

**APPROVED
OCTOBER 6, 2015**

Item #V-10
October 6, 2015

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

Submitted for: Action.

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

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

University of Illinois at Chicago

- Master of Science in Marketing in the Chicago Region
- Doctor of Philosophy in Biomedical and Health Informatics in the Chicago Region

University of Illinois at Urbana-Champaign

- Master of Engineering in Electrical and Computer Engineering 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, addresses 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.

Executive Summary – Public Institutions

University of Illinois at Chicago

- Master of Science in Marketing

The University of Illinois at Chicago requests authority to offer a Master of Science in Marketing in the Chicago region. The proposed program provides foundational and advanced knowledge of marketing, along with the skills needed for a range of marketing positions and settings. The program aims to produce marketing professionals prepared to work in the full scope of marketing careers, such as brand marketing, digital marketing communications, and marketing research. The proposed curriculum offers students a broad foundation in marketing and specific expertise through the different concentrations. Three concentrations will be offered in marketing research, advertising and marketing communications, and global and multicultural marketing. The program is built upon the existing Master of Business Administration and administered by the College of Business Administration. There are policies in place to ensure faculty members possess the training, credentials, and qualifications to provide instruction in the proposed program. The University has sufficient library, technology, staff, and financial resources in place to support the proposed program.

- Doctor of Philosophy in Biomedical and Health Informatics

The University of Illinois at Chicago requests authority to offer a Doctor of Philosophy in Biomedical and Health Informatics in the Chicago region. The PhD in Biomedical and Health Informatics is a 96 hour program designed for students with a master's degree in health informatics or a related field. The proposed program will build upon the coursework of the existing Master of Science in Health Informatics. The curriculum includes 36 hours of required courses in biomedical and health informatics theories and methodologies, 12-20 hours of

electives in two areas of specialization: Systems Science in Biomedical and Health Informatics and Social and Organizational Sciences in Biomedical and Health Informatics, ongoing opportunities for intensive co-mentoring from an interdisciplinary faculty, and 48 to 50 hours of required research. The proposed program prepares students for careers within the health care provider sector, the Health Information Technology vendor community, pharmaceutical industry, health care professional organizations, and academia. The program will be administered by the Department of Biomedical and Health Information Sciences. There are policies in place to ensure faculty members possess the training, credentials, and qualifications to provide instruction in the proposed program. The University has sufficient library, technology, staff, and financial resources in place to support the proposed program.

Approval request summary, including staff conclusion, follows in Attachment A.

University of Illinois at Urbana-Champaign

- Master of Engineering in Electrical and Computer Engineering

The University of Illinois at Urbana-Champaign requests authority to offer a Master of Engineering (MEngECE) in Electrical and Computer Engineering in the Prairie region. The MEngECE program is designed to offer students an accelerated, industry-oriented graduate degree, requiring 32 credit hours. The MEngECE provides more in-depth technical knowledge than a traditional Master of Science in Electrical and Computer Engineering in a format that can be completed in one year. The curriculum will allow students to focus their coursework in areas that are most relevant to their professional career interests. In addition to coursework, students must also complete a professional development component as the capstone for the program. There are policies in place to ensure faculty members possess the training, credentials, and qualifications to provide instruction in the proposed program. The University has sufficient library, technology, staff, and financial resources in place to support the proposed program.

Approval request summary, including staff conclusion, follows in Attachment B.

The staff recommends adoption of the following resolutions:

The Illinois Board of Higher Education hereby grants to University of Illinois at Chicago authorization to establish the Master of Science in Marketing and the Doctor of Philosophy in Biomedical and Health Informatics in the Chicago 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 this authorization is granted.

The Illinois Board of Higher Education hereby grants to University of Illinois at Urbana-Champaign authorization to establish the Master of Engineering in Electrical and Computer Engineering in the Prairie Region subject to the institution's implementation and maintenance of the conditions that were presented in its application and that form the basis upon which this authorization is granted.

University of Illinois at Chicago

Proposed Program Title in Region of Authorization: Master of Science in Marketing in the Chicago Region.

Projected Enrollments and Degrees: The University of Illinois at Chicago projects the program will increase from approximately 38 students in the first year to 111 students in the fifth year. The University projects 66 degrees will be awarded in the fifth year.

Proposed Program Title in Region of Authorization: Doctor of Philosophy in Biomedical and Health Informatics in the Chicago Region.

Projected Enrollments and Degrees: The University of Illinois at Chicago estimates that enrollment in the program will increase from two students in the first year to 14 students in the fifth year. The University projects 14 degrees will be awarded in the fifth year.

Background

The University of Illinois at Chicago (UIC or the University) requests authority to offer a Master of Science (MS) in Marketing and a Doctor of Philosophy (PhD) in Biomedical and Health Informatics in the Chicago region.

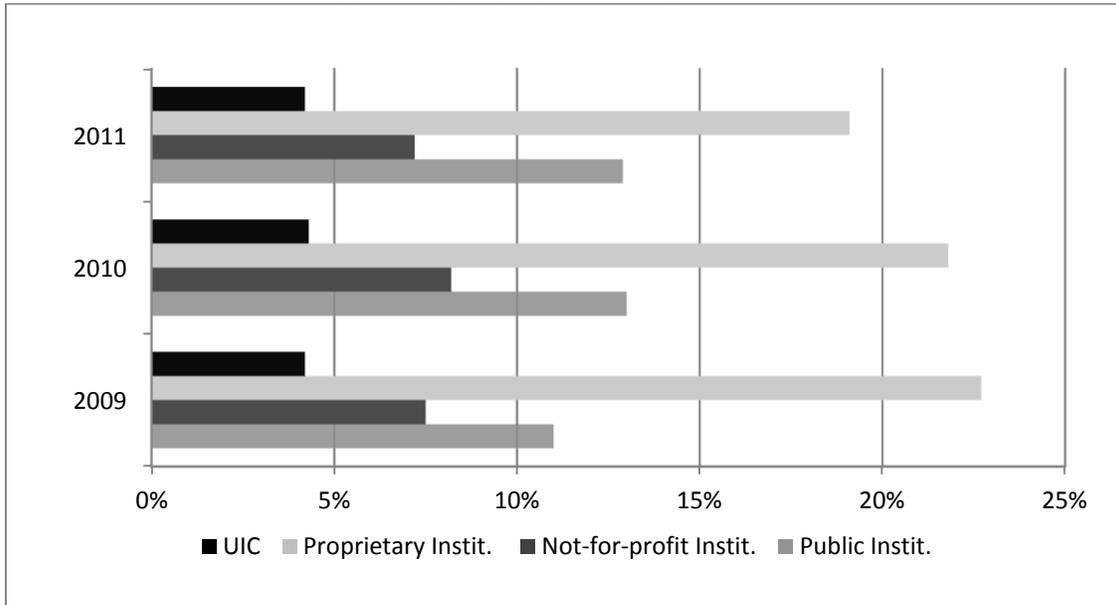
The Master of Science in Marketing will provide graduates with foundational and advanced knowledge of marketing, along with the skills needed for a range of marketing positions and settings. The program aims to produce marketing professionals prepared to work in the full scope of marketing careers, such as brand marketing, digital marketing communications, and marketing research. The program is built upon the existing Master of Business Administration and administered by the College of Business Administration. The Doctor of Philosophy in Biomedical and Health Informatics is designed to build upon the coursework of the existing MS in Health Informatics. The program will develop scholars to solve the complex knowledge management issues facing the health care industry, provide graduates with the capacity and expertise along the continuum of informatics, and produce engaged professionals able to advance a discipline in technology and regulation. The proposed program prepares students for careers within the health care provider sector, the Health Information Technology vendor community, pharmaceutical industry, health care professional organizations, and academia. The program will be administered by the Department of Biomedical and Health Information Sciences.

Institutional Data

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 those 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.

This section includes information about institutional and student success measures for each institution seeking program approval. The institution's rates will be compared to Illinois institutions from within a select comparison group and against the national standards or averages. For a proposed undergraduate program, this section will include undergraduate graduation rates, first to second year retention rates, student loan default rates, and any applicable licensure passage rates. For a proposed graduate program, this section will primarily focus on student loan default data since this measure also includes graduate students in the calculation.

Three Year Cohort Student Loan Default Rate



Source: National Center for Education Statistics (NCES), US Department of Education

Note: The University of Illinois at Chicago is a public institution.

A lower number is a positive indicator.

The three-year student loan default rate for UIC was 4.2 percent in 2011, 4.3 percent in 2010 and 4.2 percent in 2009. The three-year cohort student loan default rate is the percentage of a school's borrowers, both undergraduate and graduate, who enter repayment on Federal Family Education Loan (FFEL) Program or William D. Ford Federal Direct Loan (Direct Loan) Program loans during a particular federal fiscal year, October 1 to September 30, and default or meet other specified conditions prior to the end of the second following fiscal year. The US Department of Education stated that the Fiscal Year 2011 three-year national cohort default rate was 13.7 percent. The Fiscal Year 2011 three-year national cohort average default rate breakdown by institutional sector is: 12.9 percent for public institutions; 7.2 percent for not-for-profit institutions; and 19.1 percent for proprietary institutions.

Undergraduate-related data fields are not provided because the University proposes to offer new graduate programs.

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.

The proposed MS in Marketing will help meet the need for marketing managers and professionals nationally and locally, as indicated by the United States Bureau of Labor Statistics and Illinois Department of Employment Security. Nationally, positions as marketing managers are expected to grow 12 percent from 2012 to 2022. Similar to national trends, demand for marketing managers in the State of Illinois is expected to grow 12 percent over the ten-year period, constituting 41,400 positions. Additionally, the program prepares graduates for specialized positions in marketing. According to www.glassdoor.com, among these are marketing research analysts, whose ranks will grow by 32 percent over the decade nationally; public relation specialists, with a 12 percent increase in the number of positions; and innovation/product developers, who will expand as a group by 23 percent.

The proposed PhD in Biomedical and Health Informatics will help to address the growing demand for graduates in health informatics. The United States Bureau of Labor Statistics projected need of Health Information Technology (HIT) workers is 35,000 by 2018; the projection by the Office of the National Coordinator for HIT workers by 2015 is 50,000. Also, with the dramatic rise in the number of health informatics degree programs nationally, the discipline is beginning to experience increased demand for faculty trained at the doctoral level. The MS in Health Informatics at UIC is one of the largest graduate programs at the University and the largest program of its kind in the country, with enrollments of over 500 students each semester. UIC is a prime location for this program because Chicago is a major center of health care and biomedical research and home to Argonne National Laboratory, the International Center for Advanced Internet Research, and three Clinical and Translational Science Award sites which recruit regularly for students with doctorates. Graduates of this program will be well positioned for employment within these areas and the health informatics industry.

The Illinois Public Agenda for College and Career Success

The MS in Marketing supports Goals 1 and 2 of *The Illinois Public Agenda for College and Career Success*. It supports Goal 1: *to increase educational attainment to match the best-performing states* by providing marketing education to individuals from an array of degree backgrounds, such as Psychology, Communications, and English. Through this program, graduates will be able to use their prior education, while obtaining specialized knowledge and skills to improve their employability. The proposed program also supports Goal 2: *to ensure college affordability for students, families, and taxpayers*. The program is designed to be completed in one year, in comparison to a traditional MBA program, making this option more affordable for students.

The University indicates the proposed PhD in Biomedical and Health Informatics supports Goals 1, 3, and 4 of *The Illinois Public Agenda for College and Career Success*. Goal 1 is *to increase educational attainment to match the best performing states*. The proposed program will be the first medical informatics doctorate in the state. This doctoral degree also supports Goal 3: *increasing the number of high-quality credentials*. The PhD in Biomedical and Health Informatics will prepare researchers, educators, and scholars skilled at conducting applied and translational research in a wide range of settings. Finally, the program is poised to support Goal 4: *to better integrate Illinois' educational, research, and innovation assets to meet economic needs of the state and its regions*. On February 25, 2014, President Obama awarded Chicago a \$70 million grant from the Department of Defense to build the Digital Manufacturing and Design Innovation Institute to be operated by UI labs. The computing technologies challenges presented by the Department of Defense include mobile computing, cloud computing, and high-performance computing, which all have significant application to health care delivery.

Graduates, particularly those in the Systems Science track, will be naturally aligned with those opportunities.

Comparable Programs in Illinois

The University identified one other MS in Marketing in Illinois, offered at DePaul University. The UIC program offers the flexibility of specializing in three areas or pursuing marketing courses without a specialization. Four additional Illinois institutions offer related programs, but all are narrower in scope focusing on marketing research, marketing analytics and communication, and integrated marketing communications. The University did not identify any doctoral programs within the State of Illinois with a focus on Biomedical and Health Informatics.

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 proposed programs are in alignment with the overall mission of the University. The proposed programs are consistent with the purpose, goals, objectives, and mission of the University. The requested degree titles reflect the degree program's objectives and curriculum.

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

For the MS in Marketing, applicants for admission must have a bachelor's degree. The following materials may also be considered when making admissions decisions: 3.00 out of 4.00 GPA for the final 60 semester (90 quarter) hours of undergraduate study; GMAT or GRE test results; two letters of recommendation; and a written personal statement. In addition, students must complete the following prerequisite courses to be considered for admission: Introduction to Marketing; Introduction to Organizations; and Introduction to Financial Accounting or Corporate Finance.

For the PhD in Biomedical and Health Informatics, applicants must have a master's degree, in Health Informatics or a related field preferred. The following materials may also be considered when making admissions decisions: 3.00 out of 4.00 GPA for the final 60 semester (90 quarter) hours of undergraduate study and for all graduate degrees; GMAT or GRE test

results; two letters of recommendation; a written personal statement; and a prior course in basic computer programming. UIC does not grant prior learning credit for industry certifications and work experience for graduate programs. To be considered for transfer, graduate work must have been completed in an accredited institution approved by one of the regional accreditation associations or by the agencies recognized by the Council for Higher Education Accreditation and must meet the quality and content of courses offered at UIC.

Curriculum

Master of Science in Marketing

The MS in Marketing is a 34 semester credit hour program that includes 14 semester hours of core courses and 20 semester hours of electives. All students are required to take Marketing Analytics, Marketing Research I, Professional Topics, and a capstone course entitled Marketing Management. For the electives areas, three concentrations will be offered in marketing research, advertising and marketing communications, and global and multicultural marketing. The capstone course will provide an integrative project-based experience for students, as they work with one or more industry partners. Students will be presented with a real business problem and will be expected to develop and execute a project work plan that analyzes the data available, develops actionable recommendations, and provides insight into the basis for those recommendations. The program will be administered by the College of Business Administration.

Doctor of Philosophy in Biomedical and Health Informatics

The PhD in Biomedical and Health Informatics is a 96 semester hour program that includes, 36 semester hours of core classes, 12 to 20 hours of electives, and 40 to 48 hours of research. Students choose from two tracks for their electives: Systems Science in Biomedical and Health Informatics or Social and Organizational Sciences in Biomedical and Health Informatics. Prior to beginning full-time dissertation research, PhD students will be required to complete the coursework and a comprehensive preliminary examination. Each student will be required to present two research seminars prior to graduation (mid-thesis and public PhD thesis presentation). The program will be administered by the Department of Biomedical and Health Information Sciences.

Assessment of Student Learning

The University has a standard process for assessing student learning outcomes in all its degree programs. Student success in the programs will be measured by the stated learning objectives. For the MS in Marketing, student performance and course efficacy will be regularly evaluated by individual instructors and is based on class participation, quizzes, exams, case studies, oral presentations, capstone course, and student course evaluations. For the PhD in Biomedical and Health Informatics program, students will be assessed through course papers, exams, a comprehensive preliminary exam, doctoral dissertation, and independent research and teaching experiences.

Program Assessment

UIC has a clearly articulated assessment plan, aligned to institutional goals to determine the overall effectiveness of its programs and the degree to which students' needs are being met. The proposed programs will follow these existing program assessment protocols. The Director of Graduate Studies and program faculty evaluate the program yearly using various criteria of student learning by evaluating samples of student work using established outcome statements,

rubrics, and standardized assignments. The program objectives are applied to a general assessment model that encompasses the systematic assessment of student learning detailing the methods of assessment used and a description of the assessment tools for each objective. Specifically for the MS in Marketing, a team of external reviewers evaluate annual assessments, satisfaction surveys, diversity data, placement results, and learning outcomes to maintain the college's specialized accreditation with Association to Advance Collegiate Schools of Business (AACSB) for the College of Business.

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.

The University has adequate facilities, equipment, and instructional resources to support the programs. The proposed MS in Marketing will be supported by the Liautaud Graduate School of Business. The proposed PhD in Biomedical and Health Informatics will be supported by the administrative structure that currently supports the MS in Health Informatics within the Department of Biomedical and Health Information Sciences.

The University's library provides a wide range of resources for the programs. Library holdings number more than 8.7 million items, including 2.7 million books and bound periodicals, and over 6 million other items. The University Library currently receives 65,398 print or electronic serials. Students and faculty have full access to books and other materials shelved on the open stacks, and both on-site and remote access to the library's collection of electronic databases, books, and journals. The databases provide current and historic scholarly and practitioner journal articles (e.g., *ABI Inform Global*, *Business Source Premier*, *IBIS World*), information on businesses (e.g., *Hoovers' Online*, *International Director of Company Histories*, *Market Share Reporter*), global economic and business data (e.g., *African Development Indicators*, *Global Economic Monitor*, *Passport GMID*, *World Development Indicators*), and specialized industry, marketing, or consumer/marketing data (e.g., *SimplyMap*, *Redbooks*, *Product Launch Analytics*). The journal selection includes: *Journal of Marketing*; *Journal of Marketing Research*; *Journal of Consumer Research*, *Journal of Consumer Psychology*, and *Journal of Interactive Marketing*.

Beyond the University Library, four sites of the Library of Health Sciences (LHS), provides collections for students in all curricular areas for the PhD in Biomedical and Health Informatics graduate program. The LHS collection includes over 500,000 volumes and over 20,000 health sciences journals. It also serves as the Regional Medical Library for ten Midwestern states under contract awarded by the National Library of Medicine. Some of the electronic resources include MEDLINE, AgeLine, Rehabilitation Reference Center, OT Seeker, and Dynamed.

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.

For both programs, the University has identified institutional policies that ensure academic professionals hired possess the training, credentials, and other related professional qualifications to provide quality instructions at the institution. Faculty teaching in the proposed program will have the appropriate qualifications. A formal faculty evaluation is in place.

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 will be requested to establish the proposed programs. The University has adequate faculty, staff, and other instructional resources to administer the MS in Marketing and the PhD in Biomedical and Health Informatics.

Accreditation/Licensure

The MS in Marketing program is accredited as part of the UIC College of Business Administration's curricular accreditation by the Association to Advance Collegiate Schools of Business (AACSB). This international accrediting body requires well-defined processes to assess and monitor student learning, looping findings back into adjustments made to courses (termed "assurance of learning"). The program will follow processes developed in the UIC College of Business Administration to ensure compliance with AACSB requirements for assurance of learning.

Neither specialized accreditation nor licensure is required for the PhD in Biomedical and Health Informatics.

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 information about the proposed programs, including description of the admission policies, University policies, tuition, fees, curriculum are provided in the proposals and will be published on the University's website. Comparable information about the programs will also be available from the webpage of the academic units administering the programs.

Staff Conclusion

The staff concludes that the Master of Science in Marketing and the Doctor of Philosophy in Biomedical and Health Informatics proposed by the University of Illinois at Chicago 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.

University of Illinois at Urbana-Champaign

Proposed Program Title in the Region of Authorization: Master of Engineering in Electrical and Computer Engineering in the Prairie Region.

Projected Enrollment: The University of Illinois at Urbana-Champaign projects that the proposed program will enroll approximately 15 students in the first year increasing to 60 students in the fifth year. The University projects 66 degrees will be awarded in the fifth year.

Background

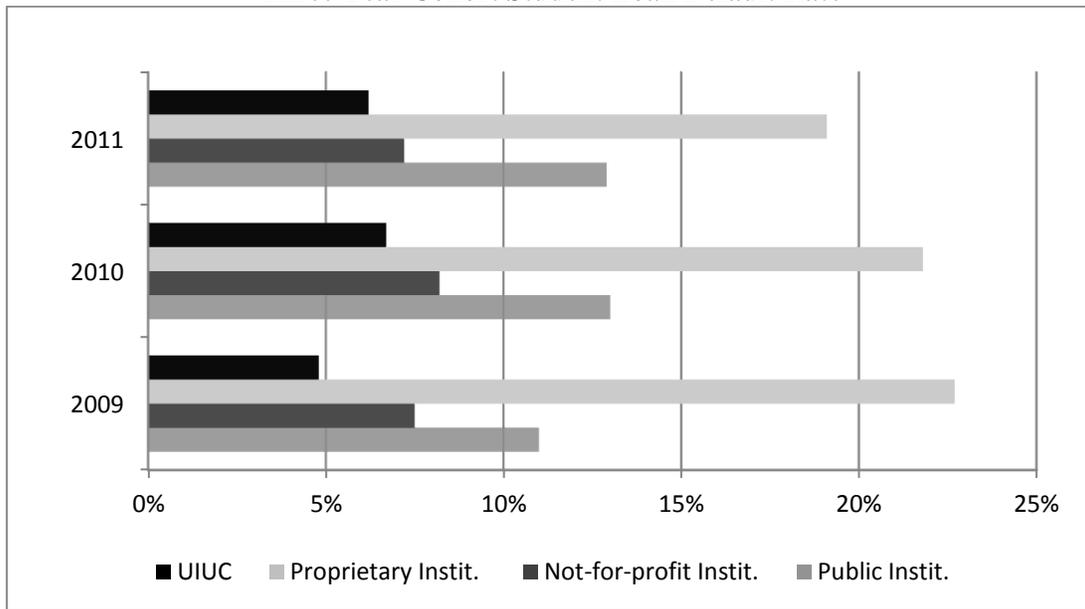
The University of Illinois at Urbana-Champaign (the University) requests authority to offer a Master of Engineering in Electrical and Computer Engineering (MEngECE). The MEngECE program is designed to offer students an accelerated, industry-oriented graduate degree. The MEngECE provides more in-depth technical knowledge than a traditional Master of Science in Electrical and Computer Engineering in a format that can be completed in one year. The curriculum will allow students to focus their coursework in areas that are most relevant to their professional career interests.

Institutional Data

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.

This section includes information about institutional and student success measures for each institution seeking program approval. The institution's rates will be compared to Illinois institutions from within a select comparison group and against the national standards or averages. For a proposed undergraduate program, this section will include undergraduate graduation rates, first to second year retention rates, student loan default rates, and any applicable licensure passage rates. For a proposed graduate program, this section will primarily focus on student loan default data since this measure also includes graduate students in the calculation.

Three Year Cohort Student Loan Default Rate



Source: National Center for Education Statistics (NCES), US Department of Education

Note: University of Illinois Urbana-Champaign is a Public Institution.

A lower number is a positive indicator

The three-year student loan default rate for the University of Illinois at Urbana-Champaign was 6.2 percent in 2011, 6.7 percent in 2010 and 4.8 percent in 2009. The three-year cohort student loan default rate is the percentage of a school's borrowers who enter repayment on the Federal Family Education Loan (FFEL) Program or William D. Ford Federal Direct Loan (Direct Loan) Program loans during a particular federal fiscal year, October 1 to September 30, and default or meet other specified conditions prior to the end of the second following fiscal year. The US Department of Education stated that the Fiscal Year 2011 three-year national cohort default rate was 13.7 percent. The Fiscal Year 2011 three-year national cohort average default rate breakdown by institutional sector is: 12.9 percent for public institutions; 7.2 percent for not-for-profit institutions; and 19.1 percent for for-profit institutions.

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.

The proposed MEngECE program will be marketed to students intending to work in industry. This degree will target the large number of prospective students and employers who have expressed interest in a degree program that prepares students for professional practice as opposed to the existing MS and PhD degrees, which are primarily targeted toward students interested in a career in research. The Illinois Department of Employment Security predicts strong job growth of electrical and electronic engineering and computer engineering during the period 2012-2022. The total employment in these sectors was 11,607 in 2012 and is predicted to be 12,523 in 2022, growth of approximately eight percent over a ten-year period. On average, the number of annual job openings in these areas is predicted to be approximately 250. These predictions suggest that demand should be strong for the proposed MEngECE program.

The Illinois Public Agenda for College and Career Success

The University indicates that the proposed program will support goals 1 and 3 of *The Illinois Public Agenda for College and Career Success*. Goal 1 is to *increase educational attainment to match the best performing states*. According to the application, the MEngECE will offer a similar degree to the peer competition, including MIT, Cornell, Georgia Tech, and Stanford, thus providing an educational attainment matching the best-performing states. The program also supports Goal 3, which is to *increase the number of high-quality post-secondary credentials to meet the demands of the economy and an increasing global society*. The program will provide a new degree option that will appeal to a broader segment of prospective students, those who seek industry employment. This program will increase the number of high-quality post-secondary credentials to meet industry demand.

Comparable Programs in Illinois

There are currently no similar programs offered by Illinois public institutions. The University identified one private Illinois institution, the Illinois Institute of Technology (IIT), with a similar accelerated program. The IIT program differs significantly from the proposed program as it does not include bioengineering, circuits, control systems, remote sensing, microelectronics, or nanotechnology, all of which will be available in the University's MEng 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 proposed MEng in Electrical and Computer Engineering is in alignment with the overall mission of the University. The proposed program is consistent with the purpose, goals, objectives, and mission of the University. The requested degree title reflects the degree program objectives and curriculum.

Curriculum and Assessment

1050.30(b)(1) [applicable only to units of instruction]: A) The caliber and content to the curriculum assure that the objectives of the unit of instruction will be achieved; B) The breadth and depth of the curriculum are consistent with what the title of the unit of instruction implies; C) The admission and graduation requirements for the unit of instruction are consistent with the stated objectives of the unit of instruction; D) Provision is made for guidance and counseling of students, evaluations of student performance, continuous monitoring of progress of students toward their degree objectives and appropriate academic record keeping.

1050.30(a)(2): The design, conduct, and evaluation of the unit of instruction, research or public service are under the direct and continuous control of the sponsoring institution's established processes for academic planning and quality maintenance.

Admission Requirements

Applicants for admission to the Department of Electrical and Computer Engineering must be a graduate of an institution awarding an electrical engineering or computer engineering baccalaureate degree equivalent to that granted by the University of Illinois at Urbana-Champaign and be adequately prepared for advanced study as demonstrated by their previous program of study and scholastic record. A minimum GPA of 3.0 for the last two years of undergraduate study is required and scores on the Graduate Record Examination (GRE) are required of all applicants. Based upon the previous preparation of the student, prerequisite courses may be specified by the advisor, but the credit may not be applied toward a degree.

Curriculum

The curriculum for the proposed MEng in Electrical and Computer Engineering requires a minimum of 32 credit hours. The degree requirements do not specify a strict list of core courses but they do include a set of flexible requirements designed to allow a broad segment of prospective students to construct a curriculum that addresses their professional goals. The program requires that students take 15 hours in no more than two focus areas within Electrical and Computer Engineering. This requirement is intended to ensure that students obtain adequate depth in a chosen area of specialization, while accommodating the increasing trend toward programs of study that span traditional disciplinary boundaries. Several focus areas are available to students including: Microelectronics, Photonics and Nanotechnology; Integrated Circuits and Systems; and Biomedical Imaging, Bioengineering and Acoustics. In addition to coursework, students must also complete a professional development requirement as the capstone for the program. The professional development component allows a student to choose from several options to allow for the opportunity to focus on one's interest while applying learned principles and cornerstone concepts for a particular industry.

Assessment of Student Learning

The University has a standard process for assessing student learning outcomes in all its degree programs. Student success in the program will be measured by the stated learning objectives. Student performance and course efficacy will be regularly evaluated by individual instructors and is based on class participation, quizzes, exams, comprehensive performance on project work, and student course evaluations.

Program Assessment

The College of Engineering Dean will review the MEngECE degree program annually for the first three years. If major changes are indicated, the Dean will request a formal review by the College of Engineering Executive Committee (the faculty governance committee). The evaluation will include student enrollment, course availability, student placement, shifts in student/faculty ratio, student and faculty assessments, and student degree progress and completion. After the initial implementation period, similar assessments will be made every three years.

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.

Facilities at the University are sufficient for implementing the proposed Master of Engineering in Electrical and Computer Engineering. Classroom space and computer resources are sufficient for the program's needs. The Department of Electrical and Computer Engineering has state-of-the-art facilities and a significant number of faculty members with expertise matched only by a few peer institutions around the world. The University library provides students access to key disciplinary journals published by the Institute of Electrical and Electronics Engineers (IEEE) and the American Physical Society (APS). Since the program is built off existing Department of Electrical and Computer Engineering course offerings, the library already effectively supports this department.

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; B) The academic preparation and experience of faculty and staff, as evidenced by level of degrees held, professional experience in the field of study and demonstrated knowledge of the field, ensure that they are able to fulfill their academic responsibilities; C) The involvement of faculty in the unit of instruction, research or public service is sufficient to cover the various fields of knowledge encompassed by the unit, to sustain scholarship appropriate to the unit, and to assure curricular continuity and consistency in student evaluation; D) Support personnel, including but not limited to counselors, administrators, clinical supervisors, and technical staff, which are directly assigned to the unit of instruction, research or public service, have the educational background and experience necessary to carry out their assigned responsibilities.

The University has identified institutional policies that ensure academic professionals hired possess the training, credentials, and other related qualifications in order to provide instruction at the institution. Faculty teaching in the proposed program will have the appropriate qualifications. A formal faculty evaluation process is in place.

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 will be needed to establish the Master of Engineering in Electrical and Computer Engineering. Program costs will be offset by tuition revenues. The existing faculty, facilities, and financial resources will be sufficient for running the program.

Accreditation and Licensure

1050.30(b)(3) [applicable only to units of instruction]: Appropriate steps have been 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. Reporting Requirement (Board Policy, April 2002): Programs in which state licensure requires specialized accreditation for students to obtain professional licensure, but which have not yet achieved accreditation, will undergo full review and report to IBHE every three years until accreditation is achieved.

The proposed program does not require specialized accreditation or licensure.

Program Information

1050.30(b)(2) [applicable only to units of instruction]: The information which the institution provides for students and the public accurately describes the unit of instruction, including its objectives, length, residency requirements if any, schedule of tuition, fees, and all other charges and expenses necessary for completion of the unit of instruction, cancellation and refund policies, student rights and responsibilities, and such other material facts concerning the institution and the unit of instruction as are likely to affect the decision of the student to enroll. Such information shall be available to prospective students prior to enrollment.

Information about the University of Illinois at Urbana-Champaign's Master of Engineering in Electrical and Computer Engineering, including a detailed description of the curriculum, admission requirements, tuition, fees and other cost information as well as University policies, will be published on the University's website. Comparable information about the program will be published in the University's catalog.

Staff Conclusion

The staff concludes that the Master of Engineering in Electrical and Computer Engineering 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.