Note:

Course content may be changed, term to term, without notice. The information below is provided as a guide for course selection and is not binding in any form, and should not be used to purchase course materials.
COURSE SYLLABUS

HLTH 626
VACCINES AND IMMUNOLOGY

COURSE DESCRIPTION
This course provides an overview of the immune system. The course will cover immune mechanisms believed to be related to vaccine induced disease protection. The course will examine vaccine development.

RATIONALE
Vaccines are an invaluable tool in the public health effort to prevent morbidity and mortality from infectious diseases. Vaccine use is not without controversy. The public health practitioner must understand basics of immunology and vaccine development to respond properly to the legitimate concerns of the public and to use this resource wisely.

I. PREREQUISITE
For information regarding prerequisites for this course, please refer to the Academic Course Catalog.

II. REQUIRED RESOURCE PURCHASES
Click on the following link to view the required resource(s) for the term in which you are registered: http://bookstore.mbsdirect.net/liberty.htm

III. ADDITIONAL MATERIALS FOR LEARNING
A. Computer with basic audio/video output equipment
B. Internet access (broadband recommended)
C. Microsoft Word
   (Microsoft Office is available at a special discount to Liberty University students.)

IV. MEASURABLE LEARNING OUTCOMES
Upon successful completion of this course, the student will be able to:
A. Describe major components and functions of the immune system.
B. Discuss immune mechanisms related to vaccine function.
C. Assess the efficacy and efficiency of currently available vaccines.
D. Describe the limitations to future vaccine development.
E. Analyze vaccine data for safety.
F. Develop protocols for vaccine usage in a variety of healthcare settings.
V. COURSE REQUIREMENTS AND ASSIGNMENTS

A. Textbook readings and lecture presentations

B. Course Requirements Checklist

   After reading the Syllabus and Student Expectations, the student will complete the related checklist found in Module/Week 1.

C. Discussion Board Forums (4)

   The student is required to provide a thread in response to the provided prompt for each forum. Each thread must be at least 400 words and demonstrate course-related knowledge. In addition to the thread, the student is required to reply to 2 other classmates’ threads. Each reply must be at least 250 words.

D. Avian Influenza H7N9 Project

   This is a 4-part project. The student will be given a background paper describing the origins of a novel avian influenza threat that began in the winter of 2013, and a fictional scenario based in Zambia suggesting the potential for development of a more serious epidemic situation.

      Part 1: The Situation Assessment

      The student will write a 5-page research-based paper in current AMA format focusing on the potential of avian influenza A (H7N9) to expand into a local epidemic or spread beyond to pandemic proportions. The paper must include at least 5 references, in addition to the readings supplied in the scenario, the course textbooks, and the Bible. A biblical perspective on the response must be considered and referenced appropriately.

      Part 2: Vaccine Development Progress Report

      The student will write a 5-page research-based paper in current AMA format that focuses on the progress in the development of avian influenza A (H7N9) vaccine. The paper must include at least 5 references. All references must be peer-reviewed, scientific papers published since August 2013; however, peer-reviewed, scientific papers on related influenza vaccines from an earlier date may be used if a definitive correlation to the scenario presentation can be drawn.

      Part 3: Designing a Mass Vaccination Campaign

      The student will assume a pandemic of avian influenza is imminent if the outbreak cannot be confined to the geographic area identified in the fictional scenario. The student must design a culturally appropriate campaign and write a 5-page paper in current AMA format describing the vaccination campaign, using a newly available vaccine believed to have a 90% efficacy. The paper must include at least 5 references, which are restricted to World Health Organization, UNICEF, National Institutes of Health, Centers for Disease Control and Prevention, The Medical Journal...
of Zambia, and Zambian governmental documents related to vaccination strategies.

Part 4: Implementation

In this final installment, the student will edit previous installments of the project (Parts 1–3) based on instructor feedback and combine them to produce a single document. This document will also include 1 additional section devoted to implementation barriers. Current AMA format will be used, and proper citation of at least 20 sources is essential. The instructor will be looking for a 20-page paper, as this document will contain new information in addition to materials unified from the documents created in the previous related assignments.

E. Reading Quizzes (8)

Each reading quiz will cover the Reading & Study material for the module/week in which it is assigned. Each quiz will be open-book/open-notes, contain a variety of matching, multiple-choice, and/or true/false questions, and have a 1-hour time limit.

VI. COURSE GRADING AND POLICIES

A. Points

<table>
<thead>
<tr>
<th>Course Requirement</th>
<th>Points</th>
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<tr>
<td>Course Requirements Checklist</td>
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<tr>
<td>Discussion Board Forums (4 at 50 pts ea)</td>
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<tr>
<td>Avian Influenza H7N9 Project</td>
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<tr>
<td>Part 1</td>
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B. Scale

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<td>F = 0–679</td>
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C. Late Assignment Policy

If the student is unable to complete an assignment on time, then he or she must contact the instructor immediately by email.

Assignments that are submitted after the due date without prior approval from the instructor will receive the following deductions:

1. Late assignments submitted within one week of the due date will receive a 10% deduction.
2. Assignments submitted more than one week late will receive a 20% deduction.

3. Assignments submitted two weeks late or after the final date of the class will not be accepted.

4. Late Discussion Board threads or replies will not be accepted.

Special circumstances (e.g. death in the family, personal health issues) will be reviewed by the instructor on a case-by-case basis.

D. Disability Assistance

Students with a documented disability may contact Liberty University Online’s Office of Disability Academic Support (ODAS) at LUOODAS@liberty.edu to make arrangements for academic accommodations. Further information can be found at www.liberty.edu/disabilitysupport.

VII. Bibliography

## COURSE SCHEDULE

**HLTH 626**


<table>
<thead>
<tr>
<th>Module/Week</th>
<th>Reading &amp; Study</th>
<th>Assignments</th>
<th>Points</th>
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</table>
| 1           | Sompayrac: p. viii, chs. 1–3 1 presentation | Course Requirements Checklist  
Class Introductions  
DB Forum 1  
Reading Quiz 1 | 10  
0  
50  
50 |
| 2           | Sompayrac: chs. 4–6 1 presentation | Avian Influenza H7N9 Project: Part 1  
Reading Quiz 2 | 100  
50 |
| 3           | Sompayrac: chs. 7–10 1 presentation | DB Forum 2  
Reading Quiz 3 | 50  
50 |
| 4           | CDC: chs. 1–2  
Sompayrac: ch. 11 1 presentation | Avian Influenza H7N9 Project: Part 2  
Reading Quiz 4 | 100  
50 |
| 5           | CDC: chs. 3–5 1 presentation | DB Forum 3  
Reading Quiz 5 | 50  
50 |
| 6           | CDC: chs. 6–13 1 presentation | Avian Influenza H7N9 Project: Part 3  
Reading Quiz 6 | 100  
50 |
| 7           | CDC: chs. 14–21 1 presentation | DB Forum 4  
Reading Quiz 7 | 50  
50 |
| 8           | Sompayrac: chs. 12–15 1 presentation | Avian Influenza H7N9 Project: Part 4  
Reading Quiz 8 | 100  
50 |
| **Total**   |                |             | **1010** |

DB = Discussion Board

**NOTE:** Each course week begins on Monday morning at 12:00 a.m. (ET) and ends on Sunday night at 11:59 p.m. (ET). The final week ends at 11:59 p.m. (ET) on Friday.