



# MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

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University Examinations 2024/2025

FIRST YEAR, FIRST SEMESTER EXAMINATION FOR THE DEGREE OF DOCTOR OF  
PHILOSOPHY IN EPIDEMIOLOGY AND PUBLIC HEALTH

**HPE 8116: SPECIAL AND EMERGING TRENDS IN EPIDEMIOLOGY**

**DATE: JANUARY 2025**

**TIME: 3 HOURS**

## INSTRUCTIONS:

Answer Question one and any other 2 Questions

### QUESTION ONE (30 MARKS)

- Describe the socioeconomic determinants that affect vulnerability to zoonotic diseases in low-income countries such as Kenya (6 Marks)
- Explain the role gender play in exposure to zoonotic diseases, and how interventions should be tailored to account for these gender-specific risks (4 Marks)
- Describe how predictive modeling contributes to public health emergency preparedness (6 Marks)
- Outline the factors that influence resurgence of vector-borne diseases in Kenya giving relevant examples (4 Marks)

### QUESTION TWO (20 MARKS)

- Discuss how climate change has impacted the epidemiology of zoonotic diseases in this 2<sup>1st</sup> century (14 Marks)
- Describe the challenges that climate change pose for vulnerable populations in any society (6 Marks)

### QUESTION THREE (20 MARKS)

Illustrate using cholera outbreaks and discuss the impact of climate change on the epidemiology of waterborne diseases in coastal developing regions such as in Mozambique or any country of your choice.



#### **QUESTION FOUR (20 MARKS)**

Discuss the human-related factors influencing the transmission and spread of infectious diseases

