



Facilities, Equipment, and Other Resources

Borough of Manhattan Community College (BMCC) offers Associate Degree programs in STEM majors including Biotechnology Science, Engineering Science, Science, Science for Forensics, and Science for Health. In addition to classroom learning, BMCC offers students opportunities to engage in science study through hands-on work in campus-based laboratories, and experiential learning and research opportunities on campus and off.

Research Labs

BMCC's lab facilities provides support for the college's academic programs and serve as a vital resource for the enhancement of instruction, learning and research for students and faculty. The facilities allow students to experiment with cutting-edge technologies and obtain first-hand knowledge of working in a research lab on subjects including tissue culture; microscopy, molecular biology, genetics, microbiology, organic synthesis, robotics, zoology, plant physiology, neuroscience, vibrational spectroscopy and other basic scientific research.

- **Biology and Chemistry Laboratories:** Rooms S-643, N-677/N-685, N-685A, N-685C, N-685D, and N-685E
- **Tissue Culture Rooms:** Rooms N-560 and N-685B
- **Engineering and Physics Laboratories:** Rooms N-681 and N-683
- **Research Core Computer Laboratory:** Room N-690
- **Social Sciences Research Laboratory:** Rooms S-633

Engineering Science Student Lab

The Engineering Science Student Lab noted above is equipped with 3D printers, a Milling machine, CNC mill, power tools and student workstations with computers supporting CAD/CAM (Computer Aided Design/Manufacturing) simulations such as *Solidworks*, *AutoCAD*, *Comsol* and other software. Within the Engineering Science Student Lab, the Electric Circuits Lab maintains 24 student workstations and is used to support instruction in Circuits and Systems and Switching Systems and Logic Design classes. The facility is equipped with: Agilent Digital Multimeters Arbitrary Waveform Generators, power supplies and Digital Oscilloscopes.

Computer Information Science (CIS) Labs

BMCC has 5 teaching lab rooms with the state-of the art computers that are capable of supporting CIS curriculum, and a Cybersecurity Sandbox lab that allows students to practice concepts of cybersecurity without affecting the college's computer network infrastructure. The college also has implemented a Virtual Cybersecurity Lab (VCL) using Netlab+ software to provide online instruction and promote training in Cybersecurity for students and faculty.



The VCL additionally serves the purpose of hosting student cyber security club competitions (e.g. National Cyber League events or “hack nights”) as well as sponsoring faculty development workshops led by industry experts and other academics. The contents of the lab are aligned with National Initiative for Cybersecurity Education (NICE) framework. The lab is hosted in a highly configurable virtual environment to facilitate a wide range of courses.

Makerspace

BMCC has a Makerspace for collaboration and community building. Part classroom, part lab, the Makerspace provides tools and resources that allow students, staff and faculty alike to experiment and explore in design, fabrication, and many other practices. The lab includes several FDM 3D printers, a pair of vinyl cutters, and industrial laser cutter, several sewing machines, a heat press, and a collection of Arduino microcontrollers with a wide range of electronics components for physical computing.

Student Research Opportunities

BMCC offers many opportunities for students to participate in mentored research, including:

CUNY Research Scholars Program (CRSP), which aims to increase the number of community college students who participate in faculty-mentored research in science and technology. CRSP is a rigorous program that provides stipends for a 1-year commitment to mentored research through one academic year and summer. CRSP students are required to give oral presentations, poster presentations, attend career development seminars and produce a publication-quality research poster.

The BMCC Foundation Fund (BFF) Research Program supports 30 exceptional students in STEM and Humanities based faculty-mentored research per year. This undergraduate research program requires students to complete 100 hours of research per semester.

The Louis Stokes Alliance for Minority Participation (LSAMP), which aims to diversify the fields of science, technology, engineering and mathematics (STEM) by fostering the success of historically and currently underrepresented Native American, African American, Hispanic/Latino and Pacific Islander students in those fields. Students work with faculty mentors and receive stipends to conduct research, engage in professional development, and present their work.

The New York State-funded Science and Technology Entry Program (STEP) is a pre-college enrichment program in which BMCC faculty and staff provide high school students with innovative academic enrichment in science and mathematics content areas. Our goal is to encourage and increase the presence of historically under-represented groups in STEM studies and careers. STEP offers academic year and summer components providing academic enrichment in science and mathematics content areas as well as standardized test preparation.



BMCC's Annual Research Symposium showcases the work of students who have completed science research throughout the academic year. Students have the opportunity to present their work through oral, virtual and poster presentations to the BMCC community.

Personnel Committed to this Grant

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