Dean Margot Duley and Provost Harry Berman agreed that the 2008 CLS Self Study for the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) could be submitted in lieu of a program review document for the Clinical Laboratory Science Program. Pertinent pages or sections in the NAACLS Self Study are referenced below with additional comments.

I. Program Objectives and Structure

Date of Initiation.

The CLS program was initiated in 1973 (page 9 of the Self Study).

Conceptual Design.

The CLS Program is a Bachelor of Science degree which also leads to eligibility to sit for national certification examinations in medical laboratory science. The department is organized with a department chair who is also the program director and must be approved by NAACLS (accrediting agency). The department committee and personnel committee consist of the entire full time faculty.

Program Objectives. (see page 41)

Curricular Requirements and Coherence. (see Standard 9, beginning p. 38)

All courses are offered annually with the exception of CLS/MPH 471 (Emerging Diseases), which is offered summer and fall, and CLS/CHE 315 (Forensics) which is offered both fall and spring semesters, once online and once on campus with a lab (CLS/CHE 316). There have been no problems with students getting the classes that they need. We work closely with the other science departments in scheduling courses. There are currently no evening courses or entirely online courses in the curriculum. Students must be enrolled full time during the senior year due to the required capstone sequence of clinical courses offered in cooperation with our affiliated hospital laboratories.
For accredited programs and programs seeking accreditation:

In 2009, the CLS program received a full seven-year accreditation from the National Accrediting Agency for Clinical Laboratory Sciences. The Self Study report and selected appendices are attached.

II. Assessment of Learning Outcomes and Curricular Revisions

Assessment.

(see Standards 18, 19, 20, and 21, beginning p. 68)

Curricular Revisions during the Review Period.

(see Standard 21)

Career Objectives and Job Placement.

Most graduates accept positions in hospital laboratories upon graduation. We have 100% placement for graduates seeking such employment. (see Standard 20)

Student Satisfaction.

(see Standard 21)

Student Achievements.

Although it is difficult to track graduates, graduate follow-up survey information suggests that graduates are successful practitioners. Graduates are employed in the field and many have been promoted to supervisory and administrative positions. In addition, a number of graduates have pursued professional and graduate education. Recently, a graduate received an award for a paper she authored. Graduates have also been elected to key positions in our professional organization.

III. Student Characteristics and Academic Support

Demographics.

Most of the CLS majors are female, which is typical of the profession. Most students attend full-time although we have some who are part-time student during the
first three years of the major. As was mentioned earlier, the senior year must be done on a full-time basis. The CLS student population includes a wide variety of ages and ethnicities. This leads to different cultural perspectives. Students become especially close to each other as they take the identical coursework and clinical courses as a cohort. See Table 1: Student Demographic Data.

**Transfer Characteristics/Feeder Institutions.**

The primary feeder to the CLS Program is Lincoln Land Community College (LLCC) with which we have a 2+2 articulation agreement and a close relationship. Other students come to UIS because we are one of only two university in central Illinois that have a CLS program, the other being ISU. In addition to UIS and CLS Program recruitment activities, students learn about us on the NAACLS, ASCLS (American Society for Clinical Laboratory Science), and ASCP (American Society for Clinical Pathologists) websites. This pattern of recruitment should persist through the next eight years.

**Recruitment Activities.**

The CLS faculty try to make presentations to several microbiology classes and/or chemistry classes at LLCC every semester. The chair also meets with the LLCC advisors every other year and talks with the dean of nursing and health professions several times a year. The program also has a 2+2 agreement with Richland Community College. The CLS chair recently joined with LLCC in a U.S. Department of Labor grant proposal for marketing health professions. The CLS part of the 3-year grant is $16,000. We anticipate receiving the results of the proposal in early 2010.

The program has a system for responding to inquiries and to applicants. All inquiries and applications go through the program chair. She responds personally or has the office manager send form letters. Both the chair and the office manager keep the letters or emails to follow up on prospective students.

**Admissions Criteria.**

(see Standard 11, beginning p. 54)

**Advising and Other Communication to/with Students.** (Standard 15)

The chair advises all lower division CLS majors and outside applicants and inquiries. The juniors and seniors in the CLS program are assigned to the other CLS faculty. Advising is available in the evening and on weekends by appointment.

The CLS Program has a Student Handbook which is mailed to students upon acceptance to the program. It is also available on the CLS website: [www.uis.edu/clinicallabscience](http://www.uis.edu/clinicallabscience). The Handbook is updated annually and includes
program competencies and all program policies and procedures. The program chair reviews this with the students in the initial CLS course, CLS 321, Seminar in CLS. Clinical course policies and procedures are again reviewed with the students by the chair during the summer session before the senior year.

Program faculty serve as mentors to students in ways that are appropriate to the program’s objectives and discipline. For example, Dr. Gade involves students in his research and publications, most recently submitting two articles to journals in the area of the metabolism of obesity. Also, Paula Garrott and Linda McCown have mentored students as student leaders in the professional society, the American Society for Clinical Laboratory Science.

Retention. (Standard 20, p. 72)

There is considerable attrition in the CLS Program. This is due to a number of factors including the rigor of the program, the demanding professional curriculum, and the lack of academic preparation in the sciences of some students. One of the goals of the marketing grant is to decrease attrition by increasing the number and academic credentials of applicants. If the application process was more competitive, much of the attrition due to poor academic preparation or ability could be avoided. The CLS Program attempts to enhance retention by carefully advising students, monitoring their progress, and when necessary suggesting that students take two years to complete the junior (first year of the professional curriculum courses) courses. This allows the students to focus on fewer courses and in some cases, enhances their performance.

Other reasons for student attrition include personal issues, such as moving out of state, illness of relatives, family concerns, etc. A few students decide that the major is not what they want. We try to avoid this by advising students to do a job shadow before they enroll and including a job shadow experience in CLS 321, the first CLS course in the professional curriculum.

As with other programs, CLS also has experienced attrition in the freshman year due to poor academic performance in the lower division science courses, changing majors, and leaving school. There has been significant attrition in both BIO 141 and CHE 141, the first required courses for all Biology, Chemistry and CLS majors. The Natural Science Division has been working with the Center for Teaching and Learning as well as the general education advisors to try to improve retention. Strategies have included specific advising and tutoring for “at risk” students. In addition, we are investigating the formation of a developmental science course for students that have not had adequate preparation in high school as evidenced by low ACT scores and performance in high school science classes.
IV. Faculty

See Standard 6, beginning p. 28

**Demographics.**

The CLS Program has three full-time faculty positions. Due to the retirement of one of the faculty, a search is currently being conducted. Two of the current faculty have Ph.D.'s and the other has the terminal degree (master's degree) and is competing Ph.D. dissertation research. Two are certified Medical Laboratory Scientists and one is certified as a clinical microbiologist. One is tenured and one is in the fifth year of the tenure track. All are Caucasian; one is female; all are over 50 years old. The one who is retiring has a 1/6 appointment in Public Health. The chair has an administrative NIA; however, her workload is over 12 contact hours per semester.

There are two adjunct faculty, one of whom teaches one course, CLS 404, and the other teaches two courses, CLS 403 and 451. Both are female and have specialty certifications in the profession which are considered equivalent to a master's degree.

**Fit with Program.**

With our full-time and adjunct faculty, every clinical laboratory curricular area is covered by faculty who have excellent clinical expertise and advanced knowledge in their discipline areas.

**Faculty Achievements.**

Here is a selection of some faculty achievements. Please note that presentations, many to national audiences, are omitted for brevity’s sake.

Wayne Gade received the Outstanding Author Award for *Clinical Laboratory Science*, the peer-reviewed journal of the profession, in both 2003 and 2007. He also participated in two grants, NSF (CCLI-A&I) Grant: Integration of Powder X-ray Diffraction Throughout the Chemistry Curriculum, 2002-05; and AAAS/Merck : Summer Undergraduate Research Grant: Chemical Characterization Of Antimicrobial And Antioxidant Compounds From Selected Medicinal Plants, 2006-08.

In July 2009, Paula Garrott was awarded the highest honor given by the Board of Directors of the American Society for Clinical Laboratory Science, the Robin Mendelson Award, for service to the profession. She also was named the American Society for Clinical Laboratory Science Member of the Year in 2004. She held an appointment to the U.S. Department of Health and Human Services Clinical Laboratory Improvement Advisory Committee. She was elected to the Board of Directors of the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) for 2008-2011; and she chaired the Coordinating Council on the Clinical Laboratory Workforce from 2005 to 2008.

Jim Veselenak is recognized as an expert on poisonous mushrooms and serves as a resource for area poison control centers. He also participated in the AAAS/Merck Summer Undergraduate Research Grant: Chemical Characterization Of Antimicrobial And Antioxidant Compounds From Selected Medicinal Plants, 2006-08.

**Technology.**

This is discussed in Standard 8, p. 35. Faculty are using instructional technology to varying extents. They use PowerPoint presentations and discussion. These are supplemented where needed by Kodachrome slide presentations, CD atlases, and online tutorials in CLS 405, Urinalysis; CLS 447, Mycology, Parasitology, Virology; and CLS 402 and 452, Hematology. Case studies are utilized extensively. When money is available for a student worker, the program would like these hundreds of Kodachrome slides to be converted to electronic format.

Syllabi, objectives, presentations, study questions, and assignments are posted on Blackboard for almost all courses. CLS 315, Introduction to Forensic Science, is given online once a year and involves video lectures and interactive assignments.

CLS 411, ECCE Health Care Management, and CLS 456, Clinical Correlations, are blended courses, with online assignments and Discussion Board forums on the days that the course does not meet in person.

**Faculty Development.**

Dr. Wayne Gade took a sabbatical during the spring semester, 2009. He worked in the molecular lab at Memorial Medical Center in Springfield and wrote two articles for publication in *Clinical Laboratory Science*. The program will benefit from these publications and the specialized knowledge and techniques that he learned in this new area of the laboratory, molecular diagnostics, which he will be able to discuss in his classes.

The rapid advances in medicine require the faculty to constantly stay abreast of changes in their disciplines. The teaching, scholarship, and service demands of the position make it difficult to spend the necessary time to keep current. In addition to reading journals and participating in listservs and electronic updates, the faculty attend continuing education sessions at the annual Illinois ASCLS conference in the spring. In addition, the chair (and sometimes Dr. Gade) attends the annual Clinical Laboratory Educators’ Conference (CLEC). Ms. McCown also tries to attend hematology.
conferences at Washington University School of Medicine and adult education conferences every other year. The faculty development allocation at UIS does not cover all of these expenses. However, because the CLEC meeting is vital to the program director’s role, as part of the compensation package negotiated at the beginning of her employment, the CLEC meeting for the program director is funded by the CLAS Dean’s Office.

V. Learning Environment and Support Services

Student Involvement with Program Activities.

The CLS Program has very close relationships among the students and between the students and faculty. Each cohort of juniors and seniors has their own educational, social, and professional identities. Drs. Gade and Veselenak are the advisors to the Clinical Laboratory Science Club which is open to all majors and any interested students. The club sponsors blood drives on campus, an annual poinsettia sale (to help support student attendance at the ASCLS-IL meeting and participation in the Student Bowl competition), and other activities such as a Halloween party, picnic table painting, and joining with other clubs for service activities. They sponsor two teams every year that compete in the Student Bowl at the Illinois state meeting of the American Society for Clinical Laboratory Science. Several students have been officers in the state society of ASCLS.

The CLS Department wholeheartedly embraces student participation in program policy and operations. In addition to regular verbal discussions with students by the chair and all faculty, one junior student and one senior CLS student are members of the CLS Advisory Committee. The Advisory Committee is discussed in Standard 5B, pp. 26-27. Changes that have been made to the program as a result of student suggestions (and faculty and clinical site suggestions) are discussed in Standard 21, p. 74-75.

General Curricular Support.

A 5-head microscope provides excellent instruction to four students at a time. A high resolution video camera for the microscope would allow all of the students to see the demonstrations simultaneously thus saving considerable lab and teaching time. NAACLS agreed that the laboratory equipment on campus and at the hospital labs is appropriate for the program, Standard 8B (p. 36).

Adequacy of library holdings and services, laboratories, equipment, and space in relation to the program’s needs are discussed in Standard 8, beginning on p. 35. Many of the books in the library related to clinical laboratory science are out-of-date and the chair has discussed this with the librarian. One new volume in each of the major CLS disciplines was purchased within the last three years. Mostly the students use the latest editions of books that are available in faculty offices and the student lab. Unfortunately,
in the recent budget situation, the library stopped subscribing to the main database used by CLS, the Cumulative Index of Nursing and Allied Health (CINAHL).

As far as support services, a few students have been referred to the Center for Teaching and Learning and we have been working with the Office of Disability Services for a couple of students. The chair has participated with the Experiential and Service Learning Think Tank regarding common concerns about off-campus experiences for students.

**Computer Technology.**

In addition to the faculty computers we have 5 computer stations in the CLS lab. Two of these have Internet access. The program’s computer hardware and software systems have been fine but they are at the end of their lifespans. The lab computers will be replaced from surplus. Campus support for instructional technology is very good.

**Future Needs.**

Along with the Biology and Chemistry departments, CLS needs to provide more biomolecular experience for our students. We are including this in our curricula and the three departments are trying to coordinate the laboratory experiences as biomolecular equipment, reagents, and supplies are very expensive.

Space for research labs, classrooms, and offices is at a premium in the Health and Sciences Building. Currently the CLS Program is using HSB 339 for both laboratory preparation and research space. We will need to be creative to find research space for our new microbiologist in the building.

**VI. Student Demand and Program Productivity**

**Student Enrollment.** See Table 2: Number of Program Majors, Credit Hours Generated and Degrees Granted.

Even with the recent economic situation and unemployment, there continues to be a demand for clinical laboratory scientists. Reports in the public and professional literature address continuing shortages of health care professionals, including clinical laboratory scientists, also known as medical laboratory scientists, medical technologist, or even laboratory technicians. “Staff Shortages in Labs May Put Patients at Risk” was a recent article in the Wall Street Journal, for example (May 13, 2009). The article, “Laboratory Technician: As one of the 50 best careers of 2010, this should have strong growth over the next decade” was posted on the Money/Career web page of U. S. News & World Report December 28. 2009. They say, “Job growth is expected to be faster than average, with the number of clinical lab workers rising about 16 percent. But you can count on even more opportunities thanks to retirements and turnover.”
The UIS CLS Program is critical for health care in central Illinois. Most of the graduates remain in the area, employed in local hospitals. The governor’s Critical Skills Shortage Initiative (2005-08) for central Illinois chose laboratory professions to be targeted professions along with nursing. The Bureau of Labor Statistics of the U.S. Department of Labor projects that the employment of medical laboratory technicians and scientists will increase by 14% through the year 2016. According to Jobs Rated Almanac, clinical laboratory science has 25% job growth and good job security. Among health related professions, it currently ranks #3.

One might expect an increase of applicants during these times of unemployment. However, the lack of public recognition of this profession and perhaps the number of science prerequisites have prevented this from happening at UIS and nationwide. The number of students graduating from CLS programs ranges from around 4 to 50 with the median around 10 for NAACLS accredited CLS programs (around 2000 graduates took the ASCP certification exam in 2008 and there are around 200 programs).

Enrollments and degrees granted in CLS do show a slight increase in the last five years over the previous years, perhaps because of the admission of underclassmen to the university. Enrollment in CLS-prefix courses should increase over the next eight years as a result of the department offering ECCE (upper division general education) courses. Spring 09 was the first offering of CLS 411, Health Care Management, as an ECCE U.S. Communities course. Non-CLS students doubled the enrollment. We will be offering CLS 471, Emerging Diseases (co-listed with Public Health) once or twice a year as an ECCE Global Awareness course which should attract large numbers of students. The department is also planning to offer a 100-level life science course in Health Science which should also attract a large number of students.

In addition, the marketing grant will allow us to advertise the degree, which is often unknown to high school and community college students, teachers, and counselors. This should increase the number of applicants and decrease the attrition due to academic problems. The goal is to graduate 50% more CLS majors during the next review period. Even if we do not get the grant, the CLS chair has already been in touch with the UIS marketing people to develop strategies to enhance marketing of the CLS Program.

*Program Productivity Data and Analysis.*

In 2007, the credit hours generated in prefix courses was 690 and the credit hours per staff year was 280. This is in the bottom third of the programs at UIS, however these numbers need to be put into perspective. The CLS curriculum encompasses a large variety of topics which must be covered both on campus and in the clinical courses offered at our affiliated hospital laboratories. This results in low numbers of CLS majors taking each course, especially the clinical courses where only 4-5 students may be taking the course at the same time. Only one student can take CLS 424, Clinical Immunohematology Lab, at a time at our 4 clinical sites. Since all students must take each course, the course must be offered both semesters, diluting
the number of students in each offering. A better indicator of productivity of the CLS Program is the workload of the faculty which is in the top 50% of the university even with the chair’s 1/3 release time (NIA) (data provided to the CLAS Executive Committee by T. Bodenhorn).

The professional component of the CLS Program which consists of the junior and senior year has had enrollments of 14-19 for the junior year and 8-12 for the senior year. Program capacity is 20 for the junior year and about 15 for the senior year, depending on the number of clinical positions available at the hospital affiliates. To increase enrollment, the program is participating in health care career initiatives of the state and county, such as the current Chamber of Commerce Q5 Initiative. Marketing and retention are the goals of the grant that we have joined with Lincoln Land Community College in submitting to the U.S. Department of Labor through the Chamber of Commerce.

The UIS CLS has an excellent reputation regionally and nationally. Outcomes such as 100% employment of graduates seeking jobs in clinical laboratory science and excellent employer feedback support this reputation. In addition, the high quality of the CLS Program is evidenced by our recent full 7 year accreditation with no citations and good student performance on the national certification exam.

According to the Illinois Board of Higher Education, there are five universities in Illinois offering “clinical laboratory science/medical technology” as a major. It is extremely difficult to compare these programs as they are administered very differently. For example, two of the five universities (EIU and WIU) are not accredited by NAACLS. They only provide prerequisite courses and make the students find their own hospital-based CLS programs to finish their senior year and become eligible for the national certification examination. These programs make the average cost for CLS programs appear to be lower than CLS programs like UIS’. The employment rates for UIS CLS graduates is undoubtedly much better than these programs, but the cost to UIS is substantially more as we must offer professional medical laboratory courses.

Comparison with statewide averages needs to be done with care. Two of the programs listed as having CLS programs, Eastern and Western, have so-called majors in CLS but have no clinical courses. EIU and WIU are not NAACLS-accredited CLS programs.

**Demand for Concentrations.**

There are no concentrations in CLS. However, as have the other science departments, the CLS department has proposed a pre-medical concentration in CLS and is cooperating with a proposed pre-medical minor for non-science majors.

**Minors.** There is no minor in CLS.
VII. Centrality to Campus Mission

Support of the Campus Vision.

The CLS Program and all faculty strongly support the vision of becoming a premier public liberal arts university. We offer a high quality professional program which fits the university’s vision of offering liberal arts, public affairs, and professional programs. We are dedicated to academic excellence, enriching individual’s lives, and making a difference in the world. We are accomplishing these goals as evidenced by feedback from our graduates and employers. Our students, graduates, and faculty make a difference in medical science and are highly sought after for employment and speaking engagements. The CLS Program strengths include three priorities established in the Strategic Plan and the Goals and Objectives Report of the Campus Budget and Planning Committee: excellence in teaching, building community, and having a distinguished identity. The UIS Clinical Laboratory Science Program is known nationally and especially within Illinois for its faculty expertise and student performance at statewide Student Bowl competitions.

The CLS mission statement can be found on p. 9 of the Self Study.

Relationship to Other Campus Instructional Programs.

The CLS Program has a very close relationship with the Chemistry Program. One of the CLS faculty who teaches chemistry courses sits on the Chemistry Program Committee meetings. Wayne Gade teaches CHE 433 and CHE 322 (2 sections), taught CHE 418 up to 2008, and has also taught CHE 415, Biochemistry when needed. Chemistry faculty sit on the CLS Program Personnel and search committees. CLS students take several chemistry courses and the two programs collaborate on the content and scheduling of these courses. One of the CLS faculty also teaches a biology course (BIO 347, Medical Bacteriology) and the CLS Program has plans with Biology to crosslist BIO 347 and CLS 448/449, Introduction to Immunology/Lab. This should increase the visibility of the CLS courses and optimize the utilization of resources. CLS also offers a course, CLS 471, Emerging Diseases, which is crosslisted with Public Health. CLS faculty have also been involved in teaching CAP Honors science labs.

Support for General Education.

This is one of the strengths of the CLS Program. The CLS Program has supported the CAP Honors Program by providing a faculty member to teach a lab section for CAP 141 and CAP 142. A CLS faculty teaches CLS 315/316, Introduction to Forensic Science (colisted with Chemistry), a physical science general education science course for nonscience majors twice a year (once online) with the corresponding lab once a year. This course is always full.

The CLS Program has a long history of offering upper-division general education courses including PAC and LSC courses. The CLS clinical courses offered at our
affiliated hospital laboratories have always been Applied Study Terms and are now ECCE Experiences. We will be offering CLS 471, Emerging Diseases (co-listed with Public Health) once or twice a year as an ECCE Global Awareness course which should attract large numbers of students. This course used to be a PAC course (PAC 403). Spring 2009 was the first offering of CLS 411, Health Care Management, as an ECCE U. S. Communities course. Non-CLS students doubled the enrollment. The program is also planning to offer a 100-level life science course in Health Science which should also attract a large number of students.

**Service to Non-Majors.**

In FY 2007, 15% of enrollment in CLS-prefix courses have been nonmajors. Some of these have been Biology graduate students who take such courses as CLS 448, Introduction to Immunology. Many non-majors have taken lower and upper division general education courses taught by our faculty. The old PAC and LSC courses, however, were not counted in some of the statistics because they were not CLS-prefix courses. CLS enrollments should show an increase as we replace these with CLS courses and increase the enrollment caps.

**Support for campus initiatives.**

The Program has offered quite a number of online or blended courses, especially considering that the Clinical Laboratory Science curriculum is made up of almost entirely laboratory courses. CLS 315, Introduction to Forensic Science, is offered online once a year. LSC 414: Water: An American Perspective was taught online by Jim Veselenak until his retirement in October 2009. In addition, the CLS Program, although not formally part of the recent Sloan blended curricula grant, has converted CLS 411, ECCE Health Care Management, and CLS 456, Clinical Correlations, into blended courses.

The Program has supported other campus initiatives, such as offering forensics as part of the summer 2007 “Taste of UIS” series.

**VIII. Costs**

**Analysis of Costs.**

The instructional costs of the program have not changed significantly over the past eight years. This is attributed to creative and frugal use of resources by the faculty and help from our hospital affiliates. Programs in health care careers are very expensive due to the expense of equipment and supplies, cost of experienced faculty who could find better-paying jobs in the marketplace, and the inherently low student: faculty ratio necessary for the many labs and clinical experiences.

Costs for the UIS CLS Program also appear to be high because of over-counting of administrative time. The chair’s 1/3 (4 hours) NIA was subtracted from productive
time even though the chair has 12-20 credit hours of teaching responsibility each semester. When there are only 2.83 FT faculty, a 0.33 loss is significant (over 10%).

Faculty cost-centered offerings from 2002-07 (fall) ranged from 15 to 18 courses for 3.33 to 3.83 faculty (2.83 FT + Adjuncts). Thus, the productivity of the CLS Program has been extraordinary, especially considering that the chair is supposed to have 1/3 release time for administering the program. During the last 4 years, the program also had two tenure-track faculty doing scholarship and service toward tenure. One must also appreciate that both of these faculty teach CLS courses during the summer.

Jim Veselenak also taught PAC 403, Emerging Diseases, and the MPH 428, The Public Health Laboratory, which were credited to his 1/6 appointment in Public Health although 10 credit hours per year is more than 1/6 of a faculty workload.

External Funding.

Wayne Gade participated with chemistry faculty on the NSF (CCLI-A&I) Grant: Integration of Powder X-ray Diffraction Throughout the Chemistry Curriculum, 2002-05; and both Wayne and Jim Veselenak participated with other science faculty on the AAAS/Merck: Summer Undergraduate Research Grant: Chemical Characterization Of Antimicrobial And Antioxidant Compounds From Selected Medicinal Plants, 2006-08. Linda McCown applied for a grant from Abbott Diagnostics and received a $65,000 hematology analyzer with continuing reagent supplies and service support. She also received software worth $16,000 from CellaVision to help teach hematology. The CLS faculty plan to continue seeking collaborative grants with Biology and/or Chemistry faculty and seeking other grants as they become available.

IX. Summary and Recommendations

Previous Program Review Recommendations.

The CLS Program was not given any recommendations from the last program review in 2001. It was conducted based on the NAACLS accreditation process which resulted in a full seven year accreditation with no citations or recommendations. The program has initiated changes/improvements since the last review which are discussed in the most recent NAACLS Self-Study document (Std. 21)

Current Program Strengths.

The CLS Program has 100% employment of its graduates. In addition graduates have excelled in the workplace and in professional and graduate schools. Graduates perform well on national certification examinations. CLS faculty are active teacher-scholars. They have both strong academic and clinical expertise. The UIS CLS Program and its faculty have excellent national reputations.
The CLS Program is also making significant contributions to the general education curriculum. Faculty and students maintain a close relationship, with faculty continuing to mentor students long after they have graduated. The CLS Program has developed a strong 2+2 articulation agreement with LLCC and hopes to develop other articulation agreements with other community colleges. The CLS faculty also maintain close relationships within the central Illinois laboratory community and workforce development groups.

**Areas of concern.**

The major area of concern is the need to enhance recruitment and retention. The workload of the chair/program director is a continuing concern.

**Program’s Recommendations for the Current Review.**

1) Support marketing and recruitment
2) Support supplies, equipment maintenance and replacement as needed
3) Identify space for research, especially for the new microbiologist
4) Support maintenance of relationships with clinical sites – travel for faculty to visit current and potential sites, perhaps other incentives such as free continuing education for clinical faculty
5) Hire a non-tenure track faculty or academic professional to serve as clinical site coordinator, recruiter and lab manager. This person would relieve some of the work of the chair/program director and would also be able to help teach some of the labs, allowing faculty to teach more courses.
6) Release time for putting more courses wholly online – immunology, senior courses such as Clinical Correlations and Health Care Management, a CLS orientation course, a 100-level life sciences general education course

**X. Statistical Data**

Tables 1 and 2 follow (data from Laura Dorman):
Table 1
Student Demographic Data
Clinical Laboratory Science, B.S.

Undergraduate Majors by Gender

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Undergraduate Majors by Ethnic Group

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Undergraduate Majors by Part-time/Full-time Status

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Undergraduate Majors by Age

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