



TO: The Honorable Members of the Board of Regents

FROM: Sarah S. Benson *Sarah S. Benson*

SUBJECT: Master Plan Amendment: Long Island University, Bachelor of Engineering Program in Digital Engineering

DATE: July 6, 2023

AUTHORIZATION(S): *[Signature]*

SUMMARY

Issue for Decision (Consent)

Should the Board of Regents approve a master plan amendment (MPA) to authorize Long Island University (LIU) Brooklyn and CW Post campuses to offer a BE program in Digital Engineering?

Reason(s) for Consideration

Required by State statute.

Proposed Handling

The issue will come before the Full Board for action at its July 2023 meeting.

Procedural History

A Master Plan Amendment is necessary as this is the institution's first program at the bachelor's level in the engineering disciplinary area.

Background Information

LIU is seeking the Board of Regents approval for an MPA to authorize the University to offer a BE program in Digital Engineering at its Brooklyn and CW Post campuses.

The proposed program is aligned with the Accrediting Board for Engineering and Technology (ABET) standards. The 128-credit curriculum includes 38 credits of Liberal Arts and Sciences content and 90 credits of digital engineering content. The digital

engineering content includes coursework in engineering graphics, digital design, artificial intelligence, robotics, software engineering, biomaterials and tissue engineering, and a capstone design project. The proposed program employs a holistic approach to fully integrate engineering foundations, computer science, artificial intelligence, and computational sciences to effectively expose students to digital engineering foundations and its applications.

Applicants submit the following: a) LIU undergraduate application (with selection of either Brooklyn or CW Post location); b) a \$50 non-refundable application fee; c) high school transcript(s) on file with an official secondary school and demonstrating a minimum high school GPA of 3.0 or higher. If English is not the student's native language, an official copy of TOEFL or IELTS is required. In lieu of TOEFL or IELTS scores, applicants may provide evidence of English proficiency with a minimum of 460 or higher on the SAT ERWS section. Students from a program accredited by the Accreditation Board for Engineering and Technology (ABET) may apply for transfer to the program. Applicants with a minimum overall GPA of 3.0 are eligible to transfer on a space-available basis.

It is anticipated that the program will enroll 25 students at each campus in years one and two; enrollment is expected to grow to 30 students per campus by year three, and total enrollment across both campuses is expected to reach 199 students by year five. The student population in the proposed program will reflect the diversity of the institution: 45.8% White (non-Hispanic), 14.5% Hispanic, 11.5% Asian, 9.3% Black, 2.5% two or more races (non-Hispanic), and 16.4% other/unknown.

The proposed BE program will be housed in a new LIU academic unit, The School of Engineering, Computer Science and Artificial Intelligence. LIU's Engineering School will feature newly allocated and renovated spaces at both campuses that will contain faculty offices, conference rooms, collaborative faculty-student spaces, and cutting-edge dedicated computer laboratories/Smart classrooms. BE program laboratory facilities and resources on each campus were expanded in the areas of cloud computing, physical spaces, and digital platforms. Specifically, two new 3DS Design and Learning Centers (one at each campus) support project-based learning and the full life cycle of hands-on projects; and, at each campus, two multi-purpose Fab Labs are currently under development and will include spaces for prototype assembly and construction. Currently, there are five core engineering faculty; three joint faculty in mathematics, chemistry, and physics; four research associated faculty; two postdoctoral fellows, and five adjunct faculty from industry. LIU will hire six additional core engineering faculty, and two additional joint faculty in mathematics, chemistry, and physics. In connection with LIU's Engineering School, LIU was recently awarded \$10M from the New York State Long Island Investment Fund to construct a new \$30M Applied Research and Innovation Facility at LIU CW Post.

Upon review of the proposal, the Department has determined that the proposed degree program meets the standards for registration as set forth in the Regulations of the Commissioner of Education. As part of the review process, a peer review site visit was conducted in May 2023. Subsequently, in June 2023, the Department conducted a canvass of degree-granting institutions in the New York City Region, the Long Island

Region, and all institutions in the State offering licensure qualifying engineering programs to assess the potential impact on existing programs. No objections were received.

Related Items

Not Applicable.

Recommendation

It is recommended that the Board of Regents take the following action:

VOTED: That the Board of Regents approve an MPA to authorize Long Island University to offer a BE program in Digital Engineering at the Brooklyn and CW Post campuses. This amendment will be effective until July 31, 2024, unless the Department registers the program prior to that date, in which case the master plan amendment shall be without term.

Timetable for Implementation

If the Board of Regents approves the master plan amendment, the Department will register the BE Digital Engineering program at LIU Brooklyn and CW Post campuses.