

NEW COURSE PROPOSAL

PROGRAM AREA _____

- 1. Catalog Description of the Course.** *[Include the course prefix, number, full title, and units. Provide a course narrative including prerequisites and corequisites. If any of the following apply, include in the description: Repeatability (May be repeated to a maximum of ____ units); time distribution (Lecture ____ hours, laboratory ____ hours); non-traditional grading system (Graded CR/NC, ABC/NC). Follow accepted catalog format.]*

BIOL 425 HUMAN GENETICS (3)

Three hours of lecture per week.

Prerequisite: CHEM 122; BIOL 300 and 302 with grades of C or better.

Basic principles of human inheritance, including the transmission of genetic traits, chromosomal abnormalities and their effects, gene structure and function, pedigree analysis, gene mapping, cytogenetics, mutations and mutagenic agents, cancer genetics, molecular analysis of inherited diseases and genetically controlled phenomena in humans.

2. Mode of Instruction.

	Units	Hours per Unit	Benchmark Enrollment
Lecture	<u>3</u>	<u>1</u>	<u>30</u>
Seminar	_____	_____	_____
Laboratory	_____	_____	_____
Activity	_____	_____	_____

- 3. Justification and Learning Objectives for the Course.** (Indicate whether required or elective, and whether it meets University Writing, and/or Language requirements) *[Use as much space as necessary]*

This is an elective course designed to introduce biology students to the latest advances in Human Genetics.

Students that successfully complete this course will be able to:

1. Apply quantitative problem-solving skills to human genetics problems and issues.
2. Evaluate biological factors that influence human heredity.
3. Demonstrate their ability to reason both inductively and deductively with experimental information and data.
4. Explain the molecular and biochemical basis, diagnosis and treatment of genetic disease.
5. Select and apply experimental procedures to genetic screening.

4. Is this a General Education Course **No**

If Yes, indicate GE category:

A (English Language, Communication, Critical Thinking)	
B (Mathematics & Sciences)	
C (Fine Arts, Literature, Languages & Cultures)	
D (Social Perspectives)	
E (Human Psychological and Physiological Perspectives)	

5. Course Content in Outline Form. *[Be as brief as possible, but use as much space as necessary]*

- Introduction
- Mendelian Inheritance
- Nonmedelian Inheritance
- Sex Determination
- DNA and Chromosomes
- Population Genetics
- Genetic Technology

- Human Evolution
- The Genetics of Cancer
- The Genetics of Immunity

6. References. *[Provide 3 - 5 references on which this course is based and/or support it.]*

Human Genetics. R. Lewis, McGraw-Hill, ISBN 0-07-246268-X

Human Heredity Principles and Issues, M. Cummings, Brooks/Cole, ISBN 0534394744

Current Perspectives in Genetics Insights and Applications in Molecular, Classical and Human Genetics, 2nd Ed. S. Cummings, Brooks/Cole, ISBN 053425280X

7. List Faculty Qualified to Teach This Course.

Louise Lutze-Mann

8. Frequency.

a. Projected semesters to be offered: Fall _____ Spring X Summer _____

9. New Resources Required.

- Computer (data processing), audio visual, broadcasting needs, other equipment
- Library needs
- Facility/space needs

10. Consultation.

Attach consultation sheet from all program areas, Library, and others (if necessary)

11. If this new course will alter any degree, credential, certificate, or minor in your program, attach a program modification.

Louise Lutze-Mann _____ 1-3-03 _____
 Proposer of Course Date