verify the citizenship status, full-time status, and the GPA rankings by using the readily-available computer databases. The PI will also confirm the Pell Grant status and citizenship of each student through a request to the college Financial Aids office.

- Provision of scholarship amounts -
  Each award will be $1200 per semester. There will be no attempt to decrease or increase any individual award amount.

- Evaluation of program outcomes -
  - Improved education for students in ET, CIS, and Mathematics -
    Closer collaboration between the three departments will serve to strengthen and enhance the strong interrelationships already in place. For example, a recent meeting between ET and math-support services yielded several suggestions for improving ET algebra skills including taking better advantage of the existing BSC services.

  - Increased retention of students to degree achievement -
Retention records will be initiated with specific focus on the CSEMS students. The PI will collect and tabulate those records which clearly document the participation and progress of the CSEMS students.

- Improved professional development and employment or further higher-education placement of participating students - Professional development, employment, and higher education are all expected to be topics of discussion during the CSEMS colloquia.

- Strengthened partnership between BSC and local industry - Industry representatives, who may represent future employers of our CSEMS students, will be invited to participate in the colloquia series. Engineering Technology currently has industrial advisory committees, and those advisory committees will be utilized during student selection and the design of the CSEMS colloquia series.

Existing BSC Student-Support Infrastructure

Buffalo State College offers a wide array of student services aimed at helping students adjust to the academic demands of college and becoming involved in the life of the campus community. These services are particularly important to those who are traditionally underrepresented in higher education. Some of the services that are most related to the CSEMS proposal include: Career Development Center, Child Care Center, Counseling Center, Health Center, Service Learning Volunteer Center, Commuter Services, Minority Student Services, Speech-Language Hearing Clinic, Special Services for Students With Disabilities, and CSTEP. CSTEP is a program which increases access to careers in science and technology, specifically Engineering Technology and Computer Information Systems, for nontraditional students.

Evidence of the high quality of the three departments involved in this proposal is demonstrated in Table 2. All three departments have evaluation processes that improve the curricula, and two of the departments have external accreditation. All three departments have course outlines on file. The numbers in Table 2 are approximate, but the significant results are the high retention rate and high job rate after graduation. Most BSC students from the three targeted departments prefer full-time work after their baccalaureate degree, including mathematics students who also go on to complete master’s degrees as a result of state certification requirements.

<table>
<thead>
<tr>
<th>Item</th>
<th>ET</th>
<th>CIS</th>
<th>Mathematics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accreditation</td>
<td>ABET, Middle States &amp; NCATE</td>
<td>Internal Review</td>
<td></td>
</tr>
<tr>
<td>Course outlines available</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>% Retention</td>
<td>95%</td>
<td>90%</td>
<td>75.8%</td>
</tr>
<tr>
<td>% Pursuing higher education</td>
<td>1%</td>
<td>5%</td>
<td>99%</td>
</tr>
<tr>
<td>% Acquiring jobs after graduation</td>
<td>80%*</td>
<td>85%</td>
<td>99%</td>
</tr>
</tbody>
</table>

* Survey response rate was 16%; 100% of them acquired jobs.
During the 1997-1998 academic year, the Buffalo State College community participated in a wide variety of enrollment management initiatives designed to recruit new students and retain existing students. The Admissions office instituted new procedures for recruitment and increased the use of technology for tracking inquires and processing applications. Academic departments developed their own recruitment strategies, including a range of articulation agreements designed to attract new transfer students. Faculty and staff participated in dozens of events on campus and off, and our community presence was stronger than ever. Many retention ideas proposed by students, staff and faculty were implemented into the College’s overall retention efforts.

The 1998-1999 enrollment figures showed positive results from efforts of the previous year:
- the largest freshmen class in a decade,
- better college-wide retention, and
- enrollment targets set by the College and SUNY were met.

The Technology Department initiated a high school visitation program in the Spring 1999 semester by visiting an electronics class at one local high school. Three similar visitations to different high schools are planned for Fall 1999.

**Proposed New CSEMS Colloquium Series**

A new program is proposed specifically for CSEMS recipients but also open to all students. The purposes of the new CSEMS colloquium series include 1) providing unique support services for the participants, and 2) encouraging continued collaboration among faculty from Mathematics, Computer Information Systems, and Engineering Technology. It will be a monthly colloquium in which all CSEMS students will be expected to attend and other students could be invited. Attendance will be encouraged by linking attendance to future CSEMS awards and recommendations after graduation. Colloquium programs are expected to be of two types: informational/interest and problem-solving exercises requiring the input from all three disciplines. The distinguished speaker at each information seminar could be a guest speaker including faculty from the three departments and directors of student-service offices such as the Professional Development office. The main topic of the information seminar would be something of interest to all the CSEMS students such as information about beneficial programs and employment opportunities.

A problem-solving colloquium will feature speakers from all three disciplines who will focus on the interdisciplinary nature of the solutions. This approach will provide students with an overview of the whole project, and not just the limited view normally acquired from each discipline separately. The speakers will coordinate the joint presentations intended to show students how the three disciplines work together to solve problems. The problem-solving colloquia will also serve to promote closer collaboration between the three departments. The PI will take primary responsibility for the colloquium series, but the PI and Co-PIs of the three departments will work closely to design and implement each colloquium. Such a program would be particularly useful to ET students who currently have close ties to the Mathematics and Computer Information Systems departments due to the required courses in those departments.
Students may be given information about the problem-solving exercises prior to the meeting, but most of the effort would be expended during the colloquium. Only a minimal amount of preparation would be required of the students prior to the colloquium. The time of the seminar would be chosen so that most students could attend. If a student could not attend, then he/she could receive credit by developing a report on some mutually-acceptable project. A Webpage will be developed by the PI which supports CSEMS issues.

**Expected Significance and Outcomes of the CSEMS Grant**

Closer collaboration between Mathematics, Computer Information Systems, and Engineering Technology faculty is expected as a result of the CSEMS colloquia. Students from all three disciplines are expected to benefit from the CSEMS colloquia that promises to describe solutions to common problems involving all three disciplines. The financial assistance to academically mature students who qualify for Pell Grants is expected to permit students to focus more on their education and less on financial concerns. Since under-represented groups are likely to participate in the CSEMS program, the opportunity exists within the CSEMS colloquia to offer programs that will be significant to them. The PI and Co-PIs will jointly publish a paper at a national conference on the significant outcomes of the CSEMS program.

**Letters of Support From Deans and Department Chairs**

Two deans and two department chairs have written letters of support for this CSEMS proposal. The Chair of the Mathematics Department is one the Co-PIs and has had previous experience with NSF grants. The following letters of support all express general support for the CSEMS program and confidence in the PI and Co-PIs to manage the CSEMS program. The letters lack signatures, but the original letters containing the signatures will be mailed to NSF along with the cover sheet.

**Letter of Support From the Dean of Natural and Social Sciences**

TO: Program Officer, CSEMS Program, NSF  
FROM: Lawrence Flood, Interim Dean, Natural and Social Sciences  
SUBJECT: Endorsement of Grant Proposal NSF 99-121  
DATE: August 18, 1999

I write to express my strong support for the Buffalo State College application to the National Science Foundation CSEMS Program.

Buffalo State enrolls a diverse student body of both traditional and nontraditional students. We have a commitment to diversity and to providing educational opportunities to students with a wide range of talents, interests and resources.

Many students at the college with strong academic potential lack the resources needed for school. Some find themselves going to school "full time" while also working "full time." I’m glad I didn’t have to do that. What is so exciting about this CSEMS proposal is that it would provide
strong students with the financial resources that would allow them time for much greater focus on their academics.

I’m also pleased by plans for the monthly colloquium. This would be excellent for the students and good for our faculty and college. Interdisciplinary collaboration is certain to be valuable.

The Principal and Co-Investigators have excellent credentials in their respective disciplines and have demonstrated commitment to teaching our diverse student population. I am confident they will manage their program well.

As Dean of the Faculty that houses Mathematics on this campus I promise my support should this grant application be funded. It will be a pleasure to work with this team and to watch the impact of the grant on our students.

Letter of Support From the Dean of Applied Science and Education

August 16, 1999

TO WHOM IT MAY CONCERN:

I am delighted to have the opportunity to express my support for Buffalo State College’s application to the National Science Foundation’s Computer Science, Engineering, and Mathematics Scholarships (CSEMS) Program.

Buffalo State College has an ongoing commitment to students from diverse backgrounds. Based on the selection process described in this proposal, the talented students with financial need who are potential recipients of the CSEMS awards will in all likelihood reflect diverse backgrounds, and represent diverse career goals. The $2500 per year that these promising students receive will be a significant factor in their ability to complete their undergraduate education.

Implementing the proposed Colloquium Program will provide a unique supportive mechanism which will not only give the students technical instruction on problem solving that is not currently represented in the required curriculum, but will also encourage continued collaboration among faculty from mathematics, computer information systems, and engineering technology.

I firmly believe that the principal and co-investigators can not only successfully manage the CSEMS program, but that the creation of a CSEMS Colloquium will benefit participating students and faculty alike. Dr. Barker has demonstrated his commitment to effective teaching and learning through his computer-homework system and his recent paper on diversity. I am confident of his commitment to the proposed CSEMS program at Buffalo State College and that he is personally determined to make it a success.

I wholeheartedly offer my general support to the PI and Co-PIs of the CSEMS proposal in their efforts to secure the grant; and if the proposal is reviewed favorably by NSF, I will support their efforts in implementing a successful CSEMS Colloquium.
Sincerely,
Dan L. King

Letter of Support From the Chair of the CIS Department

August 19, 1999
Larry Scott, Chair, CIS Dept
Buffalo State College
Buffalo, NY 14222

Dear Program Officer, CSEMS Program

I strongly support Buffalo State College’s application to the National Science Foundation’s Computer Science, Engineering, and Mathematics Scholarships (CSEMS) Program.

Our college and our department are committed to serving students from diverse backgrounds. The financial award amount in this proposal would make a big difference for many of our students, enabling them to complete their degree requirement without undue stress, interruption, and distractions that might affect their academic performance.

Given the selection process described in this proposal and the college’s location and mission, the talented students with financial need who are potential recipients of the CSEMS awards will in all likelihood reflect diverse backgrounds, and represent diverse career goals. I am confident that they will made good use of the proposed awards.

The proposed Colloquium Program would benefit both the students and faculty by exposing them to different mind sets. Many Engineering students take our programming courses, but in doing so they see our discipline only from our point of view. The need to communicate and cooperate across disciplines and to appreciate other viewpoints is an important skill that is best presented via the proposed colloquium.

I firmly believe that the Principal and Co-Investigators can successfully manage the CSEMS program, and that the CSEMS Colloquium will benefit participating students and faculty alike. Dr. Favata has demonstrated his enthusiasm for teaching and openness to innovation by pioneering new courses and labs within our department, and by always having the time and patience to work with individual students with shared interests. I am confident of his commitment to the proposed CSEMS program at BSC and that he is personally determined to make it a success.

I offer the support of the CIS program and faculty to the PI and Co-PIs of the CSEMS proposal in their efforts to secure the grant; and if the proposal is reviewed favorably by NSF, I will support their efforts in implementing a successful CSEMS Colloquium.

Sincerely,
Lawrence W. Scott
Letter of Support From the Chair of the Technology Department

August 16, 1999

Dear Program Officer, CSEMS Program

The Technology Department strongly supports Buffalo State College’s application to the National Science Foundation’s Computer Science, Engineering, and Mathematics Scholarships (CSEMS) Program.

The department has an ongoing commitment to students from diverse backgrounds. Based on the selection process described in this proposal, the talented students with financial need who are potential recipients of the CSEMS awards will in all likelihood reflect diverse backgrounds, and represent diverse career goals. The $2500 per year that these promising students receive will be a significant factor in their ability to complete their undergraduate education.

The proposed Colloquium Program will provide a unique supportive mechanism which will not only give the students technical instruction on problem solving that is not currently represented in the required curriculum, but will also encourage continued collaboration among the faculty of Mathematics, Computer Information Systems, and Engineering Technology.

I firmly believe that the Principal and Co-Investigators can not only successfully manage the CSEMS program, but that the creation of a CSEMS Colloquium will benefit participating students and faculty alike. Dr. Barker has demonstrated his commitment to effective teaching and learning through his computer-homework system and his recent paper on diversity. I am confident of his commitment to the proposed CSEMS program at BSC and that he is personally determined to make it a success.

I wholeheartedly offer my support to the PI and Co-PIs of the CSEMS proposal in their efforts to secure the grant; and if the proposal is reviewed favorably by NSF, I will support their efforts in implementing a successful CSEMS Colloquium.

Sincerely,
Peter S. Pawlik, Chair
Technology Department