



# Program of Study Request

**Form Id: 14799**

**Form Status: Process**

*Please take action on the form.*

This service has been developed initially to support the conversion of the university's course inventory from a quarters to a semesters curriculum. **Getting started ...**

**Type of Request:**

New
  Modify
  Deactivate
  Terminate
  Quarter to Semester

For *Deactivate*, the program must be terminated no later than the conclusion of 7 years from the deactivation and all students must complete degree requirements by this date. The Registrar's Office will notify the department when all students have completed degree requirements of the deactivated program.

**Client Info**

**Name:** Chad Edward Campbell

**Email:** chad.campbell@wright.edu

**Phone:** 937.775.3432

**Department:** Biochemistry/Molecular Biology-COSM

**Location:** Diggs Laboratory 116, 3640 Colonel Glenn Hwy

**Program of Study**

BMB - Biochem & Molecular Biology

**Effective Term:** Fall 2016

**Level:** Undergraduate

College of Science & Math

**Degree:** Bachelor of Science

**Major:** Biochem & Molecular Biology \*New

**Minor:**

**Program:** Biochem & Molecular Biology \*New

**Concentration:**

**Add'l Info:**

| Approvals            |                                       |                 |         |                        |
|----------------------|---------------------------------------|-----------------|---------|------------------------|
| Activity             | Role                                  | Client          | Status  | Time                   |
| <b>Primary Route</b> |                                       |                 |         |                        |
| Dept_Review          | Dept of Biochem & Molecular Biology   | Madhavi Kadakia | Review  | 02/10/2016<br>11:47:19 |
| CCC_Eval             | UG Chair of College of Science & Math | Richard Mercer  | Approve | 03/08/2016<br>13:48:36 |
|                      | Dean of College of                    |                 |         | 03/08/2016             |

|                     |                  |                 |         |                        |
|---------------------|------------------|-----------------|---------|------------------------|
| Dean_Review         | Science & Math   | Mark D. Mamrack | Review  | 15:17:37               |
| UCAP_Eval           | UCAP Chair       | Karen Meyer     | Approve | 03/29/2016<br>08:48:25 |
| <b>Office Route</b> |                  |                 |         |                        |
| Registrar_Proc      | Registrar Office |                 | Pending |                        |

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3640 Colonel Glenn Highway - Dayton, Ohio - 45435

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|                       |   |
|-----------------------|---|
| College               | <b>Science and Mathematics</b>            |
| Department            | <b>Biochemistry and Molecular Biology</b> |
| Degree, Major Program | <b>Bachelor of Science</b>                |
| Minor Program         |   |
| Certificate Program   |   |

| <b>Semester System</b>                    | <b>Hours</b> |
|---|--------------|
| <b>I. Wright State Core</b>               |              |
| <b>II. Departmental Core Requirements</b> |              |
| <b>III. Departmental Electives</b>        |              |
| <b>IV. Related Course Requirements</b>    |              |
| <b>V. General Electives</b>               |              |
| <b>Total</b>                              |              |

| <b>Semester System</b>  | <b>Hours</b> |
|---|--------------|
| <b>I. Wright State Core</b>   | <b>43</b>    |
| Element 1: Communication<br>ENG 1100<br>ENG 2130  | 6            |
| Element 2: Mathematics<br>MTH 2300 required   | 4            |
| Element 3: Global Traditions  | 6            |
| Element 4: Arts and Humanities  | 3            |
| Element 5: Social Sciences  | 6            |
| Element 6: Natural Sciences<br>BIO 1120/1120L and BIO 1150/1150L required   | 8            |
| Additional Core Courses<br>CHM 1210/1210L, CHM 1220/1220L required  | 10           |
| <b>II. Departmental Core Requirements</b>   | <b>21</b>    |
| BMB 1000 (0.5), BMB 1010 (0.5), BMB 2000 (1),<br>BMB 2100 (2), BMB 3030 (1.0), BMB 3850 (3),<br>BMB 3900 (2), BMB 4000 (2), BMB 4020 (1),<br>BMB 4100 (1), BMB 4210 (3), BMB 4230 (3),<br>BMB 4870 (1)  |              |
| <b>III. Departmental Electives</b>  | <b>17</b>    |
| Select additional approved courses 2000-level or<br>higher with prefixes ANT, BIO, BMB, CHM, MTH,<br>NCBP, PHY, PTX, or SST resulting in at least 17<br>credits with 9 from the BMB prefix and including<br>at least one course with a lab component. |              |
| <b>IV. Related Course Requirements</b>  | <b>33.5</b>  |
| BIO 2110, BIO 2130, CHM 2110/2110L, CHM<br>2120/2120L, MTH 2310, PHY 2400/2400L, PHY<br>2410/2410L and STT 2640   |              |
| <b>V. General Electives</b>   | <b>5.5</b>   |
| <b>Total</b>  | <b>120</b>   |

**Notes:**

**\*\*For graduation credit, All CoSM courses require a grade of C or better.**

## Proposed Major in Biochemistry and Molecular Biology

- I. Title of Program:** Bachelor of Science in Biochemistry and Molecular Biology  
**Department:** Biochemistry and Molecular Biology  
**College:** College of Science and Mathematics

**II. Objectives:**

The purpose of this program is multidimensional.

1. The major will serve to prepare students for careers in various biological fields through the use of cutting edge science education pedagogies endorsed by a third party accreditation agency (ASBMB).
2. The BMB major will serve as a boutique program for accelerated students who seek more individualized attention than possible at other Ohio public institutions.
3. The BMB major will serve as a seed program for our BMB Master's program, preparing them to transition seamlessly into graduate education.
4. The major will serve as an alternative, more focused degree, for those pursuing Medical degrees.

**III. Descriptions (Catalog):**

The Bachelor of Science degree from the Department of Biochemistry and Molecular Biology will focus on preparing students for careers in fields including, but not limited to, medicine and health, drug manufacturing and design, agriculture, forensic science (crime lab science), academic/industrial research and development, and scientific writing.

The teaching and research programs of the department are conducted in modern, well-equipped classrooms and laboratories. Our curriculum fosters the development of active learning, teamwork, critical thinking, scientific reasoning and communication skills, as well as, relevant content knowledge in both biochemistry and molecular biology. Within the curriculum there are many opportunities for students to be associated with cutting edge research through independent studies and undergraduate research projects.

**IV. Admission Requirements:**

Requirements for direct admission into the BMB Bachelor of Science degree program will require a minimum high school GPA of 3.0, a math score minimum of 22 on the ACT or 520 on the SAT, and an English score minimum of 23 on the ACT or 530 on the SAT. In addition, students must have completed the Ohio Core Curriculum, or equivalent core curriculum from other states. These requirements are more stringent than those set by the university as a whole, which has lower minimum requirements for GPA and SAT (or ACT) scores, and exception criteria for students who have not completed the Ohio Core Curriculum.

Students who have been admitted into the university, but not the BMB BS degree program, and wish to apply to our program must complete BIO 1120, BIO 1150, CHM 1210 and CHM 1220 with their associated labs, and attain a minimum GPA of 3.0 in these courses.

**V. Program Requirements:**

The program requirements are attached below.

**VI. Program Quality:**

The major seeks accreditation through the American Society of Biochemistry and Molecular Biology (ASBMB) to ensure quality and rigor. Several quality assurance checks will also be implemented to ensure the quality of faculty performance, course adherence to stated learning objectives and overall program goals. Some examples include:

- Oversight and steering committees will evaluate individual courses and instructors and implement changes when necessary.
- Student portfolios will be used to track student growth and development over their four years in the major and provide feedback regarding the program quality.
- Student assessments (exams, grades) and course evaluations (such as the SALG) will be used to ensure learning objectives are being met.
- Program assessments (such as the PULSE rubric or the STEM department evaluation rubric) will be used to ensure program goals are being met.
- Alumni will be tracked to follow graduate successes and failures.

**VII. Student Performance:**

Students must maintain a minimum 2.5 GPA in their CoSM courses to remain in the program. For program credit, all CoSM courses require a grade of C or better. If a student's GPA falls 2.5, then they will be given a one-semester probationary period to raise their GPA above the stated threshold.

**VIII. Curriculum Coordination:**

As this is a new program in the department with courses designed specifically to fulfill the program requirements there are no coordination issues at this time.

**IX. Resource Coordination:**

While the implementation of the major generates many additional teaching hours, these hours will be covered by existing faculty in the department. The only course that necessitates any additional resources is the Laboratory course (BMB 3800). This will require a teaching lab, which has already been assigned by the college (243 BS), and newly purchased equipment (in progress). While much of the initial cost for some equipment was fronted by the department, there are still additional equipment needs. A nominal laboratory fee will be used to offset the cost of various consumables.

**X. Program Staffing:**

The proposed major will be taught by existing faculty in the department of Biochemistry and Molecular Biology.

|                       |   |
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| Minor Program         |   |
| Certificate Program   |   |

| Semester System                           | Hours |
|---|-------|
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| <b>II. Departmental Core Requirements</b> |       |
| <b>III. Departmental Electives</b>        |       |
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