Congratulations on your acceptance into the Biomedical Sciences Major!

- One of the highest ACT/SAT scores and highest GPA’s of any major or program on campus
- Fastest Growing Major and Largest Declared Major on Marquette’s Campus
- One of a few Biomedical Sciences Programs in the Nation

Purpose of Presentation:

- Give you the rules to obtain your degree
- Help you plan for the future
- Understand your academic resources
- Use as your first academic advising appointment—save folder and bring to future appointments

Undergraduate Bulletin Online: [http://bulletin.marquette.edu/undergrad/](http://bulletin.marquette.edu/undergrad/)

- **University Information**: Mission, requirements, resources, colleges and programs
- **College of Health Sciences Information**: Policy, Programs, Student Groups
- **Biomedical Sciences (BISC) Information**
  - Courses, Curricular Plans, Requirements etc.

- **Biomedical Sciences (BISC): On this page**
  - [http://bulletin.marquette.edu/undergrad/collegeofhealthsciences/departmentofbiomedicalsciences/](http://bulletin.marquette.edu/undergrad/collegeofhealthsciences/departmentofbiomedicalsciences/)
    - Academic Performance
    - Graduation Requirements
    - Biomedical Sciences Major
    - Curricula Information
      - Typical Program for Biomedical Sciences Majors
      - Typical Program for Biomedical Sciences Majors - Pre-Physician Assistant Studies
      - Typical Program for Biomedical Sciences Majors - Direct Admit Physical Therapy Students
      - Typical Program for Biomedical Sciences Majors - Pre-Dental Scholars
      - Typical Program for Biomedical Sciences Majors – STEM-MBA
    - Biomedical Sciences Minor
    - Disciplinary Honors Requirements
    - Courses

### Area Credit Hours

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
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<tbody>
<tr>
<td>UCCS Requirements</td>
<td>36-39</td>
</tr>
<tr>
<td>Required Science Cognates</td>
<td>17-25</td>
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<tr>
<td>Medical Ethics and Health and Society Cognates</td>
<td>4-6</td>
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<tr>
<td>BISC Major</td>
<td>33</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>128 or more</strong></td>
</tr>
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</table>

**Biomedical Sciences Major Overview**

**UCCS Requirements**  
*(College presentation review)*

- **Standard UCCS courses required**: R, DC, T, HNE, HCS
- **Individual and Social Behavior (ISB)**
  * PSYC 1001 ONLY

- **Literature and Performing Arts Requirement (LPA)**
  * Literature Courses ONLY

- **Math and Reasoning (MR)**
  * MATH 1700, PSYC 2001 OR SOCI 2060
Required Science Cognates

*Everything in bold is also typically required for graduate and professional programs*

- 2 Biology Courses
  - BIOL 1001 and BIOL 1002
- 2 Chemistry Courses
  - CHEM 1001 and CHEM 1002
- 1 Organic Chemistry
  - CHEM 2111 or CHEM 2112 or BISC 2050 (Organic Chemistry for the Health Professions)
- One of the following lab science courses
  - Principles of Biological Investigation (BIOL 2001)
  - Concepts in Clinical Laboratory Medicine (CLLS 2200)
  - Molecular Diagnostics: Laboratory Techniques (CLLS 3160)
  - Diagnostics Technology (PHAS 7270; only for students admitted to the PA program)

Required Medical Ethics & Health and Society Cognate

- One of the following Health and Society courses: BISC 4170, BISC 4275, BISC 4381, BISC 4461, CLLS 2060, CMST 4500, COMM 4330, HEAL 1025, HEAL 1200, HEAL 1400, HEAL 2100, PSYC 3420, SOCI 3300, SOCI 3500, SOCI 3520, SOCI 3550, SOCI 3570, SOCI 4300, SOWJ 1001, SOWJ 2200, SOWJ 4700, SPAN 4715, PHAS 7095 (Only for those accepted into PA)
- One of the following Medical Ethics (1cr. Minimum): PHIL 4336, PHIL 4335, THEO 4450

BISC Major Course Requirements (At least 33 BISC Major Credits — “C” or Better)

- Required Courses:
  - Contemporary Issues in Biomedical Sciences
    - Human Anatomy
    - Biochemistry
    - Human Physiology
  - Anatomy and Systems Content Area (One course, a maximum of 3 credits apply towards the major)
    - Head and Neck Anatomy
    - Systems Neuroscience
    - Functional Neuroanatomy
    - Principles of Human Embryology
    - Endocrinology
    - Human Microanatomy
    - Human Gross Anatomy
    * Must be enrolled in DPT or PA Program
    Biomedical Systems
    * Must be a Pre-Dental Scholar
  - Cell and Molecular Content Area (Two courses, a minimum of 6 credits)
    - Human Microbiology
    - Molecular Pathology
    * Can be used for either Cell and Molecular or Diseases and Pathology, but not both
    - Genetics
    - Cell Biology
    - Neurobiology
    - Immunobiology
  - Diseases and Pathology Content Area (Two courses, a minimum of 6 credits)
    - General Pathology
    - Pharmacology
    - Diseases of the Brain
    - Molecular Pathology
    * Can be used for either Cell and Molecular or Diseases and Pathology, but not both
- **BISC Electives** (5-6 credit hours to meet the 33 credits required for the BISC degree)
  - Students can choose from the list below as well as any course from the 3 content areas not previously used

**BISC Electives within Biomedical Sciences**

- Introduction to Dentistry
  - Only for Pre-Dental Scholars
- Nutritional Aspects of Health
- Gross Anatomy for the Biomedical Sciences
- Evolution
- Physiology in Depth
- Human Physiology Laboratory
- Advanced Pathology
- Microbiology Laboratory

- Biology, Moral Behavior and Policy
  - Can fulfill the Health and Society Cognate or elective, but not both
- Advanced Biochemistry
- Advanced Systems Neuroscience
- Internship in Biomedical Sciences
- Independent Study in Biomedical Sciences
- General Histology
  - Only for Pre-Dental Scholars
- Biomedical Systems 2
  - Only for Pre-Dental Scholars

**BISC Electives outside of Biomedical Sciences**

- Experimental Genetics
- Experimental Cell Biology
- Experimental Neurobiology
- Experimental Physiology
- Experimental Molecular Biology
- Forensic Sciences

- Public Health
  - Can fulfill the Health and Society Cognate or elective, but not both
- Molecular Diagnostics
- Pathophysiology
- Kinesiology 1
  - Only for students in DPT
- Neuroanatomy
  - Only for students in PA

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**Core of Common Studies + Science Cognates + Major courses + Electives = Minimum of 128 Credit Hours**

**General Electives**

- Up to 24 Elective Credits in BISC Major for a Pre-Med/Pre-Dent/Pre-Health...even more for general biomedical sciences major not tracking professional program requirements
- Many options: can try almost class or discipline or be more focused....

**Minors (18 – 24 credits)**

- Common Minors: Biology, Chemistry, Psychology, Business, Foreign Languages, Communication Studies, Human Resources, Spanish for the Health Professions...
- Go to Undergraduate Bulletin and visit departments for specific minor requirements
Study Abroad
Office of International Education (OIE)

-  [http://www.marquette.edu/abroad/index.shtml](http://www.marquette.edu/abroad/index.shtml)
  * Attend an information session and/or the Study Abroad Fair, Friday Sept. 9, 10 am – 2 pm outside AMU, to determine location
- Inform your advisor of your interest 1st semester freshmen year; they will work with you to structure an appropriate course outline
  * Enroll in Electives and Humanities while abroad
  * 2nd semester sophomore year typically best time
  * Avoid summer after junior year if applying to professional school

Typical Professional or Graduate Education Requirements (18-19 elective credits used for pre-reqs)

**EXAMPLE:**

**PRE-MEDICINE:**

- 2 sem. Biology with Lab
- 1 sem. Biochemistry
- 2 sem. Chemistry with Lab
- 2 sem. Organic Chemistry with Lab *(4cr)*
- 2 sem. Physics with Lab *(8cr)*
- 1 sem. Calculus (for the Health Professions) *(3-4cr)*
- 1 sem. Psychology
- 1 sem. Sociology *for Pre-Meds* *(3cr)*

✓ Start looking at programs and their requirements. Then discuss plan with advisor.  
**Be prepared for your future!**

Admission and Readmission to the University
[http://bulletin.marquette.edu/undergrad/admissionprocedures/](http://bulletin.marquette.edu/undergrad/admissionprocedures/)

- AP credit
  - Consider Sciences and Long Term Goals/Professional School Requirements
    - EX-CHEM 1001 – No for Pre-Med, Yes for Pre-PT
    - English, History, Humanities, Calculus – Yes
  - AP credits – not automatically transferred…contact AP College Board with questions
- CLEP
- International Baccalaureate (IB)
- Remember that credits transfer, not grades – no effect on GPA
- Pre-professional – check with your advisor before accepting AP or IB credits
- Transferology ([www.transferology.com/school/Marquette](http://www.transferology.com/school/Marquette)) – great starting point! Not official

Setting up your Schedule

- Schedule a class for every day—Spread it out!
  - Remember to schedule breaks
- Be flexible
  - Closed Classes/Waitlists/ Urgent Requests from Departments
- Set up 4-year schedule to make sure you can work everything in (minors, study-abroad, etc.)
  - Reference Biomedical Sciences Curriculum Tracks and Program Schedules *(last page)*
- Check final exam schedule on Checkmarq
- Freshmen in Biomedical Sciences typically take 14-17 cr. hrs. first semester
Registering for Classes...

www.marquette.edu/mucentral/registrar/reg_addclasses.shtml

* **Chemistry**: Select Lab First and then Select Discussion as a RELATED CLASS (lecture automatically added and enrolled in)
* **Biology**: Select Lecture and then Select Discussion as a RELATED CLASS
* Check out Marquette Snapshot of Classes to determine what is open and course times—an updated snapshot is taken every day from Checkmarq’s registration

http://www.marquette.edu/mucentral/registrar/snapshot/fall16/index.shtml

**Student Resources:**

**Advisors** (http://www.marquette.edu/chs/bisc/undergraduate_advisers.shtml)

* **In August**: an official academic advisor will be assigned to you on Checkmarq
* **Before August**: Please contact autumn.swanson@mu.edu or diane.novotny@mu.edu

**Career Services Center** (1st Floor Holthusen)
- Resume building, Networking, jobs, Graduate/Professional School Application

**Tutoring Center & Student Educational Services** (Coughlin Hall, 145)
- Note taking, small group tutoring, study skills...FREE!

**Ott Writing Center** (2nd Floor Raynor Library)

**Disability Services** (5th Floor, 707 Building)

**Counseling Center** (2nd Floor Holthusen)
- Career Counseling, Crisis Intervention, etc.

**Marquette Central**

**Pre-Professional Advisor**—Laurie Goll (laurie.goll@mu.edu), Center for Pre-Health Advising, http://www.marquette.edu/pre-health-advising/index.php

**Biomedical Sciences Webpage**: http://www.marquette.edu/biomedical-sciences/undergraduate-curriculum.shtml

**Extra Opportunities**

**Research**
- During regular academic terms
  - Volunteer
  - Independent Study (credit)
  - Undergraduate Lab Tech (Paid)
- Summer Research Program (SRP)
  - Applications due in February
  - Paired with a Mentor

**Student Employment**
- TA’s, Tutors, other campus jobs....

**Volunteering**
- Service-fest, Job Shadowing, Service Learning, Hospital/Clinical positions...

**Student Groups**
- BMSA (Biomedical Sciences Association)
- AED (Alpha Epsilon Delta – Honors Society)
- Pre-Dental Student Organization at Marquette

**Disciplinary Honors in Biomedical Sciences**
- A competitive program in the Junior and Senior year of the BISC major for students who go above and beyond within the classroom.
- Small cohort of students complete a portfolio with an emphasis on research or community engagement within the biomedical sciences.
- Applications will be due during the spring semester of the sophomore year in order to be eligible.

http://www.marquette.edu/biomedical-sciences/disciplinary-honors-program.php
# TYPICAL PROGRAM FOR BIOMEDICAL SCIENCES MAJORS

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<tr>
<th>Freshman</th>
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<tr>
<td>ENGL 1001 (R)</td>
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<td>CHEM 1001</td>
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<td>CHEM 1002</td>
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<tr>
<td>BIOL 1001 (SN)</td>
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<td>BIOL 1002</td>
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<td>THEO 1001 (T)</td>
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<td>FSYC 1001 (ISB)</td>
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<td>UCCS (HCS)</td>
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<td>PHIL 1001</td>
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<td>BISC 2135</td>
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<td>PHIL 2310</td>
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<td>CHEM 2112 (or elective)</td>
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<td>MATH 1410 (or elective)</td>
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<td>Statistics (MR)</td>
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<td><strong>First Term</strong></td>
<td><strong>Hours</strong></td>
<td><strong>Second Term</strong></td>
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<td>PHYS 1001 (or elective)</td>
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<td>PHYS 1002 (or elective)</td>
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<td>BISC 4145</td>
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<td>Anatomy and Systems Course</td>
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<td>Cell and Molecular Courses</td>
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<td>UCCS LPA (Literature)</td>
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**Total credit hours: 128-132**

http://bulletin.marquette.edu/undergrad/collegeofhealthsciences/departmentofbiomedicalsciences/