

## MCB Advising Program

School of Molecular and Cellular Biology University of Illinois, Urbana-Champaign

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## Approved List of Advanced Courses for MCB Majors and Minors Revised and Effective for Summer and Fall 2024

Only courses from this approved list will count for the advanced hour requirement in the MCB major.

The MCB major requires at least 15 hours (minimum of 4 courses) at the 300- or 400-level *from this approved list*. One advanced laboratory course must be included in the 15 hours. Courses marked with an asterisk (\*) are approved advanced lab courses. Courses not on this list will not count, even if they are 300- or 400-level MCB courses (e.g., MCB 492 does not count as an advanced course in the MCB major). The College of LAS, for its Sciences and Letters Curriculum, requires each student to earn at least 21 hours in advanced courses. MCB advanced hours count toward this total. Visit www.las.uiuc.edu/students/requirements/minimum for more information about college requirements.

## This document was last updated on March 11, 2024 Note: schedule is subject to change

| Term (s)<br>Offered    | Course                     | Course Title   | Cr<br>Hrs | *<br>Lab<br>Course | Instructors (Coordinator)             | Cross<br>Listed<br>Courses |
|------------------------|----------------------------|--|-----------|--------------------|---------------------------------------|----------------------------|
| FA, SP                 | MCB 300                    | Microbiology   | 3         |                    | Steven Blanke (Renee Alt)             |                            |
| FA, SP                 | MCB 301                    | Experimental Microbiology                                    | 3         | *                  | Jack Ikeda and Renee Alt              |                            |
| FA                     | MCB 314                    | Introduction to Neurobiology                                 | 3         |                    | Daniel Llano                          | NEUR 314                   |
| SP, SU                 | MCB 317†<br>See note below | Genetics & Genomics  | 4         |                    | David Rivier                          |                            |
| FA                     | MCB 320                    | Mechanisms of Human Disease                                  | 3         |                    | Eric Bolton                           |                            |
| FA, SP                 | MCB 364                    | Eukaryotic Cell Biology Laboratory                           | 2         | *                  | Lyne Levesque                         |                            |
| FA<br>(Odd years only) | MCB 400                    | Cancer Cell Biology  | 3         |                    | Supriya Prasanth                      |                            |
| FA                     | MCB 401                    | Cellular Physiology  | 3         |                    | Catherine Christian-Hinman            |                            |
| SP<br>(Not SP25)       | MCB 402                    | Sys & Integrative Physiology                                 | 3         |                    | Erik Nelson and Nien-Pei Tsai         |                            |
| SP                     | MCB 406                    | Gene Expression & Regulation                                 | 3         |                    | Hong Jin                              | BIOC 406                   |
| FA                     | MCB 408                    | Immunology   | 3         |                    | Beth Stadtmueller (Alejandra Stenger) |                            |
| SP                     | MCB 410                    | Developmental Biology, Stem<br>Cells & Regenerative Medicine | 3         |                    | Xin Li                                |                            |
| FA                     | MCB 413                    | Endocrinology  | 3         |                    | Milan Bagchi and Lori Raetzman        |                            |
| FA                     | MCB 421                    | Microbial Genetics   | 3         |                    | Andrei Kuzminov                       |                            |
| SP                     | MCB 424                    | Microbial Biochemistry                                       | 3         |                    | William Metcalf                       |                            |
| SP                     | MCB 426                    | Bacterial Pathogenesis                                       | 3         |                    | TBD                                   |                            |
| FA                     | MCB 428                    | Microbial Pathogens Laboratory                               | 2         | *                  | Jack Ikeda                            |                            |
| SP                     | MCB 430                    | Molecular Microbiology                                       | 3         |                    | Raven Huang                           |                            |
| FA                     | MCB 431                    | Microbial Physiology   | 3         |                    | Paolo Mera                            |                            |
| FA                     | MCB 432                    | Computing in Molecular Biology                               | 3         |                    | Mengfei Ho                            |                            |
| SP                     | MCB 435                    | Evolution of Infectious Disease                              | 3         |                    | Rachel Whitaker                       | IB 442                     |
| FA                     | MCB 436                    | Global Biosecurity   | 1         |                    | Brenda Wilson, et al.                 |                            |
| SP                     | MCB 442                    | Comparative Immunobiology                                    | 4         |                    | Andrew Steelman                       | ANSC 450,<br>PATH 410      |
| FA, SP                 | MCB 460                    | Neuroanatomy Laboratory                                      | 2         | *                  | Jeremy Toma                           |                            |
| FA                     | MCB 461                    | Cell & Molecular Neuroscience                                | 3         |                    | Hee Jung Chung                        | NEUR 461                   |
| SP                     | MCB 462                    | Integrative Neuroscience                                     | 3         |                    | Martha Gillette and Rhanor Gillette   | NEUR 462                   |
|                        |                            |  |           |                    |                                       | Over →                     |

| Term (s)<br>Offered | Course                              | Course Title   | Cr<br>Hrs | *<br>Lab<br>Course | Instructors (Coordinator)     | Cross<br>Listed<br>Courses |
|---------------------|-------------------------------------|--|-----------|--------------------|-------------------------------|----------------------------|
| SP                  | MCB 465                             | Human Metabolic Disease                              | 3         |                    | Sayee Anakk                   |                            |
| SP                  | MCB 466                             | Neuro & Molecular Pharmacology                       | 3         |                    | Erik Nelson and Nien-Pei Tsai |                            |
| FA                  | MCB 471                             | Cell Structure & Dynamics                            | 3         |                    | Haiting Ma                    |                            |
| SP                  | MCB 480                             | Eukaryotic Cell Signaling                            | 3         |                    | Jie Chen                      |                            |
| NCBO                | MCB 481                             | Developmental Neurobiology                           | 3         |                    | TBD                           |                            |
| NCBO                | MCB 493 APL                         | Advanced Physiology Lab                              | 2         | *                  | TBD                           |                            |
| SP                  | MCB 493 CPP                         | Cancer Pathophysiology                               | 3         |                    | Eric Bolton                   |                            |
| FA                  | MCB 493 EPI                         | Epigenetics  | 3         |                    | Andrew Belmont                |                            |
| SP                  | MCB 493 FMO                         | Functional Multi-omics                               | 3         |                    | Boxuan Zhao                   |                            |
| FA                  | MCB 493 GDC                         | Genetic Disorders & Counseling                       | 3         |                    | Stephanie Ceman               |                            |
| SP                  | MCB 493 NMI                         | Neurobiology of Mental Illness                       | 3         |                    | Patrick Sweeney               |                            |
| SP                  | MCB 493 NOS                         | Neurobiology of Senses                               | 3         |                    | Benjamin Auerbach             |                            |
| FA                  | MCB 493 PBC<br>Previously BIOC 440B | Physical & Biological Chemistry                      | 4         |                    | TBD                           |                            |
| SP                  | MCB 493 REM                         | Research Experience in<br>Microbiology               | 3         |                    | Asma Hatoum                   |                            |
| FA                  | MCB 493 VIR                         | Virology   | 3         |                    | Christopher Brooke            |                            |
|                     | BIOCHEMISTRY                        |  |           |                    |                               |                            |
| SP                  | BIOC 446                            | Physical Biochemistry                                | 3         |                    | Kai Zhang                     | MCB 446,<br>CHEM 472       |
| SP                  | BIOC 455<br>Limited seats available | Techniques in Biochem & Biotech                      | 4         | *                  | Dustin Buntrock               |                            |
| FA                  | BIOC 460<br>Limited seats available | Biochemistry Senior Seminar,<br>Advanced Composition | 3         |                    | David Shapiro                 |                            |
|                     | BIOPHYSICS                          |  |           |                    |                               |                            |
| FA                  | BIOP 401                            | Introduction to Biophysics                           | 3         |                    | Nicholas Wu                   |                            |
|                     | NEUROSCIENCE                        |  |           |                    |                               |                            |
| SP                  | NEUR 414                            | Brain, Learning, & Memory                            | 3         |                    | James Hinman                  | PSYC 414                   |

FA: Fall; SP: Spring; NCBO: Not Currently Being Offered; TBD: To Be Determined

<sup>†</sup>MCB 316 and 317: Credit is not given for both MCB 316 and MCB 317. Students can take one or the other course, but not both.

Note: MCB 492 will NOT count as advanced MCB hours. Any 300- or 400- level course not on the above list will NOT count as advanced MCB hours. Graduate level courses (500- or 600- level) will NOT count as advanced MCB hours. Only courses from this approved list will count for the advanced hour requirement in the MCB major.

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