BIODEFENSE, PHD

Banner Code: PP-PHD-BIOD

Academic Advising
560 Van Metre Hall
Arlington Campus
336 Aquia Building
Fairfax Campus
Website: schar.gmu.edu

This program is designed to prepare students to serve as scholars and professionals in the fields of biodefense and biosecurity. The program integrates knowledge of natural and man-made biological threats with the skills to develop and analyze policies and strategies for enhancing biosecurity. Other areas of biodefense, including nonproliferation, intelligence and threat assessment, and medical and public health preparedness are integral parts of the program.

Admissions & Policies

Admissions
See Graduate Admissions (http://catalog.gmu.edu/admissions/graduate-policies/) for general information on graduate admission to George Mason University. See the Schar School of Policy and Government Admissions website (http://schar.gmu.edu/admissions/doctorate-admissions/) for application requirements and deadlines. Students are considered for admission for the Fall term only.

Policies
For policies governing all graduate degrees, see AP.6.10 Requirements for Doctoral Degrees (http://catalog.gmu.edu/policies/academic/graduate-policies/#ap-6-10).

Reduction of Credit
Students who enter the doctoral program with a conferred master's degree or other graduate credit may have their credit reduced by up to 30 credits, subject to the approval of the program director.

Requirements

Degree Requirements
Total credits: 72

Students are strongly encouraged to take the core courses as early as possible because they provide the foundation for the rest of the program. The courses which students plan to take should be approved in a program of study designed by the student and their advisor during the student's first semester. Students may take up to 12 credits of courses outside of the Biodefense Program with prior written approval of their advisor. Consult with the graduate program director or coordinator for a list of BIOD electives and approved non-BIOD electives that may be used to fulfill some of the requirements below.

A complete description of the program policies, procedures, and requirements is in the PhD student and faculty handbook (https://schar.gmu.edu/current-students/phd-student-services/phd-handbook-forms/), which is published annually.

Core Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOD 604</td>
<td>Emerging Infectious Diseases I: Bacteria and Toxins</td>
<td>3</td>
</tr>
<tr>
<td>BIOD 605</td>
<td>Emerging Infectious Diseases II: Viral Agents</td>
<td>3</td>
</tr>
<tr>
<td>BIOD 609</td>
<td>Biodefense Strategy</td>
<td>3</td>
</tr>
<tr>
<td>BIOD 620</td>
<td>Global Health Security Policy</td>
<td>3</td>
</tr>
<tr>
<td>BIOD 710</td>
<td>Health Security Preparedness</td>
<td>3</td>
</tr>
<tr>
<td>GOVT 500</td>
<td>The Scientific Method and Research Design</td>
<td>3</td>
</tr>
<tr>
<td>GOVT 540</td>
<td>International Relations</td>
<td>3</td>
</tr>
</tbody>
</table>

Select one of the following advanced research courses: 3

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GOVT 717</td>
<td>Qualitative Methods</td>
<td></td>
</tr>
<tr>
<td>POGO 611</td>
<td>Advanced Data Analysis for Policy and Government</td>
<td></td>
</tr>
<tr>
<td>POGO 646</td>
<td>Policy and Program Evaluation</td>
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</tbody>
</table>

An alternative research course approved by the program director

Total Credits 24

Field of Specialization
Select one field of specialization and complete the requirements therein.

International Security

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>GOVT 744</td>
<td>Foundations of Security Studies</td>
<td>3</td>
</tr>
<tr>
<td>GOVT 745</td>
<td>International Security</td>
<td>3</td>
</tr>
</tbody>
</table>

Select six credits of electives (courses may be chosen from the electives list below)

Total Credits 12

Terrorism and Homeland Security

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOD 722</td>
<td>Examining Terrorist Groups</td>
<td>3</td>
</tr>
<tr>
<td>BIOD 725</td>
<td>Terrorism and Weapons of Mass Destruction</td>
<td>3</td>
</tr>
</tbody>
</table>

Select six credits of electives (courses may be chosen from the electives list below)

Total Credits 12

Technology and Weapons of Mass Destruction

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOD 706</td>
<td>Nuclear, Biological, and Chemical Weapons Policy and Security</td>
<td>3</td>
</tr>
<tr>
<td>BIOD 760</td>
<td>National Security Technology and Policy</td>
<td>3</td>
</tr>
</tbody>
</table>

Select six credits of electives (courses may be chosen from the electives list below)

Total Credits 12
### Electives

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Select 9 to 18 credits of additional electives in consultation with advisor.</td>
<td>9-18</td>
</tr>
</tbody>
</table>

Courses may be offered by Schar or by other units. Schar courses include the following:

- BIOD 610 Advanced Topics in Global Health Security
- BIOD 621 Ethics and International Security
- BIOD 622 Negotiating in the International Arena
- BIOD 705 Intelligence: Theory and Practice
- BIOD 706 Nuclear, Biological, and Chemical Weapons Policy and Security
- BIOD 709 Nonproliferation and Arms Control
- BIOD 722 Examining Terrorist Groups
- BIOD 723 Legal Dimensions of Homeland Security
- BIOD 725 Terrorism and Weapons of Mass Destruction
- BIOD 726 Food Security
- BIOD 751 Biodefense
- BIOD 760 National Security Technology and Policy
- BIOD 762 Biotechnology and Society
- BIOD 766 Medical Countermeasures for Responding to CBRN Threats and Pandemics
- BIOD 793 Directed Studies in Biodefense
- BIOD 810 Advanced Seminar in Biodefense
- BIOD 890 Doctoral Supervised Internship
- BIOD 899 Directed Research in Biodefense
- GOVT 510 American Government and Politics
- GOVT 706 Federalism and Intergovernmental Relations
- GOVT 739 Issues in Comparative and International Politics
- GOVT 741 Advanced Seminar in International Politics
- GOVT 745 International Security
- GOVT 755 Seminar in Politics and Bureaucracy
- PUAD 504 Managing in the International Arena: Theory and Practice
- PUAD 630 Emergency Planning and Preparedness
- PUAD 631 Disaster Response Operations and Recovery
- PUAD 632 Terrorism: Theory and Practice
- PUAD 635 Emergency Preparedness: Interagency Communication and Coordination
- PUAD 701 Cross-Cultural and Ethical Dimensions of International Management
- PUBP 758 Global Threats and Medical Policies

### Qualifying Exam

The purpose of the qualifying exam is to determine if the student is ready to engage in dissertation research. Doctoral students are eligible to take the exam at the conclusion of coursework, provided an approved Degree Plan is on file with Schar. The exam must be passed before the student takes dissertation proposal (BIOD 998 Doctoral Dissertation Proposal).

### Advancement to Candidacy

Advancement to candidacy for the doctoral degree occurs when a student has met the coursework requirements, passed the comprehensive qualifying examination, presented and successfully defended a dissertation proposal, and has an approved dissertation committee.

### Dissertation Research

Once enrolled in BIOD 998, students in this degree program must maintain continuous registration in BIOD 998 or BIOD 999 each semester (excluding summers) until the dissertation is submitted to and accepted by the University Libraries. Once enrolled in BIOD 999, students must follow the university’s continuous registration policy as specified in AP.6.10.6 Dissertation Registration (http://catalog.gmu.edu/policies/academic/graduate-policies/#ap-6-10-6). Students who defend in the summer must be registered for at least 1 credit of BIOD 999.

Students may apply to this degree a minimum of 3 and a maximum of 6 credits of BIOD 998 and a minimum of 6 and a maximum of 18 credits of BIOD 999. They apply a minimum of 12 and a maximum of 24 dissertation credits (BIOD 998 and BIOD 999 combined) to the degree. Because of the continuous registration policy, students may be required to register for additional credits of these courses.

Before registering in BIOD 999, students must offer a successful public defense of the dissertation proposal. Students must present the results of the dissertation research to their dissertation committee in a seminar and defend their dissertation to the university community. Successful completion of a dissertation is contingent on approval of the dissertation committee and the dean.

### Research Credits

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOD 998</td>
<td>Doctoral Dissertation Proposal (minimum of 3 credits)</td>
<td>12-24</td>
</tr>
<tr>
<td>BIOD 999</td>
<td>Doctoral Dissertation (minimum of 6 credits)</td>
<td>12-24</td>
</tr>
</tbody>
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