

## PRESIDENT'S REPORT ON ACTIONS OF THE SENATES

### Establish the Graduate Concentration in Advanced Analytics, College of Engineering and the Graduate College, Urbana

The Urbana-Champaign Senate has approved a proposal from the College of Engineering and the Graduate College to establish a graduate concentration in Advanced Analytics within the Master of Science in Industrial Engineering. In the future, the concentration will be offered with other relevant degrees inside and beyond the College of Engineering.

Advanced analytics is a relatively young, multidisciplinary field that applies engineering approaches and methods to the analysis and management of data-oriented business and engineering processes. Computing and communication technology have enabled large amounts of data to be generated, gathered, archived, and distributed by organizations. This data can provide important scientific and technological information about customers, organizational performance, supply and demand, infrastructures, and future trends. A new breed of graduates is required to convert this data into useful information that can help shape the decisions, strategic directions, and policies companies and organizations make.

The highly ranked College of Engineering with its cutting-edge research and facilities, innovative faculty, and national resources such as the National Center for Super-Computing Applications and recent National Data Center initiative, is well poised to address some of the need for the talent in data analytics. The proposed concentration

in Advanced Analytics will equip students with the conceptual knowledge and quantitative skills necessary to effectively frame and interpret data.

Establish Three Graduate Concentrations in General Bioengineering, Bioinstrumentation, and Computational Genomics, College of Engineering and the Graduate College, Urbana

The Urbana-Champaign Senate has approved a proposal from the College of Engineering and the Graduate College to establish three graduate concentrations within the Major in Bioengineering for the degree of Master of Engineering: General Bioengineering, Bioinstrumentation, and Computational Genomics.

As the global healthcare system transforms, driven largely by an aging population, there is greater need for technological advances in medicine and bioengineering that will provide better healthcare at a lower cost. Skilled employees for jobs that require advanced quantitative knowledge, leadership potential, and an understanding of “big picture” business issues of the healthcare industry are in demand. The concentration in General Bioengineering is designed to bridge this skills gap by developing students with a deep understanding of general bioengineering concepts and business acumen leadership skills through coursework and an applied consulting project.

Bioinstrumentation underlies many of the most important developments in healthcare, including biomedical imaging, point-of-care diagnostics, and high throughput genome sequencing. There is a growing need for engineers who require deep knowledge of bioinstrumentation fundamentals and for engineers who have leadership and project management skills necessary to bring bioinstrumentation products to market in the demanding regulatory environment for these products. The Bioinstrumentation

concentration is designed to serve the needs of students who seek careers that combine engineering with product/team/project management in the rapidly growing fields of biomedical imaging, life science research, genomics, and diagnostics.

The goal of precision medicine is to draw on vast amounts of data from basic research, medical records, and information from the individual patient to develop targeted therapies and diagnostics and inform individual patient care. There is a growing need in major employers including pharmaceutical industry, biotech companies, agriculture, and numerous engineering startup companies related to personalized genomics. Several major IT companies such as Google and Microsoft have also started to invest in computational genomics. As a result, the need for engineers with a deep knowledge of genomic biology with strong computational skills is significant. The Computational Genomics concentration will equip engineering students to address this need. The concentration provides a combination of data science education within the context of real-world biomedical problems. Through the Computational Genomics concentration, students will be trained in scientific problem-solving skills, project management, teambuilding, and communications.

Establish the Graduate Concentration in Data Analytics in Accountancy, College of Business and the Graduate College, Urbana

The Urbana-Champaign Senate has approved a proposal from the College of Business and the Graduate College to establish a graduate concentration in Data Analytics in Accountancy. This proposed concentration is designed to enhance graduate students' knowledge, skills, and professional opportunities related to using data analytics

to solve business problems and effectively communicate analyses, findings, and conclusions. The knowledge, technical skill, and professional requirements for accountants entering public accounting and consulting have evolved to include many aspects of data analytics. In conjunction and in response to this evolution in accountants' professional responsibilities, the Association to Advance Collegiate Schools of Business (AACSB) has provided guidance to future college and department reviews related to the importance of developing and supporting data creation, sharing, analytics, mining, reporting, and storage skills in students in accounting programs. The proposed Data Analytics in Accountancy concentration is designed to address this standard, leading to the Department of Accountancy's future continued and successful accreditation.

Rename and Revise the Undergraduate Concentrations in the Bachelor of Arts in Liberal Arts and Sciences in Germanic Languages and Literatures, College of Liberal Arts and Sciences, Urbana

The Urbana-Champaign Senate has approved a proposal from the College of Liberal Arts and Sciences to rename and revise the undergraduate concentrations in the Bachelor of Arts in Liberal Arts and Sciences in Germanic Languages and Literatures.

These four existing concentrations would be renamed and reconfigured as follows:

- Replace the existing concentrations in Modern German Studies and in Language and Literature with a reconfigured and combined concentration called "German Culture and Literature." The "Culture" part of this concentration encompasses the content of the existing Modern German Studies concentration, and the "Literature" part replaces the existing Language and Literature Concentration.
- Rename the current German and Commercial Studies Concentration as "German Business and Commercial Studies."

- Rename the existing Language Studies Concentration as “German Linguistics.”

In all of the aforementioned concentrations, the requirements would be updated to reflect current offerings, the total hours required for supporting coursework are reduced, and thereby the total hours required within each concentration are reduced. This report accompanies the proposal to rename the degree as the Bachelor of Arts in Liberal Arts and Sciences in Germanic Studies.

Rename the Undergraduate Concentration in Technology and Management in the Animal Sciences Major, College of Agricultural, Consumer and Environmental Sciences, Urbana

The Urbana-Champaign Senate has approved a proposal from the College of Agricultural, Consumer and Environmental Sciences to rename the undergraduate concentration in Technology and Management within the major in Animal Sciences. Specifically focused on animal management, the current name, “Technology and Management,” is vague. The proposed new name for the concentration, “Food Animal Production and Management,” is better aligned with the titles of similar areas of study offered in other Animal Science departments around the country and will make it easier for graduates to communicate to prospective employers the focus of their education. It will also facilitate prospective students’ search for this type of program, allowing them to compare it more readily with similar curricula at different institutions.

Establish the Post-Baccalaureate Campus Certificate in Operations and Supply Chain Management, College of Business Administration and the Graduate College, Chicago

The Chicago Senate with the recommendation of the College of Business Administration and the Graduate College, has approved the establishment of the Campus Certificate in Operations and Supply Chain Management.

The certificate is designed to prepare professionals to assume roles in planning and operations for global corporations, fulfilling needs in coordination of production, inventory, logistics, and transportation of goods. The demand for professionals with skills in these areas is strong and growing. The U.S. Bureau of Labor Statistics predicts a 26 percent growth in demand for professionals in logistics between 2010 and 2020 and a 30 percent increase in Operations Research Analysts positions.

The certificate will appeal to students and professionals with training in a range of fields including: engineering and manufacturing, computer science and information systems, and business fields such as marketing, sales, and business analytics. The program will focus on training students in key concepts, strategies, and processes used in the production of goods from securing raw materials to distributing them to customers. Students will explore areas such as production planning, inventory control, technology, warehouse management, quality control, supplier selection, procurement, and managing supplier relationships. The certificate requires four courses (16 credit hours): two required courses in operations management and supply chain management, and two elective courses chosen in consultation with an advisor. Courses will take a case-oriented and problem-solving approach imparting marketable skills.

Establish the Post-Baccalaureate Campus Certificate in Foundations of College Instruction, Graduate College, Chicago

The Chicago Senate with the recommendation of the Graduate College, has approved the establishment of the Campus Certificate in Foundations of College Instruction.

Across institutions of higher education, graduate students are engaged in college instruction. These students most commonly serve as teaching assistants in lower-level undergraduate courses, primarily as graders or instructors of discussion sections. However, they may also be asked to design and run their own courses. Typically, students are given a teaching orientation in their department, which may be as little as a few hours, and are not adequately exposed to techniques and pedagogy of teaching. Through trial and error, some students develop into effective teachers, while others do not. Further, graduates of Ph.D. programs desiring a position within the academy face an increasingly competitive job market, and candidates are increasingly required to show teaching experience and proficiency.

The Campus Certificate in Foundations of College Instruction provides students with opportunities to develop knowledge and skills useful in their current and future careers as college/adult-learning teaching professionals. The certificate consists of three required courses (9 hours in total) that provide foundational information and help develop the competencies necessary to teach effectively in higher education, including a practicum. The courses are known for translating theory- and evidence-based approaches into practice. Graduate students in all disciplines at UIC, as well as non-degree students

who have earned a baccalaureate degree, or the international equivalent, from an accredited institution are eligible to apply.

Rename and Revise the Clinician Executive Master of Healthcare Administration,  
School of Public Health and the Graduate College, Chicago

The Chicago Senate with the recommendation of the School of Public Health and the Graduate College, has approved the renaming and revision of the Clinician Executive Master of Healthcare Administration (CEMHA) as the Executive Master of Healthcare Administration (EMHA).

UIC has offered the Master of Healthcare Administration (MHA) since 2005, and in 2015 established a program within the MHA for clinician executives, noted on student transcripts as the Clinician Executive MHA concentration. The premise for the CEMHA was that cohorts of clinicians would facilitate the inter-professional education needed in the evolving healthcare environment.

As the CEMHA program has evolved, and the need for healthcare managers who understand population health has increased as a result of the passing of the Affordable Care Act, the faculty sought counsel from senior healthcare leaders to ensure the continued relevance and strength of the curriculum. The feedback received suggested the scope of executive participants is too narrow, and should be broadened to include non-clinician healthcare managers with substantial leadership experience and authority who interact or would be interacting with clinician leaders to find solutions to the complex problems faced by their organizations. Administrators and clinicians are often educated separately, but in today's healthcare environment complex problems require

them to work together. By integrating them into the same program, they can develop skills to work inter-professionally. As a result, the CEMHA program will be renamed as the Executive Master of Healthcare Administration (EMHA).

The program has also been revised to require a graduate-level biostatistics course (either as a requirement for admission or taken in the first year of the program), add a second healthcare finance course, and to update courses in epidemiology and health information and decision support to ensure content is reflective of up-to-date industry standards and practices.