Biomedical Research Core Facilities (BRCF), part of the University of Michigan Medical School Office of Research, is a collection of centralized labs and services offering state-of-the-art instruments, resources and expertise to biomedical researchers, investigators and educators.

**Bioinformatics Core** provides high quality, custom support offering expertise in computational methods such as data mining and analysis and algorithm development. Areas of expertise include:
- systems biology applications
- analytical methods
- data access
- integration

**Biomedical Research Store** offers easy, immediate procurement of more than 700 different items from 12 vendors at five convenient on-campus locations. The range of items includes: enzymes, reagents, kits used in molecular, cell biology and protein chemistry, and more.

**Biosafety Containment Core** provides a safe environment for the culture and analysis of pathogenic organisms.

**DNA Sequencing Core** provides high-quality, low-cost DNA analysis on a recharge basis, operating a variety of instruments designed to help researchers assess the quality of DNA and prepare it for analysis. Services include:
- Sanger Sequencing
- ‘NextGen’ Sequencing
- SNP Typing
- RNA Expression Profiling

**Epigenomics Core** provides resources and services to prepare samples for analysis in epigenetic regulation in both genome-wide and locus-specific manners. Services include: Genome-wide DNA Methylation Profiling, Targeted DNA Methylation, Histone Modifications by ChIP-Seq, consultation and more.

**Flow Cytometry Core** provides instrumentation and expertise in a broad range of medical science disciplines for flow cytometric analysis or cell sorting. The Core also provides assistance in:
- grant and publication preparation
- development of experimental designs
- publication-quality graphics

**Microscopy and Image Analysis Laboratory (MIL) Core** is a collection of centralized facilities housing major equipment, used on a shared basis by investigators focusing primarily on studies of cell and tissue morphology and ultrastructure. It offers state-of-the-art equipment for microscopic imaging, including fluorescence microscopy scanning and transmission electron microscopy.
Metabolomics Core develops and implements directed and undirected assays to measure the concentrations of small molecules in biological samples. Additionally, metabolic fluxes (Fluxomics) through various pathways can be measured using stable isotopes, or respiration of cell cultures can be measured using a Seahorse XCF instrument. Most assays are done using gas or liquid chromatography coupled to mass spectrometry using state-of-the-art methods.

Proteomics and Peptide Synthesis Core provides expert consultation and research services in: peptide synthesis, proteomics, and protein analysis by mass spectrometry and other techniques.

Sample Preservation Freezer Facility provides secure and protected long-term storage in -80°C freezers for archival, backup storage of small quantities of irreplaceable research specimens. The Freezer Facility provides a location to protect against catastrophic loss of samples, utilizing individually locked freezers, restricted access, backup power and an alarm system.

Transgenic Animal Model Core (TAMC) provides efficient access to transgenic animal technology where researchers can use laboratory space and resources side by side with staff members. From experimental design to mouse breeding, the TAMC offers consultation in all phases of transgenic and gene targeting, including:

- production of transgenic mice and rats
- zinc finger nuclease gene knockout and knockin rats
- gene-targeted mouse embryonic stem (ES) cells
- mouse knockout models
- assisted reproduction technology of mice and rats
- de novo derivation of mouse ES cells
- hands-on training in cell manipulation pronuclear microinjection blastocyst injection and more

Vector Core produces gene transfer vectors that facilitate specific gene transfers into either normal or aberrant cells. The Core optimizes efficiencies of scale and cost while providing expert advice to researchers regarding the ideal use of systems of both non-viral (expression plasmid) and viral (recombinant lentivirus, recombinant retrovirus and recombinant adenovirus) technologies.