

**NEW UNITS OF INSTRUCTION, PUBLIC SERVICE,  
AND RESEARCH AT PUBLIC UNIVERSITIES**

**Submitted for:** Action.

**Summary:** This item requests approval of seven degree programs at two public universities.

**Action Requested:** That the Illinois Board of Higher Education approve the following:

Illinois State University

- Bachelor of Science in Molecular and Cellular Biology in the Central Region
- Master of Arts and Master of Science in Anthropology in the Central Region

University of Illinois at Urbana-Champaign

- Bachelor of Science in Liberal Arts and Sciences in Computer Science and Anthropology in the Prairie Region
- Bachelor of Science in Liberal Arts and Sciences in Computer Science and Astronomy in the Prairie Region
- Bachelor of Science in Liberal Arts and Sciences in Computer Science and Chemistry in the Prairie Region
- Bachelor of Science in Liberal Arts and Sciences in Computer Science and Linguistics in the Prairie Region
- Master of Arts in Translation and Interpreting in the Prairie Region



STATE OF ILLINOIS  
BOARD OF HIGHER EDUCATION

**NEW UNITS OF INSTRUCTION, PUBLIC SERVICE,  
AND RESEARCH AT PUBLIC UNIVERSITIES**

By statute, the Illinois Board of Higher Education is responsible for approving new on-campus and off-campus units of instruction, organized research, and public service, and units of administration proposed by public university governing boards. The Board's approval criteria, defined in rules adopted for administering the statute, address university mission, academic control, faculty and staff, support services, financial resources, student demand, curriculum, statewide need, and congruence with Board policies and priorities. In addition to the approval criteria in rules, each new program was reviewed for its contributions to the goals of the *Illinois Public Agenda for College and Career Success*, which sets forth new priorities to guide Illinois higher education. Staff recommendations are based on analyses of application materials and responses to staff questions, and, for advanced degree programs, recommendations of external consultants.

**Illinois State University**

**Proposed Program Title in Region of Authorization:** Bachelor of Science in Molecular and Cellular Biology in the Central Region

*Projected Enrollments and Degrees:* Illinois State University has projected that approximately 50 students will enroll in the first year, most of them full time, increasing to about 200 students in the fifth year. It is projected that about 40 degrees will be awarded in this program in the fifth year. If student demand for the program continues to grow beyond the fifth year of implementation, more degrees will be awarded in the program.

**Background**

Illinois State University (or the University) requests authority to offer the Bachelor of Science (B.S.) in Molecular and Cellular Biology in the Central Region. The program is designed to train students in a range of biological fields spanning molecular biology through cell biology, to organismal development and physiology. Graduates of the program will be well prepared to become health care professionals, life science researchers, and members of the biotechnology industry. It is expected that a significant proportion of graduates will pursue pre-medical studies.

This program and the B.S. in Biochemistry approved by the Illinois Board of Higher Education (IBHE) in September 2012 were well established sequences within the University's B.S. in Biochemistry and Molecular Biology which enrolled 104 majors in 2010. The University plans to eliminate the existing baccalaureate program in Biochemistry and Molecular Biology when students who wish to get their degrees in the program have graduated as no new students will be admitted. Although the program was approved by the IBHE in 2001 and it has served the University well, it was determined that the University will be better served by two autonomous

degree programs with names better associated with their respective disciplines and the occupations they serve. This program would be administered by the School of Biological Sciences and the Biochemistry program is administered by the Department of Chemistry; these units mutually agreed to the plan. If this program is approved, it is expected that it will attract more prospective majors beyond the current number of students that used to study molecular biology and grow by an additional 50 students to 200 students by the fifth year of operation.

It is expected that the proposed program will be built upon the strengths of the other three degree programs currently offered by the School of Biological Sciences, namely, the B.S. in Biological Sciences which enrolled 561 students in 2010, as well as the M.S. in Biological Sciences, and the Ph.D. in Biological Sciences. These programs have significant resources, including faculty and library resources, and facilities and equipment that will contribute to the success of the proposed program.

## **Need**

*1050.30(a)(6): A) The unit of instruction, research or public service is educationally and economically justified based on the educational priorities and needs of the citizens of Illinois; B) The unit of instruction, research or public service meets a need that is not currently met by existing institutions and units of instruction, research or public service.*

Students who will earn the B.S. in Molecular and Cellular Biology will be well trained to work in several career fields in the life and physical sciences, health care, biotechnology, and social sciences. They will be able to find jobs in specific occupations as life scientists, medical scientists, pharmaceutical scientists, biological technicians, clinical scientists, biomedical researchers, and research scientists. Other graduates will enroll in graduate programs and professional schools, including medicine, optometry, and dentistry.

The U.S. Bureau of Labor Statistics (BLS)'s projections of employment indicate that between 2010 and 2020, employment for the occupations identified above as a group will grow by 15.3 percent compared to 14.3 percent growth for all U.S. occupations. Similarly, the Illinois Department of Employment Security (IDES) has projected that employment in occupations served by biological scientists will grow by 13.8 percent compared to 8.7 percent for all occupations in the state in 2008 to 2018. In Illinois, the projections constitute approximately 2,300 jobs annually. This number is very large compared to the estimated 50 degrees awarded in this program in the fifth year of operation. Additionally, the biotechnology industry has experienced explosive growth in revenue and employment and the growth is not expected to slow down for a long time. The industry encompasses new and diverse sciences which include genomics, recombinant gene technologies, applied immunology as well as the development of pharmaceutical drugs and diagnostic tests.

## **Institutional Completion Rates**

*Criterion 1050.30(b)(1)(G) provides that success in student progression and graduation, and success rates in programs preparing students for certification and licensure, shall be consistent with expectations in higher education and the appropriate related field of study. At a minimum, the Board shall consider the following factors, based on results for similar institutions: (i) Graduation rates, degree-completion rates, retention rates, and pass rates for licensure and certification. (ii) Success rate, which shall be, at a minimum, higher than that of the lowest quartile of these measures for similar Illinois institutions defined as open versus competitive enrollment institutions and primarily associate versus primarily baccalaureate granting*

*institutions. Exceptions may be made to the lowest quartile if an institution is above the national average for these measures using the same comparison categories of institutions.*

Illinois State University is in the primary baccalaureate-granting, selective-admission comparison group in Illinois. Cohort graduation is based on those seeking a bachelor's degree.

<u>Cohort Graduation Rate</u>	<u>Group Mean</u>	<u>Group Median</u>	<u>Rank</u>
71%	52.3%	54.9%	9/65
<u>Undergraduate Completions per 100 FTE</u>	<u>Group Mean</u>	<u>Group Median</u>	<u>Rank</u>
24.6	22.2	22.2	16/67

### ***The Illinois Public Agenda for College and Career Success***

The Bachelor of Science in Molecular and Cellular Biology will address Goal 3 and to some extent Goal 4 of *The Illinois Public Agenda*. Goal 3, *increase the number of high-quality post-secondary credentials to meet the demands of the economy and an increasingly global society*, will be addressed by enrolling qualified students, educating them, and awarding high-quality baccalaureate degrees in a high demand STEM field.

Goal 4, *better integrate Illinois' educational, research, and innovation assets to meet economic needs of the state and its regions*, will be addressed because research and innovation in the biological sciences and related fields of study provide essential training of students in biological science programs. The success of this program will directly and indirectly contribute to the workforce and economic development of Illinois.

### **Comparable Programs in Illinois**

Currently six bachelor degree programs that are more or less similar to this program are offered in the state. Two of the programs offered by the University of Illinois at Urbana-Champaign and Bradley University are very similar to this program. The other programs offered by Benedictine University, Blackburn University, Loyola University, and Millikin University are similar but also differ from this program. Many more programs are offered in biology and biological sciences in the state and they share some attributes of this program.

### **Mission and Objectives**

*1050.30(a)(1): A) The objectives of the unit of instruction, research or public service are consistent with the mission of the college or university; B) The objectives of the unit of instruction, research or public service are consistent with what the unit title implies.*

The baccalaureate program in Molecular and Cellular Biology is designed to educate students in a range of biological fields that encompass molecular biology, through cell biology, to organismal development and physiology. Graduates of the program may become working professionals in a variety of fields, including working as health care professionals, life science

researchers, and members of the biotechnology professions. Other graduates will pursue graduate and professional studies.

There are four primary student learning objectives for this program and each objective is associated with one or more key courses. The objectives are designed for students to:

1. Understand the fundamental basics of molecular and cell biology by mastering key concepts in genetics, inorganic and organic chemistry, physics, biochemistry, biotechnology, and cell biology.
2. Develop both written and oral communication skills needed to be an effective scientist in the field.
3. Develop the ability to formulate questions and adequately design experiments to test them. These problem-solving skills are crucial to success in the field of molecular and cellular biology.
4. Develop safe and effective laboratory skills, including those for handling chemicals, using instrumentation, and conducting basic DNA, protein, and cell manipulations.

The goals and objectives of this program are consistent with the mission and priorities of Illinois State University and they are also consistent with and support the goals and priorities of *The Illinois Public Agenda for College and Career Success*.

### **Curriculum and Assessment**

*1050.30(b)(1): A) The caliber and content of the curriculum must assure that the objectives of the unit of instruction will be achieved. B) The breadth and depth of the curriculum must be consistent with what the title of the unit of instruction implies. C) The admission and graduation requirements for the unit of instruction must be consistent with the stated objectives of the unit of instruction. D) Institutions must show the capacity to develop, deliver and support academic programs. Procedures and policies that will assure the effective design, conduct and evaluation of the degree program under the academic control of the institution must be developed. Assessment plans must demonstrate that the institution has identified clear and appropriate program and student learning goals and has defined appropriate outcomes. Appropriate data must be collected and may be requested by the Board to show the level of student learning that has occurred as a result of participation in the institution's programs of study. E) Degree programs must meet [appropriate] requirements.*

### **Admission Requirements**

Admission requirements of this program are the same as the University's admission requirements for undergraduates. In addition, to remain on track for timely graduation, freshman students should have completed high school chemistry and biology, and have sufficient mathematics background for science degree programs, e.g., score 20 or more points on the Mathematics Section of the ACT. These requirements mirror the IBHE and the State's recommended high school courses for college-bound students.

### **Curriculum**

The B.S. in Molecular and Cellular Biology program is designed to use traditional pedagogical classroom delivery methods as well as ample hands-on laboratory instruction. In addition, the program will provide the necessary theoretical background in combination with applicable training in the tools associated with biological laboratory sciences.

The curriculum focuses on the biological, genomic, bioinformatics, and biomolecular sciences. It consists of 120 semester hours, including 37 hours of biological sciences, 20 hours of chemistry, one year of physics, and one year of calculus, as well as 42 semester hours from general education courses. Every student in the program must successfully complete seven core courses in this program comprising 22 semester hours. They are: Biological Diversity, Molecular and Cellular Basis of Life, Cell Biology, Biological Investigations, Genetics, Microbiology, and Molecular Biology. In addition, every student must complete six hours or two courses in advanced biological sciences from a set of recommended courses such as Human Genetics, Cell Signaling & Regulation, Biotech Lab I and II, Genomics & Bioinformatics, Microbial Pathogens, and Immunology.

To ensure students in this program will have ample courses to complete the program and prepare them well for employment and or advanced studies, students should complete altogether 72 semester hours from biological sciences and supporting mathematics and science fields.

Illinois State University's Ph.D. in Biological Sciences has a strong Molecular and Cellular Biology Sequence which secured research instrumentation, such as confocal microscopes, transmission and scanning electron microscopes, two fluorimeters, centrifuges, DNA core facility with sequencers and microarray of RT-PCR technologies. These resources and others will be available to students in this program to gain valuable experiences with these instruments in laboratory courses and through individual faculty guided research opportunities. This practice illustrates the strong tradition of students in the School participating in faculty research which often result in publications by faculty and students. More than a half of the 500 students in the School's undergraduate and graduate programs participate in independent research projects.

#### Assessment of Student Learning Outcomes

The proposed program, as the existing degree programs in the School of Biological Sciences, will regularly participate in the assessment of student learning outcomes in multiple ways, including tests and exams in individual courses, particularly the courses in Cell Biology and Genetics, as well as evaluation of projects and reports. Program faculty will also evaluate the quality of student research activities, laboratory notebooks, and laboratory experimental write-ups, as well as other written and orally presented outcomes. Individual faculty assessments will be complemented by the assessment performed by the Undergraduate Studies Committee, and the School's Curriculum Committee. The standards of these committees cover all undergraduate programs in the School of Biological Sciences. Also, approximately ten randomly selected students in the program in the same year will demonstrate their competency with the Department's equipment used in four important laboratory courses in this program.

#### Program Assessment

Consistent with the IBHE staff requirements, the University will submit to the IBHE a progress report on the Bachelor of Science in Molecular and Cellular Biology at the end of the third year of operation. The report will summarize key areas of accomplishments by the faculty and any remaining challenges and how each challenge will be addressed. In addition, the program faculty will participate in the University's eight-year program review process to assess the program using multiple measures including evaluation of faculty teaching in the program by students, the level of faculty research and scholarship, awards and honors, retention and graduation rate of students in the program, and the level of alumni and employer satisfaction with the program. Also, the faculty will use measures such as the percent of graduates admitted to

graduate and professional schools and the percent of graduates employed in occupations closely related to molecular and cellular biology. Results of evaluation of this program by the School's Undergraduate Studies Committee and the School's Curriculum Committee will be taken into consideration in the assessment. A summary of the program review, including the program's strengths and weaknesses, as well as steps to be taken to improve the program, will be submitted by the University to the IBHE with summaries of other programs reviewed in the same cycle.

#### **Facilities (space, equipment, instructional materials)**

*1050.30(a)(4): A) Facilities, equipment and instructional resources (e.g., laboratory supplies and equipment, instructional materials, computational equipment) necessary to support the high quality academic work in the unit of instruction, research or public service are available and maintained; B) Clinical sites necessary to meet the objectives of the unit of instruction, research or public service; C) Library holdings and acquisitions, owned or contracted for by the institution, that are necessary to support high quality instruction and scholarship in the unit of instruction, research and public service, are conveniently available and accessible, and can be maintained.*

The School of Biological Sciences occupies half of the Science Laboratory Building which was dedicated in 1997 and about a half of the three floors in the Felmley Hall Annex. These buildings contain faculty offices, most of which are immediately adjacent to the faculty members' research laboratories. They also house all teaching laboratories and a few smaller classrooms. The School's administrative offices are in Julian Hall. These facilities fully serve majors in the biological sciences programs, including the Bachelor of Science in Biological Sciences and the Bachelor of Science in Biochemistry and Molecular Biology which will be replaced by the recently approved B.S. in Biochemistry and this program if it is approved by the IBHE. These resources are more than adequate to meet the needs of the proposed program.

#### **Library**

The School of Biological Sciences which currently administers the bachelor, the master, and the doctoral program in biological sciences has in place significant library resources to support the programs as well as the proposed program. Most of the critical resources are in the form of periodical journals. The University subscribes to the major journals in the field: *Science*, *Nature*, *Proceedings of the National Academy of Science*, *Biochemistry*, *Journal of Biological Chemistry*, and *American Journal of Physiology*. A partial list of relevant journals available to faculty members and students in the School consists of over 100 specific journals. A few of the journals are: *Journal of Cell Biology*, *Molecular Genetics and Genomics*, *Nature Structural & Molecular Biology*, *Plant Biology*, *Trends in Microbiology*, *Journal of Immunology*, and *Experimental Cell Research*. A number of key textbooks will also support this program, such as *Essential Cell Biology*, *Concepts of Genetics*, *Biology of Microorganisms*, *Human Physiology*, *Genes X*, and *Molecular Biology of the Cell*. Any needed library resource to support this program that is not in the University's collection will be obtained through the interlibrary loan system consisting of the Consortium of Academic and Research Libraries in Illinois with over 70 Illinois academic libraries to which the University's main library is a member. Alternatively, the needed resource may be acquired by the Library based on a request from the School of Biological Sciences.



## Technology and Instructional Resources

The School of Biological Sciences, with the support of the College of Arts and Sciences, the University, the National Science Foundation, the Health Related Services Administration, and the National Institutes of Health, actively seeks and acquires modern instrumentation to support biological sciences programs at the University. Within the past five years, the School has acquired new instrumentation with a total value of nearly \$3 million. Larger items have been purchased with federal instrumentation grants, and smaller items have been purchased with operating funds and research grants. It is reported that the School is committed to continuing this effort to obtain resources internally and externally to maintain the high quality of its existing degree programs, including the proposed B.S. in Molecular and Cellular Biology.

## Faculty and Staff

*1050.30(a)(3): A) The academic preparation and experience of faculty and staff ensure that the objectives of the unit of instruction, research or public service are met.*

Currently the School of Biological Sciences employs 23 tenured and tenure track faculty members, one non-tenure track faculty member, four office staff members who support students in the School, and two laboratory staff members. They already fully support existing biological sciences and molecular biology students, and until recently biochemistry students. As a result, no new employees in any of these categories will be needed to adequately support the proposed B.S. in Molecular and Cellular Biology program. All of the tenured and tenure track faculty members hold a Ph.D. in biology or a sub-discipline, and all non tenure track faculty members hold advanced degrees at the master's and Ph.D. levels in biology. Laboratory support staff members hold a B.S. or M.S. in biology. Faculty members are evaluated each year according to the Faculty Appointment, Salary, Promotion, and Tenure system of Illinois State University with respect to teaching, research, and service.

Nine of the 23 faculty members will provide primary support for the proposed program while the rest of them will provide support to the program as needed. Four of them are full professors. The nine members have significant accomplishments related to publication in relevant peer reviewed outlets, research, and acquisition of grants and contracts. Their external funding is from sources such as the National Institutes of Health, National Science Foundation, American Cancer Society, American Heart Association, National Institute of Child Health and Human Development, and American Federation for Aging Research. Also, they have published in many journals, including *American Journal of Physiology*, *Journal of Endocrinology*, *BMC Molecular Biology*, *BMC Cancer*, *Current Biology*, *Trends in Plant Science*, *Immunity and Aging*, *Nature*, and *International Journal of Food Microbiology*.

## Fiscal and Personnel Resources

*1050.30(a)(5): A) The financial commitments to support the unit of instruction, research or public service are sufficient to ensure that the faculty and staff and support services necessary to offer the unit of instruction, research or public service can be acquired and maintained; B) Projections of revenues necessary to support the unit of instruction, research or public service are based on supportable estimates of state appropriations, local tax support, student tuition and fees, private gifts, and/or governmental grants and contracts.*

No new state resources are needed to establish this program because the School of Biological Sciences has invested significant resources including faculty, facilities, equipment, and

library resources to nurture and strengthen the Sequence in Molecular and Cellular Biology and other programs they offer for years prior to the decision to make this program an autonomous degree program.

The University has projected that the budget of this program will grow from \$732,200 in the first year to \$836,500 in the fifth year. Most of the budgets will support the nine FTE faculty in the first year and the 11 FTE faculty in the fifth year. Some of the remaining funds will meet other personnel costs, as well as supplies and services.

### **Accreditation and Licensure**

*1050.30(b)(3): Appropriate steps shall be taken to assure that professional accreditation needed for licensure or entry into a profession as specified in the objectives of the unit of instruction is maintained or will be granted in a reasonable period of time.*

*1050.50 (a)(1) Three years after approval of a new program, the institution shall provide a program progress report to the Board as part of the institution's annual report. The third year progress report shall describe the institution's performance in meeting program objectives and show where any improvements are necessary. The placement of a program in voluntary temporary suspension will not negate the requirement of submitting a third year progress report.*

*1050.50 (a)(2)(C) Requirement for Programs in which State Licensure is Required for Employment in the Field: In the case of a program in which State licensure is required for employment in the field, a program can be found to be in good standing if the institution is able to provide evidence that program graduates are eligible to take the appropriate licensure examination and pass rates are maintained as specified in the objectives of the unit of instruction. If there is no such evidence, the institution shall report the program as flagged for review.*

There is currently neither a specialized accreditation nor licensure/certification for degree programs in molecular and cellular biology. However, the University's accreditation by the Higher Learning Commission (HLC) of the North Central Association of Colleges and Schools covers all degree programs offered by the University. If this program is approved by the IBHE, it will also be covered by the HLC accreditation.

### **Program Information**

*1050.30 (b)(2)(A) The information the institution provides for students and the public...(B) The information listed in subsection (b)(2)(A) shall be available to prospective students prior to enrollment and shall be included in the institution's catalog of programs.*

Information about Illinois State University's Bachelor of Science in Molecular and Cellular Biology, including a detailed description of the curriculum, admission requirements, tuition, fees, and other cost information, as well as university and undergraduate school policies, will be published on the University's website. Comparable information about the program will be published in the University's Undergraduate Catalog. Similar information may be available from the School of Biological Sciences or the College of Arts and Sciences upon request.

**Staff Conclusion.** The staff concludes that the Bachelor of Science in Molecular and Cellular Biology program proposed by Illinois State University meets the criteria to implement the Board of Higher Education Act (110 ILCS 205/et.seq.) as set forth in 23 Illinois Administrative Code,

Ch. II, Section 1050.30, and the Illinois Board of Higher Education policies pertaining to assessment and accreditation or licensure.

**Proposed Program Title in the Region of Authorization:** Master of Arts and Master of Science in Anthropology in the Central Region

*Projected Enrollments and Degrees:* Illinois State University has projected that approximately 20 students will enroll in its proposed Master of Arts and Master of Science in Anthropology in the first year, increasing to 25 students in the fifth year. The University projected that approximately ten degrees will be awarded to students who complete the program in the first year and about 12 degrees in the fifth year.

## **Background**

Illinois State University (the University) requests authority to offer a new Master of Arts and Master of Science (M.A. and M.S.) in Anthropology in the Central Region. The current program, the M.A. and M.S. in Archeology which the proposed program is designed to replace when it is approved by Illinois Board of Higher Education (IBHE), has had a long history beginning in the 1970s in the Department of Sociology, Anthropology, and Social Work. After significant development, in 2003 the IBHE approved the M.A. and M.S. in Historical Archeology. The program was expanded in 2008-2009 to include prehistoric archeology and biological archeology and the program's name was subsequently changed to the M.A. and M.S. in Archeology to accommodate the expansion.

In spite of its success, it was determined that the M.A. and M.S. in Archeology program did not make full use of three excellent faculty members associated with it. They have expertise in cultural and linguistic anthropology in the areas of Japanese and Latin America studies. This limitation led to interest in revising the program significantly to create two new Concentrations in Cultural Anthropology and Linguistic Anthropology to make the proposed program into a mainstream program in anthropology. It is expected that another cultural anthropologist, specializing in Latin America will be hired in 2013-2014 to strengthen faculty expertise and support for the program as it matures. Also, to bolster the program in recent years, the University has engaged in extensive initiative to develop ties with Brazil, the largest country in South America in population and the fastest growing economy in the hemisphere. The ties should increase research opportunity for students and faculty and strengthen opportunities for the student exchange program with Brazil. It is expected that when the proposed program is approved by IBHE, the current M.A. and M.S. in Archeology will be disestablished to improve effectiveness and efficiency as the Concentration in Historical Archeology and Prehistoric Archeology are components of the proposed program.

The existing master's program in Archeology housed in the Department of Sociology and Anthropology within the College of Arts and Sciences enrolled 26 students in 2010. With the expanded scope of the proposed program, it is expected that it will attract more students from graduates of the existing B.A. and B.S. in Anthropology at the University and other baccalaureate programs in the state and increase enrollment and degree completion after the fifth year. In 2010, the bachelor's program in anthropology enrolled 63 students. In recent years graduates of the program were employed in Illinois and other states, such as North Carolina, and Wyoming.

## **Need**

*1050.30(a)(6): A) The unit of instruction, research or public service is educationally and economically justified based on the educational priorities and needs of the citizens of Illinois; B) The unit of instruction, research or public service meets a need that is not currently met by existing institutions and units of instruction, research or public service.*

Despite a common perception that anthropology is a static field, employment of anthropologists and archeologists is expected to grow by 21 percent compared to 14 percent for all national occupations between 2010 and 2020 according to the U.S. Bureau of Labor Statistics, *Occupational Outlook Handbook, 2012-2013*. Also, the Illinois Department of Employment Security (IDES) has projected a similar growth in employment of anthropologists and archeologists during the same period. Because archeology and anthropology are relatively small domains in terms of employment, the projections indicate that there will be 1,300 new jobs during this period. Job applicants with advanced credentials and experience will likely have the best employment prospects. Opportunities for cultural and linguistic anthropologists are expected to expand in the private sector as businesses seek to better understand increasingly diverse workforce and markets, including emerging markets in Latin America. Expansion of this program to encompass cultural and linguistic anthropology will provide students with greater opportunities for research, exchange program, and international experiences, such as those afforded by the Peace Corps.

Graduates of the existing master's in archeology have been very successful in obtaining employment and admission to Ph.D. programs. Some of the graduates are employed by the Illinois State Archeological Service, North Carolina Department of Transportation Cultural Resource Management, Seminole Tribe of Florida, Southern Wyoming Archeology Services, State Farm Insurance, and URS Corporation in California. Recently, six Ph.D. programs have admitted graduates of the program, for example, at the College of William and Mary, Tulane University, University of Arizona, University of Iowa, University of North Carolina at Chapel Hill, and University of Wisconsin at Milwaukee.

With the global communication and interrelations becoming ubiquitous, understanding of other cultures is becoming even more important to the success of individuals and institutions in Illinois, the US and many parts of the world. It is expected that this program and similar programs in the state will contribute to addressing this challenge.

### ***The Illinois Public Agenda for College and Career Success***

The Master of Arts and Science in Anthropology will address primarily Goal 3 of *The Illinois Public Agenda*. The Goal is to “increase the number of high-quality post-secondary credentials to meet the demands of the economy and an increasingly global society”. This Goal will be addressed by recruiting highly qualified students, providing high quality training to prepare them for competitive jobs and doctoral-level education, and incorporating in the training, understanding and appreciation of cultures outside the U.S.

### **Comparable Programs in Illinois**

Currently six universities in Illinois offer master's degree programs in anthropology, including cultural anthropology, and linguistic anthropology. They are Northern Illinois University, Northwestern University, Southern Illinois University Carbondale, University of Chicago, University of Illinois-Chicago, and University of Illinois at Urbana-Champaign. Three

of the programs at Northwestern University, University of Chicago, and University of Illinois at Urbana-Champaign admit only students intending to pursue also doctoral degrees. The University of Illinois-Chicago prefers to admit students seeking a Ph.D. degree. Therefore, only two of the programs offer terminal master's degrees in anthropology, but none of them have a focus on Brazil, Japan, and the Midwest as this program does. As a result, this program will have little impact on the two existing terminal master's programs in anthropology.

### **Mission and Objectives**

*1050.30(a)(1): A) The objectives of the unit of instruction, research or public service are consistent with the mission of the college or university; B) The objectives of the unit of instruction, research or public service are consistent with what the unit title implies.*

The Master of Arts and Science in Anthropology is designed to foster several student learning objectives, particularly the three summarized below, to enable each student in the program to:

- Demonstrate the ability to identify a research project, design a research plan for the project, and complete the research to the satisfaction of the faculty, and present its outcomes informally and formally.
- Demonstrate competence in anthropological theory as it applies to sub-disciplines in anthropology.
- Demonstrate competence in the subject materials pertinent to one or more sub-disciplines in anthropology, as well as practical application of knowledge in the selected sub-disciplines.

The objectives of this program reflect what the program title implies, and they support the mission and priorities of Illinois State University as well as the Goals of *The Illinois Public Agenda*.

### **Curriculum and Assessment**

*1050.30(b)(1): A) The caliber and content of the curriculum must assure that the objectives of the unit of instruction will be achieved. B) The breadth and depth of the curriculum must be consistent with what the title of the unit of instruction implies. C) The admission and graduation requirements for the unit of instruction must be consistent with the stated objectives of the unit of instruction. D) Institutions must show the capacity to develop, deliver and support academic programs. Procedures and policies that will assure the effective design, conduct and evaluation of the degree program under the academic control of the institution must be developed. Assessment plans must demonstrate that the institution has identified clear and appropriate program and student learning goals and has defined appropriate outcomes. Appropriate data must be collected and may be requested by the Board to show the level of student learning that has occurred as a result of participation in the institution's programs of study. E) Degree programs must meet [appropriate] requirements.*

### **Admission Requirements**

Admission to the proposed program requires that admitted students have completed a bachelor degree in anthropology, history, geography, or a related field with a minimum of 3.0 grade point average (GPA) for the last 60 semester hours of the undergraduate degree on a scale of 4.00 or functional equivalent from an accredited college or university. Applicants should

submit scores from the General Test of the Graduate Record Exam. In addition, a personal statement of purpose for admission to this program and two letters of recommendation must be submitted.

After admission to this program, any student with an undergraduate degree in a related sub-field should work with the Graduate Coordinator to develop a plan of study for necessary courses to correct his or her deficiencies.

## Curriculum

The curriculum for the Master of Arts and Science in Anthropology consists of 33 semester hours and the completion and defense of a quality master's thesis with the supervision of the Graduate Advisor and the Anthropology Graduate Committee. A minimum of 12 semester hours from courses at the 400 level in anthropology must be completed by each student. Also, in consultation with the advisor, each student must complete one of the five Concentrations in the program: Concentration in Prehistoric Archeology, Concentration in Historical Archeology, Concentration in Biological Anthropology, Concentration in Cultural Anthropology, and Concentration in Japanese Studies. The requirements for the current M.A. in Archeology are the same as the requirements for the Archeology and Biological Concentrations. Only one required core course, ANT 460: Research Design in Anthropology, should be completed by all students to prepare them to complete appropriate research problems and design and complete a research project for the thesis. Also, every student in the program will complete, ANT 499, the Master's Thesis course. By focusing each student's interest and effort in the selected concentration, they will be provided with more depth and breadth of knowledge in the selected concentration instead of other core courses. Moreover, common courses in anthropology are completed by students at the undergraduate level, and so there is no great need for students to complete more than the one required core course. However, any needed remedial work to be completed by any student in the program will be addressed by the student's advisor.

Each concentration is supported by at least five identified courses at the 300 and 400 levels, in addition to elective courses selected with the advice of the students' advisors. For example, the six courses for the Concentration in Biological Anthropology are: Principles of Paleoanthropology, Human Paleopathology and Skeletal Analysis or Human Osteology, Archeological Theory, Research Design in Anthropology, Professional Practice in Archeology, and Master's Thesis for six hours.

## Assessment of Student Learning Outcomes

Assessment of student learning outcomes in this program will consist of a number of components, including five principal ones:

- Learning objective one will be assessed early in each student's tenure in the program as each student will be required to complete Anthropology 460, the Research Design course during the first semester. The course requires that each student design a grant proposal to carry out a specific project. The proposal will be evaluated by the faculty responsible for the course and it must meet the departmental rubric for a likely fundable project based on the faculty member's experience.
- Learning objective two will be evaluated initially in the required theory course for each concentration: Anthropology 380: History and Theory of Anthropology or Anthropology 460: Archeological Theory. Each student will be expected to produce a theoretically sound paper for the appropriate course.

- The third learning objective will be evaluated based on students' performance in the courses required for each concentration. The students will be expected to demonstrate knowledge and skills by successfully completing a field school or case study.
- Prior to completion of the program, each student's thesis will be subjected to a rigorous evaluation at each major stage of the thesis process, culminating in the oral defense of the thesis.
- Other modes of assessment will be employed and they will include tests and examinations administered in most courses in the program, as well as inputs from each student's academic advisor.

## Program Assessment

Consistent with the IBHE staff requirements, the University will submit to the IBHE a progress report on the Master of Arts and Science in Anthropology at the end of the third year of operation. The report will summarize key areas of accomplishments by the faculty and any remaining challenges and how each challenge will be addressed. In addition, the program faculty will participate in the University's eight-year program review process to assess the program using multiple measures including evaluation of faculty teaching in the program by students, the level of faculty research and scholarship, awards and honors, retention and graduation rate of students in the program, and the level of alumni and employer satisfaction with the program. Also, the faculty will use measures such as the percent of master's theses completed in the program, and the percent of graduates employed in occupations closely related to anthropology. The success of graduates of the program in admission and completion of doctoral programs will be another assessment tool. A summary of the program review, including the program's strengths and weaknesses, as well as steps to be taken to improve the program, will be submitted by the University to the IBHE with summaries of other programs reviewed in the same cycle.

## Facilities (space, equipment, instructional materials)

*1050.30(a)(4): A) Facilities, equipment and instructional resources (e.g., laboratory supplies and equipment, instructional materials, computational equipment) necessary to support the high quality academic work in the unit of instruction, research or public service are available and maintained; B) Clinical sites necessary to meet the objectives of the unit of instruction, research or public service; C) Library holdings and acquisitions, owned or contracted for by the institution, that are necessary to support high quality instruction and scholarship in the unit of instruction, research and public service, are conveniently available and accessible, and can be maintained.*

The primary archeology and anthropology facilities at Illinois State University are located in Schroeder Hall and they were a part of the total renovation of the building completed in 2007, including the computer lab and the exhibit facilities. Located in Schroeder Hall are faculty offices, a series of well equipped laboratories, a computer laboratory shared with Sociology, climate-controlled storage for ethnological and archeological collections, museum exhibit space, and office space for graduate assistants. In addition to these resources, surrounding buildings on campus will provide support for this program as needed. Furthermore, faculty and students will benefit from the partnerships faculty members have created with the Illinois State Museum at Dickson Mound, the Illinois State Archeological Survey, and the Illinois Public Archeology Service. Therefore, no additional facilities are needed to implement this program.

## Library

Milner Library, the University's main library, collections include coverage of the major areas in anthropology including physical/biological anthropology, archeology, cultural and social anthropology, linguistics, and applied anthropology. The extensive collection will be more than adequate to support the proposed program. It includes key textbooks, print journals and electronic journals, and appropriate databases. Textbooks include: *Research Methods in Anthropology: Qualitative and Quantitative Approaches*, *Biological Anthropology of the Human Skeleton*, *Anthropological Theory: An Introductory History*, *Social Anthropology and Human Origins*, *Being There: The Fieldwork Encounter and the Making of Truth*, *Applications of Anthropology: Professional Anthropology in the Twenty-first Century*, and *Globalization and Change in Fifteen Cultures: Born in One World, Living in Another*. The books are complemented by many academic journals in the field, including 17 that are identified in the proposal. They range from *American Anthropologist*, *Journal of Anthropology*, *Ethnology*, *Journal of Anthropological Research*, *Archeology*, to *Journal of Linguistic Anthropology*. Also, eleven databases will support this program, for example, *Annual Review of Anthropology*, *Abstracts in Anthropology*, *Anthropological Index Online*, *SocINDEX*, and *Web of Science*.

## Technology and Instructional Resources

Significant existing facilities and equipment will support this program. They include one laboratory devoted to biological anthropology that houses biological anthropology collections, analytical equipment, and appropriate computing equipment. There is also a cultural/linguistic laboratory space with computer equipment and research materials.

## Faculty and Staff

*1050.30(a)(3): A) The academic preparation and experience of faculty and staff ensure that the objectives of the unit of instruction, research or public service are met.*

Eight full-time and two part-time faculty members are currently responsible for the existing B.A. and B.S. in Anthropology and the M.A. and M.S. in Archeology program which will be discontinued if the proposed program is approved by the IBHE and students currently enrolled in the program are sufficiently served. Beginning in Fall 2013, an additional new faculty member, with expertise in Latin America cultural anthropology, will be hired. Three of the full-time faculty members are full professors. All of the faculty members will be responsible for supporting this program and other existing programs in anthropology offered by Illinois State University. The faculty members, both full-time and part-time, hold a Ph.D. in anthropology or a closely related field and they are experienced and accomplished scholars and teacher/mentors. The program will be chaired by the Chairperson of the Department of Sociology and Anthropology. Each of the five concentrations in the program will be supported by at least one qualified full-time faculty member with an appropriate doctoral credential and experience. To help faculty with their teaching and research responsibilities, the existing master's in archeology has 13 part-time assistantships. In addition to campus resources, the graduate assistants in the existing master's in archeology and the proposed program will benefit significantly from the partnership the faculty has created with the Illinois State Museum at Dickson Mounds, the Illinois State Archeological Survey, and the Illinois Public Archeology Service.



## **Fiscal and Personnel Resources**

*1050.30(a)(5): A) The financial commitments to support the unit of instruction, research or public service are sufficient to ensure that the faculty and staff and support services necessary to offer the unit of instruction, research or public service can be acquired and maintained; B) Projections of revenues necessary to support the unit of instruction, research or public service are based on supportable estimates of state appropriations, local tax support, student tuition and fees, private gifts, and/or governmental grants and contracts.*

No new state resources are needed to establish the M.A. and M.S. in Anthropology because most of the resources that will support this program, including faculty, facilities and equipment, already exist. It is projected that the budget for this program will grow from \$172,183 in the first year of implementation to \$193,794 in the fifth year. Most of these funds are budgeted to support faculty and other personnel, notably graduate assistants for the program. The budget is modest because significant existing resources, such as facilities, equipment, and library resources that will support this program and other programs in the Department are already in place.

## **Accreditation and Licensure**

*1050.30(b)(3): Appropriate steps shall be taken to assure that professional accreditation needed for licensure or entry into a profession as specified in the objectives of the unit of instruction is maintained or will be granted in a reasonable period of time.*

*1050.50 (a)(1) Three years after approval of a new program, the institution shall provide a program progress report to the Board as part of the institution's annual report. The third year progress report shall describe the institution's performance in meeting program objectives and show where any improvements are necessary. The placement of a program in voluntary temporary suspension will not negate the requirement of submitting a third year progress report.*

*1050.50 (a)(2)(C) Requirement for Programs in which State Licensure is Required for Employment in the Field: In the case of a program in which State licensure is required for employment in the field, a program can be found to be in good standing if the institution is able to provide evidence that program graduates are eligible to take the appropriate licensure examination and pass rates are maintained as specified in the objectives of the unit of instruction. If there is no such evidence, the institution shall report the program as flagged for review.*

Currently there is no specialized accreditation for degree programs in anthropology or archeology. However, the University's campus-wide accreditation by the Higher Learning Commission of the North Central Association of Colleges and Schools will cover this program if it is approved as the accreditation covers all degree programs offered by the University.

## **Program Information**

*1050.30 (b)(2)(A) The information the institution provides for students and the public...(B) The information listed in subsection (b)(2)(A) shall be available to prospective students prior to enrollment and shall be included in the institution's catalog of programs.*

Information about Illinois State University's Master of Arts and Science in Anthropology, including a detailed description of the curriculum, admission requirements, tuition, fees, and other cost information, as well as university and graduate school policies, will be published on the University's website. Comparable information about the program will be published in the University's Graduate Catalog and similar information may be available from the College of Arts and Sciences or the Graduate School upon request.

**Staff Conclusion.** The staff concludes that the Master of Arts and Master of Science in Anthropology program proposed by Illinois State University meets the criteria to implement the Board of Higher Education Act (110 ILCS 205/et.seq.) as set forth in 23 Illinois Administrative Code, Ch. II, Section 1050.30, and the Illinois Board of Higher Education policies pertaining to assessment and accreditation or licensure.

### **University of Illinois at Urbana-Champaign**

**Proposed Program Title in the Region of Authorization:** Bachelor of Science in Liberal Arts and Sciences in Computer Science and Anthropology in the Prairie Region

*Projected Enrollments and Degrees:* The University of Illinois at Urbana-Champaign has projected that the Bachelor of Science in Liberal Arts and Sciences in Computer Science and Anthropology program will enroll approximately five students in the first year increasing to 20 students in the fifth year. It is projected five degrees will be awarded in the program in the fifth year with about the same number annually after that.

**Proposed Program Title in the Region of Authorization:** Bachelor of Science in Liberal Arts and Sciences in Computer Science and Astronomy in the Prairie Region

*Projected Enrollments and Degrees:* The University of Illinois at Urbana-Champaign has projected that the Bachelor of Science in Liberal Arts and Sciences in Computer Science and Astronomy program will enroll approximately five students in the first year increasing to 20 students in the fifth year. It is projected five degrees will be awarded in the program in the fifth year with about the same number annually after that.

**Proposed Program Title in the Region of Authorization:** Bachelor of Science in Liberal Arts and Sciences in Computer Science and Chemistry in the Prairie Region

*Projected Enrollments and Degrees:* The University of Illinois at Urbana-Champaign has projected that the Bachelor of Science in Liberal Arts and Sciences in Computer Science and Chemistry program will enroll approximately five students in the first year increasing to 20 students in the fifth year. It is projected five degrees will be awarded in the program in the fifth year with about the same number annually after that.

**Proposed Program Title in the Region of Authorization:** Bachelor of Science in Liberal Arts and Sciences in Computer Science and Linguistics in the Prairie Region

*Projected Enrollments and Degrees:* The University of Illinois at Urbana-Champaign has projected that the Bachelor of Science in Liberal Arts and Sciences in Computer Science and Linguistics program will enroll approximately five students in the first year increasing to 20 students in the fifth year. It is projected five degrees will be awarded in the program in the fifth year with about the same number annually after that.

## Background

The University of Illinois at Urbana-Champaign (UIUC or the University) requests authority to offer interdisciplinary Bachelor of Science in Liberal Arts and Sciences (BSLAS) degrees in the following areas: Computer Science and Anthropology (CSAn), Computer Science and Astronomy (CSA), Computer Science and Chemistry (CSC), and Computer Science and Linguistics (CSL). The four programs (sometimes referred to collectively as “BSLAS degree with a major in CS and [LAS discipline]” in this document) will be offered in the Prairie Region. This proposal expands upon existing, comparable majors – the BSLAS in Computer Science and Math and the BSLAS in Computer Science and Statistics – which have been offered since the early 1970’s and mid-1980’s, respectively. Students will combine the study of computer science alongside training in a wider variety of fields in Liberal Arts and Sciences to build novel perspectives in interdisciplinary work.

The proposed programs are designed for students who plan to pursue technical or professional careers in arts and sciences areas requiring a sound grounding in computer science. Students can use the supporting coursework to prepare for employment immediately upon graduation or for pursuing graduate study in a wide variety of fields. Examples include computer programming in sciences (e.g. bioinformatics, population genetics, demography, geographic information sciences, climate modeling, or social network analysis); the humanities (e.g. digital restoration or textual analyses); or social sciences (e.g. population research). The expansion of the combined major in LAS is in response to increased market demands and employment opportunities in the aforementioned fields. Depending on future occupational demand and student interest, additional programs may be proposed to meet future demand.

## Institutional Data

*Criterion 1050.30(b)(1)(G) provides that success in student progression and graduation, and success rates in programs preparing students for certification and licensure, shall be consistent with expectations in higher education and the appropriate related field of study. At a minimum, the Board shall consider the following factors, based on results for similar institutions: (i) Graduation rates, degree completion rates, retention rates, and pass rates for licensure and certification. (ii) Success rate, which shall be, at a minimum, higher than that of the lowest quartile of these measures for similar Illinois institutions defined as open versus competitive enrollment institutions and primarily associate versus primarily baccalaureate granting institutions. Exceptions may be made to the lowest quartile if an institution is above the national average for these measures using the same comparison categories of institutions.*

The University of Illinois at Urbana-Champaign is in the primarily baccalaureate granting, selective admission comparison group in Illinois. Cohort is based on those seeking a bachelor’s degree only.

<u>Cohort Graduation Rate</u>	<u>Group Mean</u>	<u>Group Median</u>	<u>Rank</u>
82.5%	52.3%	54.9%	6/67
<u>Undergraduate Completions per 100 FTE</u>	<u>Group Mean</u>	<u>Group Median</u>	<u>Rank</u>
21.9	22.2	22.2	37/67

## Need

*1050.30(a)(6): A) The unit of instruction, research or public service is educationally and economically justified based on the educational priorities and needs of the citizens of Illinois; B) The unit of instruction, research or public service meets a need that is not currently met by existing institutions and units of instruction, research or public service.*

UIUC's application has amply demonstrated the need for the BSLAS programs in CSAn, CSA, CSC, and CSL. According to projections through 2018 from the Bureau of Labor Statistics, "[The computer science] occupations are expected to grow more than twice as fast as the average for all occupations in the economy." It is estimated that approximately 1.3 million computer science jobs (i.e. 130,000 annually) will be created during the period 2010-2020. Compared to the current annual output of CS majors (which is about 40,000), the need for programs such as this, as well as the opportunities for graduates, becomes evident. Supporting these projections is the fact that even in the depressed economy of 2010, UIUC computer science graduates received an average of 2.4 job offers.

In addition, each of the LAS fields noted in the proposal are using to an even greater extent existing and emerging technologies to advance research and related applications within the disciplines. Prominent examples include emerging computational fields in linguistics, biology, neuroscience, atmospheric sciences, finance and economics. Quantitative advances in social sciences have created further demand for workers with computational skills. Employment projections and developments in both the CS and LAS fields noted underscore the importance of the proposed programs. To date, UIUC is the only institution of higher education in the state to offer interdisciplinary degree programs, configured in this manner, designed to meet these needs.

### *The Illinois Public Agenda for College and Career Success*

The new programs align with at least two of the goals of *The Illinois Public Agenda for College and Career Success*. Goal 1 is to "increase success of students at each stage of the P-20 education pipeline to eliminate achievement gaps by race, ethnicity, socioeconomic status, gender, and disability." Nationally, across all engineering disciplines, there is a dearth of women and under-represented minorities pursuing higher education. This is especially true in CS, where typical female enrollments are between 10 percent and 20 percent, and total under-represented minority enrollments between 0 percent and 5 percent. The University expects significantly more participation by these groups in this new degree program, due to the blending of CS with application area disciplines. Data from the relatively new "Informatics Minor" on campus (37 percent female, 5 percent African-American, and 6 percent Latino) suggest that the proposed degree programs will be more successful than the current traditional CS degree in attracting a diversity of students.

Goal 3 is to "increase the number of high-quality post-secondary credentials to meet the demands of the economy and the increasingly global society." This proposal will address this goal. Students with a strong CS background are in high demand in graduate programs worldwide. Students contemplating a career in private industry would gain valuable experience working on cutting-edge computational problems in areas where there is also significant demand, such as image processing and mining large data sets. As one example, the School of Chemical Sciences and Department of Chemistry have already invested in a state of the art 3D visualization system and a high performance computer facility. While a Computer Science and Engineering (CSE) option is instituted for the graduate students in Chemistry, the campus does not have a similar program for undergraduates. The proposed BSLAS-CSC program will train students in

acquiring significant CS skills who will then be in excellent positions to advance in the fields of computational chemistry and biophysics, preparing them to address problems that range from the analysis of experimental imaging data to visualization of *in vivo* chemical reactions.

### **Comparable Programs in Illinois**

Currently, no other institutions in Illinois offer degrees similar to the BSLAS degree with a major in CS and [LAS discipline] such as are proposed. However, peer institutions such as the University of California-Berkeley, the University of Michigan, Stanford University, and the University of Wisconsin offer similar programs. This proposed curriculum responds to tremendous demand for computation in traditional liberal arts and sciences fields.

### **Mission and Objectives**

*1050.30(a)(1): A) The objectives of the unit of instruction, research or public service are consistent with the mission of the college or university; B) The objectives of the unit of instruction, research or public service are consistent with what the unit title implies.*

The mission of the University of Illinois at Urbana-Champaign is “[to] transform lives and serve society by educating, creating knowledge and putting knowledge to work on a large scale and with excellence.” The proposed BSLAS – CSAn, BSLAS – CSA, BSLAS – CSC, and BSLAS – CSL programs will contribute to achieving the University’s mission by preparing students who demonstrate:

- An ability to apply knowledge of computing and mathematics appropriate to the discipline;
- An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution;
- An ability to contribute to the design, implementation, and evaluation of a computer-based system, process, component, or program to meet desired needs;
- An ability to function effectively on teams to accomplish a common goal;
- Recognition of the need for and an ability to engage in continuing professional development;
- An ability to use current techniques, skills, and tools necessary for computing practice;
- An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices;
- An ability to apply design and development principles in the construction of software systems of moderate complexity; and
- Substantive knowledge of at least one discipline in the arts and sciences in which computation can be applied.

The proposed programs are consistent with the purpose, goals, objectives, and mission of the University. The requested degree titles are congruent with the corresponding degree program objectives and curricula.

### **Curriculum/Assessment**

*1050.30(b)(1): A) The caliber and content of the curriculum must assure that the objectives of the unit of instruction will be achieved; B) The breadth and depth of the curriculum must be*

*consistent with what the title of the unit of instruction implies; C) The admission and graduation requirements for the unit of instruction must be consistent with the stated objectives of the unit of instruction; D) Institutions must show the capacity to develop, deliver and support academic programs. Procedures and policies that will assure the effective design, conduct and evaluation of the degree program under the academic control of the institution must be developed. Assessment plans must demonstrate that the institution has identified clear and appropriate program and student learning goals and has defined appropriate outcomes. Appropriate data must be collected and may be requested by the Board to show the level of student learning that has occurred as a result of participation in the institution's programs of study; E) Degree programs must meet [appropriate] requirements.*

## Admission Requirements

The University has admission requirements that meet, and in some cases, exceed, the standard for freshman and transfer applications in most public universities in the State and across the country. Students who are accepted into the College of LAS meet the admission requirements for the Computer Science and [LAS Discipline] major. First-year applicants are assessed based on the information provided in the College of LAS application. Information considered during the application review process includes the following: ACT and SAT subscores in English, Math, and the Social Sciences; Lab Science course work; Foreign Language course work; ACT or SAT composite score; high school grade point average (GPA); and two essay responses. Academic achievements, such as GPA, are the most important factor, but extra-curricular involvement, individual interests, personal characteristics, and special talents are also considered.

For current students in other colleges on campus who wish to enroll in the proposed programs, several Intercollegiate Transfer guidelines apply. Students must have completed CS 125, MATH 220 or 221, and either CS 173 or MATH 213, with a GPA of at least 3.20 in these and any other MATH and CS courses counting toward the major. Additionally, students must have a cumulative GPA of at least 3.20. These are the current guidelines in place for the existing programs – BSLAS in Computer Science and Math and BSLAS in Computer Science and Statistics.

## Curriculum

The BSLAS major in Computer Science and [LAS discipline] is a flexible program in the College of Liberal Arts and Sciences for students who plan to pursue technical or professional careers in arts and sciences areas requiring a sound grounding in computer science. The proposed programs each require 120 hours for graduation. Of these, required major and supporting course work normally equates to 66 hours, including a minimum of 30 hours in CS, 12 hours in Mathematics, and a minimum of 24 hours of supporting LAS coursework in a discipline or in a coherent interdisciplinary field.

The proposed majors include the same General Education requirements as for other majors in College of Liberal Arts and Sciences, BSLAS degrees. These requirements are an important component of students' education at the University, and this breadth of preparation is particularly important for students in the College of Liberal Arts and Sciences. General Education requirements include: (1) four levels of study in a non-primary language, (2) composition, (3) six hours in the humanities and arts, (4) six hours in natural sciences and technology, (5) six hours in social and behavioral sciences, (6) one course in western culture, (7) one course in non-western or a U.S. minority culture, and (8) coursework in quantitative reasoning. Through these requirements, UIUC undergraduates:

- expand their historical, aesthetic, cultural, literary, scientific, and philosophical perspectives;
- improve critical and analytical thinking; and
- acquire skills in finding, managing, and communicating knowledge.

Each major requires 30 hours in Computer Science. The CS core includes coursework in computer architecture, programming, programming languages, systems, and data structures. Students also complete a series of courses in mathematics including calculus, statistics, matrix theory, and mathematical structures frequently found in CS. Course delivery is varied, depending on the course and section. Some courses are laboratory-based. Others are large lectures with smaller discussion sections. Following national trends and pedagogical best-practices, some course materials are moving to online delivery, with in-class engagement focusing on discussion and problem-solving, rather than straight lecture.

#### BSLAS – Computer Science and Anthropology

Each LAS discipline requires a minimum of 24 hours of coursework. The BSLAS – CSAn program of study is comprised of a 12-hour introductory core and 12 hours of advanced anthropology culminating in a research/capstone course. Coursework includes sociocultural anthropology, linguistic anthropology, biological anthropology, archaeology, human osteology, and human paleontology. Students working in biological anthropology will focus on the imaging technologies used to analyze human fossil remains, enabling sharing of basic data and preservation of irreplaceable and unique discoveries. In archaeology, students will learn about and work with the hardware and software revolutionizing fieldwork, ranging from sophisticated GIS applications to equipment for ground-penetrating radar. Students in sociocultural and linguistic anthropology will focus on problems that relate to collection and analysis of large quantities of qualitative data derived from participant observation and interviews, as well as imaging and image analysis. The specialized training in anthropology will provide students with detailed engagement with the relevant technologies and has the potential to bring significant advances in these areas.

#### BSLAS – Computer Science and Astronomy

The BSLAS – CSA program of study will focus on the computational challenges in astronomy including the following: radio astronomical data processing, analysis of large optical image data sets, and dynamical and statistical simulation of astronomical systems. Students in this major will complete 12 hours in physics and select 12 hours from a series of intermediate and advanced astronomy courses. As an example, a student may be interested in large data sets. This hypothetical student would select the following astronomy courses: Galaxies and the Universe, Astronomical Techniques, and Practical Informatics. The student would also work with a faculty member on a research project motivated by one of the active big-data projects in the department, including the Dark Energy Survey, the Large Synoptic Survey Telescope, and the Square Kilometer Array.

#### BSLAS – Computer Science and Chemistry

The BSLAS – CSC program of study comprises 11-12 hours of core courses in accelerated chemistry and organic chemistry. Thirteen hours of advanced chemistry courses, including an advanced labor senior thesis physical principles lab or senior thesis, are required. A student interested in biophysical chemistry would take advanced physics, chemistry, and computational chemical biology. Biophysical chemistry is particularly suited to an integration with CS in that imaging technologies, quantum chemical calculations, molecular dynamics

simulations, computational modeling and visualization are now widely used in all areas of chemistry, especially in those areas at the interface of chemistry, biology, and physics. For example, various high-resolution spectroscopies can now image all the major components in a biological cell, and while researchers can follow the processes of assembly, folding, and chemical reactions within the cell, they lack the tools to integrate the experimental data with computer models of the entire organism. Revolutions in both hardware and software, ranging from multiple GPU/CPU cores and parallel codes, allow scientists to address the challenges in size and time scales of the cellular biochemical processes. The proposed program has the potential to bring significant advances in these areas. School of Chemical Sciences and Department of Chemistry have already invested in a state-of-the art 3D visualization system and a high-performance computer facility to support learning and research in these areas.

### BSLAS – Computer Science and Linguistics

The BSLAS – CSL program will bring together students and faculty interested in different aspects of the computer-natural language relationship (i.e. studying the cognitive aspects of natural languages; endowing computers with human-like behavior and understanding of spoken and written natural language; and designing computer software and interfaces that work well with human users, using natural language communication). Students will be exposed to the tools of both disciplines – tools ranging through formal methods, philosophical analysis, computer programming, and empirical research – with the aim of being able to apply the appropriate tool(s) required by the field. The program of study includes 12 hours of core courses including introduction to language science, language diversity in the U.S., and elements of psycholinguistics. Students can select from one of two thematic areas to complete the remaining 12 hours – Speech Processing or Computational Linguistics. These thematic areas allow students to pursue related interests in line with their career goals. Students will be strongly encouraged to get involved in undergraduate research through one of the many UIUC labs and centers focused on linguistics research.

### Assessment of Student Learning Outcomes

Assessment of student learning is grounded in a series of aligned program and course objectives. Student performance is regularly evaluated by individual instructors using course assignments, projects, exams, and other in-class assessments. For graduation, students are expected to achieve competency as evidenced by a cumulative GPA of at least 2.0 in their disciplines. While grades in individual courses may be lower, students who receive a grade lower than “C-” (for example, a score less than 70 percent on a well-calibrated final exam) in a course that is a prerequisite for a follow-on course, are strongly advised to repeat the course before attempting to advance through the program.

### Program Assessment

Program assessment is conducted by the undergraduate study committee of the CS department. This committee evaluates a range of evidence including course evaluations, graduation rates, data on the average time to degree, job placement outcomes, and graduate student application and acceptance rates, as well as results from surveys and focus groups of both current students and alumni. The committee then recommends changes in course delivery methods, homework and programming project design, and/or in topical coverage.

To reflect the interdisciplinary nature of the proposed programs and to help assess their efficacy in that regard, a special meeting of the Computer Science committee with the appropriate



deans from the College of Liberal Arts and Sciences will occur every year. The College of Liberal Arts and Sciences will request a progress report on student participation from each department in the major and will invite these units as needed to the meeting. Each participating LAS discipline will have a committee or individual(s) who act as liaison with the LAS Office of the Dean in defining, reviewing, and refining the required supporting coursework required from that discipline. The LAS Office of the Dean will work with the CS department on proposed changes.

Consistent with the Illinois Board of Higher Education (IBHE) staff requirements, the University will submit to the IBHE a progress report on the BSLAS in CS and [LAS discipline] programs at the end of the third year of operation. The report will summarize key areas of accomplishment, challenges in program implementation, and how these challenges will be addressed. In addition, the program faculty will participate in UIUC's eight-year program review process to assess the program using multiple measures including the following: evaluation of faculty teaching by students in the program, level of faculty research and scholarship, awards and honors, retention and graduation rates of students in the programs, and the level of alumni and employer satisfaction. A summary of the program review, including the program strengths and weaknesses, as well as steps to be taken to improve each program, will be submitted by the University to the IBHE with summaries of other programs on the same cycle.

#### **Facilities (space, equipment, instructional materials)**

*1050.30(a)(4): A) Facilities, equipment and instructional resources (e.g. laboratory supplies and equipment, instructional materials, computational equipment) necessary to support the high quality academic work in the unit of instruction, research or public service are available and maintained; B) Clinical sites necessary to meet the objectives of the unit of instruction research, or public service; C) Library holdings and acquisitions, owned or contracted for by the institution, that are necessary to support high quality instruction and scholarship in the unit of instruction, research or public service, are conveniently available and accessible and can be maintained.*

#### **Library**

UIUC has given the assurance that it has made adequate provisions for all necessary library resources for the programs, including textbooks, text and electronic journals, and instructional materials. Students in the proposed programs will have equal access to facilities and equipment in all its libraries.

#### **Technology and Instructional Resources**

The many instructional technology resources of the University and those that belong to the collaborating academic units and centers involved in the development of these programs will be available. The relevant partners, units, and centers are well-established.

#### **Faculty and Staff**

*1050.30(a)(3)(A) The academic preparation and experience of faculty and staff ensure that the objectives of the unit of instruction, research or public service are met.*

The CS department at the University of Illinois at Urbana-Champaign is a top-five ranked department nationally, with a long history of successful programs and almost 50 years of

experience in undergraduate education. With 49 full-time faculty, 11 research faculty and lecturers, 31 staff, and a state-of-the-art facility, the CS department has ample human resources from which to draw in the administration and delivery of this and existing programs. The LAS disciplines represented in this proposal are also consistently ranked among the top in the nation. The LAS faculty members dedicated to these programs include three from Anthropology, five from Astronomy, six from Chemistry, and three from Linguistics. Collectively, the faculty members have a strong record of publications in refereed journals and other professional outlets, active participation in professional organizations at both national and international levels, and numerous examples of distinguished recognition in the form of awards, fellowships, external grants, and service on national panels. The number and qualifications of the faculty responsible for these programs is more than sufficient to meet the needs of the proposed and existing programs.

### **Fiscal and Personnel Resources**

*Criterion 1050.30(a)(5): A) The financial commitments to support the unit of instruction, research or public service are sufficient to ensure that the faculty and staff and support services necessary to offer the unit of instruction, research or public service can be acquired and maintained; B) Projections of revenues necessary to support the unit of instruction, research or public service are based upon supportable estimates of state appropriations, local tax support, student tuition and fees, private gifts, and/or governmental grants and contracts.*

No new state resources are needed to establish these programs. Existing academic departments, centers, and labs have the required resources. It is indicated in the proposal that \$40,000-50,000 in additional funds may be needed in year five of implementation. These additional funds will be used to pay for advising personnel commensurate with the expected increase in student enrollment at that point. These funds will be secured through differential tuition paid by students enrolled in the programs.

### **Accreditation/Licensure**

*1050.30(b)(3): Appropriate steps shall be taken to assure that professional accreditation needed for licensure or entry into a profession as specified in the objectives of the unit of instruction is maintained or will be granted in a reasonable period of time.*

*1050.50(a)(1): Three years after approval of a new program, the institution shall provide a program progress report to the Board as part of the institution's annual report. The third year progress report shall describe the institution's performance in meeting program objectives and show where any improvements are necessary. The placement of a program in voluntary temporary suspension will not negate the requirement of submitting a third year progress report.*

*1050.50(a)(2)(C): Requirement for Programs in which State Licensure is Required for Employment in the Field: In the case of a program in which State licensure is required for employment in the field, a program can be found to be in good standing if the institution is able to provide evidence that program graduates are eligible to take the appropriate licensure examination and pass rates are maintained as specified in the objectives of the unit of instruction. If there is no such evidence, the institution shall report the program as flagged for review.*

Currently, there is no specialized accreditation in the fields related to the proposed programs. While there are no national standards directly relevant to these majors, the CS department at UIUC is an American Board for Engineering and Technology (ABET)-accredited

program, and the proposed degree comprises foundational courses from that major. The University of Illinois at Urbana-Champaign is accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools.

### **Program Information**

*1050.30(b)(2)(A): The information the institution provides for students and the public...(B) The information listed in subsection (b)(2)(A) shall be available to prospective students prior to enrollment and shall be included in the institution's catalog of programs.*

Detailed admission and program descriptions submitted as part of the application provide information regarding University policies, fees, and related requirements necessary to enable prospective students to make an informed decision to enroll in the programs. Identical information is also available on the University's website.

**Staff Conclusion.** The staff concludes that the Bachelor of Science in Liberal Arts and Sciences in Computer Science and Anthropology, the Bachelor of Science in Liberal Arts and Sciences in Computer Science and Astronomy, the Bachelor of Science in Liberal Arts and Sciences in Computer Science and Chemistry, and the Bachelor of Science in Liberal Arts and Sciences in Computer Science and Linguistics programs proposed by the University of Illinois at Urbana-Champaign meet the criteria to implement the Board of Higher Education Act (110 ILCS 205/et.seq.) as set forth in 23 Illinois Administrative Code, Ch. II, Section 1050.30, and the Illinois Board of Higher Education policies pertaining to assessment and accreditation or licensure.

**Proposed Program Title in the Region of Authorization:** Master of Arts in Translation and Interpreting in the Prairie Region

*Projected Enrollments and Degrees:* The University has projected that a cohort of 20 students will enroll in the first year, increasing to 40 students in the fifth year. Also, it has projected that approximately 20 degrees will be conferred in the program in the fifth year of operation and about the same number annually thereafter.

### **Background**

The University of Illinois at Urbana-Champaign (the University) requests authority to offer a Master of Arts (M.A.) in Translation and Interpreting in the Prairie Region. The 32 semester hour professional program is designed to prepare admitted students for employment related to language specialists in a variety of occupational settings, including as language service providers (LSP), in government, international organizations, business, health care, law, and publishing and new media. The program will have several specializations, including translation for professions such as Law, Medicine, Business, and Information Technology, as well as Literary and Applied Literary Translation in publishing, editing, etc. Some graduates of the program will pursue their studies in doctoral programs. Targeted populations of prospective students who will be recruited will be students who have earned bachelor's degrees in fields such as languages, linguistics, international studies, and area studies. Preference will be given to applicants who have command of two languages in addition to English. The languages selected by each student should be one of the languages currently supported by the School of Literatures, Cultures, and Linguistics, which will administer this program.

The proposed program has been in development since 2008 when the Center for Translation Studies was established and housed in the School of Literatures, Cultures, and Linguistics, which is currently responsible for over 30 languages at the University. The Office of the Provost has supported the Center through an annual allocation of funds and other resources and until the Center and this program are self-supporting, the support from the Office of the Provost will continue. In addition, this program will have strong synergies with departments in the School. Some of the departments already teach courses in translation. Moreover, all units in the School have been consulted and they are highly supportive of this program. Although this program will benefit significantly from the collaboration of units in the School, over time it will be served primarily by its own courses. The University Library receives an annual allocation of funds from the Center for Translation Studies to continue to build its collection for translation and interpreting.

If approved, this program will strive to meet an acute state, national, and international need for highly qualified translators and interpreters. Currently only three similar master's programs are offered in the US in California, New York, and Ohio and these programs have 100 percent placement of their graduates.

## **Need**

*1050.30(a)(6): A) The unit of instruction, research or public service is educationally and economically justified based on the educational priorities and needs of the citizens of Illinois; B) The unit of instruction, research or public service meets a need that is not currently met by existing institutions and units of instruction, research or public service.*

There is currently an acute need in the State of Illinois and the nation for qualified translators and interpreters in the public and private sectors. Illustrating the need for this program, Executive Order 13166, Improving Access to Services for Limited English Proficiency, was signed into law by President Clinton in 2000. It requires that all medical services be provided in the language of the patient. However, in spite of the law, hospitals, doctor offices, clinics, and other health care providers in the state are having difficulty meeting the demand for service in multiple languages. The public school system in Illinois and in other states is in great need of providing information in many languages for their students and parents. Not for profit agencies and community agencies, including services for immigrants and migrant workers are overwhelmed by the need for translation and interpreting services. Furthermore, Illinois is home to many international businesses that rely on translation and interpreting to localize products and services at home and abroad. They include Caterpillar, Boeing, Archer-Daniels-Midland (ADM) Company, Motorola Company, McDonald's, Abbott, and State Farm, as well as other businesses related to the airlines, pharmaceuticals and insurance companies. The difficulty of complying with the Order has led some groups to organize efforts to overturn Executive Order 13166.

According to the U.S. Bureau of Labor Statistics (BLS), translators and interpreters can expect much faster than average employment growth, with a projected increase of 22 percent between 2008 and 2018. Demand for translators and interpreters training is not being met across the US, but to an even greater degree supply lags demand in Illinois. The Illinois Department of Employment Security's (IDES) projection of employment growth for translators and interpreters is much higher than the BLS' projection. The projected growth in Illinois according to IDES is 37 percent between 2010 and 2020.

The fact that only three master's degree programs in translation and interpreting are currently offered at this time in the U.S. illuminates some of the causes for the shortage of translators and interpreters.

### ***The Illinois Public Agenda for College and Career Success***

The Master of Arts in Translation and Interpreting will address Goals 3 and 4 of *The Illinois Public Agenda*. Goal 3, *Increase the number of high-quality post-secondary credentials to meet the demands of the economy and an increasingly global society*, will be addressed by recruiting, educating and graduating students with master's degrees in translation and interpreting to meet some of the great need for workforce and economic development in the state and the nation.

Goal 4, *Better integrate Illinois' educational, research, and innovation assets to meet economic need of the state and its regions*, will be addressed by developing and implementing a cutting-edge degree program with appropriate graduate research components and advanced professional practice knowledge and skills in a field in which only few universities in the US offer degree programs.

### **Comparable Programs in Illinois**

Currently, no Illinois college or university, public or private, offers a master's program in translation and interpreting. Moreover, only three universities offer such programs in the nation at California, New York, and Ohio. If approved and implemented, it is expected that this program will be a great asset to Illinois and the nation by addressing some of the significant unmet occupational and student demand.

### **Mission and Objectives**

*1050.30(a)(1): A) The objectives of the unit of instruction, research or public service are consistent with the mission of the college or university; B) The objectives of the unit of instruction, research or public service are consistent with what the unit title implies.*

The M.A. in Translation and Interpreting program has nine student learning objectives, including:

- Understand the difference between translation and interpreting and applying them correctly;
- Acquire and demonstrate appropriate use of the basic terminology of the fields of translation and interpreting;
- Demonstrate measurable proficiency in translating between L2 (second language) to L1 (language in which the student writes most proficiently);
- Demonstrate measurable proficiency in interpreting L2 (second language) to L1 (language of highest speaking proficiency) for students in the interpreting Specialization;
- Demonstrate proficiency with Computer Assisted Translation Tools;
- Demonstrate advanced skills with the Internet based research techniques and strategies;
- Produce a publishable work of literary translation; and
- Demonstrate best practices in professional ethics, practice and business methods.

The goals and objectives of this program are consistent and support the mission, goals and priorities of the University as well as the goals of *The Illinois Public Agenda*.

### **Curriculum and Assessment**

*1050.30(b)(1): A) The caliber and content of the curriculum must assure that the objectives of the unit of instruction will be achieved. B) The breadth and depth of the curriculum must be consistent with what the title of the unit of instruction implies. C) The admission and graduation requirements for the unit of instruction must be consistent with the stated objectives of the unit of instruction. D) Institutions must show the capacity to develop, deliver and support academic programs. Procedures and policies that will assure the effective design, conduct and evaluation of the degree program under the academic control of the institution must be developed. Assessment plans must demonstrate that the institution has identified clear and appropriate program and student learning goals and has defined appropriate outcomes. Appropriate data must be collected and may be requested by the Board to show the level of student learning that has occurred as a result of participation in the institution's programs of study. E) Degree programs must meet [appropriate] requirements.*

### **Admission Requirements**

To be considered for admission to the M.A. in Translation and Interpreting, applicants should have earned an undergraduate degree in one or more languages, linguistics, international studies, area studies, or a related field. Applicants must have command of one but preferably two languages in addition to English. Also, they must have a native or near-native proficiency in English and at least one other language supported by the program. International applicants whose primary language is not English must present Test of English as Foreign Language (TOEFL) scores of at least 611 (paper-based test), 260 (computerized test), or 103 (Internet-based test). Also, they must pass the speaking sub-section of the International Business Translation (IBT) with a minimum score of 24.

In addition, applicants must submit: two letters of recommendation; a resume or curriculum vitae; original transcripts, with English translations if applicable, showing all undergraduate and graduate work completed; and a five to seven minute oral statement in tape/CD/audio-file. Also, applicants must complete an online test of language and translation proficiency administered by the University's Online and Continuing Education office.

### **Curriculum**

The curriculum of the Master of Arts in Translation and Interpreting consists of 32 semester credit hours and one of three Specializations in Translation for the Professions, Literary and Applied Literary Translation, and Conference and Community Interpreting. A student admitted to the program may work with any language pair that the School of Literatures, Cultures, and Linguistics supports.

Three core courses at the 400 and 500 levels consisting of four credit hours each must be completed by every student in the program. They are Translation Methods and Ethics, Translation Theory and Practice, and Terminology at CAT. Other courses in the program, most of them at the 500 level are: Commercial and Technical Translation; Translation for the Profession, such as medical and legal translation; Applied Literary Translation; Community Interpreting; and Conference Interpreting.

A thesis is not required in this program. In its place, every student must complete a 500 level Capstone course, under the supervision of a mentor or instructor. The focus of each student in this course must be related to his or her selected area of specialization which will involve an internship or apprenticeship in an appropriate organization such as a courthouse, a health center, an international corporation, or a publishing house. The requirements for completing the Capstone course are specified by the American Translation Association and the International Standards Organization for best practices in translation curricula. Also, the curriculum is aligned with the standards of the International Standards Organization, the Inter-Agency Language Roundtable, and the prestigious European Master Translation.

The program plans to create a standing Advisory Committee. Members of the Committee will consist of prominent academics, professionals and industry leaders qualified to advise the program and the Center on trends in the industry, the profession, and evolving standards for translation education consistent with the standards of the American Translation Association and the European Master of Translation. Additionally, the Committee will provide advice about employment for graduates of the program.

#### Assessment of Student Learning Outcomes

The assessment of student learning outcomes in this program will be based on a number of assessment tools such as tests and exams in individual courses and the evaluation of robust student projects or reports completed when taking the Capstone Course in which each student may complete an internship, a publishing project, a service learning project, or a research project that will be evaluated by faculty and internship site supervisors. In addition, translation proficiency will be evaluated using the Inter-Agency Language Roundtable rating method which involves meeting prescribed specifications and deadlines. For example, the Professional Performance Level 3 stipulates that all necessary skills be aligned and enable production of a reasonably accurate and reliable translation. Professional Performance Level 4 specifies that an individual's competence and expertise combine to produce an accurate and reliable translation of a variety of texts from simple to complex while applying appropriate translation methodology. They require that translation expressions reflect native usage and consistent control of the target language conventions.

#### Program Assessment

Consistent with the Illinois Board of Higher Education (IBHE) staff requirements, the University will submit to the IBHE a progress report on the Master of Arts in Translation and Interpreting at the end of the third year of operation. The report will summarize key areas of accomplishments by the faculty and any remaining challenges and how each challenge will be addressed. In addition, the program faculty will participate in the University's eight-year program review process to assess the program using multiple measures including evaluation of faculty teaching in the program by students, the level of faculty research and scholarship, awards and honors, retention and graduation rate of students in the program, and the level of alumni and employer satisfaction with the program. Also, the faculty will use measures such as the percent of graduates employed in occupations closely related to translation and interpreting. The success of the students who take and pass the Illinois county certification for Court Interpreters, such as Cook County's certification, will be another mode of assessment. Another certification for which students in the program may be tested is the American Translation Association whose standards are covered in the curriculum. A summary of the program review, including the program's strengths and weaknesses, as well as steps to be taken to improve the program, will be submitted by the University to the IBHE with summaries of other programs reviewed in the same cycle.

## **Facilities (space, equipment, instructional materials)**

*1050.30(a)(4): A) Facilities, equipment and instructional resources (e.g., laboratory supplies and equipment, instructional materials, computational equipment) necessary to support the high quality academic work in the unit of instruction, research or public service are available and maintained; B) Clinical sites necessary to meet the objectives of the unit of instruction, research or public service; C) Library holdings and acquisitions, owned or contracted for by the institution, that are necessary to support high quality instruction and scholarship in the unit of instruction, research and public service, are conveniently available and accessible, and can be maintained.*

The School of Literatures, Cultures, and Linguistics and the University have adequate resources that will support the proposed program, including facilities and equipment. They include classrooms available in the Foreign Languages Building (FLB), the Fire Services Institute, and other campus buildings. Classrooms in FLB are equipped with multimedia units and two classrooms equipped for videoconferencing. The Fire Services Institute has the state-of-the-art computer labs, videoconferencing rooms, and interpreter booths built to meet the requirements of the International Standards Organization (ISO). Existing interpreter booths that will be used by this program are soundproof and meet the requirements of ISO, including acoustic separation between different languages spoken simultaneously, and efficient two-way communication between languages interpreted or with the speaker in the hall.

The delivery methods for the curriculum of the program will be state of the art, including face-to-face classes for the campus-based cohort, hybrid course delivery for the campus-based classes, and innovative online courses designed according to best practices of instructional design and delivery in the profession. The College of Liberal Arts and Sciences has an online unit with resources to train faculty in the development and delivery of online courses.

### **Library**

The University Libraries of the University of Illinois at Urbana-Champaign constitute one of the best in the country, containing more than 11 million volumes. They have many categories of materials, including Rare Book and Manuscript Library, the Classics Library, and the International and Area Studies Library. The specialized libraries relevant to translation studies include the Literatures and Languages Library which has a rich collection.

It is reported that the translation library collection which will support the proposed program directly is growing exponentially including online reference sources, text and online journals, textbooks, and a wide range of databases specialized in translation. Specifically, to support this program, 15 key textbooks are identified, and 13 journals are also available. Also identified are six major databases, five key reference materials, and four major terminology resources. These library resources are expected to meet the high national and international standards for translation and interpreting.

### **Technology and Instructional Resources**

The existing equipment for simultaneous interpretation and translation equipments that are currently available consist of interpreter's consoles, FM or infrared equipment, control consoles, and headphones or headsets. The transmitter and receiver equipment currently favored by international organizations and interpreter schools is wireless and portable. In addition to



these, the proposed program will be well served by computer-assisted translation software that meets the standards in the profession and the relevant industries.

### **Faculty and Staff**

*1050.30(a)(3): A) The academic preparation and experience of faculty and staff ensure that the objectives of the unit of instruction, research or public service are met.*

Primary responsibility for this program will be provided by the Director of the Center for Translation Studies and an instructor in Commercial and Technical Translation, who also serves as the key supervisor of student capstone projects. In addition, there are currently nine qualified faculty members from the School that will support this program as affiliates. Together, their language, literature, and cultural expertise encompass many languages, literatures and cultures supported by the School, including Spanish, Italian, Portuguese, Slavic languages, comparative world literature, East Asian Languages, Germanic Languages, and French. As is a common practice in the discipline, visiting/adjunct faculty positions as well as positions for language pair coaches will be filled each year as needed depending on the number of students in the program and the languages they have selected.

### **Fiscal and Personnel Resources**

*1050.30(a)(5): A) The financial commitments to support the unit of instruction, research or public service are sufficient to ensure that the faculty and staff and support services necessary to offer the unit of instruction, research or public service can be acquired and maintained; B) Projections of revenues necessary to support the unit of instruction, research or public service are based on supportable estimates of state appropriations, local tax support, student tuition and fees, private gifts, and/or governmental grants and contracts.*

No new state resources are needed to establish this program because funding for the program will be provided by the Provost until the program is able to recover its costs through tuition paid by students admitted to the program. It is projected that the budgets of the program will grow from \$580,000 in the first year to \$695,000 in the fifth year. Most of the budget will be allocated for personnel including the estimated 6.5 FTE faculty, and the remainder will be for costs associated with supplies and equipment, software and training, library support, and operations.

### **Accreditation and Licensure**

*1050.30(b)(3): Appropriate steps shall be taken to assure that professional accreditation needed for licensure or entry into a profession as specified in the objectives of the unit of instruction is maintained or will be granted in a reasonable period of time.*

*1050.50 (a)(1) Three years after approval of a new program, the institution shall provide a program progress report to the Board as part of the institution's annual report. The third year progress report shall describe the institution's performance in meeting program objectives and show where any improvements are necessary. The placement of a program in voluntary temporary suspension will not negate the requirement of submitting a third year progress report.*

*1050.50 (a)(2)(C) Requirement for Programs in which State Licensure is Required for Employment in the Field: In the case of a program in which State licensure is required for employment in the field, a program can be found to be in good standing if the institution is able to*

*provide evidence that program graduates are eligible to take the appropriate licensure examination and pass rates are maintained as specified in the objectives of the unit of instruction. If there is no such evidence, the institution shall report the program as flagged for review.*

There is currently no specialized accreditation for degree programs in translation and interpreting. However, the university-wide accreditation by the Higher Learning Commission of the North Central Association of Colleges and Schools will cover this program as it covers all degree programs offered by the University.

Two types of certification will be available for students who complete this program and apply for one or both of them. They are certification for Court Interpreters through individual Illinois counties, such as Cook County, and certification from the American Translation Association whose requirements are covered in the curriculum of this program.

### **Program Information**

*1050.30 (b)(2)(A) The information the institution provides for students and the public...(B) The information listed in subsection (b)(2)(A) shall be available to prospective students prior to enrollment and shall be included in the institution's catalog of programs.*

Information about the University of Illinois at Urbana-Champaign's Master of Arts in Translation and Interpreting, including a detailed description of the curriculum, admission requirements, tuition, fees and other cost information as well as university and graduate school policies, will be published on the University's website. Comparable information about the program will be published in hard copy in the University's Graduate Catalog and similar information may be available from the School of Literatures, Cultures, and Linguistics or the Graduate School upon request.

**Staff Conclusion.** The staff concludes that the Master of Arts in Translation and Interpreting program proposed by the University of Illinois at Urbana-Champaign meets the criteria to implement the Board of Higher Education Act (110 ILCS 205/et.seq.) as set forth in 23 Illinois Administrative Code, Ch. II, Section 1050.30, and the Illinois Board of Higher Education policies pertaining to assessment and accreditation or licensure.

The staff recommends adoption of the following resolutions:

*The Illinois Board of Higher Education hereby grants to Illinois State University authorization to establish the Bachelor of Science in Molecular and Cellular Biology and the Master of Arts and Master of Science in Anthropology in the Central Region subject to the institution's implementation and maintenance of the conditions that were presented in its applications and that form the basis upon which these authorizations are granted.*

*The Illinois Board of Higher Education hereby grants to the University of Illinois at Urbana-Champaign authorization to establish the Bachelor of Science in Liberal Arts and Sciences in Computer Science and Anthropology, the Bachelor of Science in Liberal Arts and Sciences in Computer Science and Astronomy, the Bachelor of Science in Liberal Arts and Sciences in Computer Science and Chemistry, the Bachelor of Science in Liberal Arts and Sciences in Computer Science and Linguistics, and the Master of Arts in Translation and Interpreting in the Prairie Region subject to the institution's implementation and maintenance of the conditions that were presented in its applications and that form the basis upon which these authorizations are granted.*