

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

NURS 832

CLINICAL PREVENTION AND BIOSTATISTICS

COURSE DESCRIPTION

This course provides an overview of epidemiologic principles and biostatistical methods for evaluation and implementation of evidence based changes in clinical practice to enhance the quality of care and to predict and analyze outcomes. Students will apply descriptive and inferential statistics to examine aggregate data. Health data will be disseminated to further enhance global clinical prevention efforts.

RATIONALE

Advanced practice nurses require an understanding of epidemiological principles and practices to impact global health policy, to improve healthcare systems, and to improve population health outcomes. Disease prevention and reduction through biostatistical analysis will utilize the latest technologies. Woven into this course are principles of genetic epidemiology approached from a biblical worldview, which is the underpinning for legal/ethical considerations for provision of clinical preventive services.

I. PREREQUISITE

For information regarding prerequisites for this course, please refer to the [Academic Course Catalog](#).

II. REQUIRED RESOURCE PURCHASE

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. RECOMMENDED RESOURCES

McMillen, S.I. & Stern, D. (2000). *None of these diseases: The Bible's health secrets for the 21st century* (3rd ed.). Grand Rapids, MI: Revell. ISBN: 9780800757199.

Greenberg, R. S., Daniels, S. R., Flanders, W. D., Eley, J. W., & Boring, J.R. III. (2015). *Medical epidemiology* (5th ed.). New York, NY: Lange Medical Books/McGraw-Hill. ISBN: 9780071822725.

Garret, L. (1995). *The coming plague: Newly emerging diseases in a world out of balance*. New York, NY: Penguin Books. ISBN: 9780140250916.

Soderberg, S. (Director). (2011). *Contagion*. United States: Warner Bros. Pictures.

Peterson, W. (Producer). (1995). *Outbreak*. United States: Warner Bros. Pictures.

Forster, M. (Director). (2013). *World War Z*. United States: Paramount.

IV. ADDITIONAL MATERIALS FOR LEARNING

- A. Computer with basic audio/video output equipment
- B. Internet access (broadband recommended)
- C. Microsoft Office
- D. Epi Info 7 CDC (found [here](#))

V. MEASURABLE LEARNING OUTCOMES

Upon successful completion of this course, the student will be able to:

- A. Analyze the role of advanced nursing practice in applying epidemiological principles to lead evidence-based change in population health. (DNP Essentials I, VII; NONPF Leadership Competency-1, 2, 3, 5, 6, Quality Competency-1, Practice Inquiry Competency-1, 3, 4, Technology and Information Literacy Competencies-1, 2, 3, 5; LUPLO 1, 6) (Cognitive Domain)
- B. Coordinate concepts of epidemiology to impact global health policy. (DNP Essentials I, III, V, VII; NONPF Leadership Competency-5, Practice Inquiry Competency-1, 3, 5, Technology and Information Literacy Competencies- 1, 2, 3, 5, Policy Competencies-1, 3, 4, 5, 6, Health Delivery System Competencies-1, 3, 5; LUPLO 3, 5) (Psychomotor Domain)
- C. Apply concepts of epidemiology to improve quality and safety in health care systems. (DNP Essentials I, II, IV, VII; NONPF Leadership Competencies-3, 5, Quality Competency-1, Practice Inquiry Competency-8, Technology and Information Literacy Competencies-11,12, 13, Policy Competencies-14, 15, Health Delivery System Competency-1, 2, 3; LUPLO 5) (Cognitive Domain)
- D. Evaluate biostatistical data to develop population based clinical prevention strategies. (DNP Essentials I, III, IV, VII; NONPF Practice Inquiry Competency-1, 2, 3, 5, Technology and Information Literacy Competencies-1, 2, 3, 5, Policy Competencies-1, 3, 5, 6, Health Delivery System Competency-3; LUPLO 5) (Cognitive Domain)
- E. Critique the role of genetic epidemiology in reducing the incidence of disease. (DNP Essentials I, III, V, VII; NONPF Scientific Foundation Competencies-1, 2, 3, 4, Leadership Competency-5, Quality Competency-1, Practice Inquiry Competencies-1, 3, 5, Technology and Information Literacy Competencies-1, 2, 3, Policy Competencies-3, 4, Health Delivery System Competency-3; LUPLO 1, 2, 3) (Cognitive Domain)
- F. Utilize biostatistics to improve population health outcomes. (DNP Essentials I, III, IV, VI, VII; NONPF Leadership Competencies-3, 4, Quality Competency-1, Practice Inquiry Competency-1, 3, 5, Technology and Information Literacy Competencies-1, 2, 3, Policy Competencies-1, 3, 5, Health Delivery System Competency-1, 3, 5, Ethics Competency-1, 2, 3; LUPLO 3, 5) (Psychomotor Domain)

- G. Integrate biblical worldview into the legal/ethical considerations for the provision of clinical preventive services. (DNP Essentials V, VI, VII; NONPF Scientific Foundation Competency-2, Quality Competencies-1, 5, Practice Inquiry Competencies-1, 2, 3, 4, 5, Technology and Information Literacy Competency-1, 2, 3, 5, Health Delivery System Competencies-1, 2, 3, Ethics Competencies-1, 2, 3, Independent Practice Competencies 2-4; PLO 7) (Affective Domain – incorporates information into existing value system)
- H. Evaluate innovative technologies applied to epidemiology to improve health. (DNP Essentials I, III, VII; NONPF Leadership Competency-1, 2, 3, 5, Practice Inquiry Competency-1-6, Technology and Information Literacy Competency-1, 2, 3, 5, Policy Competencies-1, 4, 5, 6, Health Delivery System Competencies-1, 2, 3, 4, 5; LUPLO 4) (Cognitive Domain)

VI. COURSE REQUIREMENTS AND ASSIGNMENTS

- A. Textbook readings and presentations
- B. Course Requirements Checklist
After reading the Course Syllabus and [Student Expectations](#), the student will complete the related checklist found in Module/Week 1.
- C. Discussion Board Forums (3)
Discussion boards are collaborative learning experiences. Therefore, the student is required to create a thread in response to the provided topic for each forum. Each thread will be graded on course-related knowledge, including depth and breadth of discussion. In addition to the thread, the student is required to reply to 1 other classmate's thread. Graduate level writing in current APA format (excluding a cover page) is expected. Two peer reviewed journal articles must be referenced for each thread and 1 different peer reviewed journal article must be referenced for each reply. There are no required word counts for the threads or replies.
- D. HealthMap Assessment
The student will investigate the HealthMap website and write a 1-page description of the program.
- E. CDC Epi Info 7 Outbreak Tutorial and Survey
- F. Outbreak Paper Outline.
- G. Using Epi Info 7, the student will develop an outbreak questionnaire that can be used to interview persons of interest or next of kin. The survey will be used to track the student's chosen outbreak. The survey will be submitted with a cover page.
- H. Outbreak Paper
The student will write a 10-page research-oriented paper in current APA format that focuses on a disease outbreak of the student's choice. At least 5 peer-reviewed journal references (dated within the last 5 years) are required in addition

to the course textbook and the Bible. The CDC and WHO can be used as peer-reviewed references. This assignment will be submitted via SafeAssign.

VII. COURSE GRADING AND POLICIES

A. Points

Course Requirements Checklist	10
Discussion Board Forums (3 at 100 pts ea)	300
HealthMap Assessment	50
CDC Epi Info 7 Outbreak Tutorial and Initial Survey assignment	150
Outbreak Paper Outline	100
Outbreak Survey	150
Outbreak Paper	250
Total	1010

B. Scale

A = 940–1010 A- = 920–939 B+ = 900–919 B = 860–899 B- = 840–859
 C+ = 820–839 C = 780–819 C- = 760–779 D+ = 740–759 D = 700–739
 D- = 680–699 F = 0–679

C. 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.

COURSE SCHEDULE

NURS 832

Textbook: Macha & McDonough, *Epidemiology for Advanced Nursing Practice* (2012).

MODULE/ WEEK	READING & STUDY	ASSIGNMENTS	POINTS
1	Macha & McDonough: chs. 1, 4 1 presentation 1 website	Course Requirements Checklist Class Introductions <i>HealthMap</i> Assessment	10 0 50
2	Macha & McDonough: chs. 2–3 1 presentation 1 website	CDC Epi Info 7 Outbreak Tutorial and initial Survey Assignment	150
3	Macha & McDonough: ch. 6 2 presentations 2 websites	DB Forum 1	100
4	Macha & McDonough: chs. 7, 9 1 presentation 1 website	DB Forum 2	100
5	Macha & McDonough: chs. 8, 12 1 presentation 1 website	DB Forum 3	100
6	Macha & McDonough: ch. 5 1 presentation 1 website	Outbreak Paper Outline	100
7	Macha & McDonough: ch. 10 1 presentation	Outbreak Survey	150
8	Macha & McDonough: chs. 11, 13 1 presentation	Outbreak Paper	250
TOTAL			1010

DB = Discussion Board

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