Fiscal Unit/Academic Org	Microbiology - D0350
Administering College/Academic Group	Arts And Sciences
Co-adminstering College/Academic Group	
Semester Conversion Designation	Re-envisioned with significant changes to program goals and/or curricular requirements (e.g., degree/major name changes, changes in program goals, changes in core requirements, structural changes to tracks/options/courses)
Current Program/Plan Name	Microbiology Minor
Proposed Program/Plan Name	Microbiology Minor
Program/Plan Code Abbreviation	MICRBIO-MN
Current Degree Title	

Credit Hour Explanation

Program credit hour requirements		A) Number of credit hours in current program (Quarter credit hours)	B) Calculated result for 2/3rds of current (Semester credit hours)	C) Number of credit hours required for proposed program (Semester credit hours)	D) Change in credit hours
Total minimum credit hours required for completion of program		20	13.3	14	0.7
Required credit hours offered by the unit	Minimum	20	13.3	14	0.7
	Maximum	20	13.3	14	0.7
Required credit hours offered outside of the unit	Minimum	0	0.0	0	0.0
	Maximum	0	0.0	0	0.0
Required prerequisite credit hours not included above	Minimum	33	22.0	26	4.0
	Maximum	33	22.0	26	4.0

Program Learning Goals

Note: these are required for all undergraduate degree programs and majors now, and will be required for all graduate and professional degree programs in 2012. Nonetheless, all programs are encouraged to complete these now.

Program Learning Goals

Assessment

Assessment plan includes student learning goals, how those goals are evaluated, and how the information collected is used to improve student learning. An assessment plan is required for undergraduate majors and degrees. Graduate and professional degree programs are encouraged to complete this now, but will not be required to do so until 2012.

Is this a degree program (undergraduate, graduate, or professional) or major proposal? No

Program Specializations/Sub-Plans

If you do not specify a program specialization/sub-plan it will be assumed you are submitting this program for all program specializations/sub-plans.

Pre-Major

Does this Program have a Pre-Major? No

Attachments

- Microbiology minor cover letter.doc: NMS Division of Arts and Sciences cover letter

  (Letter from the College to OAA. Owner: Andereck,Claude David)

- Microbiology_Minor_rev3.pdf: All Documents

  (Program Proposal. Owner: Daniels,Charles John)

Comments

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Daniels,Charles John	02/06/2011 03:13 PM	Submitted for Approval
Approved	Daniels,Charles John	02/06/2011 03:15 PM	Unit Approval
Revision Requested	Andereck,Claude David	02/15/2011 01:21 PM	College Approval
Submitted	Daniels,Charles John	02/17/2011 06:44 PM	Submitted for Approval
Approved	Daniels,Charles John	02/17/2011 06:45 PM	Unit Approval
Revision Requested	Andereck,Claude David	02/23/2011 03:00 PM	College Approval
Submitted	Daniels,Charles John	03/01/2011 04:53 PM	Submitted for Approval
Approved	Daniels,Charles John	03/01/2011 04:53 PM	Unit Approval
Revision Requested	Andereck,Claude David	03/02/2011 10:08 AM	College Approval
Submitted	Daniels,Charles John	03/02/2011 02:07 PM	Submitted for Approval
Approved	Daniels,Charles John	03/02/2011 02:07 PM	Unit Approval
Revision Requested	Andereck,Claude David	03/02/2011 02:54 PM	College Approval
Submitted	Daniels,Charles John	03/02/2011 03:39 PM	Submitted for Approval
Approved	Daniels,Charles John	03/02/2011 03:39 PM	Unit Approval
Approved	Andereck,Claude David	03/02/2011 04:40 PM	College Approval
Pending Approval	Hanlin,Deborah Kay Vankeerbergen,Bernadette Chantal Meyers,Catherine Anne Jenkins,Mary Ellen Bigler Nolen,Dawn	03/02/2011 04:40 PM	ASCCAO Approval

College of Arts and Sciences

186 University Hall
230 North Oval Mall
Columbus, OH 43210

Phone (614) 292-8908
Fax (614) 247-7498

March 2, 2011

Larry Krissek
Chair, Arts and Sciences CCI

Dear Larry:

It is a pleasure to forward to you the proposal for the undergraduate minor in Microbiology under semesters. The minor has been modified from its present quarter version through a merging of two courses that resulted in a single foundational course, with electives chosen from courses that build on the foundation course, and with three additional hours chosen from a selected list of possible courses.

Beyond my own review of the documents, the proposal has been discussed by colleagues from other NMS units at a meeting on February 23, 2011. Feedback from these discussions has been incorporated in the proposal.

If you have any questions, I would be happy to address them.

Sincerely,

David Andereck
Professor of Physics
Associate Dean of Natural and Mathematical Sciences, College of Arts and Sciences

THE OHIO STATE UNIVERSITY

Department of Microbiology

484 West 12th Avenue
Columbus, OH 43210-1292

Phone (614) 292-2301
Fax (614) 292-8120

January 19, 2011

Office of Academic Affairs
203 Bricker Hall
190 North Oval Mall
CAMPUS

Re: Microbiology Degree Programs

Dear Colleagues,

The Department of Microbiology offers both undergraduate and graduate degree programs. At the undergraduate level, the department offers BS and BA degrees in Microbiology, and a minor in Microbiology. Through the graduate program the department awards MS and Ph.D. degrees in Microbiology.

The department used the transition to semesters as an opportunity to critically review our curriculum and each of our degree programs. During the 2009-2010 academic year the undergraduate and graduate curriculum committees carried out reviews of their courses and degree requirements. A number of factors were considered in the reviews, these included the responses from student surveys in undergraduate courses, discussions with current graduate students, comparisons of undergraduate and graduate programs at peer institutions, and recommendations from the American Society for Microbiology (ASM). The ASM is the national society for the discipline and its educational branch provides recommendations on the content and scope of microbiology degree programs. We were also guided by comments we received in our recent Unit Review and the review of our graduate program for the recent NRC graduate program review. Final plans for the BS and BA degrees, the minor, and the MS and Ph.D. degrees were approved by unanimous votes at a faculty meetings held on October 29, 2010. Recorded votes were 18 for and 0 against, and no abstentions, for all of the programs.

Both undergraduate and graduate programs have substantive changes in their core requirements and some courses will be revised or have expanded content. Consequently, we are presenting these programs as “re-envisioned”.

The key changes in the programs are summarized below.

BS and BA programs:

1. The introductory series, MICRBIOL 520 (5 quarter hrs) and 521 (5 quarter hrs) were merged to a single course, MICRBIOL 4100 (5 semester hrs) with some content reassigned to other courses.
2. The core was expanded from four courses under the quarter system to six courses in semesters. These changes were made to accommodate topics repositioned by the merger of MICRBIOL 520/521 and to ensure the breadth of topics that are expected of all microbiology programs.
3. The minor in Microbiology will also use the new foundations course, MICRBIOL 4100, and students will take a subset of the remaining courses in the new core.
4. Course numbers of the quarter successors that are in the semester core have changed to reflect their new relationships; most others have retained similar numbering.

MS and Ph.D. programs:

1. In the re-envisioned graduate programs, students will complete a four-course core prior to completing their candidacy exam; this will include a new course covering general topics related to graduate research and ethics.

2. The remainder of the program, with respect to candidacy exams and research expectations, are essentially unchanged.

We are also preparing for increased advising demands, especially at the undergraduate level. We have developed a transition plan to direct students completing their undergraduate programs in first two years of the transition. As part of the plan, a bridge course will be offered to accommodate students that may be affected by the merger of MICRBIOL 520/521, and staff changes have been put in place to meet the expected increase for advising. An advising plan is also in place for students who will be in the pre-candidacy stage of their graduate programs. Each plan is designed to limit the possibility that a student will be delayed in graduation for reasons other than academic performance.

The department is excited about the new opportunities these changes will bring to our students, and the university community. We look forward to your response.

Tina Henkin, Ph.D.
Professor and Chair
Department of Microbiology

Charles J. Daniels, Ph.D.
Professor
Conversion Coordinator

Rationale: Microbiology minor

Background

During the 2009-2010 academic year the Department of Microbiology reviewed its undergraduate and graduate degree programs as preparation for the conversion to semesters. These reviews led to semester conversion proposals for the BS, BA, MS and Ph.D. degrees having substantial changes in the content of some courses and changes in the core requirements for the degree programs. All of the proposals were reviewed by the faculty and approved by unanimous votes at a faculty meeting held October 29, 2010. The recorded votes were 18 for and 0 against, and no abstentions, for each of the proposals. Since the undergraduate degree proposals represented re-envisioned programs, the Microbiology minor is also presented as a re-envisioned program.

Revisions to the Microbiology minor
In the quarter scheme the Microbiology minor requires 20 hrs. of Microbiology coursework: MICRBIOL 520 (5 hrs) and 521 (5 hrs) and 10 hrs of electives from the Microbiology electives. Students choosing the minor must also complete the prerequisites: BIOL 113-114 (10 hrs), CHEM 121-123 (15 hrs) and CHEM 251-252 (8 hrs).

The re-envisioned plan for the BS degree under semesters includes the merger of MICRBIOL 520 and 521 to a single course, MICRBIOL 4100 (5 hrs). This course serves as the foundation course in the major and will also be required for the minor. The semester program for the major also created a series of four required core courses covering the key subdisciplines: these are MICRBIOL 4110, 4120, 4130 and 4140. These core courses are identified as a specific subset of courses, the 4100 series, which are distinct from the Microbiology elective courses.

Under the semester plan the Microbiology minor requires 14 hrs of Microbiology coursework: this includes MICRBIOL 4100 (5 hrs), at least two additional courses from the 4100 series (6 hrs total). All 14 hrs can be taken from the MICRBIOL 4100 series, and if needed, 3 hrs can be chosen from the Microbiology electives. Students are also required to complete the semester equivalents of the Biology and Chemistry prerequisite courses required under the quarter system.

Microbiology minor – Semesters

Required Prerequisites

Course*	Course Title	Credit Hrs
BIOL 1113	Biological Sciences: Energy Transfer and Development	4
BIOL 1114	Biological Sciences: Form, Function, Diversity, and Ecology	4
CHEM 1210	General Chemistry 1	5
CHEM 1220	General Chemistry 2	5
CHEM 2510	Organic Chemistry 1	4
CHEM 2520	Organic Chemistry 2	4

* or honors equivalent.

Required Microbiology Course (5 Hrs)

Course	Course Title	Prerequisites	Credit Hrs
MICRBIOL 4100	General Microbiology	BIOL 1114*	5

*or honors equivalent.

Choose At Least Two Courses (6 Hrs) from the MICRBIOL 4100 Series

Course	Course Title	Prerequisites	Credit Hrs
MICRBIOL 4110	Pathogenesis and Immunobiology	MICRBIOL 4100	3
MICRBIOL 4120	Microbial Physiology and Diversity	MICRBIOL 4100	3
MICRBIOL 4130	Microbial Genetics	MICRBIOL 4100	3
MICRBIOL 4140	Molecular Microbiology Laboratory	MICRBIOL 4130	3

If Needed, Choose Three hours (3 Hrs) from Microbiology Electives

Course	Course Title	Credit Hrs
MICRBIOL 4591S	DNA Finger Printing Workshops in Columbus PS	1
MICRBIOL 5122	Immunology	2
MICRBIOL 5129	Cellular and Molecular Biology of Pathogenic Eukaryotes	3
MICRBIOL 5147	Eukaryotic Pathogens	3
MICRBIOL 5149	Introductory Virology	3
MICRBIOL 5150	Microbial Ecology	3
MICRBIOL 5155	Environmental Microbiology	3
MICRBIOL 5161H#	Bioinformatics and Molecular Microbiology	3
MICRBIOL 5169H#	Microbial Evolution	3
MICRBIOL 5170	Microbes and Evolution	3
MICRBIOL 5536	Food Microbiology Lecture	3
MICRBIOL 6020*	Microbial Physiology and Biochemistry	3
MICRBIOL 6080*	Advanced Microbial Genetics	3
MICRBIOL 7010*	Cellular and Molecular Immunology	3
MICRBIOL 7020*	Physiology Meets Pathogenesis	2
MICRBIOL 7050*	Fermentation Biotechnology	3
MICRBIOL 7060*	Advanced Topics in Molecular Microbiology	2
MICRBIOL 7724*	Molecular Pathogenesis	3

Honors courses open to non-honors students with permission of instructor.
*Permission of instructor required.

For clarity, a brief description of the Microbiology semester 4100 series core courses, and their relationships to quarter predecessors, is presented below.

MICRBIOL 4100, General Microbiology, 5 hrs. This is a new course derived from the merger of MICRBIOL 520 and MICRBIOL 521, General Microbiology I and II. MICRBIOL 4100 will consist of lecture and lab components and serve as the foundation course for the remaining microbiology courses in the core. The merger will require a slight reduction in content (10 quarter hrs to 5 semester hrs), and as a consequence, some content in the areas of physiology and genetics will be moved to MICRBIOL 4120 and MICRBIOL 4130, respectively. The committee also felt that retaining a two semester introductory series, which was a prerequisite to the other core courses, would be too restrictive. This scheme would force many students to take the remaining major courses in their last two semesters. A single foundation course will also serve as an advanced introduction for non-microbiology majors and graduate students in related fields.

MICRBIOL 4110, **Pathogenesis and Immunobiology**, 3 hrs. This course is a new addition to the core and will contain material from the quarter course MICRBIOL 524.01, Mechanisms of Microbial Disease, and selected material from MICRBIOL 522.01, Immunobiology. These topics are central to modern microbiology and are included in the major programs at nearly all institutions. This course will also provide an advanced introduction to the role of microbes in health and disease, topics important for students planning on postgraduate studies in health sciences.

MICRBIOL 4120, Microbial Physiology and Diversity, 3 hrs. This course is the successor to MICRBIOL 661, Microbial Physiology, and is now included in the core. MICRBIOL 661 was an elective in the quarter scheme; however, with the diversity of organisms that now serve as models systems for physiological and biochemical studies, a solid foundation in physiology is essential for advanced studies in nearly all areas of microbiology. Minor changes in the content are planned to accommodate topics shifted from MICRBIOL 521 and additional topics on diversity will be added.

MICRBIOL 4130, Microbial Genetics, 3 hrs. This course is the successor to MICRBIOL 581.01, Microbial Genetics, and will remain in the core. Some modifications in content will be made to cover topics reallocated from MICRBIOL 520.

MICRBIOL 4140, Molecular Microbiology Laboratory, 3 hrs. This course is the successor to MICRBIOL 581.02, Microbial Genetics Laboratory, and will remain in the core. The main content of the course will remain the same; however, we will modify some experiments to include methods and protocols currently used in MICRBIOL 522.02, Immunobiology Laboratory. MICRBIOL 522.02 will not be carried through in the transition to semesters. MICRBIOL 4140 will now serve as an advanced molecular microbiology laboratory. Decoupling the laboratory from the Genetics and Immunobiology lecture courses will provide the opportunity to incorporate new experiments and emerging technologies.

Semester Courses: Microbiology Minor

Required Prerequisites for the Minor

Semester Course Number	Course Title	Semester Hrs.	Status Under Quarters	Quarter Equivalent Course*	Quarter Hrs.	Notes
BIOL 1113	Biological Sciences: Energy Transfer and Development	4	Required Preq.	BIOL 113	5	
BIOL 1114	Biological Sciences: Form, Function, Diversity, and Ecology	4	Required Preq.	BIOL 114	5	
CHEM 1210	General Chemistry 1	5	Required Preq.	CHEM 121,122,123	15	
CHEM 1220	General Chemistry 2	5	Required Preq.	"		
CHEM 2510	Organic Chemistry 1	4	Required Preq.	CHEM 251,252	8	
CHEM 2520	Organic Chemistry 2	4	Required Preq.	"		
	Total Hrs.	**26**		**Total Hrs.**	**33**	

* or honors equlivalent

Required Core for the Major (5 Hrs.)

Semester Course Number	Course Title	Semester Hrs.	Status Under Quarters	Quarter Equivalent Course	Quarter Hrs.	Notes
MICRBIOL 4100	General Microbiology	5	Required Core	MICRBIOL 520,521	10	Combined aspects of 520 and 521; some content moved to 5020, 5030 and 5040

Choose At Least Two Courses (6 Hrs.) from MICRBIOL 4100 Series

Semester Course Number	Course Title	Semester Hrs.	Status Under Quarters	Quarter Equivalent Course	Quarter Hrs.	Notes
MICRBIOL 4110	Pathogenesis and Immunobiology	3		MICRBIOL 524.01	4	524.01 with some content from 522.01
MICRBIOL 4120	Microbial Physiology and Diversity	3		MICRBIOL 661	5	661 with some content from 521; remove redundancies
MICRBIOL 4130	Microbial Genetics	3		MICRBIOL 581.01	3	581.01 with some content from 520
MICRBIOL 4140	Molecular Microbiology Laboratory	3		MICRBIOL 581.02	3	581.02 with some content from 522.02

If Needed, Choose 3 Hrs. from Microbiology Electives

Semester Course Number	Course Title	Semester Hrs.	Status Under Quarters	Quarter Equivalent Course	Quarter Hrs.	Notes
MICRBIOL 4591S	DNA Finger Printing Workshops in Columbus PS	1		MICRBIOL 591	2	Direct conversion
MICRBIOL 5122	Immunology	2		MICRBIOL 522.01	3	Direct conversion
MICRBIOL 5129	Cellular and Molecular Biology of Pathogenic Eukaryotes	3		MICRBIOL 629	5	Direct conversion
MICRBIOL 5147	Eukaryotic Pathogens	3		MICRBIOL 647	3	Increased contnet
MICRBIOL 5149	Introductory Virology	3		MICRBIOL 649	5	Direct conversion
MICRBIOL 5150	Microbial Ecology	3		MICRBIOL 664	3	Increased content
MICRBIOL 5155	Environmental Microbiology	3		MICRBIOL 665	3	Increased contnet
MICRBIOL 5161H#	Bioinformatics and Molecular Microbiology	3		MICRBIOL 610H	5	Direct conversion
MICRBIOL 5169H#	Microbial Evolution	3		MICRBIOL 669H	5	Direct conversion
MICRBIOL 5170	Microbes and Evolution	3		n/a	n/a	New course proposal
MICRBIOL 5536	Food Microbiology Lecture	3		MICRBIOL 636.01	3	Increased content
MICRBIOL 6020*	Microbial Physiology and Biochemistry	3		MICRBIOL 720	4	Direct conversion
MICRBIOL 6080*	Advanced Microbial Genetics	3		MICRBIOL 680	3	Increased content
MICRBIOL 7010*	Cellular and Molecular Immunology	3		MICRBIOL 701	5	Direct conversion
MICRBIOL 7020*	Physiology Meets Pathogenesis	2		MICRBIOL 702	3	Direct conversion
MICRBIOL 7050*	Fermentation Biotechnology	3		MICRBIOL 750	5	Direct conversion
MICRBIOL 7060*	Advanced Topics in Molecular Microbiology	2		MICRBIOL 760	3	Direct conversion
MICRBIOL 7536*	Advanced Food Microbiology	3		MICRBIOL 736	3	Increased content
MICRBIOL 7724*	Molecular Pathogenesis	3		MICRBIOL 724	5	Direct conversion

Honors courses open to non-honors students with permission of instructor.
*Permission of instructor required.

Transition Plan Microbiology Minor:

Since we are converting the two-quarter introductory sequence, MICRBIOL 520 and MICRBIOL 521, to a one-semester course, MICRBIOL 4100, this change will impact students in the BS, BA and minor degree programs. We have also made changes in some of the core courses for the BA and BS degree programs under semesters, and these changes will affect the requirements for the minor program (as described in the Rationale). The most significant issue will be students who have not completed MICRBIOL 521, the second course in the introductory sequence prior to the autumn semester of 2012. We will offer a bridge course to accommodate these students. We hope to reduce the demand for the bridge course by advising students to complete the series during the 2011-2012 academic year, or to postpone taking MICRBIOL 520 in the spring quarter preceding the switch to semesters. The student's needs are central to our plans and we have established policies (outlined below) that will minimize the possibility that any student will be delayed in graduation for reasons other than their academic performance in the minor. In anticipation of this situation Ms. Linda Saville-Rath, has realigned her duties for this transition period and will serve as the primary contact for students in their planning.

Our plans are outlined below.

1. Students who have begun the Microbiology minor under the quarter system will have the option to complete their degree using the guidelines set forth under the quarter system. Specifically, they will be required to complete the MICRBIOL 520 and MICRBIOL 521 series or its equivalent; the remaining credit hours can be taken from either MICRBIOL 4100 series or from the Microbiology electives.
2. Students that have completed MICRBIOL 520, but not MICRBIOL 521, must complete the bridge course, MICRBIOL 4102. This course will consist of both lecture and lab components and will bring these students into alignment with those that have completed either the quarter sequence or the semester successor, MICRBIOL 4100.
3. Students who have begun the Microbiology minor under the quarter system will be required to complete 13-semester hour equivalents in Microbiology course work; this is based on a two-thirds conversion from the 20-quarter hour requirement. To accommodate students who may require 1-2 semester hours for graduation in 2012-2013, and who might experience undue hardship if forced to take an additional 3-semester hour course, we will offer a specific section of MICRBIOL 4193, Individual Studies. A faculty member will coordinate the course, directing student interactions with specific faculty members as needed.

MICROBIOLOGY MINOR

Department of Microbiology
376 Biosciences Building
484 West 12th Avenue
Tel: (614) 292-2301; Fax: (614) 292-8120

Coordinating Advisor
Ms. Linda Saville-Rath
446A Biosciences Bldg.
(614) 292-0509
saville-rath.1@osu.edu

Department Chair
Dr. Tina Henkin
376 Biosciences Bldg.
(614) 292-2301
Henkin.3@osu.edu

REQUIRED Prerequisites for the Minor (26 hrs)

Biology 1113 and 1114 (or honor equivalents)
Chemistry 1210,1220, 2510 and 2520 (or honor equivalents)

REQUIRED MICROBIOLOGY MINOR Courses

The Microbiology minor consists of a minimum of 14 credit hours of microbiology courses. The minor must include MICRBIOL 4100 (5 hrs), at least two courses from the MICRBIOL 4100 series (6 hrs total). All 14 hrs can be taken from the MICRBIOL 4100 series, and if needed, 3 hrs can be chosen from the Microbiology electives.

Required Microbiology Course (5 Hrs)

Course	Course Title	Prerequisites	Credit Hrs
MICRBIOL 4100	General Microbiology	BIOL 1114*	5

*or honors equivalent.

Choose At Least Two Courses (6 Hrs) from the MICRBIOL 4100 Series

Course	Course Title	Prerequisites	Credit Hrs
MICRBIOL 4110	Pathogenesis and Immunobiology	MICRBIOL 4100	3
MICRBIOL 4120	Microbial Physiology and Diversity	MICRBIOL 4100	3
MICRBIOL 4130	Microbial Genetics	MICRBIOL 4100	3
MICRBIOL 4140	Molecular Microbiology Laboratory	MICRBIOL 4130	3

If Needed, Choose 3 Hrs from Microbiology Electives

Course	Course Title	Credit Hrs
MICRBIOL 4591S	DNA Finger Printing Workshops in Columbus PS	1
MICRBIOL 5122	Immunology	2
MICRBIOL 5129	Cellular and Molecular Biology of Pathogenic Eukaryotes	3
MICRBIOL 5147	Eukaryotic Pathogens	3
MICRBIOL 5149	Introductory Virology	3
MICRBIOL 5150	Microbial Ecology	3
MICRBIOL 5155	Environmental Microbiology	3
MICRBIOL 5161H#	Bioinformatics and Molecular Microbiology	3
MICRBIOL 5169H#	Microbial Evolution	3
MICRBIOL 5170	Microbes and Evolution	3
MICRBIOL 5536	Food Microbiology Lecture	3
MICRBIOL 6020*	Microbial Physiology and Biochemistry	3

Honors courses open to non-honors students with permission of instructor.
*Permission of instructor required.

Microbiology Electives (cont.)

Course	Course Title	Credit Hrs
MICRBIOL 6080*	Advanced Microbial Genetics	3
MICRBIOL 7010*	Cellular and Molecular Immunology	3
MICRBIOL 7020*	Physiology Meets Pathogenesis	2
MICRBIOL 7050*	Fermentation Biotechnology	3
MICRBIOL 7060*	Advanced Topics in Molecular Microbiology	2
MICRBIOL 7724*	Molecular Pathogenesis	3

*Permission of instructor required.

All microbiology minor programs must be approved by the coordinating advisor

GENERAL INFORMATION CONSERNING MINOR PROGRAMS

1. Minor programs are not required for graduation.
2. A student may not take a major and a minor in the same subject.
3. Courses used on the minor may not be used on the major unless the Arts and Sciences Curriculum Committee has given prior approval.
4. Students need not file their minor programs until they file their graduation applications, that is, two semesters before they plan to graduate.
5. Once a minor is on file in the college office, any changes must be discussed with the coordinating advisor and/or the ASC counselor.
6. No more than six hours (6 hrs) of transfer credit may be applied to any minor.
7. Although a grade of C- will be permitted in courses comprising the minor, the minimum overall CPHR of the minor shall be 2.0.
8. Courses taken on a Pass/Non-pass basis may not be applied to the minor.

MICROBIOLOGY MINOR

Department of Microbiology
376 Biosciences Building
484 West 12th Avenue
Tel: (614) 292-2301; Fax: (614) 292-8120

Coordinating Advisor
Ms. Linda Saville-Rath
446A Biosciences Bldg.
(614) 292-0509
saville-rath.1@osu.edu

Department Chair
Dr. Tina Henkin
376 Biosciences Bldg.
(614) 292-2301
Henkin.3@osu.edu

REQUIRED Prerequisites or Supplements to Minor

Biology 113 and 114; *or* H115 and H116.
Chemistry 121, 122, 123; 251, 252

REQUIRED MICROBIOLOGY MINOR Courses

The Microbiology Minor consists of a minimum of 20 credit hours of microbiology courses. The minor must include Microbiology 520 and 521 and 10 additional hours from the list at the bottom of the page. *A maximum of 10 credit hours overlap with the GEC is permissible.*

Required Courses	Course Title-Quarter taught	Prerequisites	Credit Hrs.
Micro 520	General Microbiology - I (AU, SP)	Biology 114 or H116	5
Micro 521	General Microbiology - II (WI, Su)	Micro 520 and Chem 252	5

All microbiology minor programs must be approved by the coordinating advisor.

GENERAL INFORMATION CONSERNING MINOR PROGRAMS

1. Minor programs are not required for graduation.
2. A student may not take a major and a minor in the same subject.
3. Courses used on the minor may not be used on the major unless the Arts and Sciences Curriculum Committee has given prior approval.
4. Students need not file their minor programs until they file their graduation applications, that is, three quarters before they plan to graduate.
5. Once a minor is on file in the college office, any changes must be discussed with the coordinating advisor and/or the ASC counselor.
6. No more than ten hours of transfer credit may be applied to any minor.
7. Although a grade of C- will be permitted in courses comprising the minor, the minimum overall CPHR of the minor shall be 2.0.
8. Courses taken on a Pass/Non-pass basis may not be applied to the minor.

Microbiology courses which may be taken for additional 10 hr. of minor

522.01[1]	Immunobiology Lecture (Wi and Su)
522.02^	Immunobiology Lab (Wi)
581.01[1]	Microbial Genetics Lecture (Au,Sp)
581.02[3]	Microbial Genetics Lab (Au, Wi, Sp)
524.01[2]	Microbial Diseases (Sp)
H610[3]	Bioinformatics (Au, infrequently)
629[2]	Parasitology (Sp)
636.01[1]	Food Micro. Lecture (Au, Sp)
636.02^	Food Micro. Lab (Au, Sp)
647[1]	Eukaryotic Pathogens (Au)
649[1]	Introductory Virology (Wi)
661^	General Microbial Physiology (Au)
664[1]	Microbial Ecology (Au/2010)
665[1]	Environmental Micro.(Au/2011)
H669^	Microbial Evolution (Au/2010)
680[3]	Advanced Microbial Genetics (Wi)
701^	Cellular and Molecular Immunology (Au)
724^	Molecular Biology of Bacterial Pathogens (Au)
760^	Advanced Bacterial Physiology (Sp 2010)

[1]Prerequisite M520
[2]Prerequisite M522.01
[3]Prerequisite M581.01
^See course catalogue or website for prerequisite

See Microbiology Dept. website for further information: http://microbiology.osu.edu/