

The Biomedical Sciences and Engineering Education Facility: **Built for Breakthroughs**

Montgomery County and the state of Maryland have a long history of investing in education. With the addition of the Biomedical Sciences and Engineering Education Facility (BSE), the Universities at Shady Grove (USG) will be able to take that investment to a new level-setting a new standard in quality higher education that directly meets the region's workforce development needs in the fields of science, technology, engineering, math and medical sciences (STEMM).

The state-of-the-art facility will be one of the most sustainably sourced and built laboratory buildings in the country, with **cutting** edge teaching laboratories, collaborative learning spaces, clinical training facilities, academic offices and expanded student **services** necessary to support program and enrollment growth.

When this facility opens, it will serve thousands of additional students in STEMM programs, and will allow USG to provide even more businesses with qualified STEMM graduates to help fuel our region's economy. The students who learn in the facility's labs and advance their education in the BSE will be the same men and women who staff the professional labs, research centers, and medical facilities of this region for years to come.

"Our state has always placed emphasis on education and workforce development. That emphasis has served our students, residents, and companies based here quite well-but data shows us the emphasis must continueespecially in science, technology, engineering, and math."

- ANTONIO MOREIRA, PHD VICE PROVOST FOR ACADEMIC AFFAIRS, UMBC



















BSE Academic Programs

Maryland's premier research and teaching universities, University of Maryland, College Park; University of Maryland, Baltimore; University of Maryland, Baltimore County; and Salisbury University, will be the first to offer new undergraduate and graduate degrees in healthcare, biosciences, engineering, and computational science—all of which are critical and rapidly growing industries in our region. The following programs are planned for the BSE beginning Fall 2019 through Fall 2020.

UMBC

- BS Translational Life Science Technology*
- BS Translational Life Science Technology— Bioinformatics
- BS Computer Science-Data Science
- BS Computer Science-Cybersecurity
- · MPS Technical Management*
- MPS Data Science*
- · BS General Engineering

University of Maryland, Baltimore

- Dental Community Clinic and Advanced Education Program in General Dentistry
- MS Dental Hygiene
- Post Baccalaureate Certificate in Oral Health Science

University of Maryland, College Park

- · BS Information Science*
- BS Embedded Systems and the Internet of Things
- BS Mechatronics
- BS Bioengineering
- BS Agricultural Science and Technology

Salisbury University

· MS Applied Health Physiology

ADDITIONAL STEMM PROGRAMS COMING SOON

Key Features of the BSE

Academic Learning Spaces

BSE includes 12 active learning classrooms, 2 lecture halls (120 and 160 seats), computer classroom and computer lab, collaborative learning spaces for small groups of student and faculty and 20 state-of-the-art laboratories (wet and dry). More than half of the BSE space is dedicated to laboratories, some of which are dedicated to specific academic programs in the engineering and life sciences arenas but many are shared spaces for use by multiple programs. The laboratories are supported by lab preparation areas as well as an electrical shop and a fabrication shop.

Community Dental Clinic

The dental clinic includes 24 advanced operatories to provide comprehensive dental care to community patients provided by faculty supervised advanced general education dental students and dental hygiene students.

Interprofessional Clinical Training Facility

Students, faculty and staff from healthcare, social work and social sciences programs will engage in interprofessional teams to provide collaborative standardized clinical care and foster improved patient outcomes. The interprofessional clinical training facility is co-located with the community dental clinic and shares a patient waiting areas. It includes three patient examination rooms, patient briefing room and student/faculty team workstations.

Product Design Laboratory

The product design laboratory (wet and dry lab space) and maker space was designed specifically for student research (independent study and guided research) that incorporates team-based and project- based learning. Local and regional businesses and organizations will be invited to identify real-world problems that students can solve and enhance their career-readiness skills. Students will have opportunities to take advantage of the fabrication and electrical shops as well as 3D printing, project storage spaces and makerspace materials and supplies.

Center for Innovation and Entrepreneurship (CIE)

The center will provide opportunities for students to learn design thinking, innovation strategies and entrepreneurship skills necessary for today's graduates to be career-ready and play their part in nurturing the economic growth of the region. The center will provide state-of-the -art workspaces for student teams and their mentors, from all academic programs, to work collaboratively with businesses to develop new ideas and technologies.

For more information about the BSE, or to get involved, visit **shadygrove.umd.edu/BSE** or email **rsmith25@umd.edu**.





















^{*} Currently Enrolling Students