

## **Comparative Epidemiology: Disease, Data, and Trends**

### **IPBH-3000 (4credits)**

### **Comparative Public Health**

*This syllabus is representative of a typical semester. Because courses develop and change over time to take advantage of unique learning opportunities, actual course content varies from semester to semester.*

#### **Course Description**

Comparative epidemiology investigates how and why disease patterns vary across populations by analyzing differences in health data and contributing factors, supporting more informed public health decisions across regions. This course explores epidemiological trends across three distinct European contexts. Students will compare approaches to epidemiology and data collection as they examine patterns of communicable and non-communicable diseases. Students will analyze European data sets and compare national and regional trends through field-based observation in Lisbon, Amsterdam, and Athens.

#### **Learning Outcomes**

Upon completion of the course, students will be able to:

1. Compare major epidemiological trends in the region and across locations.
2. Analyze national and regional health data to recognize temporal and spatial patterns in disease
3. Identify approaches to epidemiology (descriptive, analytical, or experimental) and the type of data derived from these methods
4. Apply comparative frameworks to synthesize trends across different public health systems
5. Communicate findings in clear, evidence-based, and cross-cultural formats

#### **Language of Instruction**

This course is taught in English.

#### **Instructional Methods**

SIT's philosophy of education is rooted in experiential learning model, which drives the design of this class. Each module allows for experience, reflection, and application. Experiences range from critical analyses of datasets to site visits and conversations with local experts. These experiences are framed by readings, multimedia texts, and class discussion. Reflection

occurs throughout the learning process in various forms, such as verbal debriefs after learning on location experiences to reflexive components in papers/projects. Through reflection, students are encouraged to become aware of their process of learning, to make sense of their experiences, and connect the learning acquired on the program with previous experiences and information. Application activities reinforce learning by practicing communication skills, experimenting with theories, and preparing to transfer learning to future contexts.

### Required Texts

- Articles on Course Reserve
- Publicly available datasets by region and country:
  - **Pan-European**
    - [Eurostat – Health Statistics](#)
    - [ECDC – European Centre for Disease Prevention and Control](#)
    - [WHO Europe Health Data](#)
  - **Portugal**
    - [INSA – Portuguese Institute of Health](#)
    - [PORDATA](#)
  - **Netherlands**
    - [RIVM – National Institute for Public Health and the Environment](#)
    - [CBS – Statistics Netherlands](#)
  - **Greece**
    - [ELSTAT – Hellenic Statistical Authority](#)
    - [EODY – National Public Health Organization](#)

### Assignments and Evaluation

#### Participation & Professional Engagement (10%)

Active involvement in seminars, group discussions, and site visits.

#### Field Reflection Journal (1 entry per city) (15%)

Short entries reflecting on field visits and linking them to the brief's theme.

#### Group Comparative Epidemiologic Brief (75%)

A semester-long, structured brief that progresses through each location. Students will form groups to examine one key epidemiological trend across locations, producing a cumulative, comparative analysis. The final product is concise (4–6 pages) with clear data use and regional implications.

- **Part I: Location #1 (ex. Lisbon, Portugal) (20%)**

Describe and analyze a selected trend using datasets. Introduce population-level implications and system response.

- **Part II: Location #2 (ex. Amsterdam, Netherlands) (25%)**  
Repeat part I and add a comparative layer from the second location. Highlight similarities and differences in surveillance, prevalence, policy response, and population health outcomes.
- **Part III: Location #3 and Regional Synthesis (ex. Athens, Greece) (30%)**  
Repeat part 1, adding third location to the comparison. Extend the discussion by synthesizing conclusions across all three countries. Use visualizations and concise commentary to explain broader patterns and suggest implications for regional-level.

#### Recommended Topics for the Comparative Epidemiological Brief

- **Communicable Disease Trends**
  - Measles resurgence in Portugal, the Netherlands, and Greece
  - Tuberculosis among migrant populations
  - STI surveillance and HIV transmission trends
  - COVID-19 response comparisons (e.g., excess mortality, vaccine uptake)
- **Non-Communicable Diseases (NCDs)**
  - Diabetes prevalence and regional disparities
  - Cardiovascular disease and dietary risk factors
  - Mental health trends in youth and access to services
  - Cancer screening programs (e.g., breast or colorectal cancer)
- **Environmental & Occupational Epidemiology**
  - Air pollution and respiratory illness in urban centers
  - Climate-related disease (e.g., vector-borne diseases in southern Europe)
  - Occupational disease trends among agricultural vs. industrial workers
- **Population-Specific Issues**
  - Health disparities in Roma populations across countries
  - Aging populations and neurodegenerative disease trends
  - Adolescent health trends (e.g., vaping, obesity, self-harm)

**Note on Attendance and Participation:** Due to the nature of this experiential program, full participation in all classes and program activities is required. Students may not voluntarily opt out of required program activities. Valid reasons for absence – such as illness – must be discussed with the Program Director or other designated staff person. Absences impact academic performance, which may impact grades. Excessive, unexcused absences could result in program dismissal. Alternative work for absences will be expected.

**Note on Late Assignments:** IHP programs integrate traditional classroom lectures and discussion with field-based experiences, site visits and debriefs. It is critical that students

complete assignments in a timely manner to continue to benefit from the sequences in assignments, reflections and experiences throughout the program. Extensions may be granted on a case-by-case basis with approval from the Program Director or other designated staff person. Requests must be made in writing and at least 12 hours before the posted due date and time. Students who do not submit their work within the extension period will receive a failing grade.

## Grading Scale

94-100%	A	74-76%	C
90-93%	A-	70-73%	C-
87-89%	B+	67-69%	D+
84-86%	B	64-66%	D
80-83%	B-	below 64	F
77-79%	C+		

## Program Expectations

In order to make the most of the opportunities presented in program, communicate respectfully, prepare for student success, and demonstrate best possible engagement, SIT has the following expectations of students:

- **Content Considerations:** The texts and activities you will encounter in this course delve into sensitive topics that may be emotionally and intellectually challenging. Our classroom is a space where we can engage with challenging ideas, question assumptions, and navigate difficult topics with respect and maturity. As possible, I will flag content and activities that are especially graphic or intense, so we are prepared to address them soberly and sensitively. If you are struggling to keep up with the work or participate in the course because of the nature of the content and activities, you should speak with me and/or seek help from counseling services.
- **Learning Community:** Respect differences of opinion (classmates', lecturers, local constituents engaged with on the visits). You are not expected to agree with everything you hear, but you are expected to listen across differences and consider other perspectives with respect.
- **Presence.** Show up prepared. Be on time, have your readings completed and points in mind for discussion or clarification. Complying with these elements raises the level of class discussion for everyone.
- **Engage.** Ask questions in class. Interact with the lecturer. These are often very busy professionals who are doing us an honor by coming to speak.

- **Be Honest.** Comply with academic integrity policies (no plagiarism or cheating, nothing unethical).
- **Store Your Work:** Keep several copies of your work as back up and keep one copy accessible to you through an online forum, such as an attachment in your email, the course learning management system, or cloud-based storage. This way your work will always be available despite technical issues. Lost files, deleted drives, or computer crashes are not excuses for late, missing work.
- **Personal Technology Use:** Cell phones and other personal electronics can be used for taking notes and other class activities. Off-task usage is not acceptable, especially during a guest lecture or presentation from a peer. You may be marked as absent for habitually using them for something other than classroom activities.
- **Course Communication:** Course documents and assignments will be posted on the learning management system, Canvas. Although the course calendar provides a broad overview and the general sequence of work and assignments for the course, what we accomplish in class will vary, and revisions to the calendar will be posted at the course site. You will need to check the course site regularly. You are responsible for letting me know about any network-related problems that prevent you from accessing or submitting assignments.
- **Recording Policy:** To ensure the free and open discussion of ideas, students may not record classroom lectures, discussion and/or activities without the advance written permission of the instructor, and any such recording properly approved in advance can be used solely for the student's own private use. Documented academic accommodations may supersede this policy.

## SIT Policies and Resources

Please refer to the [SIT Study Abroad Handbook](#) and the [Policies](#) section of the SIT website for all academic and student affairs policies. Students are accountable for complying with all published policies. Of particular relevance to this course are the policies regarding: academic integrity, Family Educational Rights and Privacy Act (FERPA), research and ethics in field study and internships, late assignments, academic status, academic appeals, diversity and disability, sexual harassment and misconduct, and the student code of conduct.

Please refer to the SIT Study Abroad Handbook and SIT website for information on important resources and services provided through our central administration in Vermont.

## Course Schedule

*\*Please be aware that topics and excursions may vary to take advantage of any emerging events, to accommodate changes in our lecturers' availability, and to respect any changes that would affect student safety. Students will be notified if this occurs*

Note: This is a suggested sequence of modules and topics where each location explores parallel modules with a comparative focus. Local faculty should appropriately adapt how these topics are taught and select local texts, case studies, guest speakers, and site visits that are relevant to the context and course themes.

## **LOCATION #1: LISBON, PORTUGAL (weeks 1-5)**

### **Module #1: Introduction to Comparative Epidemiology (Week 1)**

Topics:

- Overview of comparative epidemiology
- Approaches: descriptive, analytical, and experimental
- Key concepts: incidence, prevalence, morbidity, mortality; case and cohort models
- Introduction to WHO and ECDC frameworks

Assignment:

- Form groups for Comparative Epidemiologic Brief (Part I)

Readings: Northwest Center for Public Health Practice. (n.d.). *Study types in epidemiology* [Transcript]. [https://www.nwcphp.org/docs/study\\_types/study\\_types\\_transcript.pdf](https://www.nwcphp.org/docs/study_types/study_types_transcript.pdf)

### **Module #2: Disease and Datasets (Weeks 2-3)**

Topics:

- National disease trends and burden, communicable and noncommunicable
- Data collection and surveillance infrastructure: Eurostat, WHO, INSA and national registries
- Historical shifts and emerging epidemiologic patterns

Learning on Location: Visit to INSA (Portuguese Institute of Health)

### **Module #3: Contextual Influences (Weeks 4-5)**

Topics:

- Health systems and institutional roles in shaping trends
- Regional health disparities
- Special Topic: Urban vs. rural burden of disease

Assignments:

- Field Reflection Journal entry #1 (due week 4)

- Comparative Epidemiologic Brief Part I (due week 5)

Learning on Location: local urban health disparities mapping exercise

## **LOCATION #2: AMSTERDAM, NETHERLANDS (weeks 6–10)**

### **Module #4: Disease and Datasets (Weeks 6-7)**

Topics:

- National disease trends and burden, communicable and noncommunicable
- Data collection and surveillance infrastructure: Eurostat, WHO, RIVM and national data systems
- Historical shifts and emerging epidemiologic patterns

Learning on Location: visit RIVM (Dutch National Institute for Public Health)

### **Module #5: Contextual Influences (Weeks 8-9)**

Topics:

- Health systems and institutional roles in shaping trends
- Local policy frameworks and urban epidemiology
- Special Topic: STI surveillance and HIV transmission trends

Learning on Location: Amsterdam Center for Sex Workers (ACS), a government-funded clinic at the center of efforts to improve healthcare for sex workers

### **Module #6: Comparative Analysis Methods (Week 10)**

Topics:

- Building cross-national comparisons: methods and limitations

Assignments:

- Comparative Epidemiologic Brief Part II due
- Field Reflection Journal entry #2 due

## **LOCATION #3 (weeks 11–15): ATHENS, GREECE**

### **Module #7: Disease and Datasets (Weeks 11-12)**

Topics:

- National disease trends and burden, communicable and noncommunicable
- Data collection and surveillance infrastructure: Eurostat, WHO, ELSTAT – Hellenic Statistical Authority
- Historical shifts and emerging epidemiologic patterns

## **Module #8: Contextual Influences (Week 13)**

Topics:

- Health systems and institutional roles in shaping trends
- Health system capacity and reporting mechanisms
- Special Topic: Disease trends amid economic austerity and migration

Learning on Location: NGO site visit focused on infectious disease and migration

## **Module #9: Comparative Analysis and Synthesis (Weeks 14-15)**

Assignments:

- Field Reflection Journal entry #3 (due Week 14)
- Finalize Comparative Epidemiologic Brief (Part III: add Greece + synthesis)