Texas A&M University
Departmental Request for a New Course
Undergraduate • Graduate • Professional
• Submit original form and attach a course syllabus.

1. This request is submitted by the Department of Nutrition and Food Science

2. Course prefix, number and complete title of course: FSTC 610 Nutritional Pharmacometrics of Food Compounds

3. Catalog Course description (not to exceed 50 words): Introduction into nutritional pharmacokinetics and pharmacodynamics of food compounds; specific examples of toxicological and pharmacological effects of food compounds

4. Prerequisite(s): NUTR 202 or 203 or FSTC 201 or CHEM 227 or CHEM 222 or instructor approval

Cross-listed with: NUTR 610

Cross-listed courses require the signature of both department heads.

5. Is this a variable credit course? ☐ Yes ☒ No If yes, from ______ to ______

6. Is this a repeatable course? ☐ Yes ☒ No
Will this course be repeated within the same semester? ☐ Yes ☒ No
If yes, this course may be taken ______ times.

7. Has this course been taught as a 489/689? ☒ Yes ☐ No If yes, how many times? 1

Indicate the number of students enrolled for each academic period it was taught: 09A - 4

8. This course will be:
   a. required for students enrolled in the following degree program(s) (e.g., B.A. in history)
      not required
   b. an elective for students enrolled in the following degree program(s) (e.g., M.S., Ph.D. in geography)

M.S., Ph.D in varied degree plans

9. If other departments are teaching or are responsible for related subject matter, the course must be coordinated with these departments. Attach approval letters.

10. Prefix  Course #  Title (excluding punctuation)
    FST  C  6  1  0  N  U  T  R  P  H  A  R  M  O  F  F  O  O  D  C  O  M  P

    Lab  |  Lab  |  SCH  |  CIP and Fund Code  |  Admin. Unit  |  Acad. Year  |  FICE Code
    0  3  |  0  0  3  |  3  0  1  9  0  1  0  0  0  2  |  2  1  2  0  1  0  -  1  1  0  0  3  6  3  2

Approval recommended by: Level 6

Department Head - Type Name & Sign Date

Chair, College Review Committee Date

Department Head - Type Name & Sign (if cross-listed course) Date

Dean of College Date

Submitted to Coordinating Board by:

Associate Director, Curricular Services Date

Dean of College Date

Effective Date

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra-williams@tamu.edu.
Texas A&M University
Departmental Request for a New Course
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1. This request is submitted by the Department of Nutrition and Food Science

2. Course prefix, number and complete title of course: FSTC 610 Nutritional Pharmacometrics of Food Compounds

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<table>
<thead>
<tr>
<th>FSTC</th>
<th>610</th>
<th>NUTR</th>
<th>PHARM</th>
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<tr>
<td>Lect. Lab SCI CIP and Fund Code Admin. Unit Acad. Year HCE Code</td>
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Approval recommended by:

J. Kuster 3/25/2009

Department Head - Type Name & Sign Date

Department Head - Type Name & Sign Date (if cross-listed course)

Submitted to Coordinating Board by:

Associate Director, Curricular Services

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra-williams@tamu.edu.
Curricular Services - 1/7/09
FSTC 410/610 Nutritional Pharmacometrics of Food Compounds

Course Syllabus – Spring 2011
Instructor: Dr. Susanne U. Talcott
1500 Research Parkway - 220K Centeq Bldg. A - HOURS - Mon/Wed – 2:30 - 4:00 pm
Phone: 979-458-1819 2254 TAMU
Fax: 979-458-3704
Email: smtalcott@tamu.edu

Credits: 3 (3-0)

Course Description: Introduction into nutritional pharmacokinetics and pharmacodynamics of food compounds; specific examples of toxicological and pharmacological effects of food compounds.

Maximum Number of Students: 50

Undergraduate Learning Outcomes:
After the successful completion of this course students will
• Know principles of pharmacokinetics and pharmacodynamics
• Understand pharmacology and toxicology of selected food compounds
• Understand aspects of regulations regarding labeling and claims for dietary supplements and other food products
• Be able to scientifically evaluate scientific literature, lay press publications, product infomercials and communicate related issues

Learning Outcomes for Graduate Students:
Graduate students will have to full fill the same requirements as undergraduate students. In addition graduate students will be preparing a powerpoint-based presentation of 15 min, they will have to work in additional group projects and write reports regarding these projects. Graduate students will independently and critically search scientific peer reviewed literature and write short literature summaries discussing hot topics and current controversies in the field.

After the successful completion of this course students will
• Know principles of pharmacokinetics and pharmacodynamics
• Understand pharmacology and toxicology of selected food compounds
• Understand aspects of regulations regarding labeling and claims for dietary supplements and other food products
• Be able to scientifically evaluate scientific literature, lay press publications, product infomercials and communicate related issues
• Be able to independently research current literature
• Be able to discuss information provided by food industry using regulatory guidelines (Food And Drug Administration, FDA)
• Be able to design research studies using “bench to bedside” research approach and discuss implications for product development in food industry
• Be able to evaluate scientific approaches and product development

Prerequisites: NUTR 202/203 or FSTC 201 or CHEM 227/CHEM 222 or instructor’s approval
Reading material: Will be provided in class
Additional Readings: Journal articles available on-line through TAMU Library and databases, including ScienceDirect and Pubmed

Evaluation:
2 Exams (x 150 pts) 300 pts
Assignments 75 pts (50 written, 25 oral)
Quizzes 25 pts
Total for Undergraduate Students 400 pts

Additional requirements for graduate students:
In class presentation 100 pts
Critical literature review 100 pts
Group project (in context with assignments) 100 pts
Total for Graduate Students 700 pts
[A = > 90%; B = 89-80%; C = 79-70%; D = 69-60%; F = < 60% total points]

Policies for Class
Make-up exams are not given except in conjunction with a University-excused absence (see Academic Rule 7.1 on TAMU website). A separate exam is written for those students who take a make-up exam.
Assignments and papers are due by 5 PM on the due date. All papers can be turned in in printed form or sent by email.

University/Department Policies
“An Aggie does not lie, cheat, or steal or tolerate those who do.”
Academic dishonesty and plagiarism are the subjects of the new Aggie Honor System
effective September 1, 2004. Know the code! Definitions of academic misconduct are shown on the Aggie Honor System website at http://www.tamu.edu/aggiehonor/definitions.php. Because of the serious nature of penalties under the new system, you are strongly encouraged to become familiar with the Aggie Honor System. http://www.tamu.edu/aggiehonor

**Americans with Disabilities Act (ADA)**
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Department of Student Life, Services for Students with Disabilities, B-118 Cain Hall, at 845-1637.

**Course Topics/Calendar**

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<th>General Introduction, Classification and Literature</th>
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<tr>
<td>Jan 21&lt;sup&gt;th&lt;/sup&gt;</td>
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<td>Jan 26&lt;sup&gt;th&lt;/sup&gt;</td>
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<td>Jan 28&lt;sup&gt;nd&lt;/sup&gt;</td>
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<td>Feb 2&lt;sup&gt;nd&lt;/sup&gt;</td>
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<td>Feb 4&lt;sup&gt;th&lt;/sup&gt;</td>
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<td>Feb 9&lt;sup&gt;th&lt;/sup&gt;</td>
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**Implications and Mechanisms of Bioactive Compounds in Health and Chronic Diseases**

<p>| Feb 11&lt;sup&gt;th&lt;/sup&gt; | Pharmacometric aspects of the pathogenesis |</p>
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<tr>
<th>Date</th>
<th>Activity</th>
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<tr>
<td>Feb 16&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Pharmacokinetics and dynamics and dosing recommendations of compounds in red wine and superfruits</td>
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<td>Feb 18&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Review for first Exam</td>
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<td>Feb 23&lt;sup&gt;th&lt;/sup&gt;</td>
<td>EXAM 1</td>
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<td>Feb 25&lt;sup&gt;th&lt;/sup&gt;</td>
<td>How do pharmacometrics relate to food processing effects on bioactive compounds?</td>
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**Specific Compounds, Food Sources and Bioavailability**

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<tr>
<th>Date</th>
<th>Activity</th>
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<tr>
<td>March 2&lt;sup&gt;nd&lt;/sup&gt;</td>
<td>No class</td>
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<tr>
<td>March 4&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Analysis of current research studies</td>
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<tr>
<td>March 9&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Analysis of current research studies</td>
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<tr>
<td>March 11&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Guest lecture: Labeling, health claims, responsible marketing of products, how far are we from dosing-recommendations for non-nutrient food compounds? Yamini Essay, Ph.D. FDA</td>
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<td>March 12&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Biochemistry and Pharmacometrics of Food Metabolites</td>
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**SPRINGBREAK**

**Broader Impact for Public Health and Food Industry**

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<tr>
<th>Date</th>
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<tbody>
<tr>
<td>March 23&lt;sup&gt;th&lt;/sup&gt;</td>
<td>The ADME model</td>
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<tr>
<td>March 25&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Pharmacology of Functional Foods</td>
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<td>March 30&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Food Compounds as Drugs? – A research and regulatory perspective, Dr. Joe Betz, Ph.D., NIH</td>
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<td>April 1&lt;sup&gt;st&lt;/sup&gt;</td>
<td>Bench to bedside approach – Role of pharmacokinetics and pharmacodynamics</td>
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<td>April 6&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Toxicological pharmacometric aspects of food-drug interactions – implications for pharmaceutical industry</td>
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<td>April 8&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Pharmacometrics of food drug interactions</td>
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<tr>
<td>April 13rd</td>
<td>Preparations of group assignment</td>
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<td>April 15th</td>
<td>Presentation of graduate assignments</td>
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<td>April 20th</td>
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<td>April 22nd</td>
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<td>Review Session for Exam</td>
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<td>May 4th</td>
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