GEOG3417  Health, Wellbeing, Place and GIS

TIMETABLE ARRANGEMENT: Annual; 2nd Semester

CREDITS: 6

COURSE TEACHER(S): Dr. Yanjia CAO

ASSESSMENT:
COURSEWORK 100 %
• Essay
• Project

OBJECTIVES:
To stimulate interests in Geographic Information Systems (GIS) activities applicable for analyzing spatial health and medical data.

COURSE SYNOPSIS:
All aspects of the natural, built, and socioeconomic environment may affect human health and wellbeing both individually and collectively. The idea of applying GIS techniques in health-related studies is not new. Indeed, GIS has been used for decades in the western countries to undertake assessment and control of environmental factors that can potentially affect health. This course explores how GIS is used to address and analyze pressing health problems from the geographical perspective. It covers such topics as theoretical and practical issues, simple disease mapping, disease pattern analysis, and environmental association through spatial modeling techniques. The course will be conducted in a series of lectures and hands-on practices (six computer-based exercises) in a problem-based learning environment. Students will design and implement spatial analysis and statistical approaches on a health outcome topic that is demonstrated during the semester.

LECTURE TOPICS:
• Spatial Databases for Public Health
• Mapping Health information
• Spatial Patterns and Clusters of Health outcomes
• Risk and Spread of Infectious Diseases
• Locating Health Services
• Spatial Access to Health Services
• Social determinants of Health

RECOMMENDED READING LIST:

<table>
<thead>
<tr>
<th>Course Learning Outcomes (CLOs)</th>
<th>Alignment with Programme Learning Outcomes (PLOs)</th>
<th>Course Assessment Methods</th>
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<tbody>
<tr>
<td>After completing this course, students would be able to:</td>
<td>1</td>
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<tr>
<td>1 Understand the concepts of disease transmission and public health crisis</td>
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<td>2 Understand the importance of geography in public health science</td>
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<td>3 Be conversant in the current spatial epidemiological methods that are used to test hypothesis about disease outcomes and population-environment interactions</td>
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<td>4 Be familiar with a variety of open-source and fee-based software packages</td>
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<td>5 Master in map presentation and spatial statistical approaches</td>
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*Geography Major Programme Learning Outcomes (PLOs)*

In order to meet the demands and challenges in this dynamic and ever-changing world, the Department has designed a series of well-structured and contemporary courses to cater to the different interests of students. Its courses are designed to align with the University’s educational aims which hope to nurture future generations not only with a critical and intellectual mindset, but also with a passion to contribute to society in general.

After completing the programme, Geography Major students should be able to:

PLO1 critically analyse the geographical aspects of the relationship between people and the natural environment;
PLO2 demonstrate and develop an understanding of how these relationships have changed with space and over time;
PLO3 identify, collect and utilize primary and secondary data to investigate and analyse the issues and problems facing people, places and society;
PLO4 integrate, evaluate and communicate information from a variety of geographical and other sources;
PLO5 participate in promoting social, economic and environmental sustainability at the local, regional and global scales; and
PLO6 effectively apply a range of transferable skills in academic, professional and social settings.