

Epidemiology and Health Services Management IPBH-3000 (3 credits)

Argentina: Epidemiology and Health Services Management

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

Epidemiology is the discipline that studies the distribution, patterns, and social determinants of health related events in a defined population. Epidemiology research tools contribute to the study design, collection, and analysis of data and evaluates possible solutions that can be achieved through the exercise of organized medical attention, encompassing preventive medicine and the rationality of curative and rehabilitation procedures.

The work process in the field of epidemiology is based on technical procedures, study design, and elaboration of strategies to implement health policies. Epidemiology extends its field of action to specific topics within the health management process, actively participating in the economic evaluation of alternative courses of action and pointing out the methodological aspects for achieving adequate cost-effectiveness of health services.

This course enables students to understand how epidemiology informs health management decisions, highlights contemporary health management patterns and strategies, and explains practices of services through various levels of complexity. Lectures, discussions, and field visits by medical doctors, academics, and health professionals help students to develop the critical thinking skills necessary to effectively engage in these issues. Argentinian experts from diverse fields such as epidemiology, public health government officials, health managers, health care service providers, and advocates will participate in the course. Lectures are held at ISALUD University, in the city of Buenos Aires. To put into practice knowledge acquired in the classroom, the course includes field visits in Buenos Aires, and an excursion to Mendoza province.

Learning Outcomes

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

- Explain the role of Epidemiology as a scientific discipline in the identification and analysis of health-related events and problems, and as a tool for health service management;
- Describe the structural and dynamic aspects of the Argentine health system's organization and analyze the role of Primary Health Care and Health Services Networking strategies in improving the quality of health services;

- Identify the organization and functioning of health care service units: protocols, goals definitions, activity planning, human resources, roles, information systems, and management patterns;
- Analyze local health-related events or problems and health care services responses: elaborate on demographic and health diagnosis; establish priorities based on the application of epidemiological techniques; analyze health care facilities organization, management strategies: their strengths and limitations to deliver quality services;
- Apply Epidemiology conceptual and methodological tools for the analysis of health problems affecting populations;
- Improve speaking, listening, and writing fluency in Spanish for health sciences.

Language of Instruction

This course is taught in Spanish.

Instructional Methods

The SIT teaching and learning philosophy is based on experiential learning theory developed by Kolb (1984; 2015) and informed by various scholars, such as Dewey, Piaget, Lewin, among others. Experiential learning theory recognizes that learning is an active process that is not limited to the formal curriculum and takes place through various life experiences in which students are inspired to generate new ways of knowing and being. Learning involves a community and is a lifelong endeavor. Learning is transformational. The suggested four step-cycle of a *concrete experience, reflective observation, abstract conceptualization, and active experimentation* embedded in the experiential learning model is not linear and might not always happen in that specific order, as any learning is highly context dependent. These stages of taking part in a shared experience; reflecting on that experience by describing and interpreting it; challenging their own assumptions and beliefs to generate new knowledge; and ultimately applying new knowledge, awareness, skills, and attitudes in a variety of situations and contexts are important for students to engage in to become empowered lifelong learners.

Active learning is facilitated in shared activities and spaces, which allows for spontaneous groupings between participants to be transformed into working teams. Through collaborative and coordinated work, students are encouraged to share with each other their expectations regarding learning experiences and training.

To facilitate learning as an active process the program:

- Offers concrete and shared experiences, rooted in Argentinian contexts:
 - Everyday life immersion into local culture through the homestay experience.
 - Interaction with experts from different academic and health professions and organizations.
- Teamwork through in-class activities and site-visits to health facilities. Promotes abstract conceptualization by confronting previously held ideas, beliefs and assumptions, with systematic knowledge through:
 - Offering the opportunity to participate in dialogical lectures in academic field exchanges with experts in health field. These classes often have the design of workshops.
 - Requesting the elaboration of conclusions and presentation of reports.

- Provides opportunities for active experimentation in which students can apply new knowledge and skills in different situations:
- Conducting case studies in which effective knowledge is constructed through integration of theories and experience.

Required Texts

Bonita, R., Beaglehole, R., Kjellstrom. (2006). *Basic Epidemiology*. World Health Organization. Geneva. Chapters 1, 2 and 3. pp 1-61.

Szklo, Moyses and Nieto, Javier. (2018). *Epidemiology: Beyond the Basics (4th Edition)*. Burlington, MA: Jones & Bartlett Learning.

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.

Module 1: Epidemiology: A Tool for Public Health

Introduction to Epidemiology and the analysis of social determinants of health: concepts, basic assumptions, and theories. The module provides tools for the analysis and evaluation of population health conditions. Methodological approaches, indicators, concepts, and calculations; health and demographic indicators; morbidity and mortality in Argentina, its evolution and present situation; health disparities.

Session 1: Introduction to Epidemiology as a Scientific Discipline

Students will learn theoretical models and basic concepts and principles of Epidemiology, its application to healthcare services management, research, demography. This session provides a general overview of Argentina's demographic structure and epidemiological profile. The epidemiological transition in Argentina.

Session 2: Epidemiological Measurements, Incidence, and Prevalence

This session provides the definition and types of measurements; mortality causes, premature mortality, AVPP., avoidable mortality, and standardized mortality ratio (SMR). Students explore the social determinants of health: disparities and main challenges.

Session 3: Epidemiological Information System

This session introduces students to the Epidemiological Information System, its organization, and its development at different levels: national, local and at services of different complexity levels. Public health surveillance and epidemiology reports.

Session 4: The Analysis of Health Indicators and Disparities

This session provides analysis of health indicators and disparity concepts and assessments. Analysis of health disparities between different social areas in the country and what factors contribute to those disparities.

Field Visits: Visit Health Institutions focused on the design and use of epidemiological information systems: a primary health care center and a public health hospital in Buenos Aires.

Readings:

Bonita, R., Beaglehole, R., Kjellstrom. (2006). *“Basic Epidemiology”*. World Health Organization. Geneva. Chapters 1, 2 and 3. pp 1-61.

Royer M. E. (2019). Updated version of *“Social Epidemiology: Introductory Notes”*. ISALUD Journal, 2010 vol.5, N° 22.

Szklo, M. and Nieto, J. (2018). *Epidemiology: Beyond the Basics (4th Edition)*. Burlington, MA: Jones & Bartlett Learning.

Module 2: Health Services Management in Practice

This module introduces students to the organization of the national healthcare system in Argentina and presents the characteristics and functioning of the different healthcare levels. It discusses the Primary Health Care strategy and Service Networks planning as approaches to attain universal care coverage and more efficient use of resources. The management of services based on demographic and clinical information is presented along with the uses and scope.

Session 1: Introduction to The Argentine Health System

Students explore the subsectors, coverage, and financing of the healthcare system in Argentina. Segmentation and fragmentation, and its impact on the system’s access and financial sustainability. Exclusions, inefficiencies, and inequalities that challenge the principle of universal coverage.

Session 2: Primary Health Care (PHC) Strategy

Discussion on basic principles of accessibility, community participation, health promotion, appropriate technology, and intersectoral cooperation and its application. The Healthcare services network is presented along with how the system is organized following the increasing levels of service complexity. Service Networks approach to provide equitable, comprehensive, integrated, and continuous health services to a defined population.

Session 3: Management of Health Services Following Clinical, Sanitary, and Economic Data

Managing patterns in public and private service units of different complexity levels. Reference and counter reference system. Data recording systems: medical records, health agent records. The use of clinical history in planning and organizing health services.

Session 4: Information Technology in Health Services

Present and future use of information technologies applied to health service delivery and management. The use of mobile technologies in patients’ experiences and professional practice. Recent developments of Big-Tech applied to healthcare: how they can transform health delivery processes.

Field Visit: Visit a private high complexity hospital focused on organizational dimensions of their work: the use of clinical and economic data for management decisions, patient’s administration, the incorporation of communication technologies, and networking.

Readings:

- Declaration of Alma-Ata. (1978). International Conference on Primary Health Care, Alma-Ata. USSR.
- Fetter, R.B., Shin, Y., Freeman, J.L., Averill, R.F., Thompson, J.D. (1980). Case mix definition by diagnosis-related groups. *Med Care*. 1980; 18 (2 Suppl):iii-53.
- Novick, G. E. (2017). "Health Care Organization and Delivery in Argentina: A Case of Fragmentation, Inefficiency and Inequality". *Global Policy*, 8, pp. 93-96.
- PAHO-WHO. (2010). Integrated Health Service Delivery Networks. Concepts, Policy Options and a Road Map for Implementation in the Americas. Series Renewing Primary Health Care in the Americas, No 4, Washington DC.
- Braveman, P., Gruskin, S. (2003). Defining Equity in Health. *J Epidemiol Community Health*, 57:254-258.

Module 3: Epidemiological Research and Health Services Management: Analysis of COVID-19 Case in Argentina and Integration Workshop

Session 1: Definition of Epidemic/Outbreak: Justification for Research

Endemic, Epidemic, Pandemic. Guidelines for outbreak research in the field. Stages of the research. Outbreak detection by epidemiological surveillance. Stages of the Covid-19 outbreak spread until the declaration of a pandemic. Health services management of syndromic surveillance, the role of national and local government. "Detectar" Program: its implementation in Buenos Aires.

Session 2: Planning Research in the Field

Design: sources, instruments, procedures. Planning: inputs, collaborators, means of storage, and transport of samples. Field operations: maps, sketches, notes, formats. Collecting information on possible causes or risk factors: characteristics of the individual, his community, and the environment. Actions to take in the field. Gathering information: surveys and verbal autopsies, epidemiological sheets.

Session 3: Analysis of the Outbreak

Elaboration of the case definition according to time, place, and person. Suspicious and confirmed cases. Clinical case definitions vs. laboratory-based definitions. Epidemic curve and type of exposure. Graph of cases over time. Potential incubation period. Type of epidemic curve and its relationship to the source and type of exposure. Possible inferences based on the shape of the curve. Distribution patterns of cases: mapping and sketching.

Session 4: Identification of Potential Causes

Identification of possible exposures. Hypothesis approach. Exposed and unexposed groups and their attack rates. Basic statistical inferences. Incidence and prevalence of exposure. Risk ratio and mummification ratio. Examples based on the current health emergency by Covid-19.

Session 5: Applying Research Results: Interventions and Communication

Managing outbreak response based on epidemiological information: outbreak control, eliminating the source, interrupting transmission modes, protecting those at risk. Assisting

affected population: outpatient support and clinical assistance. Health emergency by Covid-19: health service organization, government role, and health services networks.

Session 6: Working Session

Guidelines for the final report of the outbreak investigation.

Field visit: Visit a community health center and a high complexity hospital to learn about their organization, their role, and experience in the preventive task and assisting COVID-19 patients.

Readings:

Ortiz, Z. et al. (2004). "Investigación de Brote" en *Módulos de Epidemiología Básica y Vigilancia de la Salud*. Módulo 6. Ministerio de Salud de la Nación -Banco Mundial, Buenos Aires.

Reingold, A. (1998). "Outbreak Investigation. A Perspective". *Emerging Infectious Diseases*. Vol. 4, No. 1, January-March.

Ministerio de Salud de la Nación. (2020). Boletín Integrado de Vigilancia COVID 19. Informes semanales. En: <https://www.argentina.gob.ar/salud/epidemiologia/boletines2020>.

Ministerio de Salud de la Nación. (2020). Reporte Diario de Situación COVID 19. Reportes diarios matutino y vespertino. En: <https://www.argentina.gob.ar/informes-diarios/agosto-de-2020>

Module 4: A Case Study in the Field

Epidemiology is a valuable public health tool, both to know what is happening and to plan actions to solve encountered problems. This module utilizes experiential learning to assess students' understanding of Epidemiology and how it contributes to the improvement of health services planning processes.

This case study highlights the research strategy that favors the connection between theory and practice. This technique enables learning by discovery, encourages the student to ask questions and formulate their own answers, to deduce principles from practical examples or experiences, as well as to exercise the capacity of synthesis and proposal of viable alternatives.

Students practice clear articulation and critical analysis of a health situation, using the tools from epidemiology to formulate a solution to the problem while utilizing the knowledge of health system and health care facilities organization and management strategies and the theoretical frameworks that have been explored through this course.

Option 1) Obesity

Strongly rooted in structural social inequalities obesity is a disease that can cause premature disability and death by increasing the risk of cardio-metabolic diseases, osteoarthritis, dementia, depression, and some types of cancer. Obesity is associated with different health problems in childhood and is a major risk factor for many diseases and mortality in adulthood. The most common medical problems can be: cardiovascular (high blood pressure, hypercholesterolemia, dyslipidemias), endocrine (hyperinsulinemia, glucose intolerance, type 2 diabetes), respiratory

(sleep apnea) as well as orthopedic, gastrointestinal and liver (non-alcoholic hepatitis) and mental health (depression, low self-esteem).

The diseases associated with obesity have an impact on the demand for diagnostic services and care while also having a high economic impact on the health system. A patient with moderate obesity and comorbidities, or with severe obesity will also require complementary studies, psychological evaluation and support, use of medications, referral to specialties such as cardiology, endocrinology, gastroenterology, traumatology, pneumology, and even referral to bariatric and plastic surgery.

Preventive actions can be developed at different care levels to reduce the burden of this disease. At the individual level, promotion of healthy eating habits, according to the dietary guidelines for the Argentine population and physical activity according to WHO recommendations. These actions can be developed in PHC centers, in neighborhoods and schools, promoting healthy environments, and encouraging physical activity in public spaces. Reflecting on this problem and taking measures are challenges for public health. The epidemiological and service management perspectives provide interesting elements for this task.

The case study will focus on the work of public medical services and social security in the province of Mendoza:

a) **Theoretical framework:** the context of obesity worldwide. Obesity in Argentina and Mendoza. Social determinants and causes of obesity. The social distribution of obesity: what is the situation in different regions of the country, which groups are most affected, and why. Sources of information on obesity in Argentina: availability and limitations. Ways of registering the problem in services of different levels of complexity, use of clinical history in patients with obesity. Biomedical risks associated with obesity. Obesity care network (other institutions involved in its care).

b) **Obesity in the context of Mendoza Province:** characterization of Mendoza Province and its health system. Socio-economic and epidemiological indicators of the province. Care services for nutrition problems such as obesity. The evolution of the problem at the province level. Associated factors and impact on indicators. The typical trajectory of the patient with obesity within the province care system.

c) **Definition of the case:** work teams will select a case to study among a series of obesity-related problems presented.

d) **Field research:** visits to different levels of care health services. Interviews with experts, professionals, and local decision-makers. The prevention of overweight and obesity in populations. Collection of statistical data: socio-demographic and epidemiological profile of the people suffering from obesity; data of services associated with the population suffering from obesity; quality of service indicators; and field observations.

e) **Analysis:** bibliography-based analysis and interpretation of the data collected in the field. Identification of key factors associated, and significant relationships established between them. Consulting to other sources of information that can help to analyze the case. Analysis of the most frequent professional practices to address the problem.

f) **Recommendations:** based on theoretical approaches and information from local experts, professionals, and decision-makers, student will elaborate recommendations regarding the case.

g) **Final review:** a review of the case analysis with the professor. Group presentation preparation.

h) **Group oral presentation:** team's synthesis of the case, analysis, and recommendations. Reflections on the work process.

Option 2) Pregnancy in Adolescence

Pregnancy in adolescence is a problem that is strongly rooted in structural social inequalities and presents special biomedical risks related to pregnancy and childbirth. Maternal complications include, among others, anemia, preeclampsia/eclampsia, sexually transmitted diseases, and premature delivery. The most common newborn-related complication is low birth weight due to prematurity or intrauterine growth restriction. Reflecting on this problem and the actions to be taken is a challenge for public health and the protection of adolescents and their children's rights.

The case study will focus on the work of public and social security medical services in the province of Mendoza.

a) **Theoretical framework:** the context of sexual and reproductive health in adolescents in Argentina. Determinants and causes of maternal mortality in adolescence and infant mortality of children born to adolescent women. Indicators: types and uses. Sources of information on maternal and child health in Argentina: availability and limitations. Health inequities: concepts and evaluation. Biomedical risks associated with pregnancy in adolescence.

b) **Pregnancy in adolescence in the context of Mendoza province:** characterization of Mendoza Province and its health system. Socio-economic and epidemiological indicators of the province. Sexual and reproductive health care services for adolescents. Pregnancy in adolescence in the province: its evolution, associated factors, and impact on indicators.

c) **Definition of the case:** work teams will select a case to study among pregnancy in adolescence-related problems presented.

d) **Field research:** visits to different levels of care health services. Interviews with experts, professionals, and local decision-makers. Collection of statistical data: Socio-demographic and epidemiological profile of the adolescences; data on the production of services associated with the adolescent population; quality of service indicators; and field observations.

e) **Analysis:** bibliography-based analysis and interpretation of the data collected in the field. Identification of key factors and the significant relationships established between them. Consulting other sources of information that can help to analyze the case. Analysis of the most frequent professional practices to address the problem.

f) **Recommendations:** based on theoretical approaches and information from local experts, professionals, and decision-makers, students will elaborate recommendations regarding the case.

g) **Final review:** a review of the case analysis with the professor. Group presentation preparation.

h) **Group oral presentation:** team's synthesis of the case, analysis, and recommendations. Reflections on the work process.

Module 5: Integrating Learning

final group discussion.

Assignments and Evaluation

Assignment Descriptions and Grading Criteria

1) Pre-departure (10%)

Based on the recommended bibliography, the student will complete a 4-page essay describing the main characteristics of the Argentinean health system and epidemiological profile. The goal of this assignment is to set a common knowledge ground within the student before the course starts.

2) Individual Analysis Paper (40%)

Based on required readings, lectures, field visits, and conversations with local experts students will write an individual paper analyzing Argentina's experience during the COVID-19 pandemic. The analysis will involve describing and interpreting the epidemiological situation, the government policies designed for its mitigation, and the organization and management of strategies in health institutions to prevent and cure those infected. The paper will allow students to articulate epidemiological information and basic service management knowledge and practice analytical skills they have been developing as part of the course.

3) Group Case Study Presentation (40%)

The student will meet with an assigned group to complete a local case study of a selected prevalent health problem affecting the Argentinean population. Fieldwork for this assignment will be conducted on the Mendoza excursion. The analysis of the case will include searching for information from primary sources in the field and complementing with secondary sources. It involves using the epidemiological tools learned during the course, and the knowledge of the health system organization and management strategies to develop accurate recommendations for case resolution. The goal of this exam is to integrate knowledge and to exercise learning that can be applied in further professional work on health-related problems. Students will provide a written (ppt) and oral presentation to the class and professors.

4) Participation (10%)

This includes active involvement in lectures, readings, discussions, and excursions using the following criteria:

- Attendance - promptness to class and positive presence in class.
- Active Listening - paying attention in class and during field excursions, asking appropriate questions, showing interest and enthusiasm (this includes body language), entertaining contradictory perspectives, taking notes.
- Involvement in Class Discussions - either small or large groups, sharing knowledge. This means challenging yourself to speak up if you usually do not, and also means allowing others to speak if you are a person who tends to dominate class discussions.
- Group Accountability – positive participation in the group during field excursions and classes; note-keeping others waiting.
- Displaying Respect – culturally appropriate interaction with hosts, SIT program staff, SIT lecturers, and communities.

Assessment

Pre-departure - 10%
 Individual Analysis Paper - 40%
 Group Case Study Presentation - 40%
 Participation - 10%

Attendance and Participation

Due to the nature of SIT Study Abroad programs, and the importance of student and instructor contributions in each class session, attendance at all classes and for all program excursions is required. Students must fully participate in all program components and courses. Students may not voluntarily opt out of required program activities. Valid reasons for absence – such as illness – must be discussed with the academic director or other designated staff person. Absences impact academic performance may impact grades and could result in dismissal from the program.

Late Assignments

SIT Study Abroad programs integrate traditional classroom lectures and discussion with field-based experiences, site visits, and debriefs. The curriculum is designed to build on itself and progress to the culmination (projects, ISP, case studies, internship, etc.). It is critical that student complete assignments in a timely manner to continue to benefit from the sequences in assignments, reflections, and experiences throughout the program.

Students may request a justified extension for an assignment during the semester. Requests must be made in writing and at least 12 hours before the posted due date and time. If reason for request is accepted, an extension of up to one week may be granted at that time. Any further requests for extensions will not be granted. Students who fail to submit the assignment within the extension period will receive an 'F' for the assignment.

Grading Scale

94-100%	A
90-93%	A-
87-89%	B+
84-86%	B
80-83%	B-

77-79%	C+
74-76%	C
70-73%	C-
67-69%	D+
64-66%	D
below 64	F

Program Expectations

- 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.
- Have assignments completed on schedule, printed, and done accordingly to the specified requirements. This will help ensure that your assignments are returned in a timely manner.
- Ask questions in class. Engage the lecturer. These are often very busy professionals who are doing us an honor by coming to speak.
- Comply with academic integrity policies (no plagiarism or cheating, nothing unethical).
- 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 difference and consider other perspectives with respect.
- Storing 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 to despite technical issues. Lost files, deleted drives, or computer crashes are not excusing 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. 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.
- Content Considerations: Some 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.
- Classroom 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.

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, such as [Library resources and research support](#), [Disability Services](#), [Counseling Services](#), [Title IX information](#), and [Equity, Diversity, and Inclusion](#) resources.