

High School Performance Standards for Epidemiology

To our knowledge, three states have these standards, Georgia, California, and Tennessee. The high school standards make it possible for students who have taken an epidemiology course to count the credits toward their science elective requirement. They also open the way to developing epidemiology courses at the high school level and serve as a model for other states to adopt.

GEORGIA: In September 2010 Georgia became the first state to adopt high school performance standards focused on public health and epidemiology.

“The epidemiology curriculum is designed to extend student investigations that begin in Biology. This curriculum is performance-based. It integrates scientific investigations using real world situations to find patterns and determine causation of pathological conditions. Instruction should focus on the design, implementation, and evaluation of studies to increase students’ media literacy and their understanding of public health. This course should expand their understanding of the scientific methods and develop critical thinking skills.”

Major Concepts/ Skills

Distribution and relationship of health and disease

Associations and causations

Media literacy and informed decision making

Disturbance of homeostasis and disease process Patterns of abnormal health

Concepts/Skills to Maintain

Records investigations clearly and accurately Uses scientific tools

Interprets graphs, tables, and charts

Writes clearly

Uses proper units

Organizes data into graphs, tables, and charts

Analyzes scientific data via calculations and inference

Uses models

Asks quality questions

Uses technology

Uses safety techniques

Recognizes the importance of explaining data with precision and accuracy

Standards for the epidemiology curriculum include co-requisites for characteristics of science (habits of mind and nature of science) and content, and reading standards. For more information, go to:

<https://extranet.georgiastandards.org/standards/Georgia%20Performance%20Standards/Epidemiology.pdf>

CALIFORNIA In January 2013, California became the second state, with its newly revised career technology education (CTE) Model Curriculum Standards designed to prepare students to be both career and college ready.

<http://www.cde.ca.gov/ci/ct/sf/ctemcstandards.asp> Under “By Industry Sector” click on “Health Science and Medical Technology.” Then, under “Pathway Standards” click on section E, “Public and Community Health Pathway.” E5.0-E5.6 is epidemiology

Excerpt from California Standards

- E5.0 Predict and evaluate rates, risk factors, and health status indicators of morbidity and mortality, disease determinants, and causation.
- E5.1 Describe the historical roots of epidemiological thinking and its contribution to the evolution of the scientific method.
 - E5.2 Describe the basic epidemiological concepts of rates, causation, and public health surveillance.
 - E5.3 Generate hypotheses of patterns of disease and injuries regarding person, place, and time.
 - E5.4 Research data regarding disease or injuries, including rates, risk factors, disease determinants, and causation of morbidity and mortality.
 - E5.5 Explore the effects of disease, injury, and violence on longevity and quality of life.
 - E5.6 Evaluate methods to prevent, detect, cure, and minimize disease, injury, and violence in the population.

TENNESSEE This state is joining the ranks as another pioneer state to promote high school epidemiology education! Course standards have been established for a Public Health program of study, with approved course standards for Emergency Preparedness, Behavioral and Community Health, and Global Health and Epidemiology. Professional development for teachers is also being planned.

The Tennessee Department of Education’s Division of Career and Technical Education will provide health Science students and teachers the opportunity to expand the knowledge of public health across the state’s high schools.

Within the Public Health program of study (POS), students will examine why and how the increase in chronic conditions impact and influence individuals, and health of the their communities and the public. Course content includes knowledge and skills to help communities prepare for and respond to disaster; public health problems and strategies for alleviating them; evaluation of the rise in mental health diseases and disorders; and the examination of how the health of the United States is related to larger global health issues. Upon completion of this POS, students will be prepared for advanced study at the postsecondary level in the areas of epidemiology, health policy, and similar public health-related fields. The department is currently developing a resource toolkit to support teachers of these new courses.

Currently, four schools will be offering the Public Health POS in the first year it is available, three in small rural communities and one in a metropolitan area. For more information go to <http://www.tn.gov/education/article/cte-cluster-health-science> and click on Public Health.