

# BIOSECURITY AND DISASTER PREPAREDNESS, M.P.H.

Saint Louis University is a pioneer in biosecurity and disaster preparedness training and was one of the first to offer a degree program in the field. Faculty and students in this concentration have been heavily involved in the COVID-19 response.

At SLU, you can get a Master of Public Health (<https://www.slu.edu/public-health-social-justice/programs-and-certificates/public-health/master-of-public-health/>) with a concentration in biosecurity and disaster preparedness or pair your study of biosecurity and disaster preparedness with coursework focusing on epidemiology or global health. You can also get a certificate in the discipline (<https://www.slu.edu/public-health-social-justice/programs-and-certificates/certificates/biosecurity-disaster-preparedness-post-bachelors-cert.php>). Each prepares you for a wide range of senior leadership roles in the prevention of and response to both natural and manmade disasters and can be completed entirely online or in a traditional classroom setting.

Training in biosecurity and disaster preparedness trains you to help prevent biological terrorism and build effective rapid response capabilities for organizations throughout the public and private sectors. You can work to curb emerging infectious disease outbreaks in crops and livestock that threaten our food supplies, or you can develop, implement and assess strategies for governmental agencies, first responders and industry to effectively respond to natural disasters such as hurricanes, floods and earthquakes.

## Program Highlights

- You can choose to study biosecurity and disaster preparedness at Saint Louis University in an entirely online format, or in a "hybrid" format, which combines online and in-person classes. All of our programs are fully accredited and competency-based.
- Designed for the self-motivated, mature and action-oriented learner, the online M.P.H. and certificate in biosecurity and disaster preparedness are taught asynchronously, providing students with access to lectures, discussion boards and coursework from any location, at any time, through Canvas, an industry-leading standard for higher education.
- Our instructors are well-established in their professional fields and have extensive experience in online teaching techniques. Our online classes are not correspondence courses; student-faculty interaction is an invaluable component of the BSDP learning environment.

## Curriculum Overview

Biosecurity measures are aimed at mitigating, preventing, preparing for, responding to or recovering from natural or manmade biological events that could harm humans, animals or the environment.

At SLU, you will learn about recent public health emergencies like the novel coronavirus (COVID-19) pandemic as well as other threats such as anthrax, avian influenza, botulism, chikungunya, dengue fever, Ebola, methicillin-resistant *Staphylococcus aureus* (MRSA), Middle East respiratory syndrome Coronavirus (MERS Co-V), Nipah, plague, severe acute respiratory syndrome Coronavirus (SARS Co-V), smallpox, tularemia and Zika.

These are complex humanitarian events that require a multi-disciplinary approach, incorporating clinical medicine, public health, veterinary

medicine, epidemiology, environmental health, business, law enforcement and emergency management.

Learn to help mitigate, prevent, prepare for, respond to, or recover from natural or man-made biological events that could harm humans, animals, or the environment. Students in the M.P.H. biosecurity and disaster preparedness concentration develop the skills to help prevent biological terrorism and build effective rapid response capabilities for organizations throughout the public and private sectors. Students will also learn about recent public health emergencies like the novel coronavirus (COVID-19) pandemic as well as other threats such as anthrax, avian influenza, botulism, Ebola, plague, smallpox, and Zika. A joint concentration with epidemiology is also available for just an additional six credits.

## Fieldwork and Research Opportunities

SLU's M.P.H. program is designed to give students the practical skills needed for any public health career. Over 50% of our M.P.H. students work on a research project with faculty outside of a class requirement.

Students complete an internship after their first year of study to gain practical experience in their chosen career path. Students have interned in a variety of settings from local nonprofits to academic research centers, state and federal agencies, and multilateral institutions. Students work with the M.P.H. internship coordinator and their faculty advisor to identify an appropriate internship in St. Louis, nationally, or across the globe.

SLU's faculty members are involved locally, nationally and internationally in biosecurity-related research and practice. They are leaders in the field and in touch with current practices and policies. They are active in:

- Supporting local health departments and hospital systems.
- Selection and correct use of personal protective equipment (PPE) for COVID-19, Ebola and other emerging pathogens
- Laboratory biosafety policies and compliance regulations
- Impact on long-term use of respiratory protection for health care personnel and first responders
- Influencing factors and barriers to vaccine uptake
- Increasing resilience among individuals, agencies and communities
- Maximizing mass dispensing of medical countermeasures for biological events
- Health policy
- Zoonoses

## Careers

Driven by globalization, emerging infectious diseases, the threat of terrorism, and more, the field of biosecurity is rapidly expanding. You will be able to work in the military, law enforcement, public health, and state and local governments.

There are also a variety of private-sector or nonprofit employers that require emergency management specialists for situations where emergencies are prone to happen or could be potentially devastating. Examples of these employers include hospitals and health systems, large companies, colleges and universities and various community relief organizations such as the Red Cross.

Within the first year of graduation, the vast majority of M.P.H. graduates are beginning their careers, participating in fellowships or furthering their graduate education.

Our alumni are working as:

- Biological safety or biosecurity officer
- Bioterrorism epidemiologist
- Business continuity consultant
- Director of emergency management
- Disaster coordinator
- Ebola specialist
- Emergency response coordinator
- Infection preventionist
- Public health emergency preparedness manager

## Tuition

Tuition	Cost Per Credit
Graduate Tuition	\$1,310

Additional charges may apply. Other resources are listed below:

Net Price Calculator (<https://www.slu.edu/financial-aid/tuition-and-costs/calculator.php>)

Information on Tuition and Fees (<https://catalog.slu.edu/academic-policies/student-financial-services/tuition/>)

Miscellaneous Fees (<https://catalog.slu.edu/academic-policies/student-financial-services/fees/>)

Information on Summer Tuition (<https://catalog.slu.edu/academic-policies/student-financial-services/tuition-summer/>)

## Scholarships and Financial Aid

The College for Public Health and Social Justice offers several ways to help finance graduate education. Opportunities include a limited number of merit-based scholarships and graduate research assistantships.

Awards are made to applicants with the highest combinations of GPAs and test scores who complete their applications by the priority deadlines.

For more information, visit the student financial services office online at <http://finaid.slu.edu> (<http://finaid.slu.edu/>).

## Accreditation

Saint Louis University's College for Public Health and Social Justice is fully accredited by the Council on Education for Public Health (CEPH). To see our most recent accreditation documentation, please visit the College for Public Health and Social Justice website (<https://www.slu.edu/public-health-social-justice/>). (<https://www.slu.edu/public-health-social-justice/about/accreditation.php>)

## Learning Outcomes

### Evidence-based Approaches to Public Health

- Graduates will be able to apply epidemiological methods to the breadth of settings and situations in public health practice.
- Graduates will be able to select quantitative and qualitative data collection methods appropriate for a given public health context.
- Graduates will be able to analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate.

- Graduates will be able to interpret results of data analysis for public health research, policy or practice.

## Public Health and Health Care Systems

- Graduates will be able to compare the organization, structure and function of health care, public health and regulatory systems across national and international settings.
- Graduates will be able to discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and systemic levels.

## Planning and Management to Promote Health

- Graduates will be able to assess population needs, assets and capacities that affect communities' health.
- Graduates will be able to apply awareness of cultural values and practices to the design, implementation, or critique of public health policies or programs.
- Graduates will be able to design a population-based policy, program, project or intervention.
- Graduates will be able to explain basic principles and tools of budget and resource management.
- Graduates will be able to select methods to evaluate public health programs.

## Policy in Public Health

- Graduates will be able to discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence.
- Graduates will be able to propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes.
- Graduates will be able to advocate for political, social or economic policies and programs that will improve health in diverse populations.
- Graduates will be able to evaluate policies for their impact on public health and health equity.

## Leadership

- Graduates will be able to apply leadership and/or management principles to address a relevant issue.
- Graduates will be able to apply negotiation and mediation skills to address organizational or community challenges.

## Communication

- Graduates will be able to select communication strategies for different audiences and sectors.
- Graduates will be able to communicate audience-appropriate public health content, both in writing and through oral presentation.
- Graduates will be able to describe the importance of cultural competence in communicating public health content.

## Interprofessional Practice

- Graduates will be able to integrate perspectives from other sectors and/or professions to promote and advance population health.

## Systems Thinking

- Graduates will be able to apply a systems thinking tool to visually represent a public health issue in a format other than a standard narrative.

## Requirements

### Admission Requirements

Applicants should have a bachelor's degree or the equivalent in the physical, chemical or biological sciences, or six credits of college-level courses individually in chemistry, biology and the physical sciences, with an overall grade point average of 3.00 or better in the science courses; however, applicants will be considered on an individual basis.

### Application Deadline

Applications are accepted on a rolling basis until classes are full. Apply using the centralized application service S (<https://sophas.org/OPHAS>) (<https://sophas.liaisoncas.com/applicant-ux/#/deeplink/programSearch/organization/6425937835738032128>).

### Review Process

All applicants are considered using a holistic application review process, including an in-person, phone or Zoom interview with the graduate admissions director.

### Application Requirements

- Application form and fee
- Transcript(s)
- Three letters of recommendation
- Résumé/curriculum vitae
- Professional goal statement

Apply using the centralized application service SOPHAS (<https://sophas.liaisoncas.com/applicant-ux/#/deeplink/programSearch/organization/6425937835738032128>).

### Requirements for International Students

All admission policies and requirements for domestic students apply to international students. International students must also meet the following additional requirements:

- Demonstrate English Language Proficiency (<https://catalog.slu.edu/academic-policies/office-admission/undergraduate/english-language-proficiency/>)
- Financial documents are required to complete an application for admission and be reviewed for admission and merit scholarships.
- Proof of financial support that must include:
  - A letter of financial support from the person(s) or sponsoring agency funding the student's time at Saint Louis University
  - A letter from the sponsor's bank verifying that the funds are available and will be so for the duration of the student's study at the University
- Academic records, in English translation, of students who have undertaken postsecondary studies outside the United States must include:
  - Courses taken and/or lectures attended
  - Practical laboratory work
  - The maximum and minimum grades attainable

- The grades earned or the results of all end-of-term examinations
- Any honors or degrees received.

WES and ECE transcripts are accepted.

## Program Requirements

Code	Title	Credits
<b>Required Core Courses</b>		
HCE 5020	Ethical Issues in Public Health	3
or PUBH 5020	Ethical Issues in Public Health	
PUBH 5010	Mission and Practice of Global Public Health	2
PUBH 5030	Methodological Approaches to Understanding Population Health	3
PUBH 5040	Generating Evidence from Public Health Data	3
PUBH 5050	Health Care Across the Life Course: From Policy to Practice	3
PUBH 5060	Environmental and Biological Determinants of Health	3
PUBH 5070	Translating Evidence and Theory for Community Practice	3
PUBH 5910	Practice Experience in Public Health	1
PUBH 5950	Special Study for Examinations	0
PUBH 5960	Capstone in Public Health Practice	3
<b>Concentrations</b>		
Select one of the following:		
Biosecurity and Disaster Preparedness (p. 3)		24
Biosecurity and Disaster Preparedness / Epidemiology Joint (p. 3)		30
<b>Total Credits</b>		<b>48-54</b>

### Biosecurity and Disaster Preparedness Concentration

Code	Title	Credits
<b>Required core courses listed above and the following:</b>		
BSDP 5100	Public Health and Disasters	3
BSDP 5101	Fundamentals of Disaster Planning	3
BSDP 5103	Communicable Diseases and Infection Control	3
BSDP 5104	Public Health Ecology	3
BSDP 5203	Disaster Planning for Infectious Disease Disasters	3
BSDP 5206	Disaster Management and Risk Analysis	3
Elective	Elective chosen in consultation with mentor	6
<b>Total Credits</b>		<b>24</b>

### Biosecurity and Disaster Preparedness / Epidemiology Joint Concentration

Code	Title	Credits
<b>Required core courses listed above and the following:</b>		
BSDP 5100	Public Health and Disasters	3
BSDP 5101	Fundamentals of Disaster Planning	3
BSDP 5103	Communicable Diseases and Infection Control	3
BSDP 5104	Public Health Ecology	3
BSDP 5203	Disaster Planning for Infectious Disease Disasters	3
BSDP 5206	Disaster Management and Risk Analysis	3

BST 5100	Introduction to General Linear Modeling	3
EPI 5020	Epidemiology Methods II	3
Elective	Elective chosen in consultation with mentor	6
<b>Total Credits</b>		<b>30</b>

## Continuation Standards

Students must maintain a cumulative grade point average (GPA) of 3.00 in all graduate/professional courses.

## Roadmap

Roadmaps are recommended semester-by-semester plans of study for programs and assume full-time enrollment unless otherwise noted.

Courses and milestones designated as critical (marked with !) must be completed in the semester listed to ensure a timely graduation. Transfer credit may change the roadmap.

This roadmap should not be used in the place of regular academic advising appointments. All students are encouraged to meet with their advisor/mentor each semester. Requirements, course availability and sequencing are subject to change.

## Biosecurity and Disaster Preparedness Concentration (hybrid)

Course	Title	Credits
<b>Year One</b>		
<b>Fall</b>		
BSDP 5100	Public Health and Disasters	3
BSDP 5103	Communicable Diseases and Infection Control	3
PUBH 5010	Mission and Practice of Global Public Health	2
PUBH 5070	Translating Evidence and Theory for Community Practice	3
MPH Professional Development Series: Completion of 6 sessions required during Year 1 (prerequisite for PUBH 5910).		
<b>Credits</b>		<b>11</b>
<b>Spring</b>		
BSDP 5104	Public Health Ecology	3
PUBH 5030	Methodological Approaches to Understanding Population Health	3
PUBH 5040	Generating Evidence from Public Health Data	3
MPH Professional Development Series: Completion of 6 sessions required during Year 1 (prerequisite for PUBH 5910).		
<b>Credits</b>		<b>9</b>
<b>Summer</b>		
BSDP 5101	Fundamentals of Disaster Planning	3
BSDP 5206	Disaster Management and Risk Analysis	3
<b>Credits</b>		<b>6</b>
<b>Year Two</b>		
<b>Fall</b>		
PUBH 5060	Environmental and Biological Determinants of Health	3
PUBH 5020	Ethical Issues in Public Health	3

Elective	BSDP Elective chosen in consultation with mentor	3
Elective	BSDP Elective chosen in consultation with mentor	3
<b>Credits</b>		<b>12</b>

### Spring

BSDP 5203	Disaster Planning for Infectious Disease Disasters	3
PUBH 5050	Health Care Across the Life Course: From Policy to Practice	3
PUBH 5950	Special Study for Examinations	0
PUBH 5960	Capstone in Public Health Practice	3
<b>Credits</b>		<b>9</b>

### Summer

PUBH 5910	Practice Experience in Public Health	1
<b>Credits</b>		<b>1</b>
<b>Total Credits</b>		<b>48</b>

## Biosecurity and Disaster Preparedness Concentration (online full-time)

Course	Title	Credits
<b>Year One</b>		
<b>Fall</b>		
BSDP 5100	Public Health and Disasters	3
BSDP 5103	Communicable Diseases and Infection Control	3
PUBH 5010	Mission and Practice of Global Public Health	2
MPH Professional Development Series: Completion of 6 sessions required during Year 1 (prerequisite for PUBH 5910). Online only students will be required to watch the sessions via the recordings posted on Canvas and write a 500-word reflection on each.		
<b>Credits</b>		<b>8</b>
<b>Spring</b>		
BSDP 5104	Public Health Ecology	3
PUBH 5030	Methodological Approaches to Understanding Population Health	3
PUBH 5070	Translating Evidence and Theory for Community Practice	3
MPH Professional Development Series: Completion of 6 sessions required during Year 1 (prerequisite for PUBH 5910). Online only students will be required to watch the sessions via the recordings posted on Canvas and write a 500-word reflection on each.		
<b>Credits</b>		<b>9</b>
<b>Summer</b>		
BSDP 5101	Fundamentals of Disaster Planning	3
BSDP 5206	Disaster Management and Risk Analysis	3
PUBH 5040	Generating Evidence from Public Health Data	3
<b>Credits</b>		<b>9</b>

**Year Two**

**Fall**

PUBH 5060	Environmental and Biological Determinants of Health	3
Elective	BSDP Elective chosen in consultation with mentor	3
Elective	BSDP Elective chosen in consultation with mentor	3
<b>Credits</b>		<b>9</b>

**Spring**

PUBH 5050	Health Care Across the Life Course: From Policy to Practice	3
BSDP 5203	Disaster Planning for Infectious Disease Disasters	3
PUBH 5950	Special Study for Examinations	0
PUBH 5960	Capstone in Public Health Practice	3
<b>Credits</b>		<b>9</b>

**Summer**

PUBH 5020	Ethical Issues in Public Health	3
PUBH 5910	Practice Experience in Public Health	1
<b>Credits</b>		<b>4</b>
<b>Total Credits</b>		<b>48</b>

## Biosecurity and Disaster Preparedness Concentration (online part-time)

Course	Title	Credits
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**Year One**

**Fall**

BSDP 5103	Communicable Diseases and Infection Control	3
PUBH 5010	Mission and Practice of Global Public Health	2

MPH Professional Development Series: Completion of 6 sessions required during Year 1 or 2 (prerequisite for PUBH 5910). Online only students will be required to watch the sessions via the recordings posted on Canvas and write a 500-word reflection on each.

<b>Credits</b>		<b>5</b>
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**Spring**

BSDP 5104	Public Health Ecology	3
PUBH 5030	Methodological Approaches to Understanding Population Health	3

MPH Professional Development Series: Completion of 4 sessions required during Year 1 or 2 (prerequisite for PUBH 5910). Online only students will be required to watch the sessions via the recordings posted on Canvas and write a 500-word reflection on each.

<b>Credits</b>		<b>6</b>
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**Summer**

BSDP 5101	Fundamentals of Disaster Planning	3
BSDP 5206	Disaster Management and Risk Analysis	3
<b>Credits</b>		<b>6</b>

**Year Two**

**Fall**

BSDP 5100	Public Health and Disasters	3
Elective	BSDP Elective chosen in consultation with mentor	3
<b>Credits</b>		<b>6</b>

**Spring**

BSDP 5203	Disaster Planning for Infectious Disease Disasters	3
PUBH 5070	Translating Evidence and Theory for Community Practice	3
<b>Credits</b>		<b>6</b>

**Summer**

PUBH 5040	Generating Evidence from Public Health Data	3
PUBH 5020	Ethical Issues in Public Health	3
<b>Credits</b>		<b>6</b>

**Year Three**

**Fall**

PUBH 5060	Environmental and Biological Determinants of Health	3
Elective	BSDP Elective chosen in consultation with mentor	3
<b>Credits</b>		<b>6</b>

**Spring**

PUBH 5050	Health Care Across the Life Course: From Policy to Practice	3
PUBH 5950	Special Study for Examinations	0
PUBH 5960	Capstone in Public Health Practice	3
<b>Credits</b>		<b>6</b>

**Summer**

PUBH 5910	Practice Experience in Public Health	1
<b>Credits</b>		<b>1</b>
<b>Total Credits</b>		<b>48</b>

## Biosecurity and Disaster Preparedness / Epidemiology Joint Concentration

Course	Title	Credits
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**Year One**

**Fall**

BSDP 5103	Communicable Diseases and Infection Control	3
PUBH 5010	Mission and Practice of Global Public Health	2
PUBH 5030	Methodological Approaches to Understanding Population Health	3
PUBH 5040	Generating Evidence from Public Health Data	3

MPH Professional Development Series: Completion of 6 sessions required during Year 1 (prerequisite for PUBH 5910).

<b>Credits</b>		<b>11</b>
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**Spring**

BSDP 5104	Public Health Ecology	3
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BSDP 5203	Disaster Planning for Infectious Disease Disasters	3
EPI 5020	Epidemiology Methods II	3
PUBH 5070	Translating Evidence and Theory for Community Practice	3

MPH Professional Development Series: Completion of 6 sessions required during Year 1 (prerequisite for PUBH 5910).

<b>Credits</b>	<b>12</b>
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#### Summer

BSDP 5101	Fundamentals of Disaster Planning	3
BSDP 5206	Disaster Management and Risk Analysis	3
PUBH 5020	Ethical Issues in Public Health	3

<b>Credits</b>	<b>9</b>
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#### Year Two

##### Fall

BSDP 5100	Public Health and Disasters	3
BST 5100	Introduction to General Linear Modeling	3
PUBH 5060	Environmental and Biological Determinants of Health	3
Elective	EPI Elective chosen in consultation with mentor	3

<b>Credits</b>	<b>12</b>
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##### Spring

PUBH 5050	Health Care Across the Life Course: From Policy to Practice	3
PUBH 5950	Special Study for Examinations	0
PUBH 5960	Capstone in Public Health Practice	3
Elective	EPI Elective chosen in consultation with mentor	3

<b>Credits</b>	<b>9</b>
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#### Summer

PUBH 5910	Practice Experience in Public Health	1
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<b>Credits</b>	<b>1</b>
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<b>Total Credits</b>	<b>54</b>
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## Contact Us

Apply for Admission (<https://sophas.liaisoncas.com/applicant-ux/#/deeplink/programSearch/organization/6425937835738032128>)

For additional admission questions, please contact:

Bernie Backer

Director of Graduate Recruitment and Admissions

[bernard.backer@slu.edu](mailto:bernard.backer@slu.edu) ([bernard.backer@slu.edu](mailto:bernard.backer@slu.edu))

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