Attachment A - TROY UNIVERSITY
Routing Slip New Program or Program Changes

College: Arts and Sciences
Program Proposal/Change: New Concentration in Food Safety

**Department Approval:** Approved by Dept. Biological & Environmental Sciences

1. Conceptual Approval by System Academic Coordinating Council:
   [Signature/Date]
   Disapproved Reason:

2. School/College Curriculum Committee Approval (Signature/Date): Approved 10/14/07

3. Chair Approval (Signature/Date): [Signature/Date]

4. Dean of the College's Approval (Signature/Date):
   [Signature/Date] 10/15/07

5. Institutional Effectiveness Committee Approval (Signature/Date): [Signature/Date]
   (If the Points of Institutional Effectiveness have changed, this committee must review)
   Comments:

6. Academic Council or Graduate Council Approval (Initial/Date): JTS 1/25/08
   (All curriculum changes are to be approved by the appropriate committee.)
   Comments:

7. Chief Academic Officer (Signature/Date):

8. System Academic Coordinating Council (Initial/Date):

9. Campus Vice Chancellor (Signature/Date):

10. ACHE Action Required: □ Yes □ No

11. SACS Action Required: □ Yes □ No

12. Other Accreditation As Required:

13. Chancellor (Signature/Date):

Return approved package to the office of the dean of the discipline.
Send signed copy to the Office of Institutional Effectiveness.

ACHE4
October 15, 2007

MEMO

TO:     Dr. Jeff Spurlock, Chair
        Academic Council

THROUGH: Dr. Hal Fulmer, Associate Provost

THROUGH: Dr. Don Jeffrey, Dean
        College of Arts and Sciences

FROM:    Dr. Glenn Cohen, Chair
        Department of Biological and Environmental Sciences

RE:      Proposed Food Safety Concentration and New Course

There is a pressing need for trained personnel in food safety. The Department of Biological and Environmental Sciences is responding to this need by proposing a new concentration in Food Safety that will be added into the Biology Program. It is based on similar programs at other universities but offers a stronger foundation in the biological sciences. In addition, the proposed Food Safety Concentration will require students to complete selected courses in Nursing (NSG 2211 Human Nutrition) and Management (MGT 4466 Restaurant Management). We are proposing the creation of one new course: BIO 44XX Food Laws and Regulations.

This proposal to Academic Council seeks to:

1. Create a new Food Safety Concentration within the Biology Program.

2. Create the following new course:

   **BIO 44XX Food Laws and Regulations (3)**

   **Course Description:** Introduction to federal, state, and local laws pertaining to food safety and sanitation, proper food preservation and labeling, environmental and occupational regulations, federal trade commission regulations, Kosher and Halal food laws, and topics in biotechnology. Prerequisite: BIO 3372/L372. Co-requisite: BIO 4414/L414

The Academic Discipline Committee (Dr. Bill Dapper, Dothan campus; Dr. Judy McCarley, Southeast Region; Dr. Sig Harden, Montgomery campus; and Dr. Glenn Cohen, Troy campus) unanimously approved this proposal.
TROY UNIVERSITY
JUSTIFICATION FOR NEW CONCENTRATION

Program Title: Bachelor of Science in Biological and Environmental Sciences
Food Safety Concentration under the Biology Program
Contact: Dr. Glenn Cohen (geohen@troy.edu) 334-670-3660

1. Purpose of new or revised Concentration (Define the purpose of the concentration, and for revised programs, include how the changes will improve the former program.):

We are proposing a new concentration in Food Safety that would be tucked into the Biology Program. The new Food Safety Concentration within the Biology Program prepares undergraduate students for entry into professional positions within this broad field, which extends from the farms, food production, retail food, and regulatory agencies.

The core Biology Program curriculum remains unchanged in order to provide the common knowledge in the biological sciences. Yet, the addition of this Concentration improves the existing degree by creating a niche that compliments and expands the Biology Program to meet the food safety needs of our state and region. The Food Safety Concentration is modeled on similar concentrations/majors at other universities. Accordingly, it taps into existing courses offered in several departments (Nursing and Management) to create a distinctively different identity from the other four concentrations in the Biology Program without the need for creating many new courses, i.e., one. The proposed Concentration will attract a separate pool of students that will not siphon students from other concentrations, programs, and majors. Food safety represents an applied field. Graduates will inspect food from farm to table (farms, food processing plants, restaurants, etc.). Students will need to pass certification tests, such as ServSafe (www.servsafe.com), to handle food. We will form partnerships with the hospitality and tourism industry, retail industry food industry, and regulatory agencies, for our internships and jobs for our graduates.

Food safety represents an increasingly important area as the full extent of food poisoning is being recognized. For example, in 2005, 80 million people in the United States suffered from food poisoning (often misdiagnosed as the “flu” or other ailments). As agricultural products and prepared foods are shipped globally, international standards are being developed to oversee the food safety. Nonetheless, because of the complexity of food safety and changing standards, the news abound with regular reports of hundred to thousands of people being sickened—in some cases fatally—by contaminated foods from food processing plants; food recalls are increasingly common. In response, state and federal laws and regulations have become more stringent.

Because of increasingly stringent food safety regulations, food retailers must have in-house personnel who are trained and certified in food safety. In addition, regulatory agencies at the municipal, state, and federal levels enforce laws and regulations. Thus, the Concentration is designed to (1) impart the skills and knowledge for entry into food safety fields, (2) understand the ethical responsibilities to the food safety profession and society, (3) gain the academic background for additional training and acceptance into graduate school, and (4) understand the needs of the food retail business, government regulators, and society.
2. Relationship of purpose to university purpose (Tell how the program purpose is related to the university purpose—mission):

Mission Statement: Troy University is a public institution comprised of campuses throughout Alabama and worldwide. International in scope, Troy University provides a variety of educational programs at the undergraduate and graduate levels for a diverse student body in traditional and nontraditional and emerging electronic formats. Academic programs are supported by a variety of student services, which promote the welfare of the individual student. Troy University’s dedicated faculty and staff promote discovery and exploration of knowledge dedicated to life-long success through effective teaching, creative partnerships, scholarship and research.

The program is designed and implemented to contribute to the achievement of the University’s purpose and objectives as follows:

"Troy University provides a variety of educational programs at the undergraduate and graduate levels for a diverse student body..." The Food Safety Concentration supports the University's objectives of providing "programs which promote student welfare." This Concentration provides graduates with the skills necessary to compete effectively with graduates from other institutions seeking employment as food safety officers. The Concentration, which is part of the Biology Program, prepares students for entry into their chosen field(s) of study at appropriate degree levels. The Food Safety Concentration helps accomplish the University's purpose to diversify the student population.

3. Expected outcomes of the Program (Define the measurable expected outcome—student learning outcomes—of the program):

Upon completion of an undergraduate Food Safety Concentration, students will be able to:

1. Recognize and describe the importance of nutrition in food safety.
   
   MEASURE: standard final exam in NSG 2211 Nutrition

2. Recognize the pivotal role of microorganisms in understanding food safety.
   
   MEASURE: standard final exam in BIO 4414 Food Microbiology.

3. Identify the unique food safety, management, and marketing challenges associated with the food and beverage industry in general, and the restaurant business in particular.
   
   MEASURE: standard final exam in MGT 44XX Restaurant Management.

4. Identify the food laws and regulations associated with food safety.
   
   MEASURE: standard final exam in BIO 44XX Food Laws and Regulations.
5. Maintain a 2.0 average in the major.

In addition to the student learning outcomes noted above, upon completion of an undergraduate Biology Program, a student will be able to:

A. Write and edit scientific reports.

   MEASURE: These skills will be measured through critical review of term papers and lab reports

B. Use statistical methods for the analysis of data, including the application of statistical packages.

   MEASURE: These skills will be measured in MTH 3340 Applied Statistics

C. Use a presentation software package, such as PowerPoint, to create, save, modify, and show a multiple-slide presentation using various templates, designs, formats, objects, headers, footers, and animation and transition schemes.

   MEASURE: These skills will be measured as the students create documents and make presentations in most upper level BIO courses

D. Learn presentation skills

   MEASURE: Class presentations in upper level biology courses; for student researchers, presentations at state and regional scientific meetings

4. Assessment instruments/tools/methods/measures (Name assessment instruments/tools/methods/measures to measure the expected outcomes of the program.):

As noted above, standard exams and projects will be administered in required courses. The exams are internally generated through faculty collaboration. In addition to specific courses in the Food Safety Concentration, we will also use the Major Field Test (MFT) for the biological sciences. The Educational Testing Services (ETS) administers the MFT.

5. Procedures for assessment of expected outcomes (Describe who will be assessed, who will assess, when and where assessment will occur, and how assessment will be accomplished.):

Every student in the Food Safety Concentration is required to pass each exam that is used as an assessment tool. Every exam is associated with a specific course and will be used as a portion of the course grade. The course instructor is responsible for the administration of the exam and results are reviewed by Department Chair.
6. Persons responsible for assessment (Include who will provide assessment results, maintain a database of results, analyze the results, formulate plans for improvement—PFI as needed, implement PFI, and provide evidence of achievement of PFI and expected outcomes):

A. Persons/Positions Designated to Analyze the Results
   1. Dean, College of Arts and Sciences
   2. Associate Dean, College of Arts and Sciences
   3. Departmental faculty
   4. Program Review Committee (and other faculty committees when appropriate)

B. Persons/Positions Designated to Formulate, if Necessary, the Means to Strengthen or Improve the Concentration/Program
   1. Dean, College of Arts and Sciences
   2. Associate Dean, College of Arts and Sciences
   3. Departmental faculty
   4. Program Review Committee (and other faculty committees when appropriate)

C. Persons Designated to be Responsible for Implementing the Plan for Improvement
   1. Dean, College of Arts and Sciences
   2. Associate Dean, College of Arts and Sciences
   3. Departmental faculty

7. How will faculty/staff be made available to meet the needs of this new or revised program?

The Department of Biological Sciences will not require any new faculty positions to teach the proposed course at the Troy site initially. Current faculty will teach the remainder of the curriculum through existing courses. Additional faculty might be requested at a future date as justified by enrollment growth of the Concentration.

8. What additional resources will be required to meet the needs of this new or revised program (List materials, equipment, etc. needed)?

We will need to subscribe to several food safety journals.

9. Estimated annual cost to the university:

   Journals: $2,000 Revised to $1750.00
   Increased laboratory supplies (expendables): $2,500
10. This program addition or revision will be required of students in the following major/minor program(s):

No other programs, majors, or concentrations are affected by the proposed Food Safety Concentration.

11. Number of students currently enrolled in this (these) program(s):

N/A

12. Total FTE faculty in this department (AY 2007 - 2008):

16

13. Analysis of credit hour production in this department:

a. Total credit hours of General Studies (GS) and remedial courses (AY 2006 - 2007): 4,275

b. Total credit hours of all other courses (same period): 8,475

c. Percentage analysis: GS and remedial
   Upper level 57%
   Graduate 42%
   1%

14. Relevant course syllabus (attached):

Proposed Curriculum for the Food Safety Concentration within the Biology Program

<table>
<thead>
<tr>
<th>Core Courses</th>
<th>SH</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 4414</td>
<td>3</td>
<td>Food Microbiology</td>
</tr>
<tr>
<td>BIO L414</td>
<td>1</td>
<td>Food Microbiology Lab</td>
</tr>
<tr>
<td>BIO 4451</td>
<td>3</td>
<td>Toxicology</td>
</tr>
<tr>
<td>BIO L451</td>
<td>1</td>
<td>Toxicology Lab</td>
</tr>
<tr>
<td>BIO 44XX</td>
<td>3</td>
<td>Food Laws and Regulations (submitted)</td>
</tr>
<tr>
<td>CHM 3352</td>
<td>3</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>CHM L352</td>
<td>1</td>
<td>Biochemistry Lab</td>
</tr>
<tr>
<td>MGT 4466</td>
<td>3</td>
<td>Restaurant Management</td>
</tr>
<tr>
<td>NSG 2211</td>
<td>3</td>
<td>Human Nutrition</td>
</tr>
</tbody>
</table>
Select 11 or more hours from the courses listed below. Lectures and their corresponding labs must be taken together.

<table>
<thead>
<tr>
<th>Elective Courses</th>
<th>SH</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 3382</td>
<td>3</td>
<td>Immunology</td>
</tr>
<tr>
<td>BIO L382</td>
<td>1</td>
<td>Immunology Lab</td>
</tr>
<tr>
<td>BIO 4416</td>
<td>3</td>
<td>Microbial Ecology</td>
</tr>
<tr>
<td>BIO L416</td>
<td>1</td>
<td>Microbial Ecology Lab</td>
</tr>
<tr>
<td>BIO 4471</td>
<td>3</td>
<td>Parasitology</td>
</tr>
<tr>
<td>BIO L471</td>
<td>1</td>
<td>Parasitology Lab</td>
</tr>
<tr>
<td>BIO 4478</td>
<td>3</td>
<td>Cell Biology</td>
</tr>
<tr>
<td>BIO L478</td>
<td>1</td>
<td>Cell Biology Lab</td>
</tr>
<tr>
<td>BIO 4482</td>
<td>3</td>
<td>Molecular Biology</td>
</tr>
<tr>
<td>BIO L482</td>
<td>1</td>
<td>Molecular Biology Lab</td>
</tr>
<tr>
<td>BIO 4488/4489/4490</td>
<td>1-8</td>
<td>Internship in the Biological or Environmental Sciences*</td>
</tr>
<tr>
<td>CHM 4445</td>
<td>3</td>
<td>Instrumental Analysis</td>
</tr>
<tr>
<td>CHM L445</td>
<td>1</td>
<td>Instrumental Analysis Lab</td>
</tr>
<tr>
<td>MGT 3372</td>
<td>3</td>
<td>Hospitality Management</td>
</tr>
<tr>
<td>MGT 4465</td>
<td>3</td>
<td>Food and Beverage Service</td>
</tr>
</tbody>
</table>

*Pending approval of wording changes in course title by Academic Council
BIO 44XX—Food Laws and Regulations. 3 credits (3-3)

Location: 212 McCall Hall (MSCX)


Course instructor(s): Dr. Lisa Blankinship and Ms. Heather Lofton-Garcia

Office hours: To be announced

Phone #: 670-3173 and 670-3625

E-mails: lblankinship@troy.edu and hlgarcia@troy.edu

Prerequisites: BIO 3372/L372. Co-requisite: BIO 4414/L414

Catalog description: Introduction to federal, state, and local laws pertaining to food safety and sanitation, proper food preservation and labeling, environmental and occupational regulations, federal trade commission regulations, Kosher and Halal food laws, and topics in biotechnology. Prerequisite: BIO 3372/L372. Co-requisite: BIO 4414/L414

Course description: The course introduces concepts related to food safety and sanitation and covers the federal, state, and local laws pertaining governing the food supply in the United States. A special section on SOPs (standard operating procedures) and HACCP (hazard analysis critical control points) will be covered. A brief history of food law, enactment of laws and regulations, legal research, and regulatory agencies will be included.

Course objectives:
Provides basic and applied information in food laws in the following areas: case law history, methods of controlling food spoilage and foodborne disease, legal research, and regulatory agencies.

Students will learn the following:
1) Enactment of food laws and regulations set by federal, state, and local agencies
2) Methods used in the enforcement of food safety laws by governing agencies
3) Case law history affecting food production: processing, packaging, marketing, and distribution of food and food products
4) Examine case studies pertaining to food regulation

Desired competencies: Students will have successfully completed an undergraduate microbiology course.
<table>
<thead>
<tr>
<th>Date</th>
<th>Lecture Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Chapter 1 An Introduction to Laws and Regulations</td>
</tr>
<tr>
<td>Week 2</td>
<td>Chapter 2 How Did We Get Where We Are Today? Chapter 3 Federal, State, and Local Laws</td>
</tr>
<tr>
<td>Week 3</td>
<td>Chapter 3 Federal, State, and Local Laws, continued, Chapter 4 Major Laws and Regulations Related to Food Safety and Quality</td>
</tr>
<tr>
<td>Week 4</td>
<td>Chapter 4 continued, Chapter 5 Food Labeling</td>
</tr>
<tr>
<td>Week 5</td>
<td>Chapter 6 Environment Regulations and the Food Industry</td>
</tr>
<tr>
<td>Week 6</td>
<td>Chapter 7 OSHA (Occupational Safety and Health Administration) Regulations and the Food Industry</td>
</tr>
<tr>
<td>Week 7</td>
<td>Chapter 8 FTC (Federal Trade Commission) Regulations and the Food Industry</td>
</tr>
<tr>
<td>Week 8</td>
<td>Chapter 9 An Introduction to Kosher and Halal Food Laws</td>
</tr>
<tr>
<td>Week 9</td>
<td>Chapter 10 Biotechnology</td>
</tr>
<tr>
<td>Week 10</td>
<td>FDA (Food and Drug Administration) Laws</td>
</tr>
<tr>
<td>Week 11</td>
<td>CDC (Centers for Disease Control) Laws</td>
</tr>
<tr>
<td>Week 12</td>
<td>Examining selected case studies in food law at the state level (state of Alabama) How to handle an outbreak of foodborne disease legally</td>
</tr>
<tr>
<td>Week 13</td>
<td>Introduction to HACCP and SOPs</td>
</tr>
<tr>
<td>Week 14</td>
<td>Writing and implementing HACCP plans</td>
</tr>
<tr>
<td>Week 15</td>
<td>Review and student presentations of selected case studies Final Exam</td>
</tr>
</tbody>
</table>

Grading will be as follows:

- 3 tests (counting each 20% of final grade) 60%
- Final examination 20%
- Article Reviews 20%

Final grades are based on the following percentages: A= 90%, B= 80%, C=70%, D=60%, F<60%

Course Policies:
1. Attendance. Students are expected to attend class and participate.
2. Cellular phones must be switched off before entering class
3. Exam date: no examination will be given prior to the scheduled period and date.

4. Students must take all exams or they will receive an "F" for the course.

5. Make up exams will not be given unless arrangements are made prior to the exam day. Students cannot wait until the end of the term to make up exams. Exams cannot be made up without a physician's written excuse or University written excuse. The format of any make up exam will determined at the instructor's discretion.

6. Exam material. Questions will be drawn from lecture material and from the textbook readings.

7. Assignments must be turned in personally to instructor on or before the due time. You will lose 10 points per each day of delay.

8. American with Disabilities Act. Any student whose disabilities fall within ADA must inform the instructor at the beginning of the term of any special needs or equipment necessary to accomplish the requirements for this course.

9. Additional Services. Students who have or may be dealing with disability or learning difficulty should speak with the instructor, contact the Office of Adaptive Needs Program (Wright 226), or call 670-3220/3221. Various accommodations are available through the Adaptive Needs Program.

10. Tutors. Tutorial help may be available to students in the Science Learning Center. All interested students are encouraged to visit the center.

11. Cheating. Students observed cheating by the instructor would be dismissed from class. The action to be taken against the student will be determined after consultation with the department head and other appropriate individuals.

12. Lab Safety. All students must sign the lab safety handout and follow the rules outlined on that handout. Violators will be dismissed from class.

13. Incompletes. “Incompletes” will only be given under the limited and special circumstances described in the Undergraduate Catalog.

14. Teaching certificate. All students seeking recommended for a teaching certificate must complete this course with a grade of “C” or better.

15. This syllabus is subjected to changes with notice. Students will be informed of any changes at the earliest possible date.