

LSC Use Only

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99-516

App 4/18/00

Senate App 5/2/00

CURRICULUM PROPOSAL COVER SHEET
University-Wide Undergraduate Curriculum Committee

I. CONTACT

Contact Person Dr. Joanne B. Steiner Phone 7-4440

Department Food and Nutrition

II. PROPOSAL TYPE (Check All Appropriate Lines)

_____ **COURSE** _____
Suggested 20 character title

_____ **New Course *** _____
Course Number and Full Title

XX **Course Revision** FN 362 Experimental Foods
Course Number and Full Title

_____ **Liberal Studies Approval +** _____
for new or existing course Course Number and Full Title

_____ **Course Deletion** _____
Course Number and Full Title

_____ **Number and/or Title Change** _____
Old Number and/or Full Old Title

New Number and/or Full New Title

_____ **Course or Catalog Description Change** _____
Course Number and Full Title

_____ **PROGRAM:** _____ **Major** _____ **Minor** _____ **Track**

_____ **New Program *** _____
Program Name

_____ **Program Revision *** _____
Program Name

_____ **Program Deletion *** _____
Program Name

_____ **Title Change** _____
Old Program Name

New Program Name

III. Approvals (signatures and date)

Joanne B. Steiner
Department Curriculum Committee

Joanne B. Steiner 11/1/99
Department Chair

Mary E. Sweeney 12/9/99
College Curriculum Committee

Parleen P. Zoni 12/12/99
College Dean

+ Director of Liberal Studies (where applicable)

*Provost (where applicable)



I. Catalog Description

FN 362

Experimental Foods

(2c-3l-3sh)

Pre-requisites: FN 150, FN 355 or concurrently, MA 217

The experimental study of foods, relating chemical and physical properties to reactions and processes occurring in food systems.

Part II. Description of the Curriculum Change
I. New syllabus of record

II. Catalog Description

FN 362	Experimental Foods	3 credit 2 lecture hours 3 lab hours (2c-3l-3sh)
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Pre-requisites: FN 150, FN 355 or concurrently, MA 217

The experimental study of foods, relating chemical and physical properties to reactions and processes occurring in food systems.

III. Course Objectives

The student will be able to describe the role that food research plays in nutrition, food technology and food product development.

The student will be able to appraise, evaluate and effectively judge food quality using objective and sensory methods of assessment.

The student will be able to summarize, synthesize and apply basic principles of food science to specific food systems in the written and pre/post laboratory exercises.

The student will be able to develop, implement, evaluate and report on a food research problem that mediates a given nutrition problem.

The student will be able to abstract applicable scientific reports and apply this information to the experimental problem being studied.

IV. Detailed Course Outline

(27 hours lecture + 42 hours laboratory [14 three-hour labs] + 1 hour registration practice exam + 2 hours final activity)

- 1) Introduction to Food Experimentation (7 hours lecture; 1 lab session, principles used in all subsequent labs)
 - a) Food research
 - b) Controls in experimentation
 - c) Planning an experiment
 - d) Review of literature
 - e) Designing the experiment
 - f) Statistical analysis of data
 - g) Reporting the results

- 2) Sensory Evaluation (4 hours lecture; 1/2 lab session, principles used in all subsequent labs)
 - a) Odor, taste and visual receptors
 - i) Sensory characteristics of food
 - b) Taste panels
 - c) Environment
 - d) Sensory tests
- 3) Objective evaluation (4 hours lecture; 1/2 lab session, principles used in all subsequent labs)
 - a) Texture
 - b) Rheology
 - c) Color
 - d) Instrumentation
- 4) Principles of Food Science
 - a) Food physics (1 hour lecture)
 - i) Colloidal systems
 - b) Carbohydrate chemistry (3 lecture hours, 3 lab sessions)
 - i) Crystallization
 - ii) Pectin gels
 - iii) Starch gelatinization and gelation
 - iv) Sweeteners
 - v) Browning mechanisms
 - vi) Carbohydrate modification in recipe formulations
 - c) Lipids (3 lecture hours, 3 lab sessions)
 - i) Chemistry of fats and oils
 - ii) Emulsions
 - iii) Tenderizing and shortening
 - iv) Frying
 - v) Fat modification in recipe formulations
 - c) Protein Chemistry (3 lecture hours, 2 lab sessions)
 - i) Eggs/milk
 - ii) Meats/fish/poultry
 - iii) Protein modification in recipe formulations
 - d) Bakery products (2 lecture hours, 1 lab session)
 - i) Leavening
 - ii) Yeast breads
 - iii) Quick breads
 - e) Individual Research Projects (3 lab sessions)

V. Evaluation Methods

Lecture

Statistics Assignment	30 points
Literature Review	30 points
Project Proposal	50 points
Project Paper	100 points
Registration Exam	
Practice Set	100 points
Final Activity	50 points

Laboratory

Pre labs 6 @ 15 points	90 points
Post labs 8 @ 25 points	200 points
Project lab	50 points
Modified labs 3 @ 40 points	120 points

Total Points = 820

A = 730 - 820 pts

B = 640 - 729 pts

C = 550 - 639 pts

D = 460 - 549 pts

VI. Required Textbooks

McWilliams, M. 1997. Foods: Experimental Perspective. 4th ed. Macmillian Publishing Co. NY.

Steiner, J.B. 1999. FN 362 Laboratory Manual. Copies Now.

VII. Special Resource Requirements

All students are expected to provide and adhere to the following requirements:

Knife set (Co-op Book Store)

Pocket food thermometer

White chef's coat with checkered pants or white laboratory coat, knee length
(legs and ankles must be covered with leg coverings)

Hairnet or white chef's hat

White or black leather shoes (non-slip, flat sole with enclosed toe)
No jewelry
No fingernail polish or artificial finger nails

On Reserve at Stapleton Library

*Bowers, J 1992. Food Theory and Applications. Macmillian Publishing Co. NY.

*Charley, H. 1982 Food Science. 2nd ed. John Wiley & Sons. NY.

*Griswold, R. 1962. Experimental Study of Foods. Houghton Mifflin Company. Boston.

*Lowe, B. 1955. Experimental Cookery. John Wiley & Sons. NY.

McWilliams, M. 1994. Experimental Food Laboratory Manual. Plycon Press. Redondo Beach. CA

*Paul and Palmer. 1970. Food Theory and Applications. John Wiley and Sons, Inc. NY.

*Reference books that provide a summary of food research to date of publication.

Reference Index and Abstracts at Stapleton Library

Biological and Agricultural Index

Food Science and Technology Abstracts (until 1999, after 1999 available online)

Nutrition Abstracts

Journals held by the Stapleton Library

Cereal Chemistry

Critical Reviews of Food Science and Technology

Food Technology

Journal, American Dietetic Association

Journal of Agricultural and Food Chemistry

Journal of Food Science

Journal of the American Oil Chemists

Research Journal, American Home Economic Association

Web Sites

ADA's Home Food Safety Program <http://homefoodsafety.org>

American Egg board <http://www.aeb.org>

Benecol <http://www.benecol.com>

(McNeil Consumer Healthcare)

Calorie Control Council <http://www.caloriecontrol.org>

Center for Food Safety/FDA <http://www.fda.gov>

Dole 5-A-Day	http://www.dole5aday.com
Ener-G Foods, Inc.	http://www.ener-g.com
Flax Council of Canada	http://www.flaxcouncil.ca
FoodCom Home Page	http://www.batnet.com:80/foodcom
Food Industry List of Web Sites	http://www.exnet.iastate.edu/Pages/families/fs/assn.html
Hershey Foods Corporations	http://www.hersheys.com/hershey
Hodgson Mill, Inc.	http://www.hodgsonmill.com
International Food and Information Council - IFIC	http://ificinfo.health.org
Isomalt and Palatinit of American	http://isomaltusa.com
Kellogg Company	http://www.kelloggs.com
Margarine	http://www.margarine.org
Olestra	http://www-fst.ag.ohio-state.edu/olestra.htm
Protein Technologies	http://www.protein.com
Quaker Cereals	http://www.quakeroatmeal.com
QuakerOats	http://www.QuakerOats.com
Splenda (McNeil Specialty)	http://www.splenda.com
United Soybean Board	http://www.talksoy.com
US Soyfoods Directory	http://www.soyfoods.com
Vitasoy	http://www.vitasoy-usa.com
The Sugar Association, Inc	http://www.sugar.org

VIII. Bibliography

Books

Charley, H. and Weaver, C. 1998. Foods: A Scientific Approach. Prentice-Hall. Upper Saddle River, NJ.

Gamon, P.M. And Sherrington, K.B. 1990. The Science of Food. Pergamon Press. NY.

Jameson, K. 1998. Food Science Laboratory Manual. Prentice Hall. Upper Saddle River. NJ.

McWilliams, M. 1994. Experimental Foods Laboratory Manual. Plycon Press. Redondo Beach, CA

Penfield, M.P. and Campbell, A.M. 1990. Experimental Food Science. Academic Press, Inc. San Diego, CA.

Journal Articles

ADA. 1991. Position of The American Dietetic Association: Fat Replacements. *J. of American Dietetic Assn.* 91:110. 1285.

Alpers, L. and Sawyer-Morse, M.K. 1996. Eating quality of banana nut muffins and oatmeal cookies made with ground flaxseed. *J American Dietetic Assn.* 96:8. 794.

Armbrister, W.I. And Setser, C.S. 1994. Sensory and physical properties of chocolate chip cookies made with vegetable shortening or fat Replacers at 50 and 75% Levels. *Cereal Chemistry.* 71:4. 344.

Borja, M.E., Bodi, P.L., and Lambert, C.U. 1996. New lower-fat dessert recipes for the school lunch program are well accepted by children. *J. American Dietetic Assn.* 96:9. 908.

Fulton, L. and Hogbin, M. 1993. Eating quality of muffins, cake, and cookies prepared with reduced fat and sugar. *J. American Dietetic Assn.* 93:11. 1313.

Hahn, N.I. (Ed.) 1997. Replacing fat with food technology. *J American Dietetic Assn.* 97:1. 15.

Hogbin, M. and Fulton, L. 1992. Eating quality of biscuits and pastry prepared at reduced fat levels. *J American Dietetic Assn.* 92:8. 993.

Leutzing, R.L., Baldwin, R.E. and Cotterill, O.J. 1977. Sensory attributes of commercial egg substitutes. *J Food Science.* 42:4. 1124.

Mullen, L.M., Holton, E.E., Vickers, Z.M. 1996. Preference for and consumption of fat-free and full-fat cheese by children. *J American Dietetic Assn.* 96:6. 603.

Miller, M.J. and Holben, D.H. 1999. Consumers prefer unseasoned lean ground beef patties to patties made from turkey breast or emu. *J American Dietetic Assn.* 99:2. 224.

Patrick, P.G., Gohman, S.M., Marx, S.C., DeLegge, M.H., and Greenberg, N.A. 1998. Effect of supplements of partially hydrolyzed guar gum on the occurrence of constipation and use of laxative agents. *J. American Dietetic Association.* 98:8. 912.

Polizzoto, L.M., Tinsley, A.M., Weber, C.W., and Berry, J.W. 1983. Dietary fibers in muffins. *J Food Science.* 48. 111.

Roehr, K.A. 1995. Applesauce as a fat substitute in white cakes. *The Candle*. Fall 1995. p.7.

Saguy, S, Moskowitz, H.R. 1999. Integrating the consumer into new product Development. *Food Technology*. 53:8. 68.

Sloan, A.E. 1999. Top ten trends to watch and work on for the millennium. *Food Technology*. 53:8. 40.

Stinson, C.T. 1986. Effects of microwave/convection baking and pan characteristics on cake quality. *J Food Science*. 51:6. 1580.

Stinson, C.T. 1986. A quality comparison of devil's food and yellow cakes baked in a Microwave/convection versus a conventional oven. *J Food Science* 51:6. 1578.

Swanson, R.B. 1998. Acceptability of reduced-fat peanut butter cookies by school nutrition managers. *J American Dietetic Assn*. 98:8. 910.

Swanson, RB. 1999. Acceptability of fruit purees in peanut butter, oatmeal, and chocolate chip reduced-fat cookies. *J American Dietetic Assn*. 99:3. 343.

Totheroh, B. and Ries, CP. 1994. Palatability of peanut butter and sugar cookies made with egg substitutes. *J American Dietetic Assn*. 94:3. 321.

Wu, VT, Brochetti, D, and Duncan, SE. 1998. Sensory characteristics and acceptability of lactose-reduced baked custards made with an egg substitute. *J American Dietetic Association*. 98:12. 1467.

2. A summary of the proposed revisions.

Current: course pre-requisites: FN 150, FN 212, CH 102 or CH 112

New course pre-requisites: FN 150, FN 355, MA 217.

3. Justification/rationale for the revision

The addition of MA 217 and FN 355 supports the course objectives and course content. FN 355 course content in nutrition assessment and prescription is emphasized in the modified food products evaluated in this course. Students who have completed MA 217 are better able to interpret and utilize statistics when evaluating research outcomes.

The pre-requisites of CH 102 or CH 112 are requirements for FN 212 while FN 212 is a pre-requisite for FN 355; therefore it is not necessary to repeat these pre-requisites for this course.

4. Old syllabus of record

Attached. Please note that also attached is the Liberal Studies Checksheet and narrative from the original approval for this course as a writing intensive course, instructor specific, October 18, 1990. There is no change at this time as it is to remain writing intensive, instructor specific.

5. Letter of support

None required.

COURSE SYLLABUS

I. CATALOG DESCRIPTION

FN 362 Experimental Foods 3 credits
Pre-requisites: FN 150, 212, CH 102 or CH 112 2 lecture hrs
3 laboratory hrs

The experimental study of foods, relating chemical and physical properties to reactions and processes occurring in food systems.

II. COURSE OBJECTIVES

- A. The student will be able to describe the role that food research plays in nutrition, food technology and food product development.
- B. The student will be able to appraise, evaluate and effectively judge food quality using objective and sensory methods of assessment.
- C. The student will be able to summarize, synthesize and apply basic principles of food science to specific food systems in the written pre and post laboratory exercises.
- D. The student will be able to develop, implement, evaluate and report a food research problem.
- E. The student will be able to abstract applicable scientific reports and apply this information to the experimental problem being studied.

III. COURSE OUTLINE

- A. Introduction to food experimentation (8 hours lecture; 14 lab sessions)
 - 1. Food research
 - 2. Controls in experimentation
 - 3. Planning an experiment
 - 4. Review of literature
 - 5. Designing the experiment
 - 6. Statistical analysis of data
 - 7. Reporting the results
- B. Sensory evaluation (5 hours lecture; 14 lab sessions)
 - 1. Odor, taste and visual receptors
 - 2. Sensory characteristics of food
 - 3. Taste panels
 - 4. Environment
 - 5. Sensory tests

- C. Objective evaluation (3 hours lecture; 14 lab sessions)
 - 1. Texture
 - 2. Rheology
 - 3. Color
 - 4. Instrumentation
- D. Principles of food science
 - 1. Food physics (1 hour lecture)
 - 2. Colloidal systems
 - 3. Carbohydrate chemistry (2 hours lecture)
 - a. Crystallization (1 lab session)
 - b. Pectin gels (1 lab session)
 - c. Starch gelatinization and gelation (1 lab session)
 - d. Sweeteners
 - e. Browning mechanisms
 - 4. Lipids (2 hours lecture)
 - a. Chemistry of fats and oils
 - b. Applications in food preparation
 - (1). Emulsions (1 lab session)
 - (2). Tenderizing and Shortening (1 lab session)
 - (3) Frying (1 lab session)
 - 5. Protein Chemistry (3 hours lecture)
 - a. Eggs/milk (1 lab session)
 - b. Meats/fish/poultry
 - c. Vegetable proteins
 - 6. Bakery products (2 hours lecture)
 - a. Leavening
 - b. Yeast bread (1 lab session)
 - c. Cakes
 - 7. Chemistry of pigments and flavoring compounds (1 hour lecture; 1 lab session)

IV. Evaluation

Grading:

LECTURE		LABORATORY	
Midterm Exam	100 pts.	Pre-labs (10 each)	100 pts.
Final Exam	100 pts.	Post-labs (10 each)	100 pts.
Statistics Assignment	50 pts.	Lab Quiz I	50 pts.
Abstracts Assignment	50 pts.	Lab Quiz II	50 pts.
Project Proposal	50 pts.	Project Lab	50 pts.
Project Paper	100 pts.		
Total		800 pts.	
A - 720-800 pts.			
B - 640-719 pts.			
C - 560-639 pts.			
D - 480-559 pts.			
F - 0-479 pts.			

Make-up Policy:

Notification of absence must be received prior to examination time. Physician's certification of illness longer than one week is required for all make-ups.

Late Policy:

All pre-laboratory exercises are due at the beginning of the laboratory with no extensions granted. Post exercises are due the following week. A one week grace period is allowed without penalty on the post-laboratory exercises only. Ten percent of the grade value will be deducted each week after the grace period.

Lab Attendance:

Is required to receive credit for pre and post-laboratory exercises.

Laboratory Work:

All lab work must be done during schedule lab hours. No out of classwork will be credited toward lab grade. Be on time to lab. Lateness affects completion of laboratory problem for the entire class.

Laboratory Attire:

Hair nets, hats, white clean uniforms and white shoes must be worn at all times. Failure to do so will result in lowered lab grade.

V. Texts Required:

McWilliams, Margaret. 1989. Foods: Experimental Perspectives. Macmillan Publishing Co.

Ott, Dana B. 1987. Applied Food Science Laboratory Manual. Pergamon Books, Inc.

Steiner, Joanne B. FN 362 Handouts. Kinko's Copies.

VI. Supplementary Material:

On Reserve: Charley, H. 1982. Food Science. The Ronald
(Stapleton) Press Company. New York.

Paul and Palmer. 1970. Food Theory and Applications.
John Wiley and Sons, Inc. New York.

Reference Books:

(Stapleton) Considine and Considine. 1982 Foods and Food
R664.003 Production Encyclopedia. Van Nostrand Reinhold
F739d Co.

R664.003 Johnson and Peterson. 1978. Encyclopedia of
EN19c Food Science. AVI Publishing Company.
Westport, Conn.

R664.003 Johnson and Peterson. 1978. Encyclopedia of
H63E Food Technology. AVI Publishing Company.
Westport, Conn.

R664.003 Ockerman. 1978. Source Book for Food
OC45 Scientists. AVI Publishing Company. Westport,
Conn.

R641.03 McGraw Hill. 1977. Encyclopedia of Food,
M178C Agriculture and Nutrition. McGraw Hill.

Reference Indexes and Abstracts:

Biological and Agricultural Index
Food Science and Technology Abstracts
Nutrition Abstracts

Journals:

Cereal Chemistry
Critical Reviews of Food Science and Technology
Food Technology
Journal, American Dietetic Association
Journal of Agricultural and Food Chemistry
Journal of Food Science
Journal of the American Oil Chemists
Research Journal, American Home Economics
Association

Office:

J. Steiner
15 Ackerman
X4440

FN 362
Experimental Foods
Calendar
Fall 1990

<u>LECTURE</u>		<u>Assignment</u>
Sept.	5 Introduction to Food Experimentation	Chapter 1
	10 Food Science	Chapter 5
	12 Carbohydrate Chemistry	Chapter 7
	17 Crystallization	Chapter 8
	19 Starches and Gums	Chapter 9
	24 Planning Experiments, Reviewing Literature, Project Proposals	Chapter 2
	26 Statistical Assessment of Data	Chapter 2
Oct.	1 Sensory Evaluation	Chapter 3
	3 Sensory Tests, Sensory Score Cards, Sample Presentation	Chapter 3
	8 Selecting and Training Taste Panels	Chapter 3
	10 Lipid Chemistry	Chapter 11
	15 No Class, Outside Assignments	
	17 Exam I	
	22 Fats and Oils Abstract and Statistical Problem Due	Chapter 12
	24 Food Colloids	Chapter 6
	29 Project Proposals	Chapter 2
	31 Baking Principles	Chapter 18
Nov.	5 Breads	Chapter 19
	7 Cakes and Pastry Project Proposals Due	Chapter 20
	12 Rheology of Foods	Chapter 4
	14 Physical Testing of Foods	Chapter 4
	19 Color Measurement	Chapter 4
	THANKSGIVING	

Nov.	26	Chemical Food Analysis	Chapter 4
	28	Treating Data, Developing Tables	Chapter 2
Dec.	3	Protein Chemistry, Dairy Products	Chapter 13 Chapter 14
	5	Meat Products	Chapter 15
	10	Vegetables, Pigments, Flavors Projects Due	Chapter 10
	12	Vegetable Proteins	Chapter 15

<u>LABORATORY</u>		<u>Assignment</u>	
Sept.	11	Introduction Laboratory Guidelines Measurement	Chapter 1 Chapter 2 Chapter 3
	18	Sensory Assessment Objective Assessment	Chapter 4 Chapter 5
	25	Carbohydrate, Crystallization	Chapter 6
Oct.	2	Pectin Gels	Chapter 7
	9	Amylose/Amylopectin	Chapter 8
	16	Lipid Absorption	Chapter 9
	23	Lipid Shortening Power, Lab Quiz Week 1-6	Chapter 10
	30	Emulsions	Chapter 11
Nov.	6	Dough Formation Project Market Orders Due, Project Proposals Due	Chapter 12
	13	Project	
	20	Project	
	27	Project	
Dec.	4	Protein Foams	Chapter 13
	11	Plant Pigments Clean-up	Chapter 15

WRITING ACROSS THE CURRICULUM REQUEST FOR APPROVAL TO USE W-DESIGNATION

LSC # _____

Action _____

TYPE I. PROFESSOR COMMITMENT

- () Professor _____ Phone _____
() Writing Workshop? (If not at IUP, where? when? _____)
() Proposal for one W-course (see instructions below)
() Agree to forward syllabus for subsequently offered W-courses?

TYPE II. DEPARTMENTAL COURSES

- () Department Contact Person _____ Phone _____
() Course Number/Title _____
() Statement concerning departmental responsibility.
() Proposal for this W-course (see instructions below)

TYPE III. SPECIFIC COURSE AND SPECIFIC PROFESSOR(S)

- () Professor(s) Joanne B. Steiner Phone X4440
() Course Number/Title FN 362 Experimental Foods
() Proposal for this W-course (see instructions below)

SIGNATURES:

Professor(s) Joanne B. Steiner

Department Chairperson Joanne B. Steiner

College Dean _____

Director of Liberal Studies _____

COMPONENTS OF A "WRITING SUMMARY"

- (I) "Writing Summary" — one or two pages explaining how writing is used in the course. First, explain distinctive characteristics of the content or students which would help the Liberal Studies Committee understand the summary. Second, list and explain the types of writing activities; be especially careful to explain (1) what each writing activity is expected to accomplish as well as the (2) amount of writing, (3) frequency and number of assignments, and (4) whether there are opportunities for revision. If the activity is to be graded, indicate (5) evaluation standards and (6) percentage contribution to the student's final grade.
- (II) A copy of the course syllabus.
- (III) Samples of assignment sheets, instructions, or criteria concerning writing that are given to students.

Provide 12 copies to the Liberal Studies Committee.

WRITING SUMMARY -- FN 362 EXPERIMENTAL FOODS

Experimental Foods is a required course for all majors in the Department of Food and Nutrition. The course is taught each semester with two hours of lecture and three hours of laboratory experiences per week. The lecture class is limited to 30 students with a maximum of 15 students in each laboratory section. The students are junior or senior students and have completed FN 150, FN 212, and CH 102 or CH 112 as course pre-requisites. The course focuses on the application and synthesis of food science principles utilizing published research and laboratory observations.

COURSE WRITING EXPERIENCES

1. Each laboratory experience requires that the student complete both a pre-laboratory and a post-laboratory exercise. These exercises are designed to assist the student in the synthesis and application of knowledge in predicting the laboratory outcomes and subsequent reporting of the observations made. These pre-laboratory activities are designed so that the student moves from the completion of synthesis statements at the beginning of the semester to the ability to write a full literature review by the end of the semester. The post laboratory exercises concentrate on the development of the ability to accurately record, evaluate and report experimental observations. By the end of the semester the student is able to write a laboratory report which includes the presentation of data in table format with appropriate statistical notation and includes a written presentation and evaluation of the results. These exercises are in the attached laboratory manual, pp 1 - 46.

Each exercise is scored at 10 points. A total of 10 pre and 10 post labs equals 200 points for the semester and represents 25% of the course grade.

2. Abstracting current research. Each student is required to abstract three research articles from a list a journals appropriate to the discipline. Each abstract must answer the four basic research questions: Why the research was necessary, how the research was conducted, the results of the study, and the implication of the findings. The specifics for the assignment can be reviewed on pages 66-68 of the course materials. The abstract assignment is scored at 50 points for a contribution of 6 1/4% of the course grade.
3. Project proposal. As a course requirement each student develops a small research project which utilizes three laboratory classes for the experimental research. To develop the project, a proposal is submitted which includes a literature review and proposed laboratory methodology for the experiment. The proposal is graded at 50 points for a contribution of 6 1/4% of the final grade. See laboratory manual p 69.
4. Project report. The culminating requirement of the student's research project is to present the findings in a research paper utilizing a standard reporting format. The paper includes the literature review from the proposal (which the student has had the opportunity to revise based on the preliminary scoring), a procedures section (based on the proposal but now presented in the past tense), and results and discussion of the project findings. The paper concludes with a summary and recommendations for

further study. See p 77 of manual.

The project report receives 100 points and represents 12 1/2% of the course grade.

Of the total 800 points a student earns in this course, 400 points (50%) of the grade is based on writing activities.

Subject: MA 217 as a pre-requisite for FN 362

Date: Wed, 16 Feb 2000 20:48:21 -0500

From: Joanne Steiner <jsteiner@grove.iup.edu>

Organization: Chair, Food and Nutrition

To: JBuriok@grove.iup.edu

CC: Joanne Steiner <jsteiner@grove.iup.edu>

The university-wide curriculum committee has requested that I seek your approval to add MA 217 as a pre-requisite to our course FN 362 Experimental Foods. All majors in our department are required to complete MA 217. This, therefore, will not affect the demand for this course as it has been a program requirement for over ten years. We have found that it is academically advantageous for our students to have had this course prior to enrollment in Experimental Foods where we evaluate research literature and the students apply basic statistical tools to their experiments performed in class.

Would you please reply by email that you are in support of our prerequisite request.

Thank you.

--

Joanne B. Steiner
Chair, Food and Nutrition

Subject: Adding MA217 as a prerequisite

Date: Thu, 17 Feb 2000 13:17:29 -0500

From: Jerry Buriok <jburiok@grove.iup.edu>

To: jsteiner@grove.iup.edu

CC: Jerry Buriok <jburiok@grove.iup.edu>

Dr. Steiner,

In response to your memos stating you wish to add MA217 Probability and Statistics to the prerequisites for FN362 Experimental Foods and FN458 Advanced Human Nutrition, I want to inform you the Mathematics Department is totally supportive of the proposal. As you pointed out in your memo, students in the Food and Nutrition department are required to complete MA217 anyway, so there should be no impact on total enrollment. Since we offer approximately ten sections of MA217 each semester and 4 sections in the summer, we should be able to accomodate changes in enrollment patterns within an academic year, should your students find it advantageous to take the course in a certain timeframe.

Thank you for informing me of your proposal. Rest assured we are anxious to accomodate your students and continue the excellent working relationship our departments have developed over the years.

Gerald Buriok, Chairman
Mathematics Department