May 25, 2021

MEMORANDUM

TO: Craig Beyrouty
    Dean, College of Agriculture and Natural Resources

FROM: Elizabeth Beise
      Associate Provost for Academic Planning and Programs

SUBJECT: Proposal to Modify the Master of Science in Comparative Biomedical Sciences (PCC Log No. 20121)

The proposal to modify the Master of Science in Comparative Biomedical Sciences has been administratively approved. A copy of the approved proposal is attached.

The change is effective Fall 2021. The Graduate Catalog entry for the program will be updated by the Graduate School (contact Angela Ambrosi at aambrosi@umd.edu for more information). Please ensure that the change is reflected in all other relevant descriptive materials.

EJB/mdc

Enclosure

cc: Valerie Orlando, Chair, Senate PCC Committee
    Barbara Gill, Office of Enrollment Management
    Reka Montfort, University Senate
    Huifang Pan, Division of Information Technology
    Pam Phillips, Institutional Research, Planning & Assessment
    Lae’l Hughes-Watkins, University Archives
    Linda Yokoi, Office of the Registrar
    Brooke Liu, Graduate School
    Joe Sullivan, College of Agriculture and Natural Resources
    Xiaoping Zhu, Department of Veterinary Medical Science
473: COMPARATIVE BIOMEDICAL SCIENCES (VMSC)

In Workflow
1. D-VMSC Chair (xzhu1@umd.edu)
2. AGNR Curriculum Manager (ecooper@umd.edu; tgallman@umd.edu)
3. AGNR PCC Chair (jsull@umd.edu; mcarroll@umd.edu)
4. AGNR Dean (jsull@umd.edu)
5. Academic Affairs Curriculum Manager (mcolson@umd.edu)
6. Graduate School Curriculum Manager (aambrosi@umd.edu)
7. Graduate PCC Chair (aambrosi@umd.edu)
8. Dean of the Graduate School (sfetter@umd.edu; aambrosi@umd.edu)
9. Senate PCC Chair (mcolson@umd.edu; vorlando@umd.edu)
10. Provost Office (mcolson@umd.edu)
11. Graduate Catalog Manager (aambrosi@umd.edu)

Approval Path
1. Thu, 25 Mar 2021 21:30:26 GMT
   Xiaoping Zhu (xzhu1): Approved for D-VMSC Chair
2. Thu, 25 Mar 2021 21:56:01 GMT
   Tyra Monnity (tgallman): Approved for AGNR Curriculum Manager
3. Thu, 01 Apr 2021 17:23:16 GMT
   Mark Carroll (mcarroll): Rollback to Initiator
4. Fri, 02 Apr 2021 19:08:09 GMT
   Xiaoping Zhu (xzhu1): Approved for D-VMSC Chair
5. Mon, 05 Apr 2021 12:52:32 GMT
   Tyra Monnity (tgallman): Approved for AGNR Curriculum Manager
   Mark Carroll (mcarroll): Approved for AGNR PCC Chair
7. Sun, 25 Apr 2021 18:33:35 GMT
   Joseph Sullivan (jsull): Approved for AGNR Dean
8. Tue, 27 Apr 2021 18:12:42 GMT
   Michael Colson (mcolson): Approved for Academic Affairs Curriculum Manager
9. Mon, 03 May 2021 20:47:23 GMT
   Angela Ambrosi (aambrosi): Approved for Graduate School Curriculum Manager
10. Mon, 03 May 2021 20:48:25 GMT
    Angela Ambrosi (aambrosi): Approved for Graduate PCC Chair
11. Fri, 07 May 2021 20:23:14 GMT
    Steve Fetter (sfetter): Approved for Dean of the Graduate School
12. Sat, 08 May 2021 16:39:33 GMT
    Valerie Orlando (vorlando): Approved for Senate PCC Chair
13. Wed, 02 Jun 2021 17:16:35 GMT
    Michael Colson (mcolson): Approved for Provost Office

History
1. Sep 16, 2019 by Angela Ambrosi (aambrosi)
2. Oct 18, 2019 by William Bryan (wbryan)
3. Aug 18, 2020 by Yanjin Zhang (zhangyj)
4. Sep 8, 2020 by Michael Colson (mcolson)
5. Nov 12, 2020 by Angela Ambrosi (aambrosi)

Date Submitted: Fri, 02 Apr 2021 19:00:15 GMT

Viewing: 473 : Comparative Biomedical Sciences (VMSC)
Last approved: Thu, 12 Nov 2020 14:50:30 GMT
Last edit: Wed, 02 Jun 2021 17:16:03 GMT
Changes proposed by: Yanjin Zhang (zhangyj)
**Proposed Action**
Curriculum Change

**Program Name**
Comparative Biomedical Sciences (VMSC)

**Program Status**
Active

**Effective Term**
Fall 2021

**Catalog Year**
2021-2022

**Program Level**
Graduate Program

**Program Type**
Master's

**Delivery Method**
On Campus

**Departments**

<table>
<thead>
<tr>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Veterinary Medicine Program</td>
</tr>
</tbody>
</table>

**Colleges**

<table>
<thead>
<tr>
<th>College</th>
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</thead>
<tbody>
<tr>
<td>Agriculture and Natural Resources</td>
</tr>
</tbody>
</table>

**Program/Major Code**
VMSC

**MHEC Inventory Program**
Veterinary Medical Sciences

**CIP Code**
018017 - 018017

**HEGIS**
129958

**Degree(s) Awarded**

<table>
<thead>
<tr>
<th>Degree Awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master of Science</td>
</tr>
</tbody>
</table>

**Proposal Contact**
Yanjin Zhang, zhangyj@umd.edu, (301) 314-6596

**Proposal Summary**
We wish to update the curriculum of the graduate program. Total credit hours needed for the degree remain the same. Milestones and course lists are updated.

(PCC Log Number 20121)
Program and Catalog Information

Provide the catalog description of the proposed program. As part of the description, please indicate any areas of concentration or specializations that will be offered.

Comparative Biomedical Science (program code: VMSC) is run by the Department of Veterinary Medicine. The program provides graduate training in a wide variety of biomedical science-related disciplines, including virology, bacteriology, parasitology, immunology, epidemiology, pathology, and vaccinology. One of the current focuses is zoonotic infectious diseases. Cutting-edge technologies are applied in the research and state-of-art facilities are maintained in the department.

Catalog Program Requirements:

Applicants with a minimum of B.S. or equivalent degree in biological sciences may be admitted to the Master of Science (M.S.) program. The CBSC M.S. program requires a minimum of 30 credits of coursework beyond the B.S. degree, including 6 credits of Master’s Thesis Research (VMSC799; credits greater than 6 of this course will not be counted for degree requirement). A minimum of 12 credits must be earned in coursework at the 600 level or higher. Students must maintain an overall GPA of 3.0 or better in courses taken for graduate credit.

Master program requirements

The plan of study must be approved by the Advisor and the Graduate Admissions and Examination Review Committee before the end of the first semester of enrollment. By the end of the second semester, the student should have an Advisory Committee formed. A thesis based on independent and original research must be submitted to the CBSC Program and the Graduate School. The student must present the thesis in a public seminar and pass a final oral examination given by the Advisory Committee.

The non-thesis Master of Science degree option is available only for doctoral students who wish to leave the graduate program without completing the Ph.D., but have finished all course work required. External applications for the non-thesis master's option are not accepted. One scholarly paper must be written and approved by the student’s Advisor.

Course Title Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BISI712</td>
<td>Responsible Conduct of Research for Biologists</td>
<td>1</td>
</tr>
<tr>
<td>VMSC698</td>
<td>One Health Seminar</td>
<td>4</td>
</tr>
<tr>
<td>VMSC758</td>
<td>Journal Club in Comparative Biomedical Sciences (Journal Club in Comparative Biomedical Sciences)</td>
<td>4</td>
</tr>
<tr>
<td>VMSC799</td>
<td>Thesis Research</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Restricted Electives (Choose at least 10 credits from courses below):</td>
<td>10</td>
</tr>
<tr>
<td>VMSC610</td>
<td>Recombinant Viral Vectors</td>
<td></td>
</tr>
<tr>
<td>VMSC660</td>
<td>Emerging and Re-emerging Infectious Diseases</td>
<td></td>
</tr>
<tr>
<td>VMSC670</td>
<td>Molecular Epidemiology of Infectious Diseases (Molecular Epidemiology of Infectious Diseases)</td>
<td></td>
</tr>
<tr>
<td>VMSC689</td>
<td>Use of Genomics and Proteomics in Infectious Disease</td>
<td></td>
</tr>
<tr>
<td>VMSC720</td>
<td>Viral Pathogenesis</td>
<td></td>
</tr>
<tr>
<td>VMSC760</td>
<td>Immunology of Infectious Diseases</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Additional Credits (from restricted electives or other courses with advisor’s approval)</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Total Credits</td>
<td>30</td>
</tr>
</tbody>
</table>

Sample plan. Provide a term by term sample plan that shows how a hypothetical student would progress through the program to completion. It should be clear the length of time it will take for a typical student to graduate. For undergraduate programs, this should be the four-year plan.

A student can graduate in two to three years. If he or she completes ten credits per semester, all course work should be done within three semesters. The thesis research can be done from one to two years. See attached sample plan of study.

Use the space below for any additional comments on the courses or other requirements selected for the revised curriculum. Typical comments may be clarifications of why certain courses are being replaced or added.

The revised curriculum includes courses currently offered in the department. Most of them are added after the original curriculum was established and reflect the latest development in the biomedical sciences. The current version of the curriculum includes the updated courses and clearly states requirements for graduation. The total number of credits for graduation remains the same as in the old curriculum.

Course Title Credits

The following three courses are required:

BISI712 Responsible Conduct of Research Biologists 1
VMSC698 One Health Seminar 4
VMSC750 Journal Club in Comparative Biomedical Sciences 4

Select at least 10 credits from the available VMSC courses:

VMSC610 Recombinant Viral Vectors 3
VMSC660 Emerging and Re-emerging Infectious Diseases 2
VMSC670 Molecular Epidemiology of Infectious Diseases 2
VMSC689 Use of Genomics and Proteomics in Infectious Disease 3
VMSC720 Viral Pathogenesis 2
VMSC760 Immunology of Infectious Diseases 3

Select 5 or needed credits from other courses with the advisor’s approval.

VMSC799 Thesis Research 6

List the intended student learning outcomes. In an attachment, provide the plan for assessing these outcomes.

**Learning Outcomes**

Upon completion of the courses included in the curriculum, the students are expected to acquire advanced knowledge of the current concepts in infectious diseases with an emphasis on zoonotic diseases, highlighting immunology and molecular biology of the disease development. They are also expected to become familiar with the arsenal of modern approaches in infectious disease research and the development of vaccines and therapeutics, including proteomics, next-generation sequencing, vectored vaccines, gene therapy, and others. In all courses, the students will be trained to find, read and critically analyze scientific literature.

The student progress will be evaluated in each course by assessing their individual assignments, participation in the classroom discussions, and final exams.

**Program Modification Information**

**Description and Rationale for Modifications.**

The old curriculum has been in place for many years without changes. With the significant faculty turnover since the old curriculum was approved and the progress of the biomedical sciences reflected in the new courses, the curriculum needs to be updated. Also, the old curriculum does not indicate the milestones for students to complete, which is clearly addressed in the new curriculum.

For new or modified courses, please provide the course catalog information (credits, description, prerequisites, etc.). Suffixed “Selected” or “Special” topics courses should be avoided. New courses and course modifications must be submitted through the course approval process at https://courseleaf.umd.edu/courseadmin. You may submit individual course changes through the course approval process concurrently with the program proposal; however, the course change approvals may be held until the program proposal is approved.

All courses are approved.

Impact on current students. It should be specifically acknowledged that students enrolled in the program prior to the effective date of any curriculum change may complete their program under the old requirements if they wish. The courses required must remain available, or suitable substitutions specifically designated.

Current students can choose to follow the old curriculum if they wish.

**Linked Programs**

Indicate in the space below all programs to which this program is formally linked (e.g., approved combined bachelor’s/master’s programs, dual master’s programs, or joint-programs with other universities). If the proposed modification will affect the linked program, provide as an attachment the new curriculum for each arrangement and provide supporting correspondence from the director of the linked program.

Not applicable.

**Select the academic calendar type for this program (calendar types with dates can be found on the Academic Calendar page)**

Traditional Semester

**For Master's degree programs, describe the thesis requirement and/or the non-thesis requirement.**

The thesis is required for the Master’s program. The non-thesis Master of Science degree option is available only for doctoral students who wish to leave the graduate program without completing the Ph.D., but have finished all course work required.
Relationship to Other Units or Institutions

If a required or recommended course is offered by another department, discuss how the additional students will not unduly burden that department’s faculty and resources. Discuss any other potential impacts on another department, such as academic content that may significantly overlap with existing programs. Use space below for any comments. Otherwise, attach supporting correspondence.

BISI712 is listed as a required course. It is a one-credit course on research integrity. The faculty members of this department join the teaching of BISI712. See the message attached stating permission from Dr. Eric Haag, Director of BISI graduate program, and Dr. Charles F. Delwiche, the current headteacher of BISI712. All other courses listed are offered in this department.

Accreditation and Licensure. Will the program need to be accredited? If so, indicate the accrediting agency. Also, indicate if students will expect to be licensed or certified in order to engage in or be successful in the program’s target occupation.

Not applicable. The program does not need special accreditation. It should be included in the university accreditation.

Describe any cooperative arrangements with other institutions or organizations that will be important for the success of this program.

Not applicable.

Supporting Documents

Attachments
BISI712-Permission.pdf
VMSC-MS-samplePlan.pdf

Reviewer Comments


Michael Colson (mcolson) (Mon, 26 Apr 2021 19:27:48 GMT): I am changing the course number of VMSC750 to VMSC758 as it will need to be repeated by students over multiple semesters.

Key: 473
Program Change Request

Date Submitted: 04/02/21 3:00 pm

Viewing: **473 : Comparative Biomedical Sciences (VMSC)**

Last approved: 11/12/20 9:50 am
Last edit: 06/02/21 1:16 pm
Changes proposed by: Yanjin Zhang (zhangyj)

Catalog Pages Using this Program

- Comparative Biomedical Sciences, Master of Science (M.S.)

Proposed Action  Curriculum Change

Program Name

In Workflow

1. D-VMSC Chair
2. AGNR Curriculum Manager
3. AGNR PCC Chair
4. AGNR Dean
5. Academic Affairs Curriculum Manager
6. Graduate School Curriculum Manager
7. Graduate PCC Chair
8. Dean of the Graduate School
9. Senate PCC Chair
10. Provost Office
11. Graduate Catalog Manager

Approval Path

1. 03/25/21 5:30 pm
   Xiaoping Zhu (xzhu1): Approved for D-VMSC Chair
2. 03/25/21 5:56 pm
   Tyra Monnty (tgallman): Approved for AGNR Curriculum Manager
3. 04/01/21 1:23 pm
   Mark Carroll (mcarroll): Rollback to Initiator
4. 04/02/21 3:08 pm
Xiaoping Zhu
(xzhu1): Approved for D-VMSC Chair
5. 04/05/21 8:52 am
Tyra Monnity
(tgallman):
Approved for AGNR Curriculum Manager
6. 04/25/21 10:18 am
Mark Carroll
(mcarroll):
Approved for AGNR PCC Chair
7. 04/25/21 2:33 pm
Joseph Sullivan
(jsull): Approved for AGNR Dean
8. 04/27/21 2:12 pm
Michael Colson
(mcolson):
Approved for Academic Affairs Curriculum Manager
9. 05/03/21 4:47 pm
Angela Ambrosi
(aambrosi):
Approved for Graduate School Curriculum Manager
10. 05/03/21 4:48 pm
Angela Ambrosi
(aambrosi):
Approved for Graduate PCC Chair
11. 05/07/21 4:23 pm
Steve Fetter
(sfetter): Approved for Dean of the
Comparative Biomedical Sciences (VMSC)

Program Status: Active
Effective Term: Fall 2021
Catalog Year: 2021-2022
Program Level: Graduate Program
Program Type: Master's
Delivery Method: On Campus

History
1. Sep 16, 2019 by Angela Ambrosi (aambrosi)
2. Oct 18, 2019 by William Bryan (wbryan)
3. Aug 18, 2020 by Yanjin Zhang (zhangyj)
4. Sep 8, 2020 by Michael Colson (mcolson)
5. Nov 12, 2020 by Angela Ambrosi (aambrosi)

Graduate School
12. 05/08/21 12:39 pm
Valerie Orlando (vorlando):
Approved for Senate PCC Chair
13. 06/02/21 1:16 pm
Michael Colson (mcolson):
Approved for Provost Office
Department
Veterinary Medicine Program

<table>
<thead>
<tr>
<th>Colleges</th>
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<tbody>
<tr>
<td></td>
<td>Agriculture and Natural Resources</td>
</tr>
</tbody>
</table>

Program/Major Code
VMSC

MHEC Inventory Program
Veterinary Medical Sciences

CIP Code 018017 - 018017

HEGIS 129958

MHEC Recognized Area(s) of Concentration

Degree(s) Awarded

<table>
<thead>
<tr>
<th>Degree Awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master of Science</td>
</tr>
</tbody>
</table>

If other, new degree award:

Proposal Contact
Yanjin Zhang, zhangyj@umd.edu, (301) 314-6596

Proposal Summary
We wish to update the curriculum of the graduate program. Total credit hours needed for the degree remain the same. Milestones and course lists are updated.

(PCC Log Number 20121)
Provide the catalog description of the proposed program. As part of the description, please indicate any areas of concentration or specializations that will be offered.

Comparative Biomedical Science (program code: VMSC) is run by the Department of Veterinary Medicine. The program provides graduate training in a wide variety of biomedical science-related disciplines, including virology, bacteriology, parasitology, immunology, epidemiology, pathology, and vaccinology. One of the current focuses is zoonotic infectious diseases. Cutting-edge technologies are applied in the research and state-of-art facilities are maintained in the department.

Catalog Program Requirements:

Applicants with a minimum of B.S. Thesis only: 30 credits Students with adequate undergraduate training usually complete the master’s degree within two years. During the first semester the student selects an advisor, and with the help of the advisor forms an Advisory Committee with the approval by the program's Graduate Education Committee. or equivalent degree in biological sciences may be admitted to By the Master end of Science (M.S.) program. the second semester with the advice of the Advisory Committee, the student files a proposed schedule of coursework including at least one credit of seminar (VMSC698). The CBSC M.S. program requires a minimum of 30 credits of coursework beyond the B.S. A minimum of 24 semester with hours of graduate courses and six hours of thesis research credit (VMSC799) is required for the degree. No less than 12 credits should be from courses 600 level or higher; at least 12 credits must be earned in the major subject. Three credits of graduate biometrics or biochemistry and one seminar credit (VMSC698) are required. A degree, including No more than two credits of Master’s Thesis Research (VMSC799; credits greater than 6 Special Problems (VMSC699) are acceptable as part of this the 24 required course will not be counted for degree requirement). credits. A minimum of No less than 12 credits should be from courses 600 level or higher; at least 12 credits must be earned in coursework at the 600 level or higher. major subject. Students must maintain an overall GPA of 3.0 or better in courses taken for graduate credit.

<table>
<thead>
<tr>
<th>Course</th>
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<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>VMSC698</td>
<td>One Health Seminar</td>
<td>1</td>
</tr>
<tr>
<td>VMSC799</td>
<td>Thesis Research</td>
<td>6</td>
</tr>
<tr>
<td>Select one graduate level biometrics or biochemistry course</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Select at least 12 credits of VMSC courses</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Select eight additional credits</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td></td>
<td><strong>0</strong></td>
</tr>
</tbody>
</table>

Master program requirements

The committee may require remedial courses if the student enters with inadequate prerequisites or deficiencies in the undergraduate program. The plan By the end of study must be approved by the Advisor and the Graduate Admissions and Examination Review Committee before the end of the first semester of enrollment. second semester, a thesis research proposal must be approved and filed. By the end of the second semester, the student should have an Advisory Committee formed. A thesis based on independent and original research must be submitted to the CBSC Program and the Graduate School. The student must present the thesis in a public
seminar and pass a final oral examination given by the Advisory Committee. The non-thesis Master of Science degree option is available only for doctoral students who wish to leave the graduate program without completing the Ph.D., but have finished all course work required. External applications for the non-thesis master’s option are not accepted. Details on the Graduate School policy on the Master's Thesis Examination may be found in the Graduate School Catalog at http://www.gradschool.umd.edu/catalog/masters_degree_policies.htm.

One scholarly paper The thesis must be written and approved submitted to the Graduate School in electronic format after final approval of the document by the student’s Advisor. Thesis Examining Committee.

<table>
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<tr>
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<td>VMSC698</td>
<td>One Health Seminar</td>
<td>4</td>
</tr>
<tr>
<td>VMSC758</td>
<td>Journal Club in Comparative Biomedical Sciences (Journal Club in Comparative Biomedical Sciences)</td>
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<td>6</td>
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</table>

Restricted Electives (Choose at least 10 credits from courses below):
- VMSC610 Recombinant Viral Vectors
- VMSC660 Emerging and Re-emerging Infectious Diseases
- VMSC670 Molecular Epidemiology of Infectious Diseases (Molecular Epidemiology of Infectious Diseases)
- VMSC689 Use of Genomics and Proteomics in Infectious Disease
- VMSC720 Viral Pathogenesis
- VMSC760 Immunology of Infectious Diseases

Additional Credits (from restricted electives or other courses with advisor's approval) 5

Total Credits 30

See the University of Maryland Thesis and Dissertation Style Guide (http://www.gradschool.umd.edu/etd) for the details of this process.

Sample plan. Provide a term by term sample plan that shows how a hypothetical student would progress through the program to completion. It should be clear the length of time it will take for a typical student to graduate. For undergraduate programs, this should be the four-year plan.

A student can graduate in two to three years. If he or she completes ten credits per semester, all course work should be done within three semesters. The thesis research can be done from one to two years. See attached sample plan of study.
Use the space below for any additional comments on the courses or other requirements selected for the revised curriculum. Typical comments may be clarifications of why certain courses are being replaced or added.

The revised curriculum includes courses currently offered in the department. Most of them are added after the original curriculum was established and reflect the latest development in the biomedical sciences. The current version of the curriculum includes the updated courses and clearly states requirements for graduation. The total number of credits for graduation remains the same as in the old curriculum.

Course Title Credits

The following three courses are required:
BISI712 Responsible Conduct of Research Biologists 1
VMSC698 One Health Seminar 4
VMSC750 Journal Club in Comparative Biomedical Sciences 4

Select at least 10 credits from the available VMSC courses:

VMSC610 Recombinant Viral Vectors 3
VMSC660 Emerging and Re-emerging Infectious Diseases 2
VMSC670 Molecular Epidemiology of Infectious Diseases 2
VMSC689 Use of Genomics and Proteomics in Infectious Disease 3
VMSC720 Viral Pathogenesis 2
VMSC760 Immunology of Infectious Diseases 3

Select 5 or needed credits from other courses with the advisor’s approval.

VMSC799 Thesis Research 6

List the intended student learning outcomes. In an attachment, provide the plan for assessing these outcomes.

Learning Outcomes

Upon completion of the courses included in the curriculum, the students are expected to acquire advanced knowledge of the current concepts in infectious diseases with an emphasis on zoonotic diseases, highlighting immunology and molecular biology of the disease development. They are also expected to become familiar with the arsenal of modern approaches in infectious disease research and the development of vaccines and therapeutics, including proteomics, next-generation sequencing, vectored vaccines, gene therapy, and others. In all courses, the students will be trained to find, read and critically analyze scientific literature.
Learning Outcomes

The student progress will be evaluated in each course by assessing their individual assignments, participation in the classroom discussions, and final exams.

Program Modification Information

Description and Rationale for Modifications.

The old curriculum has been in place for many years without changes. With the significant faculty turnover since the old curriculum was approved and the progress of the biomedical sciences reflected in the new courses, the curriculum needs to be updated. Also, the old curriculum does not indicate the milestones for students to complete, which is clearly addressed in the new curriculum.

For new or modified courses, please provide the course catalog information (credits, description, prerequisites, etc.). Suffixed "Selected" or "Special" topics courses should be avoided. New courses and course modifications must be submitted through the course approval process at https://courseleaf.umd.edu/courseadmin. You may submit individual course changes through the course approval process concurrently with the program proposal; however, the course change approvals may be held until the program proposal is approved.

All courses are approved.

Impact on current students. It should be specifically acknowledged that students enrolled in the program prior to the effective date of any curriculum change may complete their program under the old requirements if they wish. The courses required must remain available, or suitable substitutions specifically designated.

Current students can choose to follow the old curriculum if they wish.

Linked Programs

Indicate in the space below all programs to which this program is formally linked (e.g., approved combined bachelor's/master's programs, dual master's programs, or joint-programs with other universities). If the proposed modification will affect the linked program, provide as an attachment the new curriculum for each arrangement and provide supporting correspondence from the director of the linked program.

Not applicable.
Describe any selective admissions policy or special criteria for students interested in this program.

Not applicable. Applicants with a minimum of B.S. or equivalent degree in biological sciences may be admitted to the Master of Science (M.S.) program.

Select the academic calendar type for this program (calendar types with dates can be found on the Academic Calendar page)

Traditional Semester

For Master’s degree programs, describe the thesis requirement and/or the non-thesis requirement.

The thesis is required for the Master’s program. The non-thesis Master of Science degree option is available only for doctoral students who wish to leave the graduate program without completing the Ph.D., but have finished all course work required.

Relationship to Other Units or Institutions

If a required or recommended course is offered by another department, discuss how the additional students will not unduly burden that department’s faculty and resources. Discuss any other potential impacts on another department, such as academic content that may significantly overlap with existing programs. Use space below for any comments. Otherwise, attach supporting correspondence.

BISI712 is listed as a required course. It is a one-credit course on research integrity. The faculty members of this department join the teaching of BISI712. See the message attached stating permission from Dr. Eric Haag, Director of BISI graduate program, and Dr. Charles F. Delwiche, the current headteacher of BISI712. All other courses listed are offered in this department.

Accreditation and Licensure. Will the program need to be accredited? If so, indicate the accrediting agency. Also, indicate if students will expect to be licensed or certified in order to engage in or be successful in the program’s target occupation.

Not applicable. The program does not need special accreditation. It should be included in the university accreditation.

Describe any cooperative arrangements with other institutions or organizations that will be important for the success of this program.

Not applicable.
Attachments

- BISI712-Permission.pdf
- VMSC-MS-samplePlan.pdf

Administrative Documents

Reviewer Comments

Mark Carroll (mcarroll) (04/01/21 1:23 pm): Rollback: Rewording in listing of courses required for curriculum (ie., Need third statement pertaining to course selection). Proposal is missing sample plan. Need permission for inclusion of non-departmental course into curriculum. Please contact Yanjin Zhang for more specifics on requested revision.

Michael Colson (mcolson) (04/26/21 3:27 pm): I am changing the course number of VMSC750 to VMSC758 as it will need to be repeated by students over multiple semesters.

Key: 473
On Apr 2, 2021 at 10:50 AM, Yanjin Zhang <zhangyj@umd.edu> wrote:

Chuck,

Thank you.

Eric, please confirm this. So I can submit the curriculum update to PCC. Many thanks,

Yanjin

On Thu, Apr 1, 2021 at 5:12 PM Charles Francis Delwiche <delwiche@umd.edu> wrote:

Hi Yanjin -

That is completely fine with us, and your students are more than welcome. We are pleased that VMSC faculty are in rotation as instructors for the class, and we regard it as a collaborative effort of BISI, CBMG, BIOL, ENTM, ANSC and VMSC.

That said, I think Eric Haag, who is now the Director of BISI, may also need to give his formal blessing. I'll CC him.

- Chuck

On Apr 1, 2021, at 5:03 PM, Yanjin Zhang <zhangyj@umd.edu> wrote:

Hi, Chuck,

We are updating the curriculum of VMSC graduate program. BISI712 is listed as a required course. The PCC committee needs an approval email from you stating VMSC students are permitted to take the course. Please reply and let me know if you have any questions.

Thanks,

Yanjin

Yanjin Zhang, Ph.D.
Associate Professor
Director, Comparative Biomedical Sciences Graduate Program
On Wed, Mar 17, 2021 at 4:18 PM Yanjin Zhang <zhangyj@umd.edu> wrote:

Hi, Chuck,

Thank you for the invitation. I can join your meeting.

Best,

Yanjin

On Wed, Mar 17, 2021 at 1:36 PM George Belov <gbelov@umd.edu> wrote:

Hi Chuck,

I'll be happy to help, I am sure a meeting will be very helpful to get acquainted with the course, please add me to the list.

Best. George.

On Wed, Mar 17, 2021 at 12:43 PM Charles Francis Delwiche UMD <delwiche@umd.edu> wrote:

Dear George, Yanjin -

I am writing to you to invite you to participate in the faculty rotation teaching BISI 712, Responsible Conduct of Research (RCR).

Preparing to teach my section of RCR this semester (it is a one-module, i.e., half-semester, one-credit class, so class starts on Monday) I noted that five of the students are in CBSC, which in turn reminded me that we do not yet have a faculty member from VetMet/CBSC in the rotation to teach the class. I asked Utpal Pal last summer, but he declined, and I never followed up with anyone else in your Department. To satisfy NIH's requirements the course should be taught by research active, tenure-track faculty. It is also important that the participating faculty be reasonably sympathetic to graduate students, because the discussions often touch on quite delicate topics. There is no special reason it could not be taught by an Assistant Professor, but I generally try to avoid them to protect their time (I actually think it could be *very* useful for Assistant Professors to participate informally as guest faculty with no hard time commitment, but that is a separate topic).

Anyway, we would very much like to have participation in the rotation of someone from Vet Med, and you two seem like likely candidates. We are trying to have representation among the faculty from all of the programs that routinely send students to the class, and to have enough faculty participating that any one professor only needs to teach the class roughly every other year. Because it is a one-credit, half-semester module that keeps the burden minimal, and honestly, it is a kind of a fun class to teach. Right now it is online, but I'll certainly be going back to in-person instruction next year. I'm pretty sure we will want to keep some sections online, so that will probably be decided by individual faculty.

I'm hoping one or both of you will agree to participate. The RCR faculty meet occasionally as a group and we are overdue for a meeting, so if you are willing I will add you to the list for our next meeting.

Best,
Chuck

—
Charles F. Delwiche
Professor, Cell Biology and Molecular Genetics
CBMG , 2108 Biosciences Research Building (deliveries: 0101J BRB)
4066 Campus Drive
University of Maryland
College Park, MD 20742-4407

*Pronouns: he/him/his.


"O Oysters come and walk with us! The Walrus did beseech. A pleasant walk, a pleasant talk, along the briny beach".

* Why do people list their pronouns? Gender is extremely important to identity, so much so that it is difficult to speak in English without using pronouns. This puts tremendous pressure on people whose outward appearance does not match their gender identity because it requires them repeatedly to initiate a discussion about gender identity. Thus, proactively giving pronouns communicates to people with non-canonical gender identities that they are welcome and valued, obviates the need to guess, and creates an opportunity to open dialog about assumptions behind gender and gender roles in our society.

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—
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Underneath the chilly, grey November sky we can make believe that Kennedy is still alive, we're shooting for the moon, and smiling Jackie's driving by. They say "good try". -- Andy Prieboy

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