

PROPOSAL SUMMARY AND ROUTING FORM

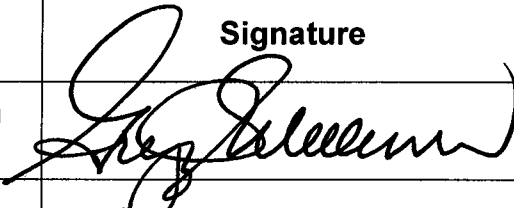
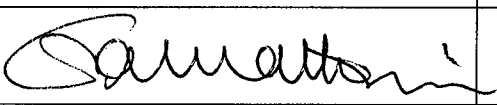
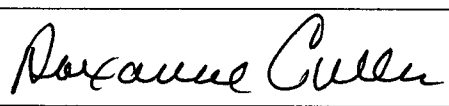
Proposal Title: PHCH 390: Genomics and Proteomics

Initiating Unit or Individual: Mike LaFontaine EXPERIMENTAL

Contact Person's Name: Same e-mail: lafontam@ferris.edu phone: x2230

Date or Semester of Proposal Implementation: ~~Winter 2007~~ Spring

- Group I - A – New degree/major or major, or redirection of a current offering
- Group I - B – New minors or concentrations
- Group II - A – Minor curriculum clean-up and course changes
- Group II - B – New Course
- Group III - Certificates
- Group IV – Off-Campus Programs

Group/Individual	Signature	Date	Vote/Action *
College Curriculum Committee		11/30/06	<input checked="" type="checkbox"/> Support 7-0-0 <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support
College Faculty	N/A FOR EXPERIMENTAL		<input type="checkbox"/> Support <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support
Dean			<input checked="" type="checkbox"/> Support <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support
University Curriculum Committee			<input type="checkbox"/> Support <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support
Senate			<input type="checkbox"/> Support <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support
Academic Affairs		12-6-06	<input checked="" type="checkbox"/> Support <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support

\* Support with Concerns or Not Support must include a list of concerns.

To be completed by Academic Affairs		
_____ President (Date Approved)	_____ Board of Trustees (Date Approved)	_____ President's Council (Date Approved)

**1. Proposal Summary**

Creation of an experimental pharmacy elective course covering proteomics, genomics, and the use of proteomic and genomic information in vaccine development.

**2. Summary of All Course Action Required\***

**a. Newly Created Courses to FSU:**

Prefix	Number	Title
PHCH	390	Genomics and Proteomics

**b. Courses to be Deleted From FSU Catalog:**

Prefix	Number	Title
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**c. Existing Course(s) to be Modified:**

Prefix	Number	Title
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**d. Addition of existing FSU courses to program**

Prefix	Number	Title
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**e. Removal of existing FSU courses from program**

Prefix	Number	Title
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\*Contact Senate Secretary or UCC Chair if spaces for additional courses are needed.

## NEW COURSE INFORMATION FORM

*See Sample: Limit to One Page.*

### Course Identification:

Prefix:	Number	Title
PHCH	364	Genomics and Proteomics

### Course Description:

An introductory course in the disciplines of genomics and proteomics and the use of genomic and proteomic information in the development of vaccines.

### Course Outcomes:

Students will gain an understanding of the basics of genomic and proteomic research and how information from this type of research can be used to develop vaccines.

### Course Outline including Time Allocation:

- I History of Vaccination 20 min
- II Gene Sequencing and Analysis
  - A. Restriction Endonucleases 1 hr
  - B. Restriction Maps 20 min
  - C. Gel Electrophoresis 20 min
  - D. Cloning Vectors 3 hrs
    - 1. Plasmid-based Cloning Vectors
    - 2. Virus-based Cloning Vectors
    - 3. YAC and BAC Vectors
  - E. Gene Manipulation 5 hrs
    - 1. Genomic Libraries
    - 2. Polymerase Chain Reaction
      - a. PCR and Site-directed Mutagenesis
      - b. Transgenic Organisms
      - c. Gene Therapy
- III The Proteome
  - A. The Proteome vs. The Genome 2 hr
    - 1. The Temporal Genome
    - 2. Gene Expression
    - 3. Post-transcription Protein Modification
  - B. Protein Expression 2 hr
  - C. Protein Purification and characterization 1 hr
    - 1. Salting Techniques
    - 2. Chromatographic Techniques
    - 3. X-ray Crystallography
    - 4. NMR-Techniques
- IV Mass Spectrometry in Proteomics 1hr
  - 1. Protein Identification
  - 2. Protein Sequencing Using MS vs. Traditional Methods
- V High Throughput Cloning, Expression, and Purification Technologies 2 hr
- VI Meningococcus B: From Genome to Vaccine
  - A. Microbiological Features and Pathogenesis 1 hr
  - B. Complete Genome Sequence 1 hr
  - C. Experimental Strategy 1 hr
- VII Vaccines Against Pathogenic Streptococci
  - A. Comparative Genomics of Streptococci 1hr
  - B. Group B vaccine 1 hr
  - C. Identification of Surface-exposed Proteins 1 hr
  - D. Primary Screening of Antigens 1hr

VIII Proteome Analysis of Outer Membrane and Extracellular Proteins from *Pseudomonas* for Vaccine Discovery

- A. Membrane Proteins in *P. aeruginosa* 1 hr
- B. Extracellular Proteins in *P. aeruginosa* 1 hr

# CREATE A NEW COURSE

FORM F  
Create Course  
rev. 2/14/05

## Course Date Entry Form

### I. ACTION TO BE TAKEN: CREATE A NEW COURSE

#### Notes

1. Complete each item in section I and section II.
2. If this course is to be used as a prerequisite for other university courses, Form Fs that reflect the prerequisite change must be submitted for those courses as well.

Term Effective: a. Semester  b. Year  See instructions.

### II. PROPOSED FOR NEW COURSE: Complete all sections of this part through Prerequisites. See instructions in manual for further clarification.

a. Course Prefix  b. Number  c. Enter Contact Hours or check Independent Study (X).  
LECTure  hr/week LAB  hr/week INDEpendent Study   
Practicum:  hr/semester Seminar:  hr/week

d. Full Course Title:

e. Abbreviated Course Title:  (Abbreviate only if necessary. Use Arabic numerals. Limit to 26 characters and spaces.)

f. Semester(s) Offered:  (See instructions for listing.) g. Max. Section Enrollment:

Credit Hours: Check (x) type and enter maximum and minimum hours in boxes.

h. Type:  Variable  Fixed i. Maximum Credit Hours  j. Minimum Credit Hours

k. Grade Method: Check (x)  Normal Grading  Credit/No Credit only (Pass/Fail)

m. May Be Repeated for Added Credit: Check (x)  Yes  No

n. Levels: Check (x)  Undergraduate  Graduate  Professional

o. Does proposed new course replace an equivalent course? Check (x)  Yes  No

p. Equivalent course: Prefix  Number  See instructions on Replacement courses.

q. CATALOG DESCRIPTION – Limit to 75 words – PLEASE BE CONCISE.

r. Prerequisites: (if no prerequisites, write "None") Limited to 60 spaces.

UCC Chair Signature/Date: \_\_\_\_\_

Academic Affairs Approval Signature/Date: \_\_\_\_\_

\_\_\_\_\_ / /

*Thomas Cullen* 12/6/04  
\_\_\_\_\_ / /

To be completed by Academic Affairs Office: - Standard & Measures Coding and General Education Code

Basic Skill (BS)  General Education (GE)  Occupational Education (OC)  G.E. Codes

### Office of the Registrar use ONLY

Date Received: \_\_\_\_\_ Date Completed: \_\_\_\_\_ Entered: SIS [125 \_\_\_ 1D4 \_\_\_ 12R\_\_\_, 131\_\_\_]