Abilene Christian University

Application for a New Course v9

Course ID ***Subject and Number***	NUTR 323 Biochemistry of Nutrition II
Date APPROVED	
Date DENIED	

I. Systems and Catalog Information Complete each item.

1	Course Developer	Sheila Jones
2	Course Teacher	Sheila Jones
3	Course Title	Biochemistry of Nutrition II
4	Course Abbreviation (if title is over 30 characters)	N/A
5	College	College of Education and Human Services
6	Department	Kinesiology and Nutrition
7	Number of Credit Hours	3
8	Is the course Fixed Credit or Variable Credit?	Fixed
9	Is the course repeatable?	No
10	Maximum number of times course may be repeated	N/A
11	Maximum number of hours credit	3
12	Explanation for variable credit	N/A
13a	Course contact hours - LEC	3 LEC
13b	Course contact hours - Lab	
13c	Course contact hours - Practicum	
13d	Course contact hours - Seminar	
13e	Course contact hours - Studio	
13f	Course contact hours - Online	
13g	Course contact hours - Colloquium	
13h	Course contact hours – Field Experience	
13j	Course contact hours - Internship	
13k	Course contact hours - Research	
13m	Course contact hours - Workshop	
13n	Course contact hours – Other (specify)	
14	Instructor Workload	3 hours
15	Grade Mode (check all appropriate):	__X_Standard ___Credit/No Credit (undergrad only)
16	Maximum Enrollment	25
17	**Catalog Description** (50 words or less)	Applies biochemistry to nutrient use from consumption through digestion, absorption, distribution, and cellular metabolism and

		integrates physiological processes from the cellular level through the multisystem operation of the whole organism.
18	List any prerequisites (course/s, test scores, class standing, major, etc.)	NUTR 221, NUTR 322, CHEM 112/114 or 132/134
19	List any co-requisites	N/A
20	If the course is cross listed, specify the Course ID(s) MUST have signature in Section V off all Department Chairs	N/A
21	Does this course have any special student costs? Yes/No *Attach a completed "Request to Add or Change Course Fees" form. Describe in section IV-F.*	No
22	How often will it be offered? **Fall**	N/A
23a	How often will it be offered? **Spring**	Every year
23b	How often will it be offered? **Summer**	N/A
23c	How often will it be offered? **Fall**	N/A
24	Frequency?	Every year in the spring
25	First semester this course will be offered *New courses may not be taught under their approved course ID until they appear in the catalog, therefore, no earlier than the coming fall.*	Spring of 2013
26	List course/s that should be deleted, include the last semester for course/s being deleted *A course cannot be deleted when it is a requirement in a degree plan in any department.*	N/A
27	Is this course required for a degree/s? Yes/No *If "Yes," attach a revised degree plan(s) reflecting the placement of the new course.*	Yes, for the NDPD track of the B.S. in Nutrition degree
28	Has this course been offered as a Special Topics course? Yes/No *If "Yes," specify the Course ID and enrollment for each term it was taught.*	No
29	List any courses in which content overlaps the proposed course. (Course ID and Name) *Attach statement from instructor/dept chair of existing course justifying the new offering in Section IV-D.*	Some very elementary information is offered in NUTR 221 Introductory Nutrition. This course is very in-depth in content.

II. Curriculum

1	**Degree Plan** Explanation of how this course affects degree requirements.	This course adds 3 hours to the nutrition degree course requirements for the NDPD track and the raises the number of hours in that section from 40 to 43. It also decreases the elective hours to 11 for the NDPD track.
2	**Justification** State the justification for adding this course to the current curriculum. Represent the need	The course is justified because the student in the NDPD track must know thorough information about micronutrients and related biochemical pathways and physiological need. NUTR 324 Advanced Nutrition is a very rigorous course which provides study of the macronutrients, but there is not time to cover the micronutrients. This course satisfies that need for thorough study of the micronutrients. All nutrition majors in the NDPD track must take the course.

III. Course Design

1. Audience and Course Goal

1	Describe the intended audience, including prerequisite skills.	It is required for those seeking degrees in nutrition with the NDPD track and may also be taken by other students who have taken Introductory Nutrition, Biochemistry of Nutrition I, and the prerequisite chemistries.
2	State the overarching course goal(s) in performance terms.	The student should be able to integrate micronutrient nutrition with metabolism, biochemistry, and physiology.

2. Competencies and Measurements

	Competency	**Measurement**
1	The student will be able to examine and justify how nutrition is integrated with biochemistry and physiology.	Examination scores and Nutrient Presentations
2	The student will be able to explain and illustrate micronutrient metabolism.	Examination scores and Nutrient Presentations
3	The student will be able to identify and interpret micronutrient needs.	Examination scores, Nutrient Presentations, and Assessment Papers
4	The student will be able to explain and differentiate types of micronutrient	Examination scores and Assessment Papers

	assessment in the body.	
5	The student will be able to use current information technologies and methodologies to research current micronutrient information.	Nutrient Presentations
6	The student will be able to present nutrition research in an informative manner.	Nutrient Presentations
7	The student will be able to interpret basic statistics.	Nutrient Presentations

3. Text and Resources

1. Give the full publication information of the textbook/s and other required resources and outside readings.

Required Text: Gropper SS, Smith JL, Groff JL. Advanced Nutrition and Human Metabolism, Fifth Edition, Wadsworth, 2009.
Additional Text Resource: Shils ME, Shike M, Ross AC, Caballero B, Cousins RJ. Modern Nutrition In Health and Disease, 10th Edition, Lippincott Williams & Wilkins, 2005.
Primary Website: www.ncbi.nlm.nih.gov/pubmed/

2. For **combined undergraduate/graduate** courses, make two lists:
   a. full publication information; label **Undergraduate**.
   b. full publication information; label **Graduate**. Indicate number of pages required.

N/A

IV. Supporting Documentation

Supporting documents must accompany proposal prior to preliminary approval by chair and dean.

	1	**Library** — Submit new course application and syllabus to the Director of the Library. Consult with the director and establish a deadline for completion of the library report. **Attach** the signed copy of the library director's report.
	2	**Instructional Design** — The application and syllabus must be reviewed by the Adams Center. **Attach** a copy of the Adams Center Review Letter.
	3	**Degree Plan** — The impact of the course must be reviewed by the Director of Curriculum. **Attach** degree plan signed by the Director of Curriculum.
	4	**Content Overlap** — Include one document for each course you listed in Section I-I. **Attach** statement from instructor/dept chair of existing course justifying the new offering.
	5	**Departmental Resources** — List the resources that support the course and are available only through the department, if applicable. **Attach** the list of the holdings and the location/s.
	6	**Resources** — List resources (other than library or departmental resources) that are needed to support this course (computers, lab equipment, other technology, etc.). **Attach** a complete list of all items and indicate possible sources or estimated cost of each. List the sources of any needed funds.
	7	**Expenses** — List additional expenses needed to implement this course (full-time or part-time faculty, graduate or lab assistants, student employees, travel, special student costs, room renovation, storage facility, etc.). **Attach** a complete list of all items, the estimated cost of each and the source of the funds.
	8	**Justification** — **Attach** all documents referred to in Section II-2
	9	Syllabus — **Attach** the syllabus for the course based upon the anticipated first-semester offering.
	10	Provide documentation for all additional attachments here

V. Preliminary Approvals

All supporting documentation has been assembled and attached to this application. I believe this course is ready to be presented to appropriate councils. We have a plan to fund this new course.

Primary Department

_____	_____
Department Chair	Dean of the College
_____	_____
Date	Date

Cross-listing Department *Add more lines if multiple departments are cross-listing*

_____	_____
Department Chair	Dean of the College
_____	_____
Date	Date

Cross-listing Department *Add more lines if multiple departments are cross-listing*

_____	_____
Department Chair	Dean of the College
_____	_____
Date	Date

VI. Approvals *Place all approvals on one page.*

A. Course ID: NUTR 323

Course Title: Biochemistry of Nutrition II

1. **College Academic Council Action**: (for all courses)
   Note: Insert additional lines for College Academic Council action for each college involved in cross-listed courses.

Approved ___ Denied___ _____ _____
College Dean or Director Date

Approved ___ Denied___ _____ _____
College Dean or Director Date

2. **Graduate Council Action**: (for graduate level courses)

Approved ___ Denied ___ _____ _____
Dean of Graduate School Date

3. **University Undergraduate Academic Council Action**:
   For undergraduate level courses only

Approved ___ Denied ___ _____ _____
Associate Provost Date

4. **University General Education Council Action**: (when applicable)

Approved ___ Denied ___ _____ _____
Provost or designee Date

5. **University Budget Committee Action**: (when applicable)
When applicable – see New Course Application Instructions

Approved ___ Denied ___ _____ _____
Chair, University Budget Committee Date

6. **Academic Provost Action**: (for all courses)

Approved ___ Denied ___ _____ _____
Provost Date

7. **President of the University Action**: (for all courses)

Approved ___ Denied ___ _____ _____
President Date

Attach notes, comments, or conditions from appropriate councils:

NUTR 323
BIOCHEMISTRY OF NUTRITION II
ABILENE CHRISTIAN UNIVERSITY
SPRING 2013 SYLLABUS

Sheila Jones, Ph.D., R.D., L.D., Associate Professor

Office: Student Recreation and Wellness Center #259, 674-2089, fax: 674-6788, ACU Box 28084, joness@acu.edu.
Office hours: M – 9:00 – 11:00 a.m.
TR - 9:00 - 9:30 a.m.
W – 9:00 – 11:00 a.m., 1:00 – 3:30 p.m.

ACU Mission: to educate our students for Christian service and leadership throughout the world.

College of Education and Human Services Mission: to equip students for global ministry through exemplary practice and service in education and human services.

Department of Kinesiology and Nutrition Mission: to prepare students to serve and lead through the development of healthful lifestyles.

Didactic Program in Dietetics Mission: to prepare students to serve and lead through living and teaching healthful nutrition practices and wellness while modeling Christian values.

Course Description:
Credit: 3 hours
When: TR 9:30-10:50 a.m.
Where: Gibson #132
Prerequisites: NUTR 221, NUTR 322, CHEM 112/114 or CHEM 132/134.
Course description: Applies biochemistry to nutrient use from consumption through digestion, absorption, distribution, and cellular metabolism and integrates physiological processes from the cellular level through the multisystem operation of the whole organism.
Purpose and audience: The course provides a concise view of current scientific discoveries and concepts related to nutrition. It is required for those seeking degrees in nutrition with the NDPD track and may also be taken by other students who have taken Introductory Nutrition, Biochemistry of Nutrition I, and the prerequisite chemistries.
Format: Lecture, discussion, and presentations.
Conduct of the Course: Chapters should be read before material is discussed in class. Presentations of micronutrient research will be given by students in class.
Overview of Content: The course examines comprehensive information concerning the physiology and biochemistry of nutrition.
Required Text: Gropper, Sareen S, Smith, Jack L, and Groff, James L. Advanced Nutrition and Human Metabolism, Fifth Edition, Wadsworth, 2009.

Additional Text Resource: Shils, Maurice E., Shike, Moshe, Ross, A. Catharine, Caballero, Benjamin, and Cousins, Robert J. Modern Nutrition In Health and Disease, 10th Edition, Lippincott Williams & Wilkins, 2005.

Library Holdings: The Brown Library has thousands of resources concerning nutrition including professional journals.

Primary Website: www.ncbi.nlm.nih.gov/pubmed/

Course goal: The student should be able to integrate nutrition with metabolism, biochemistry, and physiology.

Instructor's philosophy: I Cor. 10:31 states "Whether, then, you eat or drink or whatever you do, do all to the glory of God." We should try to be as Christ-like as possible in all of our activities and serve Him to the fullest extent. Food is a basic need for the body, which is the Lord's temple. For optimal health, appropriate choices concerning foods and diet need to be made When we take care of the Lord's temple, we are able to concentrate on serving Him more fully. Knowledge of how nutrition is related to processes of the body should be understood by nutrition professionals in order to help others and themselves to make wise choices.

	Competency	Measurement Instrument	Measurement Standard
1	The student will be able to examine and justify how nutrition is integrated with biochemistry and physiology.	A. Examination scores B. Nutrient Presentations	A. The student will correctly integrate micronutrients with biochemical pathways and physiological principles on exams. B. The student will correctly present micronutrients in biochemical pathways and justify physiological need.
2	The student will be able to explain and illustrate micronutrient metabolism.	A. Examination scores B. Nutrient Presentations	A. The student will correctly explain and illustrate micronutrient metabolism on exams. B. The student will correctly present micronutrient metabolism.
3	The student will be able to identify and interpret micronutrient needs.	A. Examination scores B. Nutrient Presentations	A. The student will correctly identify nutrient needs and interpret those in relation to foods on exams. B. The student will correctly present micronutrient needs and relate to foods.

		C. Assessment Papers	C. The student will correctly explain the assessment of micronutrients and relate to needs.
4	The student will be able to explain and differentiate types of micronutrient assessment in the body.	A. Examination scores B. Assessment Papers	A. The student will correctly differentiate assessments for various micronutrients on exams. B. The student will correctly explain differences in assessments for various micronutrients.
5	The student will be able to use current information technologies and methodologies to research current micronutrient information.	A. Nutrient Presentations	A. The student locate appropriate web sites using information technologies and will research current valid information on micronutrients to be used for the presentations.
6	The student will be able to present nutrition research in an informative manner.	A. Nutrient Presentations	A. The student correctly present and explain micronutrient research.
7	The student will be able to interpret basic statistics.	A. Nutrient Presentations	A. The student will correctly interpret basic statistics of research articles explained in micronutrient presentations.

Course Requirements:

1. Two major exams worth 100 points each. 33.3% of grade
2. Three Nutrient Presentations worth 100 points each. 50.0% of grade
3. Two Assessment Papers worth 50 points each. 16.7% of grade
4. A total of 600 points is possible for the course.
5. Attendance is required. Any unexcused absences after 3 will result in a lower grade.

Grading Scale: A = 90-100%, B= 80-89%, C = 70-79%, D=60-69%, F=59% or below

Class Policies:

1. Any unexcused absences after 3 will result in a lower grade. Regular class attendance is imperative. If you miss class, obtain notes from another student.
2. Late assignments will not be accepted after the day they are due and will result in a grade of 0, unless circumstances occur including illness (personal or dependent), death in the family, car trouble or accident, or university-approved event. I do expect notification of the problem as soon as possible.
3. Students will not be permitted to take a test late unless **prior approval is obtained in advance** from the instructor or unless the above stated circumstances occur. If a student does not take a test when scheduled and does not meet the above criteria, a grade of 0 will be given.
4. Christian conduct is expected, including honesty and consideration of others. Cheating on a test or other assignment will result in an automatic grade of 0.

5. Women are expected to wear skirts/dresses/shorts no shorter than mid-thigh. No midriffs or tanktops are allowed. Men should not wear tanktops or shorts that are above mid-thigh, also.

ADA Compliance Statement

Abilene Christian University is dedicated to removing barriers and opening access for students with disabilities in compliance with ADA and Section 504 of the Rehabilitation Act. The Alpha Scholars Program facilitates disability accommodations in cooperation with instructors. In order to receive accommodations, you must be registered with Alpha Scholars Program, and you must complete a specific request for each class in which you need accommodations. If you have a documented disability and wish to discuss academic accommodations, please call our office directly at (325) 674-2667.

Academic Integrity

Violations of academic integrity and other forms of cheating, as defined in ACU's Academic Integrity Policy, involve the intention to deceive or mislead or misrepresent, and therefore are a form of lying and represent actions contrary to the behavioral norms that flow from the nature of God. Violations will be addressed as described in the Policy. While the university enforces the Policy, the most powerful motive for integrity and truthfulness comes from one's desire to imitate God's nature in our lives. Every member of the faculty, staff, and student body is responsible for protecting the integrity of learning, scholarship, and research. The full Policy is available for review at the Provost's office web site (http://www.acu.edu/campusoffices/provost) and the following offices: provost, college deans, dean of campus life, director of student judicial affairs, director of residential life education and academic departments.

Jan.	15	Introduction
	17	Chapter 9 - The Water-Soluble Vitamins
	22	Chapter 9 - The Water-Soluble Vitamins
	24	Nutrient Presentations
	29	Nutrient Presentations
	31	Nutrient Presentations
Feb.	5	Nutrient Presentations
	7	Nutrient Presentations
	12	Assessment Papers
	14	Assessment Papers
	19	Chapter 10 - The Fat-Soluble Vitamins
	21	Chapter 10 - The Fat-Soluble Vitamins
	26	Nutrient Presentations
	28	Nutrient Presentations
March	5	Assessment Papers
	7	Exam I - Vitamins
	11-15	SPRING BREAK!!!
	19	Chapter 11 - Macrominerals
	21	Chapter 11 - Macrominerals
	26	Nutrient Presentations
	28	Nutrient Presentations
April	2	Nutrient Presentations
	4	Assessment Papers

	9	Chapter 12 - Microminerals
	11	Chapter 12 - Microminerals
	16	Nutrient Presentations
	18	Nutrient Presentations
	23	Nutrient Presentations
	25	Assessment Papers
	30	Assessment Papers
May	2	Chapter 13 - Ultratrace Elements
	7	Final - Minerals - 8:00-10:00

HAVE A WONDERFUL AND SAFE SUMMER!!!

This schedule is tentative and subject to change at the discretion of the instructor.

Nutrient Presentation

Requirements and Grading:

The student must present information using power point on an assigned micronutrient. The presentation of the topic must include at least 5 references of articles from peer-reviewed journals. The textbook should be included as an additional reference. One journal article must be explained in-depth, and the questions below must be answered in the presentation about the article. Articles must be approved by the instructor. Attention should be paid to thoroughness and detail.

Grading Rubric

Criteria for Assessment	Possible Score	Actual Score	Comments
Design/colors/contrasts of power point	5		
Spelling	5		
Presentation style & rate (eye contact)	5		
Appearance of presenter (professional dress)	5		
Introduction	5		
Maintaining interest	5		
Organization of material	5		
Sources of micronutrient	10		
Digestion of micronutrient	10		
Absorption of micronutrient	10		
Transport of micronutrient	10		
Functions and mechanisms of action of nutrient (inclusion of biochemical pathways)	10		
Interaction of micronutrient with other nutrients	5		
Excretion of micronutrient	5		

Adequate intake of micronutrient and physiological need	10		
Deficiency of micronutrient	5		
Toxicity of micronutrient	5		
Summary/Conclusion	5		
References listed/valid sources	10		
Interesting and relevant article topic	5		
Interpretation of statistics in the article	10		
Key Questions to Answer About the Article			
Was it done by a credible institution?	5		
Is this a preliminary study?	5		
Was the study done on animals or humans?	5		
Was the research population large enough?	5		
Was the study long enough?	5		
Is the science valid despite the funding source?	5		
Was the report reviewed by peers?	5		
Does the report avoid absolutes, such as “proves” or “causes”?	5		
Does the report reflect appropriate context (how it fits in the larger picture of scientific evidence)?	5		
Do the results apply to a certain group of people?	5		
What do follow-up reports from qualified nutrition experts say?	5		
Total Score	**200**		

Assessment Paper

Requirements and Grading:

The student must gather information concerning the assessment of nutriture for an assigned micronutrient and informally present the information to the class. The basic information may be gathered from the textbook, but additional information must be gathered from another source. Sources must be referenced. A paper containing all information must be delivered to the professor for credit. Attention should be paid to thoroughness and detail.

Grading Rubric

Criteria for Assessment	Possible Score	Actual Score	Comments
Explanation and differentiation of micronutrient assessments	25		
Relation of assessment to micronutrient needs	15		
References	10		
Total Score	**50**		

ABILENE CHRISTIAN UNIVERSITY

LIBRARY

M E M O R A N D U M

DATE: April 17, 2012

TO: Sheila Jones

FROM: Mark McCallon, Associate Dean for Library Resources

RE: Course Application for NUTR 323– Biochemistry of Nutrition II

After reviewing the course syllabus and application, the library can adequately support the proposed course. Thank you for letting us examine the course proposal.

MEMORANDUM

To: Academic Councils

From: Sheila Jones
Director, Didactic Program in Dietetics

Subject: Justification for New Course Offering, NUTR 323 Biochemistry of Nutrition II

Course overlap is minimal. Some very elementary information concerning micronutrients is offered in NUTR 221 Introductory Nutrition. This course is very in-depth in content. The course is justified because the student in the NDPD track must know thorough information about micronutrients and related biochemical pathways and physiological need. NUTR 324 Advanced Nutrition is a very rigorous course which provides study of the macronutrients, but there is not time to cover the micronutrients. This course satisfies that need for thorough study of the micronutrients. All nutrition majors in the NDPD track must take the course.

IV. Supporting Documentation

Departmental Resources Supporting NUTR 323:

1. Classrooms and all equipment in the classrooms: SRWC 260, Gibson 130, 132, and 135-136.
2. Department of Kinesiology & Nutrition faculty and staff.

Other Resources Supporting NUTR 323:

There are no other resources needed.

Expenses Needed:

There are no additional expenses needed to implement this course.