Approved by the Board of Trustees

May 16, 2024

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Board Meeting

May 16, 2024

ESTABLISH THE SIEBEL SCHOOL OF COMPUTING AND DATA SCIENCE, THE GRAINGER COLLEGE OF ENGINEERING, URBANA

**Action:** Establish the Siebel School of Computing and Data Science, The Grainger College of Engineering

**Funding:** Tuition revenue and research funding, institutional funds, State of Illinois funding, and gift funds

The chancellor, University of Illinois Urbana-Champaign, and vice president, University of Illinois System, with the advice of the University of Illinois Urbana-Champaign Senate, recommends approval of a proposal from The Grainger College of Engineering to establish the Siebel School of Computing and Data Science.

The Grainger College of Engineering (GCOE) proposes to expand and elevate the existing Department of Computer Science (DCS), establishing the Siebel School of Computing and Data Science (SSCDS). Existing DCS degree programs, operations, faculty appointments, and staff will be transferred to SSCDS. The proposed school will have the capacity to expand support of the interdisciplinary degree programs in which DCS participates with partners across campus. SSCDS will continue DCS’ longstanding tradition of research leadership, often in partnership with cross-campus collaborators, that defines and expands the frontiers of computing. Together with partners across campus, SSCDS will increase the capacity of computing and data science.

Creation of a school recognizes the importance of the field of computing and data science in disciplines across engineering. Along with physical sciences and mathematics, computing has become the third pillar of engineering disciplines. Elevation to a school recognizes the impact, collaborations, and partnerships emanating from the DCS and allows for expansion of the department’s mission and capacity. It also puts in place the infrastructure and formal mechanisms necessary to meet the expectation of continued program growth. The SSCDS will provide leadership in computing and data science across the GCOE.

Demand for the BS in Computer Science has continued to grow in recent years, and while undergraduate enrollment in the program has grown significantly in the last five years, the current infrastructure cannot support the demand. Hundreds of highly qualified undergraduate applicants are having to be turned away. Growth in graduate programs has risen at similar rates. Currently, DCS attracts strong applicants from the state, the nation, and the world. SSCDS will continue to compete for fulfilling the hopes and aspirations of these students with other top-ranked programs across the nation, such as the University of California, Berkley; Stanford, Massachusetts Institute of Technology, Carnagie Mellon University, University of Washington, and Georgia Tech. Notably, almost all these institutions have formed schools or colleges of computing in recent years. Without a vibrant School of Computing and Data Science, the University of Illinois Urbana-Champaign risks losing top talent to programs out of state. Growing computer science programs allows for a significant impact when students graduate and begin to contribute to the overall economy of Illinois. With typical revenue per employee numbers in computing-intensive industries of $1 million per employee, the estimated 250 additional undergraduates that graduate each year will globally add approximately $250 million per year in corporate revenues with an estimated $60 million of that in Illinois. Further job creation will be produced in areas of Illinois where these graduates are employed, following the high-tech multiplier of five jobs in the local economy per high-tech worker.

In addition to this primary objective of better accommodating the demand for computer science and data science education across campus, the SSCDS will continue the efforts of the DCS in enhancing connections with the Chicago community and industry, reaching new populations of students, and helping grow the Chicago tech industry. Working with the Discovery Partners Institute (DPI), the Master of Computer Science has been offered in-person in Chicago since January 2023 and is expected to increase enrollment. Simultaneously, the SSCDS will remain focused on local communities in central Illinois through projects such as acceleration of the digital transformation of agriculture and advancing digital health and cybersecurity.

The school will be led by a director who will have authority and responsibilities like those currently held by the DCS head. An executive committee will be selected according to the SSCDS bylaws, assuming the role of the existing Advisory Committee in DCS. The SSCDS will not have departments. Like the DCS, it will initially have 11 research areas and an instructional area. The areas provide student, faculty, management, administration, and coordination support. The SSCDS will retain existing DCS standing committee structures.

A new structural element planned for the school is interdisciplinary cross-campus research themes. While precise details will be determined later, it is anticipated that at any given time, SSCDS will have three to five active research themes. Themes will have limited life spans and will engage faculty from multiple units to ensure interdisciplinary collaboration that could be used as seed grants to engage researchers and recruit top scholars to campus, draw on the expertise of high-profile external advisors, host highly visible workshops and seminars, and be internationally recognized for bringing together thought leaders around societal challenges. A second new planned element is the creation of more formal support structures for the existing blended computer science (CS + X) and data science (X + DS) programs on campus. These structures will include representation from interdisciplinary partners.

As a unit of The Grainger College of Engineering, the school will have the same representation on the GCOE Executive Committee and on other relevant college committees as the Department of Computer Science has currently. Because computing and data science are foundations of and permeate across engineering disciplines, the GCOE will establish a position of associate dean for computing strategy and IT. The position will be a SSCDS faculty member selected jointly by the director of SSCDS and the dean of GCOE. The SSCDS will have the authority to coordinate directly, keeping the relevant GCOE leader(s) informed, with colleges and departments of CS + X partners, the Office of Undergraduate Admissions, and other relevant campus units on matters of undergraduate enrollment in the CS + X programs. The school will operate under the same budget model as the DCS has currently.

The faculty of the DCS and the GCOE have approved the proposal to establish the SSCDS. Proposed bylaws for the SSCDS have been approved by the DCS faculty by secret ballot in accordance with the department’s bylaws. The proposal to establish the SSDCS approved by the University of Illinois Urbana-Champaign Senate includes letters of support from deans of the College of Agricultural, Consumer and Environmental Sciences; Gies College of Business, Graduate College, Carle Illinois College of Medicine, College of Veterinary Medicine, School of Labor and Employment Relations, College of Fine and Applied Arts, College of Applied Health Sciences, School of Social Work, College of Education, College of Liberal Arts and Sciences, School of Information Sciences, College of Law, College of Media, and the University Library in addition to letters of support from the head of the Department of Electrical and Computer Engineering and the chairs of the Department of Mathematics and the Department of Statistics.

The elevation of the department to a school along with the expected program and enrollment growth requires additional faculty, staff, supplies/equipment, and facilities, both in Urbana and Chicago. In Urbana, a new building is planned that will accommodate as many as 50 additional computer science faculty, graduate students, and support staff as well as research labs, meeting space, and event space. This structure will be a university hub for research, innovation, and scholarship in next-generation computing technologies. Funding for the building will come from public and private investments, including $20 million of Illinois Innovation Network support from the State, a matching commitment from campus totaling $33.3 million, and a $50 million gift ($25 million towards the naming and $25 million towards the building) for the new school from university alumnus Thomas M. Siebel. In Chicago, the SSCDS anticipates continued co-location in the DPI space. A net gain of five to six faculty members and four additional staff for each of the next three years is anticipated. Supplies, services, equipment, and other non-payroll expenses are expected to increase five to eight percent per year for the next four years. These personnel and non-personnel increased expenses will be covered by tuition revenue. Research-related funding will support research initiatives and fund graduate students.

The Board action recommended in this item complies in all material respects with applicable State and federal laws, University of Illinois *Statutes*, *The General Rules Concerning University Organization and Procedure*, and Board of Trustees policies and directives.

The executive vice president and vice president for academic affairs concurs with this recommendation. The University Senates Conference has indicated that no further Senate jurisdiction is involved.

The president of the University of Illinois System recommends approval. This action is subject to further review by the Illinois Board of Higher Education.