

approved  
3/29/92

LSC Use Only  
Number: \_\_\_\_\_  
Action: \_\_\_\_\_  
Date: \_\_\_\_\_

UWUCC Use Only  
Number: 91-55  
Action: \_\_\_\_\_  
Date: \_\_\_\_\_

CURRICULUM PROPOSAL COVER SHEET  
University-Wide Undergraduate Curriculum Committee

I. Title/Author of Change

Course/Program Title: FN 245 Sports Nutrition  
Suggested 20 Character Course Title: Sports Nutrition  
Department: Food and Nutrition  
Contact Person: Rita Johnson

II. If a course, is it being Proposed for:

xx Course Revision/Approval Only  
\_\_\_\_\_ Course Revision/Approval and Liberal Studies Approval  
\_\_\_\_\_ Liberal Studies Approval Only (course previously has been approved by the University Senate)

III. Approvals

Jeanne B. Steiner Department Curriculum Committee  
Jeanne B. Steiner Department Chairperson  
Mary Ann Gossna College Curriculum Committee  
Harold C. Woyzard College Dean \*

\_\_\_\_\_  
Director of Liberal Studies  
(where applicable)

\_\_\_\_\_  
Provost (where applicable)

\*College Dean must consult with Provost before approving curriculum changes. Approval by College Dean indicates that the proposed change is consistent with long range planning documents, that all requests for resources made as part of the proposal can be met, and that the proposal has the support of the university administration.

IV. Timetable

Date Submitted to LSC: \_\_\_\_\_  
to UWUCC: \_\_\_\_\_

Semester to be implemented: \_\_\_\_\_

Date to be published in Catalog: \_\_\_\_\_

I. Catalog Description

FN 245

Sports Nutrition

1 credit  
1 lecture hour  
0 lab hours  
(1c-01-1sh)

Prerequisite: FN 143, FN 145, or FN 212.

This course will advance students' nutrition knowledge with special application to the optimal nutrient needs and nutrition practices of athletes to maximize performance. The fallacies of ergogenic aids will also be discussed. ~~Free elective for Food and Nutrition majors; required for Minor in Nutrition; free elective for all others.~~

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## II. Course Objectives

Students will:

1. apply concepts of normal nutrition to the needs of exercising individuals.
2. understand issues of interest to competitive athletes (e.g. carbohydrate loading, fluid replacement, protein needs, iron nutriture).
3. identify dietary behaviors which enhance performance for young and adult athletes.
4. evaluate selected ergogenic aids using a scientific basis.
5. provide a written critique of sports nutrition information in "popular press" magazines and/or sports nutrition misbeliefs and present a summary to their peers.

## III. Course Outline

- A. Introduction/What is Sports Nutrition?/What is a Sports Nutritionist? (1 lecture)
  1. Sports nutrition as a special interest
  2. Recommended preparation for sports nutritionists
  3. References for sports nutritionists
- B. The Energetics of Exercise: Fuel Utilization of Carbohydrate, Fat, and Protein (1 lecture)
  1. Review of anaerobic and aerobic metabolism
  2. Effect of training on fuel utilization
  3. Relationship of training diet to fuel use

- C. Carbohydrate and Performance (2 lectures)
  - 1. Dietary carbohydrate as source of glycogen
  - 2. Simple and complex carbohydrates in the diet
  - 3. Carbohydrate consumption pre-, during, and post-exercise
  - 4. Glycogen supracompensation
- D. Protein Nutrition for the Athlete (1 lecture)
  - 1. Protein requirements of athletes
  - 2. Protein supplementation
  - 3. Amino acid supplementation
- E. Applying Theory to Practice: Eating Strategies During Training and Competition (1 lecture)
  - 1. Daily food choices and decisions: cafeterias and/or apartment living
  - 2. Training table practices
  - 3. Pre-event meals
  - 4. Eating on the road
- F. Fluid Replacement: Issues and Recommendations (2 lectures)
  - 1. Mechanisms of water loss
  - 2. Fluid replacement guidelines
  - 3. Classifications of fluid replacement beverages
- G. The Role of Vitamin and Minerals in Performance (1 lecture)
  - 1. Overview of functions with emphasis on these as micronutrients
  - 2. Needs of athletes
  - 3. Recommendations for supplementation when necessary
- H. Weight Gain and Loss in Athletes (2 lectures)
  - 1. Recommended strategies for gain and loss
  - 2. The relationship of rapid weight loss to performance
  - 3. When weight loss goes too far: eating disorders
- I. The Role of Nutrition for the School-Age Athlete (1 lecture)
  - 1. Nutrient needs of growing children
  - 2. Incorporating the healthy diet for growth with sports performance
  - 3. Sports nutrition as a vehicle for nutrition education in schools

J. The Fallacies of Ergogenic Aids (2 lectures)

1. Pharmacologic Ergogenic Aids

2. Nutrition Ergogenic Aids

(Note: discussions to include topical issues such as blood doping, bicarbonate loading, human and plant steroids, bee pollen, non-vitamin compounds and caffeine)

IV. Evaluation Methods

3 exams @ 50 pts

150 pts

1 review of a sports nutrition issue

50 pts

200 pts

Grading Scale:

90 - 100% - A

80 - 89% - B

70 - 79% - C

60 - 69% - D

<60% - F

A. Exams will consist of a combination of questions that can be scored by the computer. Essay questions may also be included.

B. Sports Nutrition Review - See attached evaluation form on page 6.

V. Required Textbook

Berning JR, Steen SN. Sports Nutrition for the 90s, The Health Professionals' Handbook. Aspen Publishers, Inc, Gaithersburg MD, 1991.

VI. Special Resource Requirements

Several relevant videotapes are owned by the instructor and The Department of Food and Nutrition. Others will be borrowed from the Dairy and Nutrition Council Mid East, located in Pittsburgh.

VII. Bibliography

There are hundreds of pertinent research articles about sports nutrition. In lieu of listing these, relevant books and serial publications appear below.

Books

Clark, N. (1990). Nancy Clark's Sports Nutrition Guidebook. Champaign, IL: Leisure Press.

Coleman, E. (1992). Eating For Endurance. Palo Alto, CA: Bull Publishing.

Einsenman, P. (1990). Coaches Guide to Nutrition and Weight Control. Champaign, IL: Human Kinetics Publishers.

Food Power: A Coaches Guide to Improving Performance. (1991). Rosemont, IL: National Dairy Council.

Hickson, J. F., & Wolinsky, I. (Eds.). (1989). Nutrition in Exercise and Sport. Boca Raton, FL: CRC Press.

Marcus, J. (1986). Sports Nutrition: A Guide for the Professional Working with Active People. Chicago, IL: American Dietetic Association.

McArdle, W. D., Katch, F.I., & Katch, V.L. (2nd ed.). (1991). Exercise Physiology: Energy, Nutrition, and Human Performance. Philadelphia, PA: Lea and Febiger.

Neiman, D. C. (1990). Fitness and Sports Medicine. Palo Alto, CA: Bull Publishing.

Peterson, M., & Peterson, K. (1988). Eat to Compete: A Guide to Sports Nutrition. Chicago, IL: Year Book Medical Publishers.

Smith, N.J., & Worthington-Roberts, B. (2nd ed.). (1989). Food for Sport. Palo Alto, CA: Bull Publishing.

Williams, M. (1989). Beyond Training: How Athletes Enhance Performance Legally and Illegally. Champaign, IL: Leisure Press.

Williams, M. (3rd ed.). (1992). Nutrition for Fitness and Sport. Dubuque, IA: Brown Publishers.

#### Journals and Serial Publications

American Journal of Clinical Nutrition. Bethesda, MD: The American Society for Clinical Nutrition.

Gatorade Sports Science Institute. Chicago, IL: The Quaker Oats Company.

International Journal of Sports Nutrition. Champaign, IL: Human Kinetics Publishers.

Journal of The American Dietetic Association. Chicago, IL: The American Dietetic Association.

Journal of Health Education. Reston, VA: Association for Advancement of Health Education.

Journal of Physical Education, Recreation, and Dance. Reston, VA: American Alliance of Health, Physical Education, Recreation and Dance.

Journal of Sports Medicine and Physical Fitness. Hagerstown, MD: Lippincott/Harper.

Medicine and Science in Sports and Exercise. Baltimore, MD: The American College of Sports Medicine.

Nutrition Today. Baltimore, MD: Williams and Wilkins.

Sports Medicine Digest. Van Nuys, CA.

Sports Nutrition News. Evanston, IL.

The Physician and Sportsmedicine. Minneapolis, MN: McGraw-Hill Healthcare Publications.

Tufts University Diet and Nutrition Newsletter. Boston, MA.

Evaluation for Sports Nutrition Issue Review

Name \_\_\_\_\_ SS# \_\_\_\_\_

Sports Nutrition Topic chosen : \_\_\_\_\_

Instructor comments upon submission of topic:

Date: \_\_\_\_\_ Instructor initials: \_\_\_\_\_

Evaluation of One Page Review

I. The format of this review is:

- typed and legible? / 3
  - single-spaced? / 2
  - lacking misspelled words? / 2
  - grammatically correct? / 3
  - written using appropriate sentence structure and a logical development / 7
  - appropriate in its listing of references / 3
- 
- / 20

II. The content of this review :

- incorporates scientific facts in the explanation / 10
  - is accurate in its interpretation and recommendations / 15
  - incorporates references within the discussion / 5
- 
- / 30

A " " indicates a weakness in this area.

\_\_\_\_\_ This paper should be copied and be ready for distribution to each class member by the final exam period.

\_\_\_\_\_ This paper is not suitable to be distributed to class members; please see your instructor with your questions.



## Course Analysis Questionnaire

### Section A: Details of the Course

- A1. This course fulfills the needs of students who wish to elect a course in Sports Nutrition. This topic is a very popular one and is cited by many dietetics majors as an anticipated career option. Additionally, majors in the Department of Health and Physical Education often wish to know more specifics about the application of nutrition theory to sports performance and may elect this course. This course is also part of the proposed revision of the minor in nutrition, offered by the Department of Food and Nutrition. Any student who meets the prerequisites may take this class, but it is not intended to be included in the Liberal Studies course list.
- A2. This course does not require the changing of any existing courses.
- A3. This course follows a traditional lecture style.
- A4. This course was taught as FN 481, Special Topics: Sports Nutrition in the Spring of 1991 and is also being offered in the Spring of 1992 under the Special Topics number.
- A5. This will not be dual level course.
- A6. This course will not be taken for variable credit.
- A7. Other universities do offer courses in sports nutrition, but they are usually offered as three credit courses.

Slippery Rock University, Slippery Rock, PA

Department of Allied Health

AHea 320: Nutrition and Exercise

Focuses on the specific nutritional requirement for physical conditioning for persons involved in competitive and/or recreational activities. Emphasizes the development and/or maintenance of a healthy cardiovascular system. (3 credits)

Utah State University, Logan, UT

Department of Nutrition and Food Science

322. Nutrition Related to Fitness and Sport

Includes information on macro/micronutrient metabolism during exercise, specific problems experienced by athletes or highly active persons, myths, ergogenic aids, and current interests. (unable to determine credits)

University of Northern Colorado, Greeley, CO

Department of Food Nutrition and Dietetics

FND 355 Nutrition and Physical Fitness

For students of any major. Relationship of dietary practices to human performance and promotion of physical fitness. (3 credits)

Ball State University, Muncie, IN

Department of Home Economics

HEc 444. Nutrition, Weight Control, and Exercise

Designed for students in dietetics, physical education, and health related fields; information and experience for students preparing to provide nutrition counseling to persons in weight control and exercise training programs. (4 credits - quarter system)

- A8. The content and skills of this course are not mandated by a professional society or accrediting authority.

Section B: Interdisciplinary Implications

- B1. This course will be taught by one instructor.
- B2. No additional or corollary courses are needed with this course.
- B3. This course develops and expands information on sports nutrition taught in FN 212, Nutrition (2.5 hours on this topic), FN 145 (2 hours on this topic), and FN 143 (1 hour on this topic). A course taught by the Department of Health and Physical Education, HP 343 Exercise Physiology, also overviews the importance of nutrition in athletic performance. A letter of support for this course from the Department of Health and Physical Education has been requested.
- B4. Five seats in this course will be made available to students in the School of Continuing Education.

Section C: Implementation

- C1. The current resources in the Department of Food and Nutrition, Stapleton Library, and the personal library of Rita Johnson are adequate to teach this course. Companies which manufacture sports nutrition products have donated products for students to see and taste.
- C2. None of the resources for this course are funded by a grant.
- C3. It is expected that this course will be offered once each year during the spring semester.
- C4. One section of this course will be offered.
- C5. One section of this course can accommodate 40 students; this number is not limited by the availability of any resources except room size.
- C6. No professional society recommends enrollment limits or parameters for a course of this nature.
- C7. This course will be a free elective for Food and Nutrition majors. It will be required for those who wish to minor in nutrition. It will be a free elective course for all others.

Section D: Miscellaneous

Letters of support have been requested from the following and are attached.

James Mill, PhD, Department of Health and Physical Education, Indiana University of Pennsylvania

Ron Trenney, AT, C, Sports Medicine Clinic, Indiana University of Pennsylvania

December 3, 1991

To: Jim Mill  
Chairman, Department of Health and Physical Education

From: Rita Johnson *RJ*  
Department of Food and Nutrition

Subject: Sports Nutrition Syllabus

cc: Joanne Steiner

Attached is the syllabus for a one credit Sports Nutrition course that we plan to offer as a free elective and as an inclusion in the revision of courses for a minor in nutrition. We plan to present this course at a meeting of the college undergraduate curriculum committee during finals week of this semester.

We anticipate that this course will be offered once each year, probably in the spring semester.

I would appreciate having a memo or letter of support from your department to attach to the course proposal. Thank you for your consideration; I can be reached at x3281 or x4440 if you have any questions or comments.

*The Physical  
Education Department  
recommends the Sports  
Nutrition Course -  
2/20/92*

*J. Clark*

Intercollegiate Athletics  
Indiana University of Pennsylvania  
Memorial Field House  
Indiana, Pennsylvania 15705-1077

(412) 357-2751



December 10, 1991

Rita Johnson, M.S., R.D.  
Department of Food and Nutrition  
Ackerman Hall  
Indiana, PA

Dear Rita,

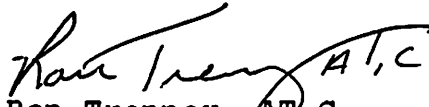
I just completed a review of the syllabus and course outline for the proposed course entitled Sports Nutrition, (FN 245). I was impressed with the topics that you plan to include in this course and found the objectives and goals to parallel that information most often requested from our department in regard to sports nutrition.

I was most impressed with the concept of applying theory to practice. I believe we concern ourselves with teaching the "what" more so than the "how" in regard to application.

I am much in favor of the addition of such a course being offered here at IUP. I think it will greatly help introduce and educate your students in the field of sports nutrition. I hope that students from other departments have an opportunity to also enroll in such a class. I can see a need for such education for the preparation of my student athletic trainers as well as anyone pursuing a teaching/coaching career.

I thank you for allowing me the opportunity to review and react to this course proposal. I feel that with your background, experience and expertise in this area you will do an outstanding job in its instruction. We continue to be pleased with your interaction and interest in the IUP student/athlete. I thank you for those programs that you have prepared and presented to our department and look forward to working with you in the future.

Sincerely,

  
Ron Trenney, AT, C  
Head Athletic Trainer



### Curricular Offering/Change Authorization

**Please Check One For Each Form**

- New Course Addition
- Course Deletion
- Course Number Change
- Course Descriptive Title Change
- Semester Hours Change

List only one entry per form.  
Submit this form to College Dean.

Food and Nutrition Department

Department

- Undergraduate
- Graduate

Please list below the full information requested for the course to be added/dropped or changed.

| Action      | Dept. | Number | Descriptive Title | Semester Hours | Remarks |
|-------------|-------|--------|-------------------|----------------|---------|
| Add         | FN    | 245    | Sports Nutrition  | 1              |         |
| Drop        |       |        |                   |                |         |
| Change From |       |        |                   |                |         |
| To          |       |        |                   |                |         |

My signature on this form signifies that I, or the approving agency which I chair on the following date approved the inclusion/deletion or changes listed above to the appropriate Master Course File.

- Sign and route as follows
1. Scheduling - White
  2. Chairperson - Canary
  3. College Dean - Pink

*Juanita B. Steiner* Chairperson Date 12-20-91  
*Harold E. Wingard* Dean of College Date 1-21-92



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| Add         | FN    | 245    | Sports Nutrition  | 1              |         |
| Drop        |       |        |                   |                |         |
| Change From |       |        |                   |                |         |
| To          |       |        |                   |                |         |

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Sign and route as follows

1. Scheduling - White
2. Chairperson - Canary
3. College Dean - Pink

*Janeb. Steiner* \_\_\_\_\_ Date 12-20-91  
Chairperson

*Harold E. Wingard* \_\_\_\_\_ Date 1-21-92  
Dean of College

\_\_\_\_\_  
Chairperson of Curr. Comm/Grad Council

\_\_\_\_\_  
Date