North Central
Michigan College

NCMC MASTER COURSE SYLLABUS FOR YEARS: 2001-2003

DIVISION/AREA: Natural Sciences, Health and Human Services DEPARTMENT: Biology

AREA DEAN: Tim Dykstra, Ph.D. ORIGINATOR: Lars Syverson

DIVISION DIRECTOR: Polly Flippo

TOTAL HOURS OF INSTRUCTION: Lecture: 3 Lab: 0 Total Contact Hours: 3

COURSE NUMBER: BIO 130 CREDIT HOURS: 3

COURSE TITLE: Human Biology

PREREQUISITE(S)/COREQUISITE(S)/ADVISORY:
None, high school biology recommended.

CATALOG DESCRIPTION:

A non-lab course which presents selected structure and function with application to current health issues. This course does not fulfill nursing department requirements.

GENERAL EDUCATION OUTCOMES OR OCCUPATIONAL PROGRAM OUTCOMES
Refer to College catalog or specific occupational program outcomes and describe how this course meets those outcomes.

Meets general education outcomes #3 and # 8 as listed on page 55 of 2001-2003 catalog.

COURSE OBJECTIVES & OUTCOMES:
With the successful completion of this course, the student will:

1) demonstrate knowledge of the fundamental building blocks and basic life processes of humans
2) demonstrate knowledge of the structure and function of the major systems of the body
3) demonstrate knowledge of how the human body fights diseases
4) demonstrate knowledge of how to read, interpret results of a scientific investigation;

METHODS OF INSTRUCTION:
Lecture, discussion, discussion of news articles and scientific articles, case studies

METHODS OF EVALUATION: Tests, quizzes, reports, papers, submission of news articles, summarizing scientific articles

REQUIRED TEXTS: Mader. Human Biology. McGraw Hill.

Reasonable accommodations may be provided for students with documented physical, sensory, cognitive, systemic, and/or psychiatric disabilities. Please contact the Education Opportunity Program (EOP) at (231) 348-6687 to arrange services for this course.

TIME ALLOWANCE AND SEQUENCE OF INSTRUCTION:

WEEK	TOPIC/CONTENT
1.	**The process of science, elements, molecules, pH**
2.	**Carbohydrates, lipids, proteins** **Nucleic acids, ATP, cell structure and function**
3.	**Enzymes, cellular respiration, metabolic pathways** **Tissues, membrane, cavities, organs**
4.	**Digestive structure** **Digestion and nutrition**
5.	**Composition and function of blood** **Heart Structure and function**
6.	**Vascular organization and hypertension** **Lymphatic system and immunity**
7.	**Specific defenses** **Induced Immunity, immune disorders**
8.	**Respiratory system anatomy** **Mechanism and breathing, gas exchange**
9.	**Kidney and nephron structure** **Urinary function**
10.	**Bone growth and repair** **Bone anatomy and articulations**
11.	**Muscle cell structure and function** **Muscle organ structure and function**
12.	**Nervous system** **Brain, higher mental functions**
13.	**Endocrine system** **Male reproductive system**
14.	**Female reproductive system** **Development and aging**
15.	**Chromosomal inheritance** **Genes and medical genetics**

16.	**DNA and biotechnology** **Cancer**

APPROVED FOR ADOPTION BY THE CRD/AP COMMITTEE ON _____