Certificate in Health Geoinformatics

The Health Geoinformatics Certificate Program is designed primarily for health professionals and students who have completed a bachelor's degree (or equivalent) from an accredited college or university with a cumulative GPA of at least 3.0. Qualified candidates must demonstrate computer proficiency, although no previous experience with geographic information systems (GIS) technology is required. Advanced placement can be considered for applicants with previous GIS experience/training. In addition, interested Loma Linda University students, staff, and faculty who would like to learn about GIS applications in health may also apply.

LEARNER OUTCOMES
- Use knowledge in principles of geospatial information science as they relate to health research and practice.
- Use state-of-the-art GIS software applications and techniques for accessing the spatially defined health information for building related, useful geodatabases.
- Use effective geospatial data while producing and publishing customized maps and other visual displays of health data.
- Employ GIS-based methods and techniques of spatial analysis that support health research and decision-making in public health practice and policy.
- Competently apply geospatial technology and methods in at least one key area of health geographics, such as disease mapping, tracking and assessment of environmental hazards and exposure, health planning and policy, community health, health education and communication, analysis of access to health services, or health care geographics.
- Implement and manage health-GIS projects in government, nongovernment, and community settings.

To earn the certificate, students must successfully complete at least 27 academic units. Course curriculum can be found on our website at http://www.llu.edu/public-health/programs/cert-healthgeoinformatics.page

Master of Public Health in Spatial Epidemiology

This program is deisgned for students who wish to incorporate innovative spatial analytic techniques in their epidemiological practices and research. The track prepares students to apply GIS and other spatial technologies (such as remote GPS and remote sensing) to epidemiology, research, and public health. Acquiring dual skills in epidemiology and GIS enhances the preparations of public health professionals by increasing their decision-making methods and problem-solving ability. Students are encouraged to take advantage of the Health Geoinformatics Summer Institute offered from June to August to conveniently complete some or all required GIS courses in an intensive format.

LEARNER OUTCOMES
Upon successful completion of the program, graduates will acquire the professional and scientific skills to analyze associations between location, environment, and disease. Graduates will have the skills and experience necessary to:

- Use GIS tools and methods to conduct high-quality epidemio-logic research and clinical trials.
- Incorporate spatial techniques to conduct disease surveillance and facilitate identification of geographical areas and population groups that present a greater disease or health risk.
- Apply knowledge of disease mechanisms and information from the biological disciplines to interpretation of statistical findings in biomedical research.
- Facilitate identification of geographical areas and population groups that present a greater disease or health risk.

To earn the MPH in Spatial Epidemiology, students must successfully complete a minimum of 69 units + 4 units applied research. Course curriculum can be found at: www.llu.edu/public-health/programs/dual-mph-spatialedpidemiology.page

Master of Public Health in Environmental Health/ GIS Concentration (GISENVH)

The Master of Public Health Environmental Health/GIS Concentration (GISENVH) is designed to prepare students in the application of modern geospatial information technologies to environmental health practice, research, and learning. Acquiring dual skills in public health and GIS enhances the preparation of environmental health professionals by increasing their effectiveness and efficiency in state-of-the-art methods of problem solving and information sharing. GIS skills are highly desired today as an integral part of informatics competencies that are required of health professionals.

LEARNER OUTCOMES
Upon completion of the degree the graduate should be able to:

- Display geospatial data while producing and publishing customized maps and other visual displays of environmental health data.
- Employ GIS-based methods and techniques of spatial analysis that support research and decision-making in environmental health.
- Manage environmental health GIS projects in government, academia, and community settings.
- Apply innovatively geospatial information technology and methods to re-engineer environmental health practice and policy.

To Earn the MPH in Environmental Health/GIS Concentration, students must complete a minimum of 69 units. Course curriculum can be found at: http://www.llu.edu/public-health/programs/mph-envh-track4-gis.page

Admission Requirements

CERTIFICATE IN HEALTH GEOINFORMATICS

Applicants must have at least a bachelor's degree (or equivalent), with a cumulative GPA of at least 3.0. For those who meet the foregoing basic admission prerequisite, the program is open to health professionals, students, current Loma Linda University students enrolled in a master's or doctoral degree program, Loma Linda faculty and staff, and anyone interested in GIS applications in the health field.

MASTER OF PUBLIC HEALTH IN SPATIAL EPIDEMIOLOGY

College algebra or equivalent (calculus preferred), biochemistry, behavioral science, and at least four of the following courses:

Human Anatomy*, Human Physiology*, Microbiology*, Pathology*, Cancer Biology, Embryology, Genetics, Vertebrate Anatomy, Cell Biology, Zoology, Molecular Biology, Immunology

* recommended courses

NOTE: In addition to units required for the degree, a limited number of the above courses may be taken during the first two quarters of the program.

Candidates must demonstrate computer proficiency, although no previous experience with GIS is required. Advanced placement can be considered for students with previous GIS experience/training.

MASTER OF PUBLIC HEALTH IN ENVIRONMENTAL HEALTH/GIS CONCENTRATION

Students must have completed the appropriate prerequisite courses prior to enrolling as listed in the catalogue. In addition, candidates in the GISENVH Concentration must demonstrate computer proficiency, although no previous experience with GIS is required. Advanced placement can be considered for students with previous GIS experience/training. Students should have a solid quantitative background, as evidenced by scores on the mathematical and analytical sections of the GRE as well as by the nature of undergraduate course work.