LIBRARIES AND EDUCATIONAL RESOURCES

The Mariam Coffin Canaday Library is the center of Bryn Mawr's library system. Opened in 1970, it houses the College's holdings in the humanities and the social sciences. The award- winning Rhys Carpenter Library, opened in 1997, is located adjacent to Old Library and houses the collections in Classical and Near Eastern Archaeology, Classics, History of Art, and Growth and Structure of Cities. The Lois and Reginald Collier Science Library, located in the Park Science Building, brings together the collections for Mathematics and the sciences.

Tripod (http://tripod.brynmawr.edu) (https://tripod.brynmawr.edu), the library catalog, provides access to print and online books, journals, videos, sound recordings, and other materials in the Bryn Mawr, Haverford, and Swarthmore College libraries. Tri-Co books are available to students and are delivered across the three campuses daily.

Can't find what you need in the Tri-Co? Use E-ZBorrow and Interlibrary Loan (ILL) to request materials from libraries worldwide.

Need research help? Librarians, specializing in subject areas are available to assist you at any stage of the research process. Stop by any library and speak to a librarian about your research. Make an appointment at https://www.brynmawr.edu/lits/library-help (http://www.brynmawr.edu/lits/library-help/) or email library@brynmawr.edu.

Special Collections

Special Collections, based in Canaday Library, houses extensive holdings of art, cultural artifacts, archival materials, rare books, and manuscripts. Objects held in all of these collections are available to students for individual and group research, and are also frequently used as teaching tools during class visits and incorporated into exhibitions in libraries and other spaces across the campus.

Bryn Mawr has developed an extraordinarily rich Rare Books and Manuscripts collection to support the research interests of students and faculty. The collection of late medieval and Renaissance texts includes one of the country's largest groups of books printed in the 15th century, as well as manuscript volumes and 16th-century printed books. Other important focuses of the collection are travel and exploration, women writers and women's lives, books for children and young adults, the history of archaeology and museums, European and African cities, and important literature in early editions. Complementary to the rare books are collections of original letters, diaries, and other unpublished documents. Bryn Mawr has important collections from the late 19th and 20th centuries, including papers and photographs relating to the women's rights movement; the experiences of women, primarily Bryn Mawr graduates, traveling and working overseas; and the papers of playwrights, writers, and scholars.

The College Archives contains the historical records of Bryn Mawr, including the papers of the Presidents; collections of the letters, diaries, and scholarly works of Bryn Mawr faculty and alumnae/i; and an extensive photographic collection that documents the social, intellectual, administrative, and personal aspects of campus activities and student life.

Collections of art and cultural artifacts include materials of interest to students of history of art, anthropology, archaeology, geology, and various interdisciplinary subjects. The materials are broadly representative of visual cultural practices across time and place, as well as medium. These collections can be searched online at triarte.brynmawr.edu (http://triarte.brynmawr.edu).

There are extensive collections of Greek and Roman objects, especially vases, pre-classical antiquities, and objects from Egypt and the ancient Near East, many of which represent the interests of Bryn Mawr faculty from the beginnings of the college to the present day.

Works on paper by women artists are a particular strength of the art collections. The painting collection of approximately 250 works is primarily composed of 19th- and 20th-century American and European works; a highlight is the Madonna and Child by Romare Bearden (1945). The print collection illustrates the history of Western printmaking from the 15th through the mid-20th centuries and includes Old Master prints, art prints, and examples of 19th- century book illustrations. The collection also includes Japanese ukiyo-e woodblock prints; Chinese paintings and calligraphy; and early, modern, and contemporary photography.

Educational and Scholarly Technology

LITS staff are available for consultation and work with faculty, staff, and students on building digital collections, publishing digital scholarship, and facilitating the use of digital tools for teaching, learning and research.

In addition, the Rhys Carpenter Library houses the Digital Media and Collaboration Lab, which provides technologically enabled spaces for collaborative work, individual workstations with scanners, and specialized software for digital media and research.

Information Technology

Students have access to a high-speed wireless Internet connection in all residence halls, libraries (which contain public computers), and classrooms throughout the campus. Online course materials, registration, email, shared software, and Tripod, the library catalog shared by Bryn Mawr, Haverford and Swarthmore Colleges, are accessible from a web browser— many of these are available from off-campus as well. Each new Bryn Mawr student receives personal e-mail and network file storage accounts upon matriculation (typically late spring).

Professional staff are available to students, faculty, and staff for consultation and assistance with their technology needs.

The Help Desk is located on the main floor of Canaday Library and is available for walk-up help, email and telephone assistance. Public computing labs may be found in the following buildings:

- Canaday (1st Floor and A Floor)
- Carpenter
- Collier (Park Science Center)
- Graduate School of Social Work and Social Research

Laboratories

Laboratory work is emphasized at all levels of the curriculum and the natural science departments have excellent teaching and research facilities that provide students with the opportunity to conduct cutting-edge research using modern equipment. Laboratories and classrooms are equipped with extensive computer resources for data analysis and instruction, including state-of-the-art video-projection systems and computer workstations.

Teaching and research in biology, chemistry, computer science, geology, mathematics, and physics is carried out in the Marion Edwards Park

Science Center, which also houses the Lois and Reginald Collier Science Library. Teaching and research in psychology is conducted in Bettws-y-Coed.

Following is more detailed descriptions of the labs in each department, as well as a description of the instrument shop, where custom-designed equipment for special research projects can be fabricated by two expert instrument makers and one analytical instrumentation specialist.

Biology

The Department of Biology houses a wide variety of instrumentation appropriate for the investigation of living systems at the levels of cells, organisms, populations and ecosystems. This equipment is used in both teaching and research laboratories, providing students with the opportunity to utilize modern research methodologies for exploration. There is an extensive collection of microscopes that can be used to image samples at scales ranging from subcellular to organismal. Department faculty and students have access to a shared inverted spinning disk confocal microscope with environmental control. The department also houses a wide array of microscopes, including stereo and compound microscopes, as well as upright light microscopes equipped with fluorescent and DIC optics, advanced digital capture and image analysis software. A microplate reader with fluorescence, luminescence and absorbance facilitates high-throughput kinetic studies of cells, proteins, and small molecules. To conduct molecular analyses of DNA and proteins, the department has both end-point and real-time thermal cyclers, centrifuges, electrophoresis equipment, a plate reader for ELISA assays, and traditional and Nanodrop spectrophotometers as well as a Qubit fluorometer. The department houses sterile tissue culture facilities that are used for cell culture experiments and a wide assortment of physiology equipment that is used to measure intracellular and extracellular muscle and nerve activity, including voltage clamp amplifiers. Infrared and greenhouse gas analyzers and a dedicated stable isotope facility are used to evaluate plant and ecosystem metabolism in solid and gas samples To conduct environmental research from the organismal to the ecosystem level the department has several plant photosynthetic gas analyzers, a greenhouse gas analyzer, two plant growth chambers, and a dedicated stable isotope facility to measure stable isotopes of carbon in solid and gaseous .samples. For remote sensing work, the Biology Department has two drones, including a commercial drone with a multi-spectral camera. On campus, a greenhouse is available for plant biology and ecology research, and on-campus field sites including an on-campus pond, Lake Vickers, Morris woods, and Mill Creek serves as a research field sites for the analysis of micro- and macro-organism diversity and water quality parameters, carbon sequestration, and stream health respectively.

Chemistry

The Department of Chemistry houses many spacious well-equipped laboratories with specialized instrumentation and equipment for teaching and research. These include a 400 MHz high-resolution nuclear magnetic resonance (NMR) spectrometer with an autosampler; gas and liquid chromatograph-mass spectrometers (GC-MS/LC-MS); Fourier transform-infrared (FT-IR) spectrophotometers; a fluorescence spectrophotometer; ultraviolet-visible (UV-Vis) spectrophotometers, including Nanodrop format; high pressure liquid chromatographs (HPLC); a fast protein liquid chromatography (FPLC) system; cold rooms and centrifuges for the preparation of biomolecules; refrigerated and heated shakers for cell culture growth; thermal cyclers and electrophoresis equipment for molecular biology; high throughput robotic liquid handler; stereomicroscope for protein crystal inspection and manipulation; potentiostats for electrochemical and spectroelectrochemical analysis; a biopotentiostat; facilities for molecular modeling and computational chemistry. In addition, two inert atmosphere dry boxes and multiple Schlenk vacuum manifolds allow anaerobic operations for chemical handling and synthesis. Finally, the department shares an atomic force microscope with the other science departments in the Park Science Center.

Computer Science

The Department of Computer Science is home to several computer laboratories. Dual-boot Linux/Windows workstations featuring the latest CPU and graphics capabilities are available in the laboratories, as well as resources for instruction, data analysis, and visualization. Departmental workstations are supported by state-of-the-art high-performance data-center style servers.

Geology

The Department of Geology conducts field trips in most of its courses and has additional trips of general interest that are run over fall and spring breaks at least once an academic year. To aid in the study of observations and samples brought back from the field, the department has excellent petrographic and analytical facilities.

The department holds extensive paleontology, mineral, and rock collections for research and teaching (10,000s of specimens). A fully equipped and cutting-edge rock preparation facility, with rock saws, grinding, polishing, crushing, thin section and mineral separation equipment, allows students and faculty to prepare their own samples for petrographic and geochemical analysis. For rock and mineral analysis, the department has petrographic microscopes, a Rigaku Ultima IV x-ray diffractometer, a Thermo Scientific Niton handheld XRF, and a remote sensing laboratory for digital processing and analysis of imagery by orbiting satellites. The department also houses a fully equipped paleomagnetic and rock magnetic lab that includes two Agico JR-6A spinner magnetometer, an ASC thermal demagnetizer, a DTECH 2000 alternating field demagnetizer, a 10.0 Tesla pulse magnetometer, an Agico KLY3 and an MFK1 automated susceptibility kappabridge, a dynamic low-magnetic field cage, and a PMS MicroMagTM 3900 Vibrating Sample Magnetometer that is shared with the Department of Physics.

The department hosts a state-of-the-art Geochemistry Suite that houses a modern sedimentology laboratory for analysis of sediments, a large geochemistry lab facility for advanced geochemical research, a ventilation-isolated balance room containing a Mettler Toledo XP56 microbalance, and a Class 10,000 clean lab facility for sensitive isotopic analysis of low-level trace metals in natural materials. Equipment housed in the Geochemistry Suite includes an ELTRA Carbon and Sulfur Determinator with TIC module, an inorganic/organic Carbon analyzer, an Agilent inductively-coupled plasma mass spectrometer (ICP-MS), a cathodo-luminescence microscope, a Picarro carbon isotopic analyzer, a Carpenter Microsytems Microsampler, a conodont extraction setup, and heavy liquid mineral separation setup. Sample preparation and processing equipment in the sedimentology lab includes a Virtis XL-55 12-port benchtop freeze-dryer, Labconco water deionizer, IEC Centra-GP8 ventilated benchtop centrifuge, Thermolyne 48000 furnace, VWR 1370 forced-air drying oven, stand-up refrigerator and separate stand-up freezer, two VWR 370 hotplate-stirrers, Branson 5210 ultrasonic bath, eight sets of 3” diameter stainless steel sieves (44 micron-500 micron mesh) and two sets of 8” diameter stainless steel sieves (44 micron-8 mm mesh). Analytical equipment in the sedimentology lab includes binocular optical microscopes and a UIC Inc. CM5014 coulometric carbon analyzer with furnace and acidification modules, a Turner Designs 10-AU

portable fluorometer for in-vivo/in-situ or extractive chlorophyll analysis and a Bartington MS3 magnetic susceptibility meter and surface scanner.

In addition to two field-ready fully equipped Chevrolet Suburban 4x4 vehicles and a departmental 15-passenger van for transportation to field sites, the department has a wide array of field equipment for use by students. Basic mapping equipment includes twelve Brunton 5010 GEO Transit compasses, a high-precision Leica TPS 1100 total surveying station (theodolite and electronic distance meter), four high-precision Trimble differential GPS units including two handheld GeoXT's, and backpack or pole mountable ProXRS and ProXH antennas with field-rugged handheld PCs for data acquisition. Detailed geophysical surveys are supported by an ASD field-portable visible- to near-infrared spectrometer a Bartington Grad601 dual magnetic gradiometer system, and a PulseEKKO 100 ground-penetrating radar system with 50, 100, and 200 MHz antennas. For environmental monitoring, students use Onset Hobo data loggers and sensors, a YSI dissolved oxygen sensor, and an In-Situ Troll 9500 multi-parameter water quality meter; other water monitoring equipment includes Van Dorn water sampling bottle, Secchi disk, and a General Oceanics mechanical flowmeter. For rock and sediment sample collection the department has rock hammers, multiple gas-powered rock drills, several Eijkelkamp augers and coring devices, and a Ponar sediment grab sampler.

Physics

The Department of Physics has many laboratories for education and research. The instructional advanced experimental physics laboratories house oscilloscopes, digital multimeters, power supplies, low-temperature facilities, and a great deal of ancillary equipment commonly found in research laboratories. The lab has vacuum chambers and pumps, particle detectors and counters, lasers and optical table equipment. The instructional electronics laboratory has 17 stations equipped with electronic breadboards, function generators, power supplies, oscilloscopes, multimeters, and computers.

The Atomic and Optical Physics research laboratory is equipped with three optical tables, two ultrahigh vacuum systems used for cooling and trapping of atomic rubidium, a host of commercial and home built diode laser systems, several YAG pumped dye laser systems, a high vacuum atomic beam system, an electron multiplying ccd camera, and a variety of other supporting equipment.

The Nanomaterials and Spintronics Laboratory has microfabrication facilities including an AJA ATC Orion high vacuum sputtering deposition system, a Karl Suss MJB3 mask aligner for photolithography, an optical microscope, Filmetrics thin-film thickness measurement system, a DI water purification system, and a chemical hood, hosted in a 100-square-foot class-1000 soft curtain cleanroom with the ceiling lighting suitable for photolithography. It also has two chemical hoods, a Princeton Applied Research potentiostat (VersaSTAT-200), and an ETS humidity control chamber for self-assembly and templated electrochemical deposition of nanomaterials. The magnetic characterization equipment includes a PMS MicroMagTM 3900 Vibrating Sample Magnetometer, shared with the Department of Geology, and a Magnetic Force Microscope.

The Bryn Mawr Plasma Laboratory has a 3000-liter high vacuum chamber and a 50kJ pulsed plasma source as well as a high-density array of magnetic diagnostics, various high voltage power supplies, and a multi-port vacuum chamber used for educating students on various vacuum port technology.

The Biophysics lab has a Nikon CiL Plus Microscope with Phase Contrast Lenses & DS-Fi3 Color Digital Camera, a custom built 200-gallon saltwater flow tank, and a custom built humidity and temperature controlled growth chamber for plant studies. It also houses a Nikon Ti2-E with CSU W1 Spinning-Disk Confocal microscope which has a ThermoBox Incubation Package designed for precise temperature and humidity control. This confocal microscope is shared with the Biology department.

Along with the other science departments in the Park Science Center, the department has shared access to an Atomic Force Microscope, a Rigaku Ultima IV X-ray diffractometer and an on-campus computing cluster that has 84 computing cores, 512 GB RAM, and 144 TB of accessible storage.

Psychology

Laboratory classes in the Department of Psychology have specialized equipment for studying stress reactivity, perception, cultural influences, decision-making, language processing, and the psychophysiological correlates of human cognition and emotion. The department provides students with laboratory experience encompassing the wide range of subject matters within the discipline of psychology. The department has state of the art equipment for studying brain activity, both at the single neuron level and the whole brain level, including several stereotaxic apparatuses, instrumentation for recording and analyzing the activity of single neurons in relation to behavior, and EEG apparatus for whole brain recording. The equipment interfaces with computers with advanced software for evaluating electrophysiological data. For research on behavior, emotion, language and cognition, students have access to a variety of computerized programming and equipment. This equipment includes digital video cameras, video editing programs, behavioral coding programs, and statistical analysis programs that are used to examine data obtained from human participants ranging in age from early childhood to older adulthood.

Instrument Shop

The Department of Science Services in the Park Sciences Building houses a fully-equipped Instrument Shop staffed by one full-time instrument maker and one analytical instrumentation specialist who design, build, troubleshoot and maintain the scientific equipment for instructional and research laboratories in all six natural science departments. Capabilities include 3D SolidWorks design modeling of instrumentation, 2- and 3-axis CNC milling machines, a precision instrument lathe, surface grinding, full welding complement (TIG, including aluminum and stainless steel), sandblasting, sheet metal machinery, as well as a large lathe and milling machine for oversized work. The instrument maker/designer works with undergraduates engaged in research, class projects, and senior thesis projects with the possibility of some hands-on machining and assembly from their designs if time allows. Help with material selection, design and production alternatives is also offered.

Facilities for the Arts

Goodhart Hall is home to the Dance and Bi-Co Theater program offices and serves as the main venue for their curricular performances and productions as well as the multidisciplinary Performing Arts Series. The Office for the Arts and Production Office are both housed in Goodhart and support curricular and student-run performance groups and administer the building's performance spaces. Entrance to all Goodhart facilities are wheelchair accessible, including the 512-seat McPherson Auditorium, with state-of-the-art lighting and sound systems; the Katharine Hepburn Teaching Theater, a flexible black-box-style space with theatrical lighting and sound capabilities; the Music Room, equipped with a small stage and two pianos and used for Bi-Co Music lessons, Bi-Co Chamber Music and Chamber Singers rehearsals and recitals, as well as the

Bryn Mawr Reading Series presented by the Creative Writing Program; and the Common Room, an intimate, carpeted space used for Bi-Co Theater classes and student works. Goodhart also offers practice rooms and classrooms for music with a suite of grand and upright pianos and instrument storage areas for academic music studies, student-led instrumental ensembles, choirs and acapella groups, and casual instrumental practice.

The Great Hall in Old Library provides a large space for classical music concerts, lectures and readings, while the adjacent Cloisters, Carpenter Library roof, and Taft Garden are popular outdoor performance spaces. The former Rhoads Dining Hall is appropriate for parties, DJ events, and small- to medium-scale student theatrical productions and concerts. The Marie Salant Neuberger Centennial Campus Center hosts films, spoken word events, and student club performances and tabling.

The Pembroke and Denbigh dance studios are home to Dance Program classes, workshops and events, and some small-to-medium-scale Dance Program performances. Each has large windows, ballet barres, mirrors and theatrical lighting and sound capabilities. Wyndham Alumnae House's Ely Room and English House host creative writing classes, workshops, and readings.

Arnecliffe Studio is administered by the student-run Bryn Mawr Art Club and offers arts and crafts workshops open to the Tri-Co community. The Rockefeller Hall drafting studios are devoted to architectural studies and theater set and costume design.

Students interested in learning more about art spaces and venues on campus may contact the Office for the Arts at 610-526-5300 or visit https://www.brynmawr.edu/inside/offices-services/arts-bryn-mawr (http://www.brynmawr.edu/inside/offices-services/arts-bryn-mawr/).

The Bern Schwartz Fitness and Athletic Center

The 11,500-square-foot Bern Schwartz Fitness and Athletic Center boasts more than 50 pieces of cardio equipment, 15 selectorized weight machines and a multi-purpose room housing everything from a broad offerings of physical education classes, Bryn Mawr Fit Club classes and strength and conditioning sessions for student athletes. The fitness center has more than 100 different workout options, free weights, indoor cycling bicycles, ergs, and cardiovascular and strength training machines.

The Class of 1958 Gymnasium is home to the College's intercollegiate badminton, basketball and volleyball programs and hosts two regulation sized basketball and volleyball courts. In addition, the building includes a state-of-the art eight-lane swimming pool, athletic training room, locker rooms, a conference smart room and the Department of Athletics and Physical Education offices. The fitness center is located on the second floor directly up the circular staircase as you enter the Bern Schwartz Fitness and Athletic Center. For more information, please consult gobrynmawr.com/information/facilities (http://gobrynmawr.com/information/facilities/).

The outdoor athletics and recreation facilities includes; Applebee Field, Shillingford Field, seven tennis courts, a recreational and club sport field at the Graduate School of Social Work, and an outdoor track and field practice area. The Applebee Field, named for Constance M. K. Applebee, the first director of physical education at the College and credited for bringing field hockey to the United States, was converted from natural grass to a synthetic field in 2012, and expanded to meet NCAA requirements for lacrosse, soccer and field hockey. In the Fall of 2023, Applebee Field was resurfaced for soccer and lacrosse. The Shillingford Field was named for Jenefer Shillingford, former athletic director and field hockey coach at the College. Shillingford Field was converted from grass to AstroTurf Paris GT during the 2023-24 academic year as a competition-level turf field for field hockey. The AstroTurf Paris GT was developed for the Paris 2024 Olympics and is the world's first and only carbon zero hockey turf.

Campus Center

The Marie Salant Neuberger Centennial Campus Center, a transformation of the historic gymnasium building on Merion Green, opened in 1985. As the center for non-academic life, the facility houses a café, lounge areas, meeting rooms, the College post office and the bookshop. The offices of the Self Government Association, Residential Life and Student Engagement and Conferences and Events are also located here. Students, faculty and staff use the campus center for informal meetings and discussion groups as well as for campus-wide social events and activities.