AWARDING COLLEGE CREDIT FOR HOMEMAKING AND VOLUNTEER EXPERIENCES

A THESIS

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CHAPTER I

Introduction

Today higher education is more important than ever before to those individuals attempting to advance their professional careers. An increasing number of positions are limited to those persons who have earned college degrees. Many people would like to earn a degree to compete for these jobs. However, some are excluded from attending college due to such reasons as time constraints, commuting distances involved, or financial costs. Yet many of these individuals have certain experiential skills which are comparable to those taught in certain college courses.

Universities have begun to recognize the logic of giving credit for learning by experience. Paid employment experience was one of the first areas to be considered creditable. A few programs awarding credit for experiential learning have been tried. However, very little has been done in the area of volunteer work or homemaking experiences. Now that the Vocational Act of 1976 (Nore 1) has recognized homemaking as a career, it seems logical to consider skills acquired in that role to be as creditable as those acquired through paid employment.

Statement of the Problem

Colleges and universities are now giving credit, advanced standing, or other type of recognition for learning gained through non-college experiences prior to enrollment. Adapting these experiential learning programs to the home economics education degree program has been difficult for educators. Many women have learned much through their homemaking and volunteer work. They would like to make other people aware of the skills and abilities they have gained (Ekstrom, 1978). Some homemakers have skills and knowledge equivalent to those that can be acquired from college courses that were gained through their careers as homemakers. The challenge to educators is to recognize these skills and proficiencies. Programs can be established to facilitate college entrance and degree attainment for mature women who may want to begin or complete an undergraduate degree with a major in home economics education. This career area could be a leader in making career advancement for mature women less formidable and time consuming without sacrificing the quality of learning.

Purpose of the Study

The purpose of this study was to develop a prototypic model program to evaluate homemaking skills of mature women students majoring in home economics education. The program will determine eligibility for credit in selected required subject matter courses--in this case, Food Preparation Principles, NFS 1301 and 1302 at

Texas Woman's University. The specific purposes of the Homemaking And Volunter Experiences Evaluation (HAVEE) model program are to develop the Course Competency Criteria and the materials necessary for program implementation. These materials are included within an Evaluation Advisor's Manual and a Student Evaluation Manual.

CHAPTER II

REVIEW OF LITERATURE

Introducation

There are many displaced homemakers in the United States who need additional education in order to earn a more comfortable living. Many also would like to fully actualize their potential for personal development and service to society. In August of 1981, over 87 million women--about 52.4% of all women over the age of 16--were working (U.S. Bureau of Labor Statistics, Employment Perspectives for women). Between the third quarters of 1980 and 1981, the female labor force increased by 1.1 million. Women accounted for more than 75% of the increase in the Nation's labor force during this period (U.S. Bureau of Labor Statistics News, 1981).

There are married homemakers, as well, who must be employed in order to help provide basic family needs. The woman becomes joint breadwinner with the husband. The number of families in which both husband and wife were earners currently stands at about 25.6 million according to the U.S. Bureau of Labor Statistics (1981). The median income for the dual-earner families was about one third higher than for families where only the husband worked and nearly triple the income of families maintained by women.

The incidence of female heads of households has increased ten times faster than traditional heads of households since 1968 (Edison, 1978). In March of 1981, one of every six families (9.4 million) was maintained by a woman who was either divorced, separated, widowed, or never married (U. S. Bureau of Labor Statistics News). More than 5.7 million, or 61%, of these women were working or looking for work, including two-thirds of those with children under 18.

Additional education could enable many to seek higher level, better paying jobs. A college degree would be a very important asset to them since many of them will be employed throughout their lives. According to figures presented by Raymond and Sesnowitz (1975), a person 65 years of age with only a high school diploma will earn 50 percent less over a lifetime than a college graduate of the same age.

Not only is a college degree a prerequisite for many jobs, it also opens doors for advancement. Men, as well as women, often find the barrier to top level positions can only be broken with a college degree. In general, the higher the level of education a woman has, the higher probability that she will work outside the home. There is a positive correlation between higher education level and higher salary, thus the more incentive to seek employment. According to Farmer and Backer (1975), one in four women with eight years of formal education are in paid employment. While one in two with four years of college education work outside the home.

Adults are returning to college at an unprecedented rate. These adults bring with them a wide variety of skills learned through life experiences. Colleges have begun to recognize skills learned through paid work, but experiences gained through volunteer work or homemaking has largely been ignored (Ekstrom, 1978).

Need for Experiential Learning Programs

If the learner is the center of the educational process, knowledge is valid regardless of its source (Meyer, 1975). Current classroom theory presupposes that educational goals should be determined prior to teaching. The student is then taught the theory which he/she must apply on his/her own. In the case of experiential learning, the reverse is true. The student learned the skill, then must infer the theory as a result of action.

Recognize Existing Skills

Higher education institutions have been slow to recognize the student's existing skills. This, in part, is due to a belief that this knowledge has not been assimilated and, therefore, cannot be applied in new situations. Experience can be an effective teacher, but unless the learner can apply it in a new situation, its value is diminished. Since the skills gained in an experience are more important than the experience itself, it should not matter whether these skills were gained in class or outside of class.

Increase in Numbers of Non-traditional Students

Until recent years, colleges and universities awarded degrees from a fairly rigid model pertaining to course requirements, sequence, delivery methods, and location. The student for whom this traditional model was considered appropriate is becoming less prevalent. In a sense, the traditional student is being replaced by the non-traditional student. As the enrollment of the 18-22 year old student has declined, colleges and universities have begun to adapt their delivery model to facilitate entrance and encourage retention of the fully or partially employed students interested in flexible scheduling and other innorvative curriculum adaptions.

Recognizing students' experiential learning has been described as a method of furthering social equity as it increases accessibility of higher education to a broader adult population (Kleppick, 1979). Many universities have begun to award credit for this type of learning. Goleman (1979) found, in his survey of Texas colleges and universities, that 63% of the four year colleges award credit for some form of non-traditional learning. Most experiential learning credits have been awarded by means of standardized tests related to foundation courses such as English, math, chemistry, history, and language.

The mature homemaker's experiences have given her knowledge and skills that match a number of beginning level home economics courses. Through the day-to-day activities necessary for the

successful management of a household, homemakers gain knowledge and practice skills that are included in the course content of these classes. In other words, the homemaker's entry level skills can be about equal to the exit skills required for earning credit in these courses.

Development of Experiential Learning Programs

The Experiential Learning Concept

Experiential learning--that knowledge gained through life experiences--is not a new concept. People first began to learn in the prehistoric world by "trial and error". Apprenticeships were a popular way to train skilled labor in the early years of this country (Forrest,1976). Today, learning by experience is still considered an important part of the home econcomic curriculum as evidenced by the wide-spread practice of requireing clothing construction laboratories, child care experiences, and foods laboratories. The problem arises when students wish to recieve college credit for prior experiences or consider these experiences as a valid substitute for learning the same subject matter in an academic setting.

Related Programs

At the present time, students can enroll in sponsored experiential learning programs--independent studies, cooperative programs, and field experience courses (Knapp, 1977). These programs

have gained extensive acceptance because practical experience is very important in these particular areas (Forrest, 1976). If experiential learning sponsored by a school is extremely valuable in cooperative programs, it seems logical to assume that this type of learning warrants credit in other situations.

The first experiential learning program to recieve widespread approval was the College Level Entrance Program (CLEP). This series of standardized examinations developed by the College Entrance Examination Board evaluates students for college-level proficiency in basic undergraduate classes. Losak (1978) found that college students awarded CLEP hours graduated with a higher gradepoint average and had a higher graduation rate than did other college students. Losak inferred that CLEP students were more highly motivated.

Early Programs

Soon after the acceptance of CLEP testing, other types of experiential learning programs began to appear. Several universities established experiential learning credit awarding programs. According to Lewis (1975) this method of giving college credit was successful at Antioch College in New York. The Antioch program was developed to help former students get back into college and complete a degree while in full time employment and, in many cases, meeting family obligations also. This college assigned the actual skill assessment process to individual departments.

Faculty members identified three primary concerns which were as follows: 1) need for supportive materials, 2) amount of faculty contact needed for effective evaluation, and 3) need for clear communication with student regarding their skills and requirements for credit.

A second early credit awarding program existed at Indiana University. This program required the applicant to submit a portfolio as the major component of the assessment process (Henesbach, 1979). The applicant may be asked to follow the portfolio with an interview, written or oral examination, further documentation, or a written paper. Assessment is accomplished by an appointed professor who is paid for the extra time required to fill this role. The university estimates that three to five hours of time are spent in the assessment of each student. The professor is paid a set fee per hour for guidance and assessment of the student. The student applying for experiential learning credits submits the portfolio with a written request for the amount of credit desired. This credit is either listed as general or may be specifically related to a subject matter area.

Sinclair Community College, Dayton, Ohio, has recognized the importance of learning outside the university and has developed an evaluation model similar to the one used in Indiana. Sinclair College also requires the development of a portfolio for earning credit. If the portfolio is approved by a formal

assessment committee, credit is awarded in an amount felt justified. Credits awarded by this process are used to replace elective credits in the student's degree program. Sinclair has developed a system to permit students to transfer the general credits to a specific department. Students apply for credit transfer, and their portfolio is then evaluated by subject matter specialists within the department. If credits are transferred, students can then be exempted from the required course.

Coastline Community College in Fountain Valley, California (Riedel, 1978), also uses the portfolio as a component of the experiential credit awarding program. Statements of life and educational goals are emphasized in the development of these portfolios. This model uses a Petition Review Committee comprised of various administrators. This committee reviews the portfolio and bases their credit award decision solely on the merits of this material. The student is exempted from classes in which content is similar to thier competencies determined by the evaluation.

Coastline has improved this model by having faculty members with expertise in the pertinent subject matter areas evaluate the portfolio before it is submitted to the evaluation committee. This method, however, increases the number of persons involved in the evaluation process, and, it seems, increases the communication gaps in the evaluation process.

Black Hawk College in Moline, Illinois, has taken positive steps to avoid problems in their experiential learning program (Stevens, 1977). General procedures include the evaluation of students' portfolios, followed by an oral examination or interview. The following concerns about the program were identified by faculty in an evaluation: 1) lack of clear, written procedures; 2) difficulty in assessment of learning; 3) lack of funds to pay for extra costs; 4) no provision for recording credits on transcripts; and 5) lack of faculty understanding. Since the evaluation, the college has updated and published in the college catalogue more complete information about current assessment procedures. A portfolio development class and an in-service training component were added to help alleviate faculty concerns.

A more recent program awarding credit for experiential learning is offered at Dallas County Community College District. The program began in 1979 and allows students to earn college credit for prior learning. The Dallas program was designed at the request of business and individuals to offer an alternative to the traditional college program.

Credit at the DCCD is awarded to a student when he/she has one or more of these seven types of experiences:

1. Student is a graduate of a regionally acredited post-secondary trade or vocational school.

2. Student holds active licenses, certificates, or credentials.

3. Student has completed courses recognized by the American Council on Education.

4. Student takes challenge or CLEP examinations.

5. Student has completed vocational programs at accredited secondary schools.

6. Student has completed a recognized professional training or management course with a cooperating organization.

7. Student completes a portfolio on his/her prior learning.

Credit is awarded, but is not recorded on the transcript until the student has completed 12 hours of classes.

Similarities in Programs

These six programs represent the type of program now in effect in most colleges that offer experiential learning credit. The review of literature showed 74 programs currently in use at colleges and universities throughout the United States.

The specific practices for awarding experiential learning credit varied from university to university. However, two factors common to all programs were the use of a portfolio and some type of examination (written, oral, or performance).

The portfolio is often used as the basis for evaluation. The portfolio organizes and exhibits prior learning. The portfolio requirements are different at each university. In general, these portfolios include some type of statement of competencies, a narrative describing experiential learning experiences, and documentation showing proof of this learning. These materials are usually submitted with a written request for credit.

Many universities require some type of examination along with the portfolio. In most cases, this examination takes the form of a written test. It may be a standardized test (CLEP, licensing examination), a final examination from an existing class which parallels the prior learning, or an examination prepared specifically for the experiential learning program.

In most schools, the need for clear, concise supportive materials is the primary deterrent to the success of these experiential learning programs. Faculty members repeatedly point out the importance of adequate material in ensuring consistent evaluation results (Steverns, 1977).

Faculty members also have expressed concern over the difficulty of assessment. Most of this problem is related to standards of achievement--who sets standards, what is the level of standards, and what signifies achievement of these standards.

Research Projects in Experiential Learning

One of the most prominent credit awarding research projects related to credit award for experiences is the Cooperative Assessment of Experiential Learning (CAEL) project. CAEL, an educational association of 250 institutions of higher learning, started in March, 1974. This research and development project funded by the Carnegie Corporation of New York, later by the Ford Foundation, the Lilly Endowment, and the Fund for the Improvement of Postsecondary

has resulted in a wealth of information and materials related to awarding credit for life experiences.

The project began with twelve institutions of higher learning. In these projects, different operational models were developed. The recommendation that evolved from this project was that an operational model should be developed by the institution which intends to implement a credit for experiential learning program. The reports from this project contain information about designing models and functional materials that can be adapted to implement one specific learning assessment and credit awarding program for an individually designed program.

A research project related specifically to awarding credit for homemaking and volunteer experiences was established by the Educational Testing Service in Princeton, N.J. This project developed a series of workbooks to assist the homemaker in receiving experiential credit (Ekstrom, Harris, and Lockheed, 1977).

The ETS research was based on a competency approach to education. Homemakers were instructed to create a list of competencies they felt they had gained through their careers in homemaking and volunteer work. They assisted the homemaker by providing her with "I can" lists covering many of the traditional task areas of homemaking and volunteer work. The students must make a reverse chronology of their lives covering their homemaking and volunteer activities. Using the "I can" lists, students can identify

the learnings and competencies they have gained through these activities.

The students then document that they have learned each of these competencies. Documentation may take many forms including work samples, volunteer job descriptions, awards for volunteer service, certificates of training, and recommendation of supervisors or co-workers (Ekstrom, 1978). The documentation phase begins the work of the assessment stage.

The assessment stage is divided into the following areas: 1) formal assessment, involving some type of written or performance examination of skills; and 2) informat assessment, which might include an oral interview, a descriptive paper, or faculty members who award credit the same way they would judge special projects (Ekstrom, 1978).

Perhaps one of the strongest points of the ETS program is that it recognized a need--that of awarding experiential credit for non-paid work--and established methods and materials to measure this learning. The program also allowed enough flexibility to make it applicable in many university settings.

Benefits of Experiential Learning Programs

Benefits to Students

Students have much to gain through the experiential learning program. Two major factors are that it saves both time and money. There is no needless repetition of classes, which decreases boredom

and increases creativity. There is also a greater opportunity to individualize the degree program. They can more easily complete the degree and still meet family and work obligations. Probably one of the most important advantages of this system is the increased self confidence the students gain by recognizing the skills they have acquired.

Benefits to Universities

Universities also benefit through experiential learning programs. They can look forward to an expanded student enrollment as the program grows. Because of family and work obligations, the student registered in experiential learning programs would be unable to attend if such a program was not offered. These students tend to be more creative students because of their prior experiences. Due to their absence from the academic setting for a period of time, they are also more purposeful students, more intent on getting the greatest value from their education. With more students and older students, the university will possibly have more contributing alumni (Avkain, 1979).

Concerns of Experiential Learning

Evaluation

One of the difficulties that came with the concept of experiential learning is the problem of evaluation. Originally, there were no guidelines; therefore, faculty arbitrarily awarded credit. Wylie (1976) studied existing programs and found that some operated

without written guidelines. Students challenged faculty decisions which awarded differing amounts of credit for the same amount of experience. This lack of specific guidelines has proven to be one of the major issues in awarding credit for experiential learning.

The amount of credit awarded for experiential learning is another problem area in evaluation. Administrators believed that faculty members would disagree on the amount of credit to be awarded for any set of experiences.

Student Articulation

Many administrators also felt that there would be differences in faculty opinion on what was considered creditable learning. because most experiential learning evaluation programs have been based on written materials, the success of these programs depends on the students' ability to articulate their experiences (Meyer, 1975). The student who is well versed in writing techniques has a much better chance of receiving credit than one who has problems expresssing ideas.

Faculty Resistance

Faculty resistance was a major area of concern. Educators are thought to have a philosophy that denies the credibility of any measurable learning that occurs outside their classroom (Meyer, 1975). In general, most faculty members do not have a thorough knowledge of assessment procedures. Along with this lack of knowledge comes the fear that experiential learning is a threat

to employment (Meyer, 1975). Some faculty members feel that experiential learning programs mean there will be fewer studnets in their classes.

Financial Considerations

Financial considerations are one of the major concerns for most universities. In some cases, when students are given credit for certain courses, the university may lose the tuition for these hours. Many universities are also concerned that they will lose considerable funds from room and board fees that would be paid if students earned the credits in the traditional manner.

Possible Solutions

Many universities are now offering credit for experiential learning. They have studied the problems and are developing strategies to overcome them. Their success can serve as an incentive for other universities beginning experiential learning programs. Willingham and Nesbitt (1976), in their study of existing programs recommended that each university develop its own operational model for assessing experiential learning.

Evaluation

Evaluation has developed into an equitable process largely through the efforts of institutions participating in the Cooperative Assessment of Experiential Learning (CAEL) Assembly. This organization was formed in 1976 for the purpose of recognizing experiential learning and establishing a method of assessing it (Knapp, 1977).

Much of the current available research data has been sponsored by the CAEL.

Avkain (1979) pointed out that the standards for classroom and non-college learning are the same, except each has a different emphasis. Classroom learning is obtained through theory/lecture which is later applied by the student. Non-college learning concentrates on actual experience--the student must derive the theory from action. The same learning should take place in both, only the method of getting this education differs.

Student Articulation

At one time, educators beleived that incoming students would be unable to express their prior learning in a form acceptable to universities. Articulation of experiences and evaluation/analyzing the learnings from these experiences required language and organization skills. Research by Stevens (1977) showed that students can learn to be more articulate in expressing learning experiences. For this reason, most universities offer a pre-preparation class for experiential learning credit. These classes take the student through the process of determining learning, measuring learning, and awarding credit for this learning. The class may take many different forms, but the essential information is that the university lets the student know what it expects of them. Then the class helps the studnet meet the university's expectations.

Faculty Resistance

Faculty resistance to experiential learning programs was another major concern to most universities. In practice, many universities found that when faculty members began to understand exactly how the programs worked, faculty resistance diminished. At Black Hawk College in Illinois, faculty reaction was measured prior to the institution of the program. The results indicated that negative reaction was caused by lack of knowledge of the process. After the faculty underwent an intensive training session, the resistance almost disappeared (Stevens, 1977).

Written procedures and guidelines on evaluation developed by the CAEL also reduced the faculty resistance. Meyer (1976) suggested that faculty committees set up guidelines for individual universities. Once this set of procedures is developed, there should be little question as to validity of any assessment.

Financial Considerations

Financial problems have been almost eliminated in most programs. Student fees, reduced cost of assessment, and the enrollment of new students has begun to create a profit for experiential learning programs. Kelly (1976) found that costs for experiential learning students were less than those of traditional students. Conventional students had direct costs of $45.76 per credit hour. Non-traditional students had direct costs of $31.39 per credit hour. He also predicted that as an increasing number of students

enroll in experiential learning programs, the cost per student will decrease. Research done by Avakain (1979) concerning students enrolled in experiential learning programs showed that they were willing to pay a substantial amount for assessment in order to save the time required to take the course.

An experiential learning program has much to offer both the student and the university. It can save the student time, money, and energy. Yet the program can increase university revenues by enrolling students who would be unable to attend if the program did not exist. With decreasing numbers of college-age youth, universities need to involve more of these non-traditional students in the educational process.

CHAPTER III

METHODOLOGY

A competency-based Homemaking And Volunteer Experiences Evaluation (HAVEE) model program was developed. It permits systematic and objective determination of students' eligibility for experiential learning credits for a specific required, beginning home economics course: Food Preparation Principles, NFS 1301 and 1302. The development process for this program included tasks related to identification of course content and development of evaluation procedures and materials.

Identification of Course Content

Identification of the Course Competency Criteria (CCC) was one aspect of developing the Homemaking And Volunteer Experiences Evaluation (HAVEE) program. In the HAVEE model, experiential learning will be substituted for the type of formal learning students are expected to acquire by completing requirements for the traditional course, NFS 1301 and 1302, Food Preparation Principles. Accurate identification of competencies is necessary if students are to be evaluated on the basis of their mastery of these concepts.

The content was developed by identifying the topics, concepts, and competencies normally included in Food Preparation Principles,

NFS 1301 and 1302. There were identified by reviewing the following existing sources of information: Course objectives, Texas Education Agency's recommended competencies list for homemaking teachers, and the currently required course textbook. From these sources, course concepts and competencies were developed.

Development of Concepts

Concepts for the course were developed by reviewing the currently adopted textbook, Food Fundamentals, by Marjorie McWilliams. Although concepts were written based on this book, they are basic to all beginning food preparation courses. The concepts remain the same regardless of the text used. The content was analyzed to identify concepts, facts, principles, and terms taught in Food Preparation Principles, NFS 1301 and 1302. These concepts are listed in the Evaluation Advisor's Manual, Appendix A, beginning on page 106.

Development of Competencies

Competencies were developed by reviewing the course content. The following steps were completed:

The Texas Education Agency's recommended competencies list was reviewed to identify competencies for homemaking teachers that are included within course content.

The course syllabus, outline, and objectives were reviewed to determine other skills and concepts which are included within course content.

Benjamin Bloom's Taxonomy of Educational Objectives was reviewed to determine level of learning necessary for completing the course.

Development of Evaluation Procedures

Consistency of process and results was the primary concern throughout the development of evaluation procedures. This consistency was ensured by reviewing existing programs to determine strengths and weaknesses in each of these evaluation procedures.

Sixty-two existing experiential learning programs and CAEL papers were reviewed prior to designing the evaluation procedures. The HAVEE procedure was organized into a series of eight steps as follows: a) initial conference; b) pre-test; c) portfolio; d) reference list; e) post-test; f) performance test plan; g) performance test; and h) oral examination.

Initial Conference

The review of literature showed that most evaluation processes began with a conference or workshop involving student and faculty. Knapp (1977) reported that after a long absence from college, many students are insecure about beginning college and need assistance. Those who are beginning an experiential learning program will need more help than the average returning student. For this reason, she recommended that a workshop be held or additional materials provided to help the student and

faculty advisor visualize and initiate the program. The HAVEE program provides both conference and the materials needed to begin the evaluation procedure.

Materials necessary to plan and administer the initial conference were developed. These include the Student Evaluation Agreement, Student Evaluation Manual, and the Evaluation Advisor's Manual. The Evaluation Advisor's Manual is included in Appendix A. The Student Evaluation Manual is included in Appendix B.

The Student Evaluation Agreement was designed to record student progress toward the completion of the HAVEE program. Similar contracts or agreements from six other programs were reviewed prior to designing this agreement. Among those contracts reviewed were those from Open University (Peacock, 1978), Loretta Heights College (Greenberg, 1980), Florida International University (Knapp, 1977), and several CAEL examples.

Ten manuals from existing programs were reviewed for assessment procedures, requirements, and format. Fifteen CAEL papers were reviewed for suggestions of tasks and format. Many ideas for the HAVEE program came from Assessing Prior Learning--A CAEL Student Guide (Forrest, 1976). This manual combines the best ideas from several CAEL instututions. Coastline Community College Student Handbook (Riedel, 1978) also provided many ideas, especially in the areas of portfolio preparation and instructions to assessors.

Written Objective Tests

Most current programs have some form of written objective test to evaluate the student's cognitive skills. The review of literature revealed that when many students return to school, their study and test-taking skills need improvement. For this reason, the student is provided two opportunities to pass the written test--a pre-test and a post-test.

Some programs require only that the student pass an objective examination. Among these type of programs are those that use the College Level Entrance Program (CLEP) or the final examination of existing courses. The HAVEE program includes a written examination along with the other forms of evaluation.

Materials necessary for pre- and post-testing were developed. These include a test item pool (Appendix C), the key to test items (Appendix C), Evaluation Advisor's Manual (Appendix A), and Student's Evaluation Manual (Appendix B). An exemplary item pool was developed for one topic in the course: vegetables. These items are listed on a chart to indicate their level of the taxonomy of learning (Bloom, 1972).

The test item pool was developed by reviewing the course concepts and competencies as identified from the course content. Major concepts and taxonomy levles to be covered by the test were identified. The written objective tests may include any or all of the test item pool as determined by the evaluation committee.

Portfolio

Many colleges require a portfolio as the central requirement of the assessment process. Sinclair College (Krueger, 1978) awards credit on the basis of the portfolio alone. Most universities require the portfolio along with other forms of assessment. Stephens College Without Walls ("Prior Learning: A Guide," 1977) and Indiana University (Henesbach, 1979) require the portfolio along with an oral or written examination.

The HAVEE program requires a portfolio along with the other assessment procedures. The portfolio design was developed by reviewing the process in ten existing programs. The Time-life Chronologue was patterned after one developed by the Capital Higher Education Service (Knapp, 1977). The Competencies List is used in many universities as a method to transform lifetime learnings into statements that can be compared to college courses. Knapp (1977) defined requirements for competencies that were used in the HAVEE program. The worksheet for writing a competence statement was patterned after one developed by Metropolitan State University (Knapp, 1977). The autobiographical resume is used by many universities including Coastline Community College (Riedel, 1978), Indiana University (Hengesbach, 1979), and Black Hawk College (Stevens, 1977).

Reference List

The reference list is designed to help students prepare for the written objective tests. These references were developed from the sources used in teaching NFS 1301 and 1302, Food Preparation Principles, in the traditional classroom setting.

Performance Test Plan

The performance test plan is unique to the HAVEE program. In developing the model, a need for some type of planning instrument for the performance test was apparent. The form was designed to help the student review the concept or competency to be demonstrated, equipment needed, knowledge to be demonstrated, and the steps of the performance. The performance test plan helps the student organize the performance test as well as telling the committee what to expect. The identification also reminds committee members of the date, time, and place of the performance test.

Performance Test

A total of three programs from the review of literature used some type of performance test in their assessment procedure. Coastline Community College (Riedel, 1978) offered students the option of using a performance test as one method of showing prior learning. Other universities requiring a performance test are: Stephens College Without Walls ("Prior Learning: A Guide," 1977) and Indinan University (Henesbach, 1979). The

HAVEE program combines the features of a product assessment along with the performance test--the method is evaluated as well as the final result.

Materials necessary to plan and complete the performance test were developed. These include the Performance Test Score Sheet and the Summary of Performance Test.

The Performance Test Score Sheet was based on score sheets available from other universities. These included scoring instruments from Florida International University (Knapp, 1977) and Stephens College Without Walls ("Prior Learning: A Guide", 1977).

The Summary of Performance Test was developed to serve as an organization form for the oral examination. The summary reviews competencies covered in the performance test and the student scores to help committee members prepare for the oral examination.

Oral Examination

An oral examination or interview is required in a total of twenty programs. Coastline Community College (Riedel, 1977) offers the oral examination as one option for assessment. Other universities requiring the oral examination are Stephens College Without Walls ("Prior Learning: A Guide," 1977) and Indiana University (Hengesbach, 1979).

Materials necessary to plan and complete the oral examination were developed. These include the Oral Examination Committee

Worksheet and the Oral Examination Critique form. The worksheet was designed to help committee members review the student's performance thus far in the evaluation procedure and plan the oral examination. The critique form was designed for scoring during the oral examination. This form was based on score sheets available from other universities.

CHAPTER IV

MODEL PROGRAM

Overall Process

Conceptualization and developmental activities focused on creating an overall model for guiding students through a competency evaluation process. This process assists them in completing specific steps to earn credit for certain required home economics courses. Students will be able to earn credit for the course, Food Preparation Principles, NFS 1301 and 1302, by successfully completing the HAVEE program.

All materials designed for the HAVEE program are presented in the Evaluation Advisor's Manual (Appendix A) and the Student Evaluation Manual (Appendix B). All steps and requirements for the completion of the HAVEE program are explained in each of these manuals.

Evaluation Advisor's Manual

The total HAVEE model is included and explained in the Evaluation Advisor's Manual which contains descriptions of each step and activity of the process. The manual consists of eight sections as follows: purpose of the program, description of the program, evaluation procedures, evaluation materials, course guidelines, credit determination, and references. The purpose

of the manual is to provide the advisor with the information needed to assist the student in completing each evaluation step.

The Advisor's Evaluation Manual parallels the Student Evaluation Manual, but provides additional information which enables the advisor to help the student complete each step of the evaluation process. The evaluation procedure is based on a series of eight steps which are explained in more detail later in this chapter.

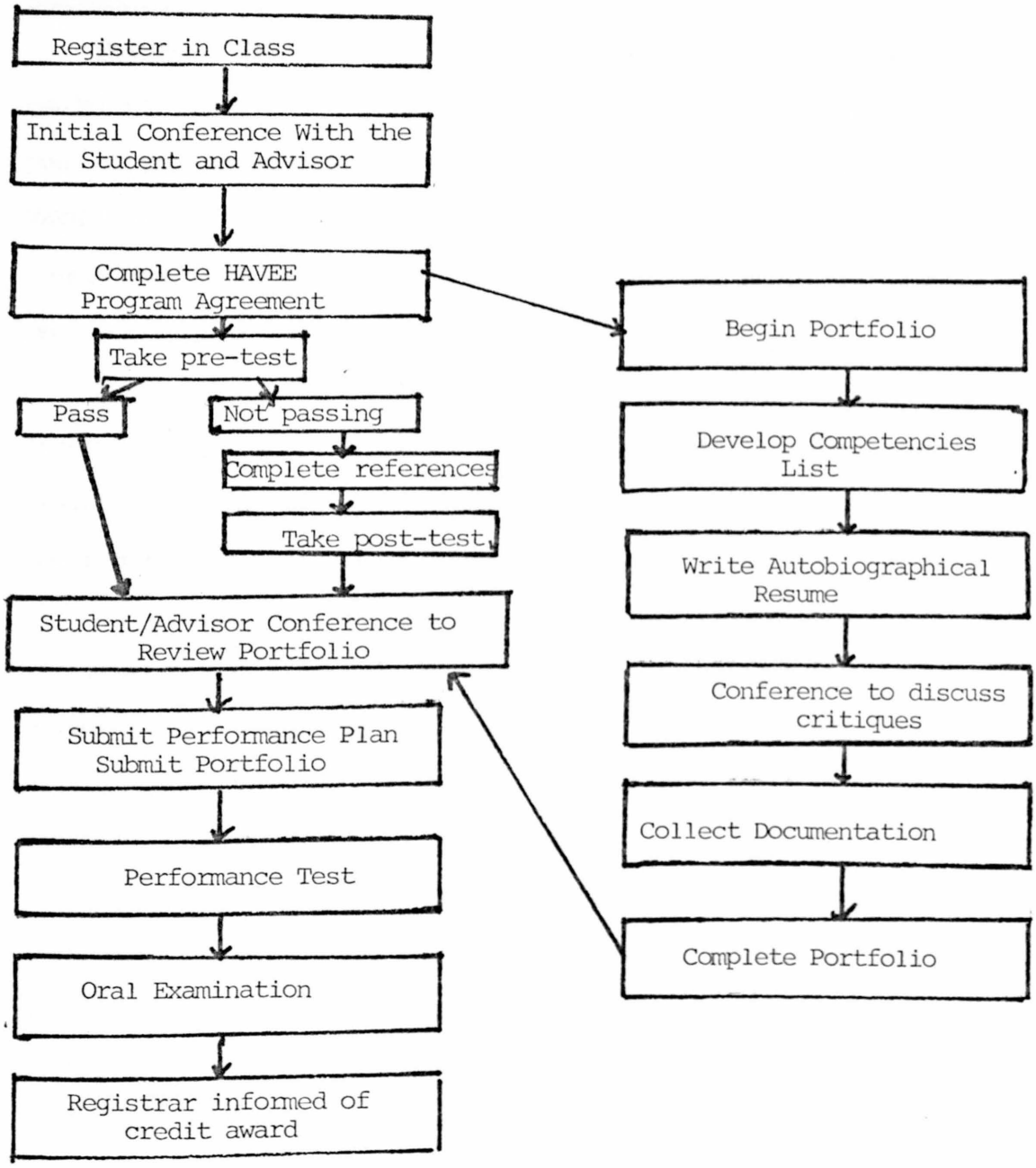
Student Evaluation Manual

The Student Evaluation Manual includes an overview of the HAVEE program, course description, and specific steps necessary for credit award. It includes four sections as follows: description and purpose of the program, getting started, evaluation procedures, and bibliography. The purpose of the manual is to provide the student with the information necessary for the completion of the HAVEE program. The manual contains descriptions of each step and the directions on how to achieve each activity required for completion of the HAVEE program.

The evaluation process consists of eight steps including the initial conference, written tests, portfolio completion, performance tests, and an oral examination. Figure 1, page 34, shows the sequence of evaluation procedures.

Figure 1

SEQUENCE OF EVALUATION PROCEDURE



Implementation Materials

Initial Conference

Purpose. The evaluation process is begun with an initial conference between the student and evaluation advisor. The purpose of the conference is to: introduce students to the total HAVEE program, provide them with the materials necessary for completion, explain the evaluation procedure, and begin the assessment process.

Tasks. Three tasks must be completed in the initial conference stage. These tasks include explaining the evaluation procedure, reviewing the Student Evaluation Manual, and completing the Student Evaluation Agreement.

The advisor will explain the entire evaluation procedure, including tasks to be accomplished, evaluation methods, how to establish time frame for completion, and minimum standards for credit award. The student and advisor will work together to complete the Student Evaluation Agreement.

The Student Evaluation Agreement consists of the following sections: a) evaluation steps, b) projected dates, c) completion dates, d) minimum scores for credit award, e) student score, and f) signatures. The evaluation steps are summarized on the Student Evaluation Agreement. Space is provided for student and advisor to project dates for the completion of each step. When the projected dates are set, the student and advisor

sign the agreement. After completing tasks and materials for each step, the completion date and student score will be recorded. When all steps are completed, the student and advisor will again sign the agreement signifying fulfillment of the agreement. Instructions to the advisor on how to complete the Student Evaluation Agreement are in Appendix A, page 73. Instructions to the student on how to complete the Student Evaluation Agreement are in the Student Evaluation Manual, Appendix B, page 249. Following the initial completion of this agreement, the advisor will circulate the agreement to members of the evaluation committee for approval.

Pre-test

Purpose. The purpose of the pre-test is to evaluate the student's cognitive learning. Two tests will be administered--a pre-test taken prior to beginning the HAVEE program and a post-test taken about midway through the evaluation process. This will give the student two opportunities to pass the written test. If the student reaches the minimum acceptable score on the pre-test, he/she will not be required to take the second test. However, he/she can choose to take the test to improve his/her score.

Tasks. Four tasks must be completed in the pre-test stage. These are as follows: administer, score, give feedback to the student, and inform professors of the students' score.

The test may be taken on an individual basis with the student taking the responsibility for scheduling the test with the evaluation

advisor. The advisor is responsible for administering, scoring, giving the student feedback, and informing committee members of the date and time as well as arranging for a testing location. Advisor's instructions on how to administer and score the pre-test are in Appendix A, page 76.

Student's Portfolio

Purpose. The portfolio is used to organize and document learning that relates to this course. The purpose of the portfolio is to allow the student to identify and detail prior learning that relates to Food Preparation Principles, NFS 1301 and 1302.

Tasks. When the portfolio is completed, the student will have a compilation of written materials to document prior learning. The completed portfolio consists of the following sections: a) Time-life Chronologue, b) Competencies List, c) autobiographical Resume, and d) Documentation. The Time-life Chronologue allows students to list their lifetime experiences, the year they occured, and the type of activity. The chronologue helps the student organize prior experiences into the catagories needed for writing competency statements. The Competencies List is a series of statements about students' prior learning. These statements must meet the following criteria: 1) must be measurable 2) must written in terms of college level learning, and 3) must be applicable outside the situation in which it was learned.

The Autobiographical Resume is a narrative explaining prior learning and its relation to education goals. Documentation shows that prior learning did in fact take place. Instructions to the advisor on how to direct the students' development of a portfolio are in Appendix A, page 78. Instructions to the student on how to complete the portfolio are in the Student Evaluation Manual, Appendix B, page 254.

Reference List

Purpose. The purpose of this list is to provide the students' with the material needed to prepare for the objective tests. These references cover the concepts, facts, principles, terms, and skills relating to the material normally included in Food Preparation Principles, NFS 1301 and 1302.

Tasks. The student may study references to strengthen her knowledge base before taking the objective written examination. For a complete listing of references, refer to the Evaluation Advisor's Manual, Appendix A, page 82, or the Student Evaluation Manual, Appendix B, page 272.

Post-test

Purpose. The post-test is administered about midway through the HAVEE process. Like the pre-test, its purpose is to measure cognitive learning. The pre-test and post-test will both be developed from the test item pool. They may contain any or all of the items as determined by the advisor and the evaluation committee.

Tasks. There are four tasks necessary for the advisor to complete in the post-test stage. These are as follows: administer, score, provide feedback to the student, and information to the evaluation committee on student score.

The student will schedule the post-test with the advisor. The evaluation advisor is responsible for administering and scoring the post-test. After the student has taken the post-test, the advisor is responsible for informing members of the evaluation committee of the students' score. Instructions to the advisor on administering the test are in the Evaluation Advisor's Manual, Appendix A, page 83. Instructions to the student on taking the post-test are in the Student Evaluation Manual, Appendix B, page 273.

Performance Test Plan

Purpose. The purpose of this stage is to make a detailed plan for the performance test listing concepts, principles, facts, terms, and skills to be demonstrated. This plan forms the framework of the performance test.

Tasks. The demonstration plan must be completed to define the procedure of the performance test. The advisor and the student will meet to complete this plan. The performance test plan has an identification section to remind the evaluation committee of date, time, and location of the performance test. The plan helps the student organize and plan the performance test. Sections

are provided for materials and equipment, techniques to be demonstrated, and knowledge to be demonstrated.

The plan will then be distributed to other members of the evaluation committee for their review prior to the performance test. Instructions to the advisor on how to direct the students' completion of the demonstration plan are in Appendix A, page 85. Instructions to the student on how to complete the demonstration plan are in the Student Manual, Appendix B, page 275.

Performance Test

Purpose. The performance test is designed to evaluate the students's skill based on identified competencies that cannot be adequately measured with a paper/pencil test. These competencies have been identified in the concepts section of the Evaluation Advisor's Manual. The performance test will consist of one or mroe demonstrations by the student to show competence in one or more concepts/skills which--indicated by the written test--may be an area of weakness for the student.

Tasks. There are four tasks to be completed in the performance test stage. These are to administer, perform, rate, and provide feedback to the student.

The subject of the performance test will be determined by reviewing the Performance Skills list for NFS 1301 and 1302. These skills are listed by topic in the Evaluation Advisor's Manual in Appendix A, beginning on page 52. The student will

also be required to demonstrate any skills in which he/she appears to lack competence as shown by the written test.

The evaluation committee will administer and rate the students' performances. Feedback for this performance test will be in the form of the Summary of Performance Test Rating. Individual judges' scores will be summarized on this sheet which will be returned to the students. Instructions to the advisor on completion of the performance test are in the Evaluation Advisor's Manual, Appendix A, page 89.

Oral Examination

Purpose. The oral examination serves as a final summary of the evaluation process. The purpose of the oral examination is to evaluate students' skills and cognitive learnings.

Tasks. There are three tasks to be completed in the oral examination stage. These are to administer, evaluate, and provide feedback to the student.

The evaluation committee will conduct the oral examination. The student must respond accurately to questions relating to any of the concepts or competencies not demonstrated up to this point in the evaluation process. Instructions to the advisor on how to conduct the oral examination are in the Evaluation Advisor's Manual, Appendix B, page 92.

Completion of the HAVEE Program

At the completion of the HAVEE program, the student will be given one of three grades: pass, fail, or provisional pass. If the grade is pass, the evaluation committee will inform the registrar of the credit award. If the grade is fail, the student should plan to take the course in its traditional form. If the grade is provisional pass, the student should make plans to complete the other requirements specified by the committee.

CHAPTER V

SUMMARY

The purpose of this project was to develop the Course Competency Criteria (CCC) and the materials necessary for implementation of the Homemaking And Volunteer Experiences Evaluation (HAVEE) program. These materials are included within the Evaluation Advisor's Manual (Appendix A) and the Student Evaluation Manual (Appendix B).

Review of Literature

Sixty two current programs and Cooperative Assessment of Experiential Learning (CAEL) papers were reviewed prior to planning the HAVEE program. In general, most programs required some type of testing procedure and a portfolio describing and documenting prior learning.

Six experiential learning programs were described in the Review of Literature. The location of these programs were: Sinclair College, Indiana University, Coastline Community College, Black Hawk College, Antioch College, and Dallas County Community College District. Sinclair College bases their credit award on a student portfolio alone. Indiana University awards credit on the basis of a portfolio plus an interview, further documentation, written or oral examination, or a written paper. Coastline Community College requires a portfolio for all students, then gives

the student several options to exhibit prior learning. These options include product assessment, oral interviews, objective written examinations, essay examinations, or performance tests. Antioch College awards experiential credit for prior learning, but left the method of assessment to be determined within individual departments of the college. Dallas County Community College District awards credit on the basis of a student portfolio or documentation.

Probably the most important influence in the field of experiential learning has been the Cooperative Assessment of Experiential Learning (CAEL) research papers. The CAEL association began in 1974 as a research and development project of several universities and the Educational Testing Service. Its purpose has been to further the recognition of experiential learning and design valid and reliable assessment methods. Most programs currently in use are based on CAEL research.

The Educational Testing Service also sponsored an experiential learning study that related directly to homemaking and volunteer activities. The materials developed in this study were organized into a workbook to be used by homemakers in applying for experiential credit. Household activities were seperated into a series of "I can" lists to help the homemaker analyze the type and amount of her prior learning.

Methodology

A competency-based Homemaking And Volunteer Experiences Evaluation (HAVEE) model program was developed. It permits systematic and objective determination of students' eligibility for experiential learning credits for a specific, required beginning home economics course--Food Preparation Principles, NFS 1301 and 1302. The development process for this program related to specification of the Course Competency Criteria (CCC) and development of evaluation procedures and materials.

Development of the CCC was accomplished by first reviewing the content base of Food Preparation Principles in its traditional form. The following sources of information were reviewed in determining course content: course outline, objectives, and syllabus; course textbook; and Texas Education Agency's recommended competencies for homemaking teachers. From these sources, concepts and competencies for the course were determined.

Model Program

The development of evaluation procedures and materials was based to a large extent on existing progarms and CAEL papers. All materials designed for the HAVEE program are included in the Evaluation Advisor's Manual (Appendix A) and the Student Evaluation Manual (Appendix B). The HAVEE program consists of the following eight steps: a) initial conference: b) pre-test;

c) portfolio development; d) reference list; e) post-test; f) performance test plan; g) performance test; and h) oral examination.

Initial Conference

In the initial conference stage, the student and advisor review the total evaluation procedure. Materials developed to complete this stage are the Student Evaluation Manual, Evaluation Advisor's Manual, and the Student Evaluation Agreement. The Student Evaluation Manual is reviewed in this conference and the Student Evaluation Agreement is completed and signed by the student and the evaluation advisor.

Objective Tests

The written objective tests measure cognitive learning. Two tests will be administered--a pre-test and a post-test. An exemplary test item pool covering one concept area is included in Appendix C. A reference list is provided to help students prepare for these written examinations.

Portfolio

Portfolios are required as evidence of prior learning in most experiential learning programs. The HAVEE program requires a portfolio including the following sections: Time-life Chronologue, Autobiographical Resume, Competency Statements, and Documentation.

Performance Test

The subject of the performance can be determined by reviewing the written test for concept areas in which the student appears to lack competence. Materials developed for the performance test include the Performance Test Plan, Performance Test Rating Sheet, and Summary of Performance Test. The Performance Test Plan serves as an outline for the performance test. It provides sections for materials and equipment needed, techniques to be demonstrated, and knowledge to be demonstrated. The performance test will be evaluated by the evaluation committee using the Performance Test Rating Sheet. The Summary of Performance Test is used to help the committee and student review the performance test and prepare for the oral examination.

Oral Examination

The oral examination is the summative evaluation of the HAVEE program. Materials developed for this step include the Oral Examination Committee Worksheet and the Oral Examination Critique Form. Any concepts or competencies not exhibited up to this point will be included in this evaluation. At the conclusion of this stage, the student will be awarded a grade of "pass", "fail", or "provisional pass".

Conclusions and Recommendations

Conclusions

According to the Review of Literature, it is apparent that many programs have been developed in the area of experiential learning

and that this trend will continue in the future. This type of experiential learning has gained credibility and importance in the field of post-secondary education. With a carefully designed and implemented program, colleges and universities can better meet the needs of non-traditional students.

The HAVEE model program described in Chapter IV is complete except for the item pool and can now be field tested. Such testing will enable evaluation and revision to be used most effectively in meeting the needs of mature students with creditable prior experience in areas related to the course.

Recommendations

Based on the development of this program the following recommendations for further study are made.

1) Field test the HAVEE program for evaluation and revision.

2) Conduct a follow up study to assess the success rate of HAVEE students in their overall degree program.

3) Develop additional HAVEE programs.

4) Explore other alternatives to traditional classes for meeting the needs of returning and/or mature students.

5) Survey faculty who have had involvement in HAVEE and similar programs.

APPENDIX A

EVALUATION ADVISOR'S MANUAL

EVALUATION ADVISOR'S MANUAL

Table of Contents

PURPOSE OF THE PROGRAM

OVERALL PURPOSE OF THE MANUAL

The purpose of this manual is to help you guide students through the step-by-step process of earning college credit through the Homemaking And Volunteer Experiences Evaluation (HAVEE) program. This manual includes materials to help you enter students in the HAVEE program, provide them with guidance and consultation through completion of the evaluation and credit determination process, and determine eligibility for credit for NFS 1301 and 1302, Food Preparation Principles, when the HAVEE program is successfully completed.

DESCRIPTION OF THE PROGRAM

DESCRIPTION OF THE

HAVEE PROGRAM

The Homemaking And Volunteer Experiences Evaluation (HAVEE) model program is designed to facilitate reentry of mature women students into college, specifically reentry into the Department of Home Econonomics Education and Consumer Sciences. Many of these women will have been out of school for several years, and will benefit from assistance and encouragement as they become reaccustomed to the academic setting. This program will evaluate their knowledge and skills as they compare to those required of students who complete Food Preparation Principles, NFS 1301 and 1302, in the traditional manner.

This process will assist them in completing specific and clearly described steps to prove eligibility for earning college credit. The process will involve a minimum of eight meetings. Each meeting, the purpose of each, and implementation materials are described in Table 1, page 55. Students will earn credit for the course by successfully completing the HAVEE program.

Table 1

Competency Evaluation Sequence

Activity	Purpose	Materials
First Meeting		
Give student the Student Manual Explain the total evaluation process Fill out and sign the Evaluation Agreement	To give student guidance in beginning the process	Student Evaluation Manual Evaluation Agreement
Second Meeting		
Administer pre-test	To evaluate cognitive learning	Pre-test Evaluation Agreement
Third Meeting		
Initiate Student Portfolio	To identify and organize prior learning	Student Manual Examples of completed portfolios (if available)
Fourth Meeting		
Administer Post-test	To evaluate cognitive learning	Pre-test Evaluation Agreement
Fifth Meeting		
Review purpose and procedure for performance test	To set up performance plan	Performance Test Plan

Table 1, Continued

Activity	Purpose	Materials
Fifth Meeting, continued		
Review student portfolio	To give student feedback on progress on portfolio	Portfolio
Send portfolio to members of committee	Evaluate portfolio	Portfolio
Send Performance Test Plan	Inform them of plans for performance	Performance Test Plan
Sixth Meeting		
Performance Test	To evaluate skills in identified competency areas	Performance Test Plan Evaluation Agreement
Seventh Meeting		
Give student evaluation results on performance test	To keep student informed on evaluation	Evaluation Agreement Summary of Performance test
Review file to determine if all steps have been completed		
Eighth Meeting		
Oral Examination	To evaluate student's cognitive learning and skills	Oral Examination Worksheet Oral Examination Critique Form

EVALUATION COMMITTEE'S ROLE

The major role of the evaluation committee is to evaluate the students' experiential products and performance during the assessment process. It is their responsibility to evaluate the students' prior learning during each step of the process and to ensure that students have acquired each of the competencies covered in Food Preparation Principles, NFS 1301 and 1302. Duties of the Evaluation committee are:

Observe and record the students' behavior, performance, and products at the performance and oral examination.

Serve as resource person for students and advisor through the assessment process.

Provide students with feedback at each step of the evaluation.

ADVISOR'S ROLE

The evaluation advisor serves as chairman of the evaluation committee and, as such, assumes the responsibility of guiding the student through the HAVEE program. The advisor helps the student understand how to prepare required materials, how the evaluation will be conducted, and what the basis for assessment will be.

The advisor works with students in each stage of the assessment process. By meeting with students frequently, the advisor can closely check student progress at various points during the evaluation procedure. It is the advisor's responsibility to:

Help the student set realistic time goals for the completion of the program.

Administer pre- and post-test.

Review and critique drafts of all materials to be evaluated.

Keep a file on each student with pertinent information and all materials as outlined in Chapter IV.

Review purpose and procedures with the student for each area of evaluation.

Help the student prepare and submit a Performance Test Plan for the performance test.

Preside at all meetings of the committee.

Keep other committee members informed of students progress.

STUDENTS' ROLE

The students' role is to provide the evaluation committee with the materials needed to make an informed decision about their prior learning. Students will sign an evaluation agreement and should make every effort to fulfill the terms of the agreement. The students are responsible for assisting the advisor in scheduling all meetings with the evaluation committee, planning the completion and organization of materials in the portfolio, following the procedure listed in the student manual for evaluation, and completing the required materials at the required level within the time frame as specifiied by the agreement.

The HAVEE evaluation process offers several advantages to the student. Students gain an increased awareness and appreciation for their prior learning. They also develop skills in planning and organizing, verbal and written communication, and evaluation.

EVALUATION PROCEDURE

STEPS TO COMPLETION OF THE HAVEE PROGRAM

In order to receive credit through the HAVEE progarm, a series of events, meetings, materials, and examinations must be completed successfully. All steps must be completed within one semester and according to a contracted time schedule to receive credit.

The students will enroll in Food Preparation Principles, NFS 1301 and 1302. After registration is complete, the student would complete the following materials and tasks to recieve credit for the class.

STEP 1-Initial Conference

STEP 2-Pre-test

STEP 3-Portfolio

STEP 4-Reference list

STEP 5-Post-test*

STEP 6-Performance Test Plan

STEP 7-Performance Test

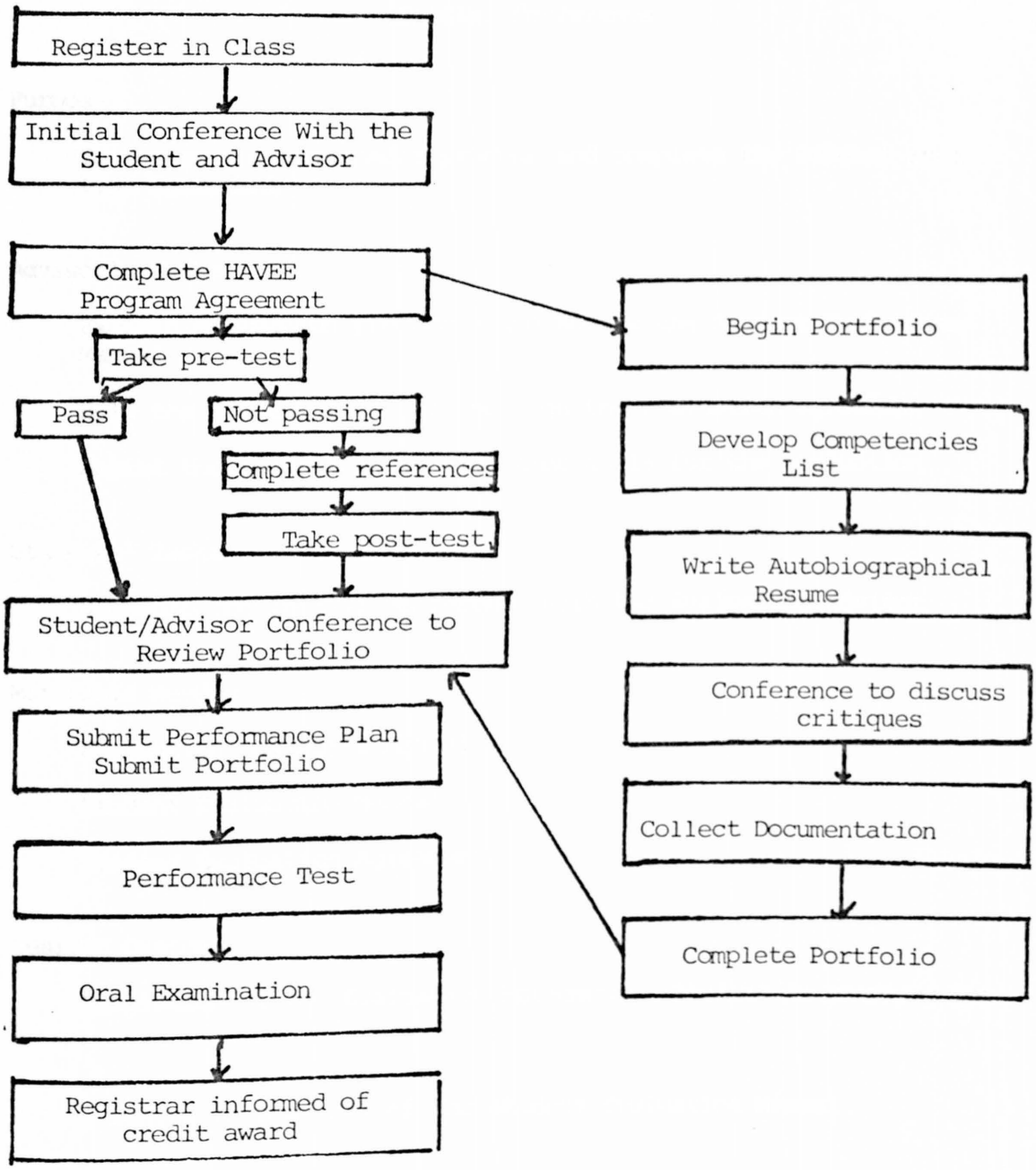
STEP 8-Oral Examination

The suggested order for completing these steps is shown in Figure 1 on page 62.

*Students may omit steps 4 and 5 if they score 80 or higher on the pre-test.

Figure 1

SEQUENCE OF EVALUATION PROCEDURE



STEP 1

Initial Conference

Purpose

To review the assessment process and complete the Student Evaluation Agreement

Advisor's Tasks

Explain evaluation procedure and Review the Student Evaluation Manual

Help the student fill out and sign the evaluation agreement

Assist the student in setting time goals for the evaluation

Students' Tasks

Schedule the initial conference with the Evaluation Advisor

Materials Needed

Evaluation Advisor's Manual

Student Evaluation Manual

Student Evaluation Agreement

Desired Outcome

Completion of the Evaluation Agreement. Student is prepared for Step 2.

Step 1 begins on page 249 of the Student Evaluation Manual

STEP 2

Pre-test

Purpose

Evaluate students' cognitive learning

Advisor's Tasks

Arrange for testing location

Administer, evaluate, and score pre-test

Students' Tasks

Schedule pre-test with advisor

Materials Needed

Pre-test

Student Evaluation Agreement

Desired Outcome

Completion, grading, and recording of pre-test on Student Evaluation Agreement

Step 2 begins on page 250 of the Student Evaluation Manual.

STEP 3

Portfolio

Purpose

To identify prior learning that relates to Food Preparation Principles

Advisor's Tasks

Assist student in developing competencies, autobiographical resume, and offer suggestions for possible forms of documentation

Critique Portfolio

Students' Tasks

Prepare materials and deliver to advisor within the allotted time frame

Revise materials according to advisor's critique

Materials Needed

Student Evaluation Manual

Student Evaluation Agreement

Desired Outcome

Portfolio completed by student

Step 3 begins on page 14 of the Student Evaluation Manual.

STEP 4

Reference List

Purpose

To prepare for the post-test by reviewing concepts, facts, principles, terms, and skills relating to the materials covered in Food Preparation Principles

Advisor's Tasks

Provide student with a list of references to cover competencies

Students' Tasks

Study references to improve performance on post-test

Materials Needed

Reference List

Desired Outcome

Concepts, principles, facts, terms, and skills will be reviewed

Step 4 begins on page 270 of the Student Evaluation Manual.

STEP 5

Post-test

Purpose

To evaluate students' cognitive learning

Advisor's Tasks

Administer and score post-test

Arrange for testing location

Students' Tasks

Schedule post-test with advisor

Materials Needed

Post-test

Student Evaluation Agreement

Desired Outcome

Completion, grading, and recording of post-test

Step 5 begins on page 273 in the Student Evaluation Manual

STEP 6

Performance Test Plan

Purpose

To make a detailed plan for the performance test listing concepts, principles, and skills to be performed

Advisor's Tasks

Assist student in completing performance test plan

Review portfolio with studnet

Students' Tasks

Plan the performance test and complete the performance test plan

Materials Needed

Performance Test Plan

Portfolio

Desired Outcome

Planned the demonstration, completed the performanct test plan, and sent plan to committee members

Step 6 begins on page 275 of the Student Evaluation Manual

STEP 7

Performance Test

Purpose

To evaluate the students' skill based on identified competencies

Advisor's Tasks

Arrange for testing location

Evaluate performance test

Complete the Summary of Performance Test and send to committee

Students' Tasks

Schedule performance test with advisor

Present demonstration(s) for performance test

Materials Needed

Performance Test Plan

Performance Test Rating Sheet

Summary of Performance Test

Student Evaluation Agreement

Desired Outcome

Performance Test completed

Step 7 begins on page 279 of the Student Evaluation Manual.

STEP 8

Oral Examination

Purpose

To evaluate students' skills and cognitive learning

Advisor's Tasks

Arrange for testing location

Evaluate student's skills and cognitive learning

Students' Tasks

Schedule oral examination with committee members

Materials Needed

Oral Examination Critiuqe form

Oral Examination Worksheet

Desired Outcome

Completion of oral examination with one the following results.

If Pass:
The committee will notify the registrar of credit award

If Fail:
The student must enroll for NFS 1301 and 1302 in its traditional form.

If Provisional Pass:
Student must complete materials and tasks specified by the committee to complete the course.

Step 8 begins on page 282 of the Student Evaluation Manual

EVALUATION MATERIALS

The following section contains the materials necessary for implementating each of the eight steps of the HAVEE progam. An explanation of how to use each of these materials is included. The materials are:

Step 1: Student Evaluation Agreement

Step 2: Student Evaluation Agreement
Pre-test

Step 3: Student Evaluation Manual
Student Evaluation Agreement

Step 4: Reference List

Step 5: Post-test
Student Evaluation Agreement

Step 6: Performance Test Plan

Step 7: Performance Test Plan
Performance Test Rating Sheet
Summary of Performance Test
Student Evaluation Agreement

Step 8: Oral Test Critique form
Oral Test Worksheet
Student Evaluation Agreement

MATERIALS FOR STEP 1

Student Evaluation Agreement

At the beginning of the semester, the student and evaluation advisor will meet to complete the Student Evaluation Agreement. The purpose of the Student Evaluation Agreement is to review the steps of the assessment procedure and to make a plan to complete all steps within the semester.

The Student Evaluation Agreement consists of the following parts: student identification, course title and number, purpose of form, steps to be completed, projected dates for completion, actual completion dates, required minimum scores, and student scores.

The Student Evaluation Agreement will be completed by filling in the student's name, date, and evaluation committee. Student and advisor will discuss each of the steps in the evaluation procedures and project dates for completion. The identification section and projected dates are the only columns that will be completed at this time. When these sections have been completed, the student and advisor will sign the agreement.

Following the completion of the contract by the student and advisor, the contract will be circulated to all members of the evaluation committee. Each member will review the contract and initial it signifying their approval of this agreement.

Following completion of all steps of the agreement, the student and advisor will sign the bottom section. The completed agreement will be sent to the registrar's along with the request for credit award to become a part of the student's permanent record.

HAVEE PROGRAM STUDENT EVALUATION AGREEMENT

Student _____ Evaluation Committee _____
advisor

Date _____ _____

Course _____ _____

The purpose of this agreement is to allow advisor and student to review the steps of the assessment procedure and make a plan to complete all steps within the semester.

Steps to be completed	Projected Dates	Completion Dates	Minimum Score	Student Score
Step 1-Complete Agreement				
Step 2-Pre-test			80	
Step 3-Complete Portfolio			P	
Step 4-Complete References				
Step 5-Post-test			80	
Step 6-Submit Performance Test Plan				
Step 7-Performance test			P	
Step 8-Oral Examination			P	

_____ _____
Student Beginning date Advisor Beginning date

The student has completed these tasks as indicated. Approval is given for credit.

_____ _____
Student Ending date Advisor Ending date

MATERIALS FOR STEP 2

Pre-test

The pre-test will be administered early in the evaluation procedure. The purpose of the pre-test is to evaluate the students' cognitive learning.

An item pool representing the concepts and facts identified for the course has been developed. The pre-test can be comprised of any or all of these items according to the preference of the advisor and evaluation committee.

The test can be taken on an individual basis with the student taking responsibility for scheduling. The advisor must arrange for a location for testing. The pre-test will be administered and scored by the evaluation advisor. Other members of the evaluation committee will be advised of testing date, but need not be present during the test. The advisor will have the responsibility of informing all committee members of the time and location of the test.

Students will have two opportunities to pass the written test--the pre-test, given as Step 2 and the post-test, given later in the evaluation process. Students must correctly answer 80% of the items to pass this section of the evaluation process. If this

score occurs on the pre-test, students are not required to take the post-test. They may choose to retake the test, however, to improve their score. If the student does not score 80 on this test, she will have an opportunity to review the concepts, facts, principles, and terms through references prior to taking the post-test.

After taking the test, students will schedule an appointment with the evaluation advisor to be advised of her score and plan the remainder of the evaluation process. At this conference, the student's score will be recorded on the Student Evaluation Agreement. Following the conference, a memo will be sent to each committee member informing them of the student's pre-test score.

MATERIALS FOR STEP 3

Portfolio

Students will complete a portfolio containing information that relates to prior learning. The purpose of the portfolio is to allow the student to identify and describe prior learning that relates to Food Preparation Principles, NFS 1301 and 1302.

The portfolio is a formal compilation of materials describing and/or documenting experiences and skills related to Food Preparation Principles. The portfolio consists of the following sections:

Title Page
Table of Contents
Time-life Chronologue
Competency Statements
Autobiographical Resume
Documentation

The portfolio is completed by the student with the advisor's assistance prior to the performance test. Instructions to the student on how to complete the portfolio are in the Student Evaluation Manual, page 254. Individual sections of the portfolio are described on the following pages.

Time-life Chronologue

The purpose of the Time-life Chronologue is to help students identify prior learning relevant to food preparation knowledge and skills. This worksheet lists activities related to food preparation skills, year they occurred, and type of experience. The

chronologue will help students organize activities, so they will be ready to begin the competency statements. Instructions to the student on how to complete the Time-life Chronologue are in the Student Evaluation Manual, page 18.

Competency Statements

Students must then interpret the activities from the Time-life Chronologue and state them in the form of competencies. The purpose of these competency statements is to define prior experiences in relation to competencies that may later be evaluated for credit. These competencies must meet the following requirements:

Must be Measurable--Through some type of evaluation procedure, whether written or performance testing,
Contain higher levels of learning--Must include theoretical and practical aspects,
Must be at a college level--Must be equivalent to college classes,
Applicable outside of situation in which it was gained--If the learning cannot be applied in another situation it is not creditable,
Must be current--Learning must have occurred recently.

Instructions to the student on how to develop competencies is in the Student Evaluation Manual, page 260.

Autobiographical Resume

In the Autobiographical Resume, past learnings are related to students' goals for the future. The Autobiographical Resume has five purposes:

Help student reflect on past experiences and relate them to required competencies,
Build the students' confidence by identifying strengths,

Demonstrate skills in organization of materials,
Identify probable competency,
Show proof of course-related competencies.

The Autobiographical Resume can be in the form of an essay. Students can describe how learning resulted from their experiences and how this learning has influenced the student's plan for the future. Instructions to the student on how to write the Autobiographical Resume are in the Student Evaluation Manual, page 263.

Documentation

Documentation is the process of verifying that an experience with learning potential actually occurred. Documentation allows the student to include such items as certificates of completion for continuing education, recommendations of former employers or supervisors, and other types of evidence that show that learning occurred. Instructions to the student on how to prepare documentation are included in the Student Evaluation Manual, page 267.

MATERIALS FOR STEP 4

Reference List

Prior to taking the post-test, the student may want to review material related to the competencies covered in Food Preparation Principles, NFS 1301 and 1302. The purpose of the material is to provide the student with a reference list that will allow them to review concepts, principles, facts, terms, and skills relating to the material covered in Food Preparation Principles. References listed should be avialable from the library or bookstore. This list should be regurarly reviewed and updated. The reference list is on page 82.

REFERENCE LIST

1. Charley, Helen. Food Study Manual (2nd. ed.). New York: Ronald Press, 1975.

2. Devine, M.M., & Pimentel, M.H. Diminsions of Foods. An Introductory Food Manual. New York: Harper and Row, 1975.

3. Freeland-Graves, Jeanne H. Principles of Food Preparation. A Laboratory Manual. New York: Macmillan, 1979.

4. Gates, June C. Basic Foods. A Laboratory Manual. New York: Holt, Rinehart, and Winston, 1976.

5. Kansas State University. Practical Cookery (24th ed.). New York: John Wiley and Sons, 1975.

6. McWilliam, Margaret. Experimental Foods Laboratory Manual. Fullerton: Plycon Press, 1979.

7. McWilliam, Margaret. Illustrated Guide to Food Preparation (3rd ed.). Fullerton: Plycon Press, 1976.

8. Mizer, David, & Porter, Mary. Learning to Cook Professionally. A Lab Manual. San Francisco: Canfield Press, 1978.

9. Morr, Mary L., and Irmiter, T.F. Illustrated Foods. A Lab Manual of Food Preparation and Evaluation (3rd ed.). New York: Macmillan, 1980.

10. Oklahoma State University Food Preparation Manual (5th ed.). Dubuque: Kendall/Hunt, 1977.

11. Vail, G.E., Phillips, J.A., Rust, L., Griswold, R.M., & Justin, M.M. Foods. Instructor's Guide (7th ed.). Boston: Houghton Mifflin, 1978.

MATERIALS FOR STEP 5

Post-test

The post-test is to be administered after completing references. The purpose of the post-test is to evaluate the students' cognitive learning.

An item pool has been developed representing the concepts, principles, and facts identified for the course. The post-test can be comprised of any or all of these items according to the preference of the advisor and evaluation committee.

The test may be taken on an individual basis with students taking the responsibility for scheduling with the advisor. The advisor must arrange for a testing location. The post-test will be administered and scored by the evaluation advisor. Other members of the evaluation committee will be advised of the date of the post-test, but need not be present during the test. The advisor will have the responsibility of informing all committee members of the time and location of the test.

Students must correctly answer 80% of all items to complete this section of the evaluation process. If students do not score 80 on this test, they will be required to discontinue work in the HAVEE program and should take the course in its traditional form.

After taking the test, students will schedule an appointment with the evaluation advisor to receive the score and plan the remainder of the evaluation process. At this conference the student's score will be recorded on the Student Evalauation Agreement. Following the conference, a memo will be sent to each committee member stating the student's score on the post-test.

MATERIALS FOR STEP 6

Performance Test Plan

The results of the written test determine the subject of the performance and oral tests. After the written examination has been scored, the evaluation advisor will meet with students to determine the concepts to be evaluated in the performance test. The purpose of the Performance Test Plan is to make a detailed plan for the performance test which lists concepts, principles, facts, terms, and skills to be demonstrated. To receive credit, students must be able to demonstrate mastery of competencies required for the course. Therefore, students will be asked to show proficiency in skills where the written examination indicates there are weaknesses by choosing one or more of these areas as the subject of the performance test.

The student and the evaluation advisor will meet to develop a plan for the performance test. This plan will describe the subject of the performance test, a step-by-step procedure, and the special technique to be demonstrated.

Prior to the performance test, the advisor and student will meet to determine the subject of the performance test. The written test will be reviewed to find those areas in which the student scored 80 or below. The competencies relating to these areas will

become the subject of the performance test. If there is more than one area of weakness, the student must include all these areas in one or more performances.

The planning form will be given to members of the committee at least five days prior to the performance test to allow ample time for review. The form also includes sections to remind committee members of the time, date, and location of the performance test.

At this conference, the student and the advisor will also review the completed student portfolio. The student will then revise the portfolio reflecting the advisor's suggestions. The portfolio will then be sent to the evaluation committee for their review and approval.

HAVEE PROGRAM PERFORMANCE TEST PLAN

This form is to be completed by the student in conference with the advisor to help plan the performance test. It should be submitted to each committee member at least five days prior to the testing date.

Student_____ Date_____

Date and time of performance test_____

Location for performance test_____

Evaluation Committee_____
advisor

_____

Name of Performance_____

Competency to be shown_____

Catagory (refer to Evaluation Advisor's Manual, beginning on page 105)

_____

Concept(s)_____

Materials and equipment needed

Techniques to be demonstrated

Knowledge (concepts, principles, facts, and terms) to be demonstrated

HAVEE PROGRAM PERFORMANCE TEST PLAN
(continued)

Name of performance _____

Competency to be shown _____

Catagory (refer to Evaluation Advisor's Manual, beginning on page 105)

_____

Concept(s) _____

Materials and equipment needed

Techniques to be demonstrated

Knowledge (concepts, principles, facts, and terms) to be demonstrated

MATERIALS FOR STEP 7

Performance Test

The performance test will supplement the results of the written test. The forms used in Step 7 are: 1) Performance Test Rating Sheet and 2) Summary of Performance Test.

The purpose of the Performance Test Rating Sheet is to provide an instrument to evaluate the students' skills in certain competencies. The performance test will be presented in accordance with the Performance Test Plan made in Step 6.

Following the Performance Test, the committee will be given an opportunity to ask questions concerning the performance(s). These questions may be directed to the techniques demonstrated or knowledge of concepts, principles, facts, and terms related to the performances. Each of the committee members will then complete a Performance Test Rating Sheet.

The purpose of the Summary of Performance Test is to compile the evaluators' critiques on the Performance Test. The evaluation advisor will combine all ratings to develop a Summary of Performance Test. This form will be returned to the student.

Prior to the oral examination, committee members will receive an information packet from the advisor to help prepare for the examination. This packet will include the Summary of Performance Test and the completed Student Evaluation Agreement.

HAVEE PROGRAM PERFORMANCE TEST RATING SHEET

This rating sheet is designed to facilitate the evaluation of the student's performance test. One score sheet should be completed for each concept or competency to be demonstrated by each evaluator. All evaluator's ratings and comments will be summarized on teh Summary of Performance Test form which will be returned to the student.

Student_____ Date_____

Course_____ Evaluator_____

Concept or Competency_____

Catagory	Rating	Comments
Subject Matter		
Knowledge of principles, facts, and terms	1 2 3 4 5	
Information accurate and complete	1 2 3 4 5	
Presentation		
Proper application of techniques	1 2 3 4 5	
Logical sequence of steps	1 2 3 4 5	
Use of equipment	1 2 3 4 5	

HAVEE PROGRAM SUMMARY OF PERFORMANCE TEST

This form serves as a summary of the ratings of the evaluation committee of the student's performance test. Use this information and the enclosed forms to prepare for the oral examination to be held on _____ at _____ in _____. This form is to be returned to the student and the evaluation committee.

Student _____ Date _____

Course _____ Committee _____

	Rating			
Concept or Competency	High	Medium	Low	Not Passing

MATERIALS FOR STEP 8

Oral Examination

The oral examination is used as a last stage of the evaluation process. At the completion of the written and performance tests, the committee members should note items that they have questions about in the evaluation. The oral examination will give an opportunity for these questions to be asked as well as those not addressed in earlier evaluations. Forms used in step 8 are: Oral Examination Committee Worksheet and Oral Examination Critique Form.

Oral Examination Committee Worksheet

Prior to the oral examination, each committee member will use the Oral Examination Committee Worksheet to note weak competence areas. This list of competencies is then transferred to the critique form which will then be used during the oral examination for scoring the student. The critique form gives the evaluators an opportunity to score the student on competencies still in question.

The first section of the Oral Examination Committee Worksheet is used to note areas about which the evaluation committee member would like the student to answer questions. The second section is provided to pose questions concerneing these areas. The third section is provided for additional comments or notes for the committee member's use. This worksheet is only for the use of the evaluation

committee. It will not be returned or in any way shown to the student.

Oral Examination Critique Form

The Oral Examination Critique Form is designed to be used during the oral examination. Areas of competence to be covered during the oral examination are transferred from the worksheet to the critique form. The critique form is designed in a checklist format. The evaluator checks the degree of mastery the student has achieved.

The evaluation advisor will again preside at the meeting. Each committee member will be given an opportunity to ask questions of the student. the student will also be invited to add any additional information that will be of help to the evaluators.

Following the interview, the evaluation committee will meet to determine the results of the test. Because of the subjective nature of the evaluation, it is difficult to give a numerical score. Therefore, the student will be scored either "pass" or "fail"--either the committee feels the student possesses the competencies contained in the course, or does not have them.

HAVEE PROGRAM ORAL EXAMINATION COMMITTEE WORKSHEET

This form is designed to help the evaluation committee organize and prepare for the oral examination. The evaluator keeps this worksheet for use during the oral examination.

Student_____ Date_____

Evaluator_____

Areas of weakness identified in other examinations

Pre-test

Post-test

Performance Test

Related Questions

Comments

HAVEE PROGRAM ORAL EXAMINATION CRITIQUE FORM

This form is designed to be used in the HAVEE program to assist the evaluation committee in evaluating the student's oral examination. These individual critiques wll be returned to the student in the final conference with the evaluation advisor.

Student_____ Date_____

Course_____ Evaluator_____

1 - unacceptable 2 - below average 3 - average 4 - above average
5 - excellent

	Rating	Comments
Competency_____	5 4 3 2 1	
Competency_____	5 4 3 2 1	
Competency_____	5 4 3 2 1	
Competency_____	5 4 3 2 1	

COURSE GUIDELINES

TEXAS EDUCATION AGENCY'S BASIC COMPETENCIES

FOR BEGINNING TEACHERS OF HOME ECONOMICS

All competencies related to foods and nutrition were reviewed by the professor who currently teaches Food Preparation Principles, NFS 1301 and 1302. Following is the list of competencies normally covered in that course.

The following definitions apply to this section.

Competency-Knowledge, skills, affective behavior, and/or judgement which the student will demonstrate at a predetermined proficiency level

Terminal Performance Objective-(TPO)-a major component of a competency

Enabling Objective-(EO)-a specific performance relating to a TPO; it serves as a criteria for achieving the competency

An explanation of the numbering system for the competency, terminal performance objectives, and enabling objectives follows:

COMPETENCY 1 This numeral identifies the competency within each subject matter area.

TPO 1:1 The first numeral is the same as the compency number. The second numeral identifies the TPO for each competency.

EO 1:11 The first numeral is the same as the competency number. The second numeral identifies the TPO. The third numeral specifies the enabling objective which serves as a criterion for achievement.

COMPETENCIES IN FOOD AND NUTRITION

COMPETENCY 1: Ability to analyze the interrelatedness of nutrient intake, food and eating paterns as necessary in maintaining and improving health

TPO 1:1 Determine major functions of food in relation to values held by different ethnic and sociocultural groups

EO 1:11 Explain the effect of psychological and social factors on food choices

EO 1:12 Describe different religious and cultural influences on food choices

EO 1:13 Intrepret the effect of values and goals on food patterns of individuals

EO 1:14 Identify the geographic and seasonal influences on food choices

TPO 1:2 Analyze the nutrients which contribute to the well-being of the individual

EO 1:21 Classify major nutrients

EO 1:22 Determine sources of the major nutrients

EO 1:23 Identify characteristics of each nutrient

EO 1:24 Analyze primary functions of each nutrient and discuss its interrelatedness with other nutrients

EO 1:25 Describe the six major physiological processes involved in the body's utilization of nutrients

EO 1:26 Describe the results of a deficiency in, and/or toxicity from, each major nutrient

TPO 1:3 Develop plans to meet nutrient needs of individuals in various stages of the life cycle

EO 1:31 Relate food intake to health and appearance

EO 1:32 Analyze the food groups as a basis for food choices

EO 1:33 Differentiate between fads or fallacies and food facts

EO 1:34 Assess ways individual needs affect nutritional requirements

EO 1:35 Select foods to meet personal nutritional needs

COMPETENCY 2: Ability to evaluate management techniques for food preparation in home, school, and industry

TPO 2:1 Determine effective work areas for food preparation in the home and school

EO 2:11 Identify the various types of work areas

EO 2:12 Determine the most appropriate arrangements of work areas for efficiency and safety

EO 2:13 Organize each work area for convenient operation

TPO 2:2 Select, use, and care for home and institutional equipment

EO 2:21 Identify home and institutional equipment and determine guidelines for selection

EO 2:22 Demonstrate proper use and care of equipment

EO 2:23 Develop a preventive maintenance program

EO 2:24 Plan arrangement and storage of equipment

EO 2:25 Select inventory procedure

TPO 2:3 Apply standards for sanitation in the kitchen

EO 2:31 Analyze reasons for personal hygiene and sanitation in the work area

EO 2:32 Delineate the relationship between causative agents and food borne illness

EO 2:33 Relate public health regulations (local, state, federal) to situations in home

TPO 2:4 Employ recognized safety practices as a continuing process in work performance

EO 2:41 Recognize potentially hazardous conditions and safety precautions

EO 2:42 React effectively in emergency situations

EO 2:43 Apply public health and safety regulations

EO 2:44 Appraise physiological, emotional, and educational limitations of individuals

COMPETENCY 3: Ability to plan, prepare, and serve food designed to meet the needs of individuals and groups throughout the life cycle

TPO 3:1 Examine the principles of management associated with available time, expendable energy, and the food budget to the planning, preparing, and serving nutritious and attractive meals

EO 3:11 Identify the role of the meal manager and meal related activities

EO 3:12 Demonstrate ability to plan weekly menus within budgetary limitations

EO 3:13 Organize activities to save time and energy

TPO 3:2 Apply the principles of meal planning for designing menus appropriate for individual needs

EO 3:21 Determine the importance of portion control

EO 3:22 Analyze menu plans for meeting individual nutritional needs

EO 3:23 Recognize psychological and aesthetical factors in planning menus

EO 3:24 Plan daily menus which reflect cultural differences

TPO 3:3 Select and use food service plans appropriate to given situation

EO 3:31 Develop ability to select dinnerware, linens, flatware, and glassware

EO 3:32 Design and plan table decorations, table settings, and food arrangements that reflect knowledge of art principles

EO 3:33 Serve food in accordance with stated guidelines in a variety of situations, either in a home or commercial setting

EO 3:34 Identify and compare merchandising techniques in food service operations

TPO 3:4 Appraise the values of established and accepted behavior at the table

EO 3:41 Identify the principles and rules affecting table manners

EO 3:42 Practice socially accepted behavior at the table, including consideration for the physical and emotional needs of others

COMPETENCY 4: Ability to prepare food products according to designated standards in both home and industry

TPO 4:1 Demonstrate ability to read, understand, and follow a recipe

EO 4:11 Explain the terminology used in recipes

EO 4:12 Measure ingredients accurately using appropriate techniques in handling ingredients

TPO 4:2 Assess food standards and factors affecting food quality

EO 4:21 Select proper equipment for a specific job

EO 4:22 Identify principles concerning cooking temperatures and food quality

EO 4:23 Identify food storage principles while comparing recommended storage temperatures

EO 4:24 Analyze the relationship between principles of food preparation and the quality of the finished product for home and/or commercial use

EO 4:25 Use criteria for standard products to evaluate finished products

EO 4:26 Analyze the relationship between management principles and food standards

EO 4:27 Relate use of standardized recipe to portion and quality control

TPO 4:3 Assess methods of food preservation

EO 4:31 Analyze the factors which determine appropriate methods for preservation of various types of food

EO 4:32 Compare methods of food preservation in terms of equipment, cost, time, energy, safety, and food quality

EO 4:33 Demonstrate appropriate methods of food preservation

COMPETENCY 5 Ability to demonstrate consumer competence in selecting and purchasing food for both home and industry

TPO 5:1 Appraise elements which operate specifically for the protection of consumers

EO 5:11 Intrepret legislation and relate it to food and nutrition

EO 5:12 Identify functions of agencies organized for the protection of consumers

EO 5:13 Use available consumer protection resources

EO 5:14 Select strategies for stimulating interest in consumerism

TPO 5:2 Assess the role of the responsible consumer in the area of food and nutrition

EO 5:21 Recognize ethical business practices in the wholesale and retail market

EO 5:22 Analyze labels for nutritional and product information

EO 5:23 Interpret government policies, standards, and grades

EO 5:24 Evaluate marketing practices in the handling of food as related to quality

TPO 5:3 Appraise considerations which determine the consumer choices of food

EO 5:31 Identify the influences of life style on food choices

EO 5:32 Relate purchases to values and goals

EO 5:33 Analyze economic principles which apply to the consumer and food choices

TPO 5:4 Organize buying plans according to immediate and anticipated needs

EO 5:41 Evaluate buying techniques to cut food costs

EO 5:42 Formulate buying plans

EO 5:43 Analyze the use of convenience foods and other time saving services

COMPETENCY 6: Ability to analyze career and job opportunities related to food and nutrition

TPO 6:1 Evaluate opportunities at all levels of the career ladder

EO 6:11 Describe worker mobility patterns within the career ladder

EO 6:12 Interpret employment information concerning opportunities in food and nutrition

EO 6:13 Identify required skills and educational preparation for careers in food and nutrition at the various levels

EO 6:14 Identify organizations contributing to professional growth

TPO 6:2 Set up evaluative criteria for employability

EO 6:21 Identify qualities necessary for employability and success in the world of work

EO 6:22 Comprehend procedures used when applying for a job

CONCEPTUAL FRAMEWORK*

FOR

FOOD PREPARATION PRINCIPLES

NFS 1301 AND 1302

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*Note: These concepts, principles, and facts were taken from the recommended textbook for the course: McWilliams, Margaret. Food Fundamentals. John Wiley & Sons, Inc., New York, 1979.

TABLE OF CONTENTS

FOOD FUNDAMENTALS

by Margaret McWilliams

18. Food Safety and Quality

19. Food Preservation

Part 3. Food Science

20. Colloids

21. Carbohydrates

22. Lipids

23. Proteins

CHAPTER 2: VEGETABLES

Concept: SENSORY CHARACTERISTICS OF VEGETABLES RELATED TO THE AESTHETICS OF MEAL PLANNING

Principle: Vegetables should add variety to meals.

Facts: Four major considerations in meal planning related to sensory characteristics of vegetables

Terms: vegetable

Concept: CLASSIFICATION OF VEGETABLES

Principle: Vegetables are classified according to the portion of the plant eaten.

Facts: Seven portions of plants that are eaten

Terms: bulb, root, tubers, leaves, stems, fruits, seeds

Concept: THE EFFECT OF VEGETABLE COMPOSITION ON TEXTURE, NUTRITIVE VALUE, AND FLAVOR

Principle: Texture, flavor, and nutritive value are affected by compositional components.

Facts: The five compositional components of vegetables
The effect of compositonal components on texture, flavor, and nutritive value

Terms: fiber, dehydration, rigidity, turgidity, cellulose, carbohydrate, woody, fiberous, pectic, protopectin, sugar, starch

Nutritional Characteristics of Vegetables

Concept: NUTRITIONAL VALUE OF VEGETABLES

Principle: The vegetable group includes varying amounts of most of the major nutrients.

Facts: Major nutrients that are contained in common vegetable sources and their function in the body

Terms: nutrient, protein, calcium, iron, oxalic acid, carotenes, ascorbic acid, fiber, roughage, sodium, chlorine, cobalt, copper, magnesium, manganese, phosphorus, potassium

Concept: RELATIONSHIP OF NUTRITIVE VALUE TO GROWING CONDITIONS

Principle: Climate and soil factors affect nutritional components of vegetables.

Facts: The effect of soil, climate, fertilizer, maturity, rainfall, and sunlight on nutritive value

Terms: iodine, boron, fertilizer

Concept: THE EFFECT OF ORGANIC CONDITIONS ON NUTRITIVE VALUE

Principle: Organic conditions do not effect nutritive value of vegetables.

Facts: The differences between organic and traditionally grown vegetables

Terms: organic, pesticides

Marketing

Concept: THE EFFECT OF SHIPPING AND STORAGE CHARACTERISTICS ON THE QUALITY OF PRODUCT

Principle: Proper control of temperature, moisture, and air affects compositional and nutritional characteristics of vegetables.

Facts: The respiration process in vegetables
Methods of controlling temperature during shipping
Methods of increasing air circulation and the results of poor air circulation
Proper temperatures for storing different types of vegetables

Concept: FEDERAL INVOLVEMENT IN THE MARKETING PROCESS

Principle: Federal controls contribute to the quality of the food products by regulating the marketing process.

Facts: Major legislation affecting the marketing process
The federal agency that enforces this marketing process

Terms: regulation, standardization

Selection

Concept: SELECTION PROCESS BY FORM OF VEGETABLE

Principle: Form of vegetable chosen should relate to end use.

Facts: Criteria for choosing most appropriate form of vegetable for end use

Principle: Fresh vegetable quality is indicated by compositional components.

Facts: Criteria for choosing the best fresh products

Principle: Frozen vegetable quality is indicated by compositional components.

Facts: Criteria for choosing the best frozen product

Principle: Canned vegetable quality is indicated by compositional components.

Facts: Criteria for choosing the best canned product

Concept: SELECTION PROCESS ON THE BASIS OF VARIETY

Principle: The variety of vegetable affects quality of prepared product.

Facts: Proper variety for end product
The characteristics of a variety that affect the prepared product

Terms: variety, waxy, non-waxy, meaty, juicy

Concept: SELECTION PROCESS ON THE BASIS OF GRADE

Principle: Use of vegetable should determine grade choice.

Facts: Grades used for fresh, frozen, and canned vegetables
Effect of grade on finished product

Terms: fancy, standard

Concept: SELECTION PROCESS ON BASIS OF LABELING

Principle: Product labeling indicates composition of product.

Facts: Items that must be included on a product label
Importance of order of ingredients listed on label

Principle: Nutritional labeling indicates proportion of major nutrients in products.

Facts: Cases when nutrient labeling must be displayed on a product
Items that must be listed on a nutrient label

Concept: SELECTION PROCESS OF CONVENIENCE VEGETABLES

Principle: Convenience foods should be selected after consideration of time, money, and energy aspects of food preparation.

Facts: Forms of vegetable convenience foods

Storage

Concept: THE EFFECT OF STORAGE ON FRESH VEGETABLES

Principle: Retaining fresh vegetable quality depends upon control of environmental conditions.

Facts: The proper form of storage for vegetables
The effect of air on vegetable freshness
The effect of evaporative changes on vegetables

Terms: oxidative, hydrator

Vegetable Cookery

Concept: THE EFFECT OF COOKERY ON NUTRITIONAL CONTENT OF VEGETABLES

Principle: Nutritional content is affected by the type of heat used.

Facts: Results of moist heat on water-soluable nutrients
Effect of dry heat on certain nutrients

Terms: palatability, oxidative

Principle: Nutritional content is affected by pH of cooking medium.

Facts: The relationship between pH of medium and vitamin loss

Terms: alkaline, acid

Principle: Nutritional content is affected by length of cookery time.

Facts: The effect of cooking time on nutritive content
Most appropriate cooking time for vegetables
The relationship between vitamin loss and microwave cookery
The relationship between vitamin loss and cookery in a pressure saucepan

Principle: Nutritional content is affected by amount of heat.

Facts: The effect of temperatures on vegetables
Nutrients that are affected by heat
Most appropriate cooking temperatures for vegetables

Concept: THE EFFECT OF COOKERY ON TEXTURE OF VEGETABLES

Principle: Rate of softening is affected by the pH of cooking medium.

Facts: The reaction between pH of medium and softening rate
The effect of natural organic acids and softening rate
Minerals that inhibit textural changes
The chemical reaction that inhibits textural changes

Terms: acid, alkaline, organic

Concept: THE EFFECT OF COOKERY ON VEGETABLE COLOR

Principle: Vegetable color is affected by heat type.

Facts: Water-soluable pigments
Pigments affected by heat

Principle: Vegetable color is affected by pH of cooking medium.

Facts: The effect of pH of water on each pigment
The effect of organic acids trapped by a lid on chlorophyll

Principle: Vegetable color is affected by length of cooking time.

Facts: Relationship between time of cookery and retention of pigments
The reason for the difference in the color of frozen green beans and canned green beans

Concept: EFFECT OF COOKERY TECHNIQUES ON FLAVOR

Principle: Flavor is affected by aromatic compounds present in vegetables.

Facts: The effect of using a lid on mild and strong flavored vegetables

Principle: Flavor is affected by time of cooking.

Facts: The effect of cooking time on mild or strong flavors

Terms: volatile, aromatic, sinigrin, glycoside

Preparation Procedures

Concept: IMPORTANCE OF WASHING VEGETABLES

Principle: Careful washing affects sanitation and palatability.

Facts: Importance of cleansing vegetables

Principle: Method of cleaning vegetable depends on the form.

Facts: Appropriate cleaning procedure for each form

Terms: sediment, convolutions

Concept: TRIMMING AND CUTTING RELATED TO CHARACTERISTICS OF VEGETABLES

Principle: Trimming, paring, and cutting depends on the composition, form, way it will be used, maturity, and appearance.

Facts: The best method to prepare vegetables for cookery
The discoloration of vegetables after paring and methods to prevent this discoloration
The effect of vegetable density on the length of cooking time

Fresh Vegetable Cookery

Concept: TYPES OF MOIST HEAT COOKERY

Principle: Proper boiling procedures enhance the quality of vegetables.

Facts: The recommended method to boil vegetables
Criteria to evaluate vegetables for doneness

Terms: boiling

Principle: Proper steaming procedures enhance quality of vegetables.

Facts: Methods of steaming
Special equipment needed for steaming
Vegetables most adaptable to the steaming method

Terms: steaming

Principle: Proper simmering methods enhance quality of vegetables.

Facts: Vegetables most suited to simmering
Methods of shortening the cooking periods and the merits of each
Substances that inhibit the softening and how they work

Terms: coagulation, rehydration, simmering

Concept: TYPES OF DRY HEAT COOKERY

Principle: Proper broiling techniques enhance quality of vegetables.

Facts: Criteria that determine the best vegetables to broil
Vegetables best suited to broiling
Method of broiling

Terms: broiling

Principle: Proper baking techniques enhance the quality of vegetables.

Facts: Criteria that determine the best vegetables to bake
Vegetables best suited to baking
The importance of moisture in a vegetable on the quality of the finished product
Optimum temperatures for baking

Terms: baking

Concept: TYPES OF FRYING

Principle: Proper frying techniques enhance the quality of vegetables.

Facts: Vegetables best suited to frying
The difference between shallow-fat and deep-fat frying
The effect of too cool or too hot fat on the finished product

Terms: shallow-fat, deep-fat

Principle: Proper stir-frying techniques enhance the quality of vegetables.

Facts: Criteria that detemines the best vegetable for stir-frying
Method of stir-frying

Terms: stir-frying, panning, wok

Concept: TYPES OF CANNED VEGETABLE COOKERY

Principle: The method of preparation affects flavor and nutritional characteristics.

Facts: The best methods to heat canned vegetables to retain flavor and nutritional value

Principle: Home canned vegetables should be properly cooked to avoid food safety problems.

Facts: The recommended method of cookery to ensure safety of home canned vegetables

Terms: botulism

Concept: TYPES OF FROZEN VEGETABLE COOKERY

Principle: Cookery techniques affect the quality of frozen vegetables.

Facts: How blanching and freezing affect the vegetable
Recommended preparation for frozen vegetables

Terms: oxidative, enzymes, blanching, phenophytin

Concept: ADDITIONAL FLAVORINGS FOR VEGETABLES

Principle: Flavorings added to vegetables should complement the natural flavor of the vegetable.

Facts: Sauces appropriate to vegetables
Herbs appropriate to vegetables
The most effective method of using sauces or herbs

PERFORMANCE SKILLS RELATED TO

VEGETABLE COOKERY

Prepare basic types of vegetables by common cookery methods

CHAPTER 3: FRUITS

Concept: CLASSIFICATION OF FRUITS

Principle: Fruits are classified according to shape, cell structure, type of seed, or natural habitat.

Facts: Seven groups of fruits

Terms: fruit, berries, citrus, drupes, grapes, melons, pomes, tropical, subtropical

Concept: THE EFFECT OF FRUIT COMPOSITION ON TEXTURE, NUTRITIVE VALUE, AND FLAVOR

Principle: Texture, flavor, and nutritive value are affected by compositional components.

Facts: The five compositional components of fruits
The effects of these components on texture, nutritive value, and flavor

Terms: protein, fat, carbohydrates, conversion, cellulose, pectic, hemicellulose, dermal, vascular, parenchymal, polymers, protopectin, pectin, pectinic enzymes, organic, aldehydes, ketones, esters

Concept: THE EFFECT OF PIGMENTS ON FRUIT PREPARATION

Principle: Fruit pigments or combinations of these pigments give fruits their customary colors.

Facts: Four fruit pigments

Principle: Fruit pigments are affected by the pH of preparation medium.

Facts: The effect of pH of medium on the fruit pigments

Terms: flavedo, chlorophyll, carotenoid, anthoxanthin, albedo, anthocyanin, alkaline, acidic

Principle: Fruit pigments are affected by contact with metals.

Facts: The effect of metals on flavonoids

Principle: Browning is affected by fruit pigments.

Facts: The reaction of pigments that cause browning
Methods to control browning in fruits

Nutritional Characteristics of Fruits

Concept: NUTRITIONAL VALUE OF FRUIT

Principle: The fruit group contains varying amounts of major nutrients.

Facts: Major nutrients that are contained in common fruit sources and their function in the body

Terms: ascorbic, carotenes, precursors, iron, calcium, cellulose, roughage

Concept: RELATIONSHIP OF NUTRITIVE VALUE TO GROWING CONDITIONS

Principle: Climate affects nutritional components of fruits

Facts: The effect of maturity, condition, climate, and amount of sunshine on nutritive value

Marketing

Concept: THE EFFECT OF SHIPPING AND STORAGE CHARACTERISTICS ON THE QUALITY OF THE PRODUCT

Principle: Proper control of temperature, moisture, and atmosphere affects the compositional and nutritional characteristics of fruits.

Facts: The effect of humidity on fruit quality
Methods of controlling atmosphere and results of this control
Methods used to control or compensate for adverse weather conditions

Principle: Maturity of fruits affects the shipping and flavor qualities.

Facts: Relationship between shipping and maturity
The effect of premature picking and shipping on fruit flavor
Respiration process in fruits

Terms: respiration

Concept: THE EFFECT OF APPEARANCE ON MARKETING

Principle: The appearance of fruit affects its acceptance in the marketplace.

Facts: Methods to improve color of fruit
The waxing process and its effect on fruit

Terms: ethylene, waxing, carnauba, paraffin

Selection

Concept: SELECTION PROCESS ON BASIS OF SIZE

Principle: The fruit size should be selected on the basis of intended use.

Facts: Criteria for choosing most appropriate size of fruits for intended use

Concept: SELECTION PROCESS ON BASIS OF GRADE

Principle: Use of fruit will influence grade selection.

Facts: Grades used for fresh, frozen, and canned fruit

Concept: SELECTION PROCESS ON BASIS OF VARIETY

Principle: The variety of a fruit affects quality of prepared product.

Facts: Proper variety for end product
Characteristics of a variety that affect end products

Concept: SELECTION PROCESS ON BASIS OF SEASON

Principle: Season of the year affects quality of fruit.

Facts: Optimum purchasing time for various fruits

Concept: SELECTION PROCESS ON THE BASIS OF FORM

Principle: Form of fruit should relate to end use.

Facts: Criteria for choosing most appropriate form of fruit for intended use

Principle: Fresh fruit quality is indicated by compositional components.

Facts: Criteria for choosing best fresh fruit product

Principle: Canned fruit quality is indicated by compositional components.

Facts: Criteria for choosing best canned fruit product

Principle: Frozen fruit quality is indicated by compositional components.

Facts: Criteria for choosing best frozen fruit product

Principle: Dried fruit variety is indicated by compositional components.

Facts: Criteria for choosing best dried fruit product

Concept: SELECTION PROCESS ON THE BASIS OF LABELING

Principle: Product labeling indicates quality of product.

Facts: Cases when nutrient labeling must be displayed
Items that must be listed on a nutrient label

Principle: Nomenclature of products indicates composition.

Facts: Nomenclature for various fruit products

Terms: jams, jellies, marmelades, preserves, conserves, butters

Storage

Concept: THE EFFECT OF STORAGE ON FRESH FRUIT

Principle: Retaining fresh fruit quality depends upon control of environmental conditions.

Facts: Proper form of storage for fruit
Procedures for storage of fruit
The effect of moisture on fruit storage
The effect of air on fruit storage

Principle: Fruit ripening is affected by storage.

Facts: Methods of accelerating or slowing ripening
Control of the respiration process

Preparation

Concept: THE EFFECT OF PREPARATION ON NUTRITIONAL CONTENT OF FRUIT

Principle: Nutritional content is affected by preparation.

Facts: Methods to minimize oxidation
The effect of oxidation on nutrients

Terms: oxidation

Concept: THE EFFECT OF PREPARATION ON FRUIT

Principle: Preparation of fruits affects aesthetics of fruits.

Facts: Four major considerations in deciding how to prepare fruit
Methods to prepare fruits
Methods to prevent browning of fruits

Fruit Cookery

Concept: TYPES OF MOIST HEAT COOKERY

Principle: Proper simmering techniques enhance the quality of fruit.

Facts: The simmering process
Effect of amount of heat on fruit shape
Methods of minimizing flavor loss
Criteria for determining fruits suitable for simmering
Methods of shortening simmering time
Effect of cooking solution on texture of fruit

Terms: stewed, simmered, poached, cellulose, rehydration, osmosis semipermeable, solutes, coddled

Concept: TYPES OF DRY HEAT COOKERY FOR FRUIT

Principle: Proper baking techniques enhance the quality of fruit.

Facts: Criteria that determine best fruits for baking
Special preparation techniques for baking

Terms: baking

Principle: Proper broiling techniques enhance the quality of fruit.

Facts: Criteria that determines the best fruits for broiling
Methods of broiling

Terms: broiling

Concept: TYPES OF FRYING FOR FRUITS

Principle: Proper frying techniques enhance quality of fruit.

Facts: Criteria that determines the best fruits for frying
Optimum temperatures for frying

Terms: frying

Concept: BAKING PRODUCTS WITH FRUIT AS AN INGREDIENT

Principle: Fruit enhances flavor of baked products.

Facts: Criteria that determines best fruits for baked products.

Concept: TYPES OF CANNED FRUIT PREPARATIONS

Principle: Cookery techniques affect the quality of canned fruit products.

Facts: Special techniques for using canned fruits

Concept: TYPES OF FROZEN FRUIT PREPARATION

Principle: Cookery techniques affect the quality of frozen fruit products.

Facts: Changes in cell structure caused by freezing
Special techniques for using frozen fruits

PERFORMANCE SKILLS RELATED TO

FRUIT PREPARATION

Prepare basic types of fruits by common preparation methods

CHAPTER 4: SALADS AND SALAD DRESSINGS

Concept: SENSORY CHARACTERISTICS RELATED TO SALAD PLANNING

Principle: Salads should add variety to meals.

Facts: Four major considerations in salad planning related to sensory characteristics
Ingredients used to increase variety

Concept: NUTRITIONAL VALUE OF SALADS

Principle: Salads contain varying amounts of most major nutrients.

Facts: Major nutrients that are contained in salads and their function in the body

Principle: Salad dressings contain important nutrients.

Facts: Major nutrients that are contained in salad dressings and their function in the body

Terms: linoleic, calories, roughage

Concept: ROLE OF SALAD IN THE MEAL

Principle: Salad prepared should relate to its role in the meal.

Facts: Criteria for planning salad to be served

Concept: THE EFFECT OF ARRANGEMENT AND SHAPE ON AESTHETICS OF SALAD

Principle: Salad ingredients should be arranged to create an attractive display.

Facts: Considerations in arranging salads
Two customary methods of arranging salads

Terms: balance, center, unifying

Principle: Salads should be arranged for ease of eating.

Facts: Criteria for planning salads that are easy to eat

Concept: THE EFFECT OF COLOR ON AESTHETICS OF SALADS

Principle: Salads should serve as the color highlight of the meal.

Facts: Methods to introduce color into salads
Importance of color in salad

Concept: THE EFFECT OF FLAVOR ON SALAD PLANNING

Principle: Salad flavors should blend with one another and the meal.

Facts: Flavor considerations in planning salad ingredients

Concept: THE EFFECT OF TEXTURE ON SALAD PLANNING

Principle: Salad texture should enhance other parts of the meal.

Facts: Textural considerations in planning salad ingredients
The relationship between texture and the meal

Types of Salads

Concept: CLASSIFICATION OF SALADS

Principle: Salads are classified according to ingredents and the role of the salad in the meal.

Facts: Five types of salads and the characteristics of each
Special techniques for each type of salad

Terms: Garnishes, vegetables, fruit, gelatin, high-protein

Preparation of Salad

Concept: IMPORTANCE OF QUALITY INGREDIENTS

Principle: Salads should be fresh, attractive, and flavorful.

Facts: Criteria for choosing ingredients for salad
Importance of freshness

Concept: IMPORTANCE OF WASHING SALAD INGREDIENTS

Principle: Careful washing affects sanitation and palatability.

Facts: Method of cleansing each form of vegetable
Importance of washing

Concept: CARE OF GREENS

Principle: Retaining vegetable green quality depends upon control of air and humidity.

Facts: Proper form of storage for greens
The effect of air on green quality
The effect of moisture on green quality
Methods to crisp greens

Principle: Careful preparation affects salad appearance.

Facts: Methods to prepare greens for salad
Effect of excess water on salad appearance

Concept: PREPARATION OF GELATIN

Principle: High quality gelatin products require complete dispersion of gel and chilling to form a gel.

Facts: Differences between unflavored and glavored gelatin and how these differences affect preparation
Characteristics of a high quality gel

Principle: Tenderness of gel affects palatability and serving.

Facts: Effect of incorrect amount of gelatin on tenderness
Effect of pH of gel on tenderness
Effect of sugar on tenderness
Effect of age on tenderness
Effect of temperature on tenderness
Effect of proteolytic enzymes on tenderness

Terms: proteolytic, bromelin

Principle: Setting time is affected by preparation procedure.

Facts: Effect of gelatin concentration on setting time
Effect of cooling rate on setting time
Effect of additional liquid on setting time

Facts: Procedures to accelerate gel formation and their effect on the gel
Effect of sugar on setting time

Serving Salads

Concept: SERVING GREEN SALADS

Principle: Addition of dressing affects crispness of salad.

Facts: Methods to avoid wilting of greens
The effect of osmosis on salad

Terms: osmosis

Concept: SERVING GELATIN SALADS

Principle: Unmolding procedures affect the appearance of salads.

Facts: Methods to unmold salads

Salad Dressing

Concept: CLASSIFICATION OF EMULSIONS

Principle: Salad dressings are classified according to type of emulsion.

Facts: Types of emulsions
Formation of emulsions

Terms: emulsion, permanent, semi-permanent, temporary

Concept: THE EFFECT OF EMULSIFIERS ON TEMPORARY EMULSIONS

Principle: Stability of temporary emulsions is affected by emulsifiers.

Facts: Types of emulsifiers commonly used
Methods to reform emulsions
Formation of temporary emulsions

Principle: Flavor of temporary emulsions is dependent upon ingredients.

Facts: Criteria for choosing ingredients
Preparation of ingredients

Concept: THE EFFECT OF EMULSIFIERS ON SEMIPERMANENT EMULSIONS

Principle: Stability of semipermanent emulsions is affected by emulsifiers.

Facts: Types of emulsifiers used
Formation of semipermanent emulsions

Concept: THE EFFECT OF EMULSIFIERS ON PERMANENT EMULSIONS

Principle: Stability of permanent emulsions is affected by emulsifiers.

Facts: Types of emulsifiers used
Formation of permanent emulsions
Reformation of emulsions

Principle: Flavor of permanent emulsions is dependent upon ingredients.

Facts: Criteria for choosing ingredients

Concept: THE EFFECT OF PREPARATION ON COOKED SALAD DRESSINGS

Principle: Proper preparation procedures enhance the quality of cooked salad dressings.

Facts: Preparation of cooked salad dressings
Criteria for choosing ingredients
Types of emulsifiers used

Concept: ADDITIONAL FLAVORINGS FOR SALAD DRESSINGS

Principle: Flavorings added to dressings should complement salad.

Facts: Flavorings appropriate for dressings
Methods of preparation for commercial mixes

Concept: CRITERIA FOR SELECTION OF DRESSINGS

Principle: Selection of dressing depends on salad and personal preferences.

Facts: Criteria for choosing dressings

PERFORMANCE SKILLS RELATED TO

SALADS AND SALAD DRESSINGS

Prepare basic types of salads by common preparation methods

Prepare basic types of salal dressings

CHAPTER 5: FATS AND OILS

Concept: CLASSIFICATION OF FATS AND OILS

Principle: Fats and oils are classified according to source of fat used and type of processing.

Facts: Source of fat used in six major fats and oils
Methods of processing in six major fats and oils

Concept: PROCESSING OF FATS AND OILS

Principle: Processing depends upon source of fat and desired end product.

Facts: Methods of processing six major fats and oils
Hydrogenation process
Procedures for creating low calorie products
Procedures for creating products that are low in polyunsaturated fats
Additives used in processing of fats and oils and their purpose in the product
Crystallization process

Terms: butter, margarine, shortening, oil, lard

Storage

Concept: THE EFFECT OF STORAGE ON FATS AND OILS

Principle: Retaining quality of fats and oils depends upon control of environmental factors.

Facts: Proper form of storage for fats and oils
The effect of type of storage on oil
Rancidity process

Terms: rancidity

Functions in Food Preparation

Concept: THE EFFECT OF FATS AND OILS ON PALATABILITY

Principle: The palatability of foods is affected by fats and oils used.

Facts: Three functions of fats and oils that increase palatability

Concept: THE EFFECT OF FATS AND OILS AS A COOKING MEDIUM

Principle: The appearance of foods is affected by use of fats and oils as a cooking medium.

Facts: Comparison between fried foods and other methods of cookery

Concept: CHOICE OF PROPER FAT OR OIL

Principle: Choice of proper fat or oil is dependent upon exhibited characteristics.

Facts: Factors that influence choice of fat or oil
Ways fats or oils are used in food preparation

Concept: SELECTION OF TABLE SPREADS

Principle: Choice of table spread is dependent upon preference and dietary considerations.

Facts: Factors that relate to selection of table spreads

Concept: SELECTION OF FATS FOR FRYING

Principle: Choice of fats for frying is dependent upon intended use.

Facts: The effect of frying on oils
Four factors that influence choice of fat
Fats best suited for frying and those not suitable for frying
The effect of smoke point on choice of fat

Concept: SELECTION OF FATS FOR SALAD DRESSINGS

Principle: Selection of fats for salad dressing is dependent upon palatability and type of salad.

Facts: Factors that relate to personal preference
Factors that relate to type of salad

Concept: SELECTION OF FATS FOR BREAD

Principle: Selection of fats for yeast breads is dependent upon palatability and structural characteristics.

Facts: The effect of fat on yeast bread palatability
The effect of fat on yeast bread structure
Factors that influence the choice of butter or margarine over shortening or oil

Principle: Selection of fats for quick breads is dependent upon palatability and structural characteristics desired in the end product.

Facts: Criteria that determines the type of fat used in quick Bread products and their effect on the end product

Concept: SELECTION OF FATS FOR CAKES

Principle: Selection of fats for cake is dependent upon palatability and structural characteristics desired in end products.

Facts: Criteria that determine the type of fat used in shortened cakes and the effect of other types
Criteria that determine the type of fat used in chiffon cakes and the effect of other types

Concept: SELECTION OF FAT FOR COOKIES

Principle: Selection of fat for cookies is dependent upon palatability and softening characteristics of the fat.

Facts: Criteria that determines the type of fat used in cookies
The effect of other types of fat on cookies

Principles of Frying

Concept: TYPES OF FRYING

Principle: Proper shallow-fat frying techniques will enhance the palatability of food.

Facts: The effect of too much or too little heat during shallow-fat frying
Proper frying procedure for shallow-fat

Principle: Proper deep-fat frying techniques will enhance the palatability of food

Facts: The effect of incorrect heat on quality of food
The effect of addition of food to temperature of fat
Methods to evaluate doneness
The importance of draining foods after deep-fat frying
The effect of frying on the quality of oil
Methods to maintain the quality of oil
Proper storage of oil for deep-fat frying

PERFORMANCE SKILLS RELATED TO

FATS AND OILS

Prepare foods by the shallow-fat frying method

Prepare foods by the deep-fat frying method

CHAPTER 6: CEREALS AND STARCHES

Nutritional Characteristics of Cereal Grains

Concept: THE VALUE OF CEREAL GRAINS AS NUTRITIONAL SOURCES

Principle: The nutritive value depends on the part of the grain used and enrichment added.

Facts: The three parts of cereal grains and the nutritive value of each
Major nutrients that are contained in cereals

Terms: bran, endosperm, germ, thiamin, riboflavin, niacin, iron, calcium, restored, enriched, fortified, starch, protein, amino

Processing of Grains

Concept: THE EFFECT OF BREAKING GRAINS ON COOKERY

Principle: Breaking grains affects cooking characteristics.

Facts: The methods of breaking grain kernels and their effect on cookery of grain

Concept: THE EFFECT OF FRACTIONIZATION OF GRAIN

Principle: Fractionization of grain affects storage and preparation.

Facts: The effect of fractionization on cookery and storage
Types of fractionization

Terms: fractionization, hulling, milling, polishing

Concept: PROCESSING OF CEREALS

Principle: Cereal processing affects textures, flavors, and shape.

Facts: Six basic kinds of processed cereals
Flavorings and textures available in processed cereals

Terms: extruded, flaked, granulated, puffed, rolled, shredded

Concept: THE EFFECT OF PROCESSING ON COOKING TIME

Principle: Quick cooking or instant cereals are affected by additional processing during manufacturing.

Facts: Additives for the purpose of shortening cooking time
The effect of disodium phosphate on heating time
Advantages and disadvantages of disodium phosphate
Methods of heat treating grains

Terms: pre-gelatinized

Concept: THE EFFECT OF PROCESSING ON CORN AND BARLEY

Principle: The processing of corn and barley affects the end product.

Facts: Products available from corn and methods of producing
Products available from barley and methods of producing

Concept: CRITERIA FOR SELECTION OF RICE

Principle: Type of rice selected should relate to end use.

Facts: Types of rice available and their characteristics

Concept: THE EFFECT OF PROCESSING ON TYPE OF RICE

Principle: The processing of rice affects the flavor, storage, and nutritional characteristics.

Facts: Processing required for each type of rice
The effect of processing on storage
The effect of processing on flavor
The effect of processing on nutritive value

Terms: premix, parboiled

Concept: SELECTION PROCESS FOR WHEAT CEREAL

Principle: Type of wheat cereal should relate to end use.

Facts: Types of wheat cereals available and their characteristics.

Terms: rolled, bulgur, durum, farina

Concept: THE EFFECT OF PROCESSING ON WHEAT

Principle: The processing of wheat affects the flavor and storage characteristics.

Facts: Processing required for each form of wheat cereal

Storing Cereal

Concept: THE EFFECT OF STORAGE ON CEREAL PRODUCTS

Principle: Retaining cereal product quality depends upon control of environmental products.

Facts: Recommended method of storing cereal products
Methods to restore crisp texture to dry cereals

Preparation of Cereals

Concept: THE EFFECT OF COOKERY ON CEREAL PRODUCTS

Principle: Cookery of cereal products affects flavor and texture.

Facts: Basic objectives for cooking cereals

Terms: gelatinization

Principle: Quality of hot breakfast cereals is dependent upon cookery techniques.

Facts: Methods to ensure smoothness in cereals
Criteria to determine doneness
The effect of disodium phosphate on cookery
The effect of gelatinization on cookery
Methods to decrease foam overs
Methods to prevent formation of scum on cereal
Amount of expansion during preparation

Principle: Quality of rice products is dependent upon cookery techniques.

Facts: Methods to prepare rice products
Time necessary for preparation of rice products
Relationship between minute rice and conventional rice
Methods to fluff rice
Criteria for evaluation of cooked rice
Differences in appearance and preparation of long, medium, and short grained rice
Amount of expansion during preparation

Principle: Quality of bulgur products is dependent upon cookery techniques.

Facts: Methods to prepare bulgur
Time required for preparation
Amount of expansion during preparation

Principle: Quality of hominy grits is dependent upon cookery techniques.

Facts: Methods to prepare grits
Amount of expansion during preparation

Principle: Quality of pasta is dependent upon cookery techniques.

Facts: Methods to prepare pasta
The importance of boiling water in preparation
Criteria for evaluating doneness
Amount of expansion during preparation

Starches

Concept: THE EFFECT OF STARCHES AS THICKNERS

Principle: Thickening power of starch is dependent upon type of starch.

Facts: Reasons for using starches as thickners
Sources of starches

Concept: THE EFFECT OF DEXTRINIZATION ON STARCHES

Principle: Dextrinization is dependent upon amount and time of heating.

Facts: The dextrinization process and its effect on starches
The effect of longer heating time on dextrinization
The effect of higher temperatures on dextrinization

Terms: dextrinization, dextrins

Concept: THE EFFECT OF GELATINIZATION ON STARCHES

Principle: Swelling in cold water of granules is dependent upon kind of starch and previous treatment.

Facts: Factors that control swelling
The effect of types of starches
Differences between damaged and undamaged cells during swelling

Terms: hydration, swelling

Principle: Swelling during heating of granules is dependent upon type of starch.

Facts: The gelatinization process

Terms: gelatinization

Principle: Gelatinization increases volume and viscosity of paste.

Facts: Reasons for change in viscosity

Principle: Temperature for maximum swelling depends upon source of starch and previous treatment.

Facts: The effect of type of starch on maximum swelling
The effect of previous treatment on swelling temperatures
The effect of prolonged heating on starches
The effect of mechanical agitation on starches

Terms: fragmentation

Principle: Gelatinization of starch increases transluency.

Facts: The process of change from milky appearance to translucency
Effect of translucency on finished product

Terms: amylose

Concept: FACTORS AFFECTING VISCOSITY

Principle: Viscosity of product is affected by external factors.

Facts: Factors influencing viscosity and their effect on the final product
Methods to increase or decrease viscosity
The effect of using a double boiler on gelatinization
Critical concentration of sugar

Terms: hydrolysis

Concept: THE EFFECT OF INCOMPLETELY DISPERSED STARCH

Principle: Dispersion of starch affects appearance and viscosity.

Facts: The effect of incompletely dispersed starch
Methods to disperse starch

Concept: THE EFFECT OF GELATION ON STARCH MIXTURE

Principle: Gelation is affected by amount of starch present.

Facts: The effect of gelation on starch mixture
Factors that affect firmness of a gel

Terms: gelation, gel

Concept: THE EFFECT OF SYNERSIS ON STARCH MIXTURES

Principle: Syneresis is caused by disruption of the starch network.

Facts: The syneresis process and its effect on starches
The effect of freezing on syneresis

Concept: TYPES OF STARCH COOKERY

Principle: Proper cookery techniques affect the quality of white sauce.

Facts: Viscosity of white sauces and uses of each
Methods of making white sauces
Characteristics of white sauces

Principle: Gravy preparation is determined by types of drippings used.

Facts: Amount of drippings needed
Methods of making gravy
Methods of preventing lumps
Criteria for evaluation of gravy

Terms: gravy, roux

Principle: Proper cookery techniques affect the quality of cream soups.

Facts: Proportions of ingredients
Methods of making cream soup
Special techniques required for tomato soup
Criteria for evaluation of cream soup

Principle: Proper cookery techniques affect the quality of pudding.

Facts: Methods of incorporating starch into products
Methods of making puddings
The effect of lumping on product
The effect of agitation on product
Criteria for evaluation of puddings

PERFORMANCE SKILLS RELATED TO

CEREALS AND STARCHES

Prepare basic types of white sauces by common preparation methods

Prepare basic types of cream soups by common preparation methods

Prepare basic types of puddings by common preparation methods

CHAPTER 7: MILK AND CHEESE

Concept: BASIS FOR CLASSIFYING MILK PRODUCTS

Principle: Classification of milk and milk products depends upon compositional characteristics.

Facts: Four compositional characteristics for classification
Types of milk products and characteristics of each
Fat content of each product
Available forms of each product
Special processing required for each product
Labeling of products
Nutritional value of each product

Terms: milk, cream, cream-line, lowfat, nonfat, skim, acidophilus, lactose, buttermilk, evaporated, reconstituted, instantized, aggregates, stabilizer, mellorine, parevine

Concept: GRADE OF MILK PRODUCTS AS A BASIS OF SELECTION

Principle: Use of milk influences grade selection

Facts: Grades used for milk and milk products
Basis for grading

Concept: NUTRITIONAL VALUE OF MILK

Principle: Nutrients contained in milk products depends upon form and special processing.

Facts: Major nutrients that are contained in milk sources and their major function in the body

Terms: iron, niacin, calcium, phosphorous, riboflavin, carbohydrate, fat, protein, lactose, oleic, palmitic, steric, casein, whey, lactalbumin, lactoglobulin, lactomucin

Concept: MILK AS A TRANSMITTER OF DISEASE

Principle: Disease transmission depends on the presence of microorganisms in milk.

Facts: Diseases transmitted through milk
Methods to halt grwoth of microorganisms

Terms: contamination, sanitation, microorganisms

Concept: THE EFFECT OF MILK PROCESSING ON SANITATION, QUALITY, AND NUTRITIVE VALUE

Principle: Sanitation, quality, and nutritive value is affected by milk processing.

Facts: The pasturization process and its effect on the finished product
The homogenization process and its effect on the finished product
The fortification process and its effect on the finished product

Terms: pasturization, homogenization, fortification

Concept: THE EFFECT OF STORAGE ON MILK PRODUCTS

Principle: Maintaining milk quality depends upon control of environmental conditions.

Facts: Proper condidions for storage of milk products

Concept: THE EFFECT OF COOKERY ON MILK

Principle: Proper cooking techniques enhance the quality of milk-containing products.

Facts: Proper cooking techniques for milk products
Function of milk in food preparation

Concept: SCUM FORMATION

Principle: Scum formation is affected by heating condidions.

Facts: Causes for scum formation
Methods to stop scum formation

Terms: scum

Concept: CURDLING IN MILK INCLUDED PRODUCTS

Principle: Curdling is affected by the presence of acids and salts.

Facts: The scorching process
The effect of intensity of heat on scorching
The methods to reduce scorching
The effect of length of time on scorching

Concept: CLOTTING OF MILK

Principle: Clotting is affected by acid and rennin.

Facts: The best method to whip cream
The effect of temperature on the whipping of cream
The effect of incorrect agitation on the whipping of cream
The effect of addition of sugar on the whipping cream
The stability of whipping cream foams.

Principle: The whipping of partially reconstituted nonfat dry milk is dependent upon acidity, temperature, and agitation.

Facts: The effect of whipping on protein molecules
The effect of acidity on nonfat dry milk
The texture of nonfat dry milk foams
The caloric content of nonfat dry milk foams
The caloric content of nonfat dry milk foams
The stability of nonfat dry milk foams
The effect of agitation on nonfat dry milk foams

Principle: The whipping of evaporated milk is affected by temperature.

Facts: The best method to whip evaporated milk
The effect of temperature on whipping of evaporated milk
The effect of acid on the whipping of evaporated milk
The effect of gelatin on the whipping of evaporated milk
Stability of evaporated milk foams

Concept: NUTRITIONAL VALUE OF CHEESE

Principle: Cheese is classified according to methods of prodution.

Facts: Two major divisions of cheeses

Principle: Natural cheeses are classified on the basis of methods of production.

Facts: The cheesemaking process
Textural changes that occur during ripening
Flavors that change during ripening
Factors that relate to textrual and flavor changes
Catagories of firmness in natural cheeses and examples of each
Four factors that determine classification
Methods of making soft, semisoft, and hard cheeses

Principle: Processing affects characteristics of natural cheeses.

Facts: Steps in the manufacturing of processed cheese
The effect of heating on ripening
Differences between pasturized processed cheese and pasturized process cheese food
Methods to make pasturized process cheese spread
Methods to make pasturized process cheese food
Methods to make cold pack cheese

Concept: THE EFFECT OF COOKERY ON CHEESE

Principle: Proper cheese cookery techniques enhance quality of finished product.

Facts: Effect of heat on cheese
Two rules for cheese cookery
Factors to consider in choosing cheese for a product
Characteristics of high quality cheese sauce
Methods to prevent stringiness
Effect of too long heating times
The relationship between incompletely cooked pasta and cheese in a cassarole

PERFORMANCE SKILLS RELATED TO

MILK AND CHEESE

Prepare milk included products by common cookery methods

Prepare cheese included products by common cookery methods

CHAPTER 8: MEATS, POULTRY, AND FISH

Concept: MEAT STRUCTURE

Principle: Meat is classified according to physical composition.

Facts: Three types of meat and their composition

Principle: Type of meat affects flavor and cookery.

Facts: Factors that affect amount of water in meat
Structure of fibers of each type of meat
The effect of heat on muscle protein
The effect of oxidation on muscle color and methods to reduce this oxidation
The effect of freezing on color of muscle tissue and methods to prevent this loss
The effect of heat and water on connective tissue
The way fat is deposited on the animal
The effect of marbling on meat

Terms: fiber, myfibrils, myofialments, striated, fasciculi, perimysium, myosin, tropomyosin, actin, myoglobin, actomysin, hemoglobin, metmyglobin, porophyrin, sarcolemma, collagen, elastin

Concept: NUTRITIONAL VALUE OF MEAT

Principle: Nutritional value of meat is affected by species and type of cookery.

Facts: Major nutrients that are contained in the meat group and their function in the body
The effect of heating on major nutrients
Differences between nutritional value of different species of animals
Factors that determine the amount of fat in animals

Concept: DEVELOPMENTS IN MEAT PRODUCTION

Principle: Meat quality can be improved with special treatment.

Facts: New developments to improve meat quality
Advantages of large-scale feedlot operations
The process of tenderizing by enzyme
Optimum temperatures for enzyme action on beef
Description of home use of papain
Enzymes used for tenderizing
The effect of hormones on animals
Advantages and disadvantages of hormone use on each species
The cause of dark cutting and its effect on beef
Methods to avoid dark cutting
Defination of mechanically-processed meats
Advantages and disadvantages of mechanically-processed meats

Terms: enzyme, papain

Storage During Processing

Concept: METHODS OF SHORT-TERM STORAGE

Principle: Cold storage has an effect on spoilage of meat.

Facts: Methods to decrease spoilage
The effect of rigor on freezing
Methods to help prevent growth of microorganisms
The effect of atmosphere on growth of microorganisms

Terms: microorganism, carcass, rigor, trimethylamine, oxidizers, chlorides, antiobiotics, aureomycin

Principle: Aging has an effect on the flavor, color, and tenderness of beef.

Facts: Length of aging
Methods to avoid microbiological contamination during aging
Meats suitable for ripening
Biological changes during aging
The effect of aging on color

Terms: aging, rancidity, ripening, proteolytic, hydration

Concept: PURPOSES OF LONG-TERM STORAGE

Principle: Curing has an effect on keeping quality, color, and flavor.

Facts: Types of cured products
The effect of curing on color
The effect of curing on keeping quality
The effect of curing on flavor
Spices that affect the rancidity

Terms: curing

Principle: Smoking has an effect on keeping quality and flavor.

Facts: The effect of smoking on meat
The smoking method
Other additives used in smoking method
The effect of insufficient salt on smoking

Terms: smoking, preservative, hygroscopic

Principle: Freezing has an effect on keeping quality.

Facts: Two methods of freezing and a description of each
Advantages and disadvantages of each
The effect of freezing on meat quality
The effect of drip loss on meat
Optimum temperatures for freezing
The effect of air flow on meat quality

Terms: immersion, convection, polymeric, dessiccation

Principle: Freeze drying has an effect on keeping quality of meat.

Facts: Two methods of freeze drying
Advantages and disadvantages of both
The effect of air flow on meat quality

Terms: vacuum, dehydration, radiant

Inspection of Meat

Concept: FEDERAL INVOLVEMENT IN THE INSPECTION PROCESS

Principle: Inspection is affected by federal law.

Facts: Legislation that relates to inspection of meat
Method of inspection
Identification of inspection
Organisms not revealed by inspection

Concept: TERMS TO DESIGNATE ANIMALS

Principle: Classification of animal is determined by age, sex, and sexual condition.

Facts: Terms and definition for beef, pork, and sheep

Terms: veal, calf, beef, steer, heifer, cow, bull, stag, barrow, gilt, sows, boars, lambs, mutton

Selection

Concept: GRADE OF MEAT AS A BASIS FOR SELECTION

Principle: Use of meat influences grade selection.

Facts: Options for packers for grading
Value of grading to shopper
Two major considerations in grading and factors that are judged within these two divisions
Method of grading
Effect of change in grading process on prime marking
Grades for beef, pork, and lamb
The effect of texture on grading
The effect of color on grading

Concept: SELECTION ON BASIS OF MEAT TO BONE RATIO

Principle: Meat to bone ratio has an effect on cost of cut.

Facts: Cuts that are high in bone
Guidelines for deciding amount of meat to buy based on amount of bone

Concept: SELECTION ON THE BASIS OF CUT

Principle: The cut of meat affects tenderness.

Facts: Factors that determine if cut is tender or less tender
The relationship between excercising and tenderness
Differences between cut tenderness in beef, lamb, and pork
Methods to cook less tender cuts

Concept: IDENTIFICATION OF CUT

Principle: Identification of cut is an indication of tenderness.

Facts: Steps to identification
Characteristics of each species
Seven bond shapes that identify cut tenderness

Storage

Concept: STORAGE IN THE HOME

Principle: Proper storage ensures sanitation and quality of meat.

Facts: Methods to store each species of meat
Length of storage time for optimum quality

Preparation

Concept: THE EFFECT OF PREPARATION ON TENDERNESS

Principle: Preparation method should be based upon tenderness of meat.

Facts: Types of preparation and which cuts of meat are best cooked each way
Appropriate temperatures for cooking
Examples of types of preparation
Methods to determine doneness

Concept: THE EFFECT OF DRY-HEAT COOKERY ON MEATS

Principle: Proper roasting procedures enhance quality of meat.

Facts: Roasting process
Equipment needed for roasting
Appropriate temperatures for roasting
Differences in roasting large and small roasts
The effect of residual heat on roast
Differences between constant and varied heat methods and advantages and disadvantages of each

Terms: roast

Principle: Proper broiling procedures enhance quality and palatability of meat.

Facts: Meats suited broiling
Special equipment needed for broiling
Methods for broiling
Reasons for marinating meat before broiling

Terms: broiling, marinate, hydrolysis

Principle: Proper pan frying techniques enhance quality and palatability of meat.

Facts: Meats suitable for pan frying
Methods of pan frying
The effect of temperatures on the pan frying of meat

Principle: Proper deep-fat frying techniques enhance quality and palatability of meat.

Facts: Meats suitable for deep-fat frying
Methods of deep-fat frying
The effect of temperature on frying
Methods of evaluating doneness

Concept: THE EFFECT OF MOIST-HEAT COOKERY ON MEAT

Principle: Proper braising techniques enhance quality and palatability of meat.

Facts: Methods of braising
Meats suitable for braising
Liquids used during braising
The effect of liquids on meat during braising
Time required for proper softening of connective tissue

Principle: Proper stewing techniques enhance the quality and palatability of meat.

Facts: Meat suitable for stewing
Methods of stewing
Criteria to determine doneness

Concept: TERMS TO DESIGNATE POULTRY

Principle: Classification of poultry is determined by age and sex of animal.

Facts: Terms and definitions of poultry

Terms: game, broiler, fryer, roaster, capon, stag, hen, cock, tom

Selection

Concept: SELECTION ON THE BASIS OF GRADING

Principle: Use of poultry influences grade selection.

Facts: Grade designations and description of each

Concept: SELECTION ON THE BASIS OF END USE

Principle: The choice of poultry should be affected by end use.

Facts: Criteria for selecting poultry for end use

Storage of poultry

Concept: METHODS FOR STORAGE

Principle: Proper storage ensures sanitation and quality.

Facts: Proper storage techniques for poultry
Methods of thawing poultry

Poultry Cookery

Concept: THE EFFECT OF DRY-HEAT COOKERY ON POULTRY

Principle: Proper roasting procedures enhance the quality of poultry.

Facts: Poultry suitable for roasting
Methods of roasting
Preparation for roasting
The effect of foil on appearance and energy consumption

Principle: Proper dry-heat methods enhance the quality of poultry.

Facts: Other dry-heat methods
Poultry suitable for these methods

Concept: THE EFFECT OF MOIST-HEAT COOKERY ON POULTRY

Principle: Proper moist-heat methods enhance the quality of poultry.

Facts: Poultry suitable for these methods
Moist-Heat methods

Kinds of Fish

Concept: TERMS TO DESIGNATE FISH

Principle: Classification of fish is determined by outer covering and natural habitat.

Facts: Division of fish by outer covering
Division of fish by natural habitat

Nutritional Content

Concept: THE VALUE OF FISH AS A NUTRITIONAL SOURCE

Principle: The fish group contains varying amounts of most major nutrients.

Facts: Major nutrients that are contained in fish and their function in the body
Common fish grouped by oil content

Selection of Fish

Concept: SELECTION OF FISH BY GRADE

Principle: Use of fish indicates grade selection.

Facts: Grade designations for fish and descriptions of each
Controlling agency for grading

Concept: SELECTION ON BASIS OF FORM

Principle: Form of fish relates to end use.

Facts: Criteria for choosing correct form for end use

Principle: Fresh fish quality is indicated by compositional components.

Facts: Criteria for choosing fresh fish

Principle: Frozen fish quality is indicated by compositional components.

Facts: Criteria for choosing frozen fish

Concept: SELECTION ON BASIS OF CUT

Principle: The cut of fish influences the preparation procedure.

Facts: Cuts of fish available
Amount needed for each serving

Storage of Fish

Concept: STORAGE OF FISH IN THE HOME

Principle: Proper storage ensures sanitation and quality.

Facts: Proper storage techniques for fish

Preparation Procedures

Concept: THE EFFECT OF DRY-HEAT COOKERY ON FISH

Principle: Proper dry-heat methods enhance the quality and palatability of fish

Facts: Fish suitable for dry-heat methods
Methods for dry-heat cookery and description of each

Concept: THE EFFECT OF MOIST-HEAT COOKERY ON FISH

Principle: Proper moist-heat cookery enhances the quality and palatability of fish.

Facts: Fish suitable for moist-heat methods
Methods of moist-heat cookery and description of each
Criteria for evaluation of doneness

Textured Vegetable Protein

Concept: CREATION OF VEGETABLE PROTEIN PRODUCTS

Principle: Creation of vegetable protein products has been influenced by high cost of meat, concerns with fat content, and vegetarian philosophies.

Facts: Forms of vegetable protein products available

Concept: TEXTURED VEGETABLE PROTEIN AS A MEAT SUBSTITUTE

Principle: TVP, when mixed with ground beef, affects cost and nutrition of protein.

Facts: Changes in nutritional value
Percentages used for mixture with ground beef

PERFORMANCE SKILLS RELATED TO MEATS, POULTRY, AND FISH

Prepare meats by common cookery methods

Prepare poultry by common cookery methods

Prepare fish by common cookery methods

CHAPTER 9: EGGS

Nutritive Value

Concept: NUTRITIONAL VALUE OF EGGS

Principle: Storage and cookery affect nutritional value of eggs.

Facts: Major nutrients included in eggs and their function in the body
Factors that affect nutritional value

Structure of Egg

Concept: STRUCTURAL CHARACTERISTICS OF EGGS

Principle: Quality of egg is influenced by structural characteristics.

Facts: Eleven components, description of each, and their function in the egg
Composition of white and yolk

Terms: bloom, mucin, vitelline, chalazae, blastoderm, latebra, yolk, white

Grading

Concept: GRADE OF EGGS AS A BASIS OF SELECTION

Principle: Use of eggs will determine or influence grade selection.

Facts: Grades used for eggs and description of each
Methods of grading eggs
The effect of color on quality of eggs

Terms: albumen, candling

Concept: SELECTION ON BASIS OF SIZE

Principle: Selection of size should relate to end use.

Facts: Six official weight classes and weight range of each
Relationship between size and quality
Criteria for selecting eggs based on size

Terms: jumbo, large, medium, small, peewee

Storage

Concept: THE EFFECT OF STORAGE ON EGGS

Principle: Retaining egg quality depends on control of environmental conditions.

Facts: Two major aims of egg storage
Changes affected on eggs during storage
The effect of atmosphere on eggs
Recommended method for short-term and long-term storage
Methods of slowing deteriotive changes
Optimum temperatures for storage

Processing of Eggs

Concept: THE EFFECT OF FREEZING ON EGGS

Principle: Quality of frozen eggs depends upon correct methods.

Facts: Season most eggs are frozen
Methods to control microorganisms
Methods of freezing
The effect of freezing on yolk and white

Concept: THE EFFECT OF DRYING ON EGGS

Principle: Quality of dried eggs is affected by drying methods.

Facts: Methods of drying eggs
The effect of drying on eggs

Proteins in Eggs

Concept: TYPES OF PROTEINS PRESENT IN EGGS

Principle: Protein type affects coagulation and emulsification properties of eggs

Facts: Protein types present in yolk
Protein types present in white
Protein that can be coagulated by agitation and its use in food preparation
Proteins that serve as emulsifying agents

Terms: ovalbumin, ovomucin, livetin, lipoprotein, livovitellinin, lipovitellin

Coagulation

Concept: FACTORS THAT AFFECT COAGULATION

Principle: Type of protein present affects coagulation.

Facts: Coagulation temperatures of various proteins

Terms: coagulation

Principle: Rate of heating affects coagulation.

Facts: The effect of slow heating on coagulation
The effect of rapid heading on coagulation
The effect of slow heating on time of coagulation
The effect of rapid heating on time of coagulation
The recommended rate of heating for egg proteins

Principle: Added ingredients affect coagulation.

Facts: The effect of milk on coagulation and the reason for change
The effect of sugar on coagulation and the reason for change
The effect of acids on coagulation and the reason for change
The effect of salts on coagulation and the reason for change

Terms: isoelectric, pH

Eggs Prepared in the Shell

Concept: THE EFFECT OF COOKERY ON EGGS IN THE SHELL

Principle: Proper cookery techniques ensure quality of eggs cooked in the shell.

Facts: Methods of preparing eggs in the shell
Cause of green color yolk-white interface and ways to prevent its formation
Evaluation of hard cooked egg
Evaluation of soft cooked eggs

Eggs Prepared Out of the Shell

Concept: THE EFFECT OF FRYING ON EGGS

Principle: Proper frying techniques ensures finished quality of eggs.

Facts: Two methods of frying eggs
Criteria for evaluation of fried eggs
The effect of heat on frying eggs

Concept: THE EFFECT OF POACHING ON EGGS

Principle: Proper poaching techniques ensures finished quality of eggs.

Facts: The best methods of poaching eggs
The effect of boiling water as opposed to simmering water on quality of egg
Criteria for evaluating poached eggs
Special equipment available for poaching

Concept: THE EFFECT OF BAKING ON EGGS

Principle: Proper baking techniques ensures finished quality of eggs.

Facts: The best methods to bake eggs
Optimum temperatures for baking eggs
Criteria for evaluating baked eggs

Concept: THE EFFECT OF SCRAMBLING ON EGGS

Principle: Proper scrambling techniques ensures finished quality of eggs.

Facts: Methods to scramble eggs
Evaluation of scrambled eggs
Criteria for evaluating a correctly scrambled egg

Concept: EGGS AS THICKENING AGENTS

Principle: Control of coagulation determines quality of product.

Facts: Importance of heating temperatures on coagulation

Principle: Proper cookery techniques enhance the quality of stirred custard.

Facts: Best method of preparing stirred custard
Determination of doneness
The effect of cooking in ice water on stirred custard
The importance of rate of heating on quality
The effect of cooling in ice water
Criteria for judging stirred custard

Terms: curdling, coagulation

Principle: Proper cookery techniques enhance the quality of baked custard.

Facts: The effect of foams on the quality of product
Optimum temperatures and procedures for baked custard
The effect of overbaking and underbaking in the product
Determination of doneness
Criteria for judging baked custard
Methods to avoid soggy crust on custard pies

Terms: porosity, syneresis

Principle: Proper cookery techniques enhance the quality of cream pudding and pies.

Facts: The best methods to make cream puddings
Methods to avoid premature coagulation of egg yolks
Determination of doneness
The effect of combining yolks with other ingredients and boiling mixture
The best method to prepare acid included puddings
Criteria for judging cream puddings and pies

Concept: FACTORS INFLUENCING FOAM FORMATION AND STABILITY

Principle: Volume of product is affected when egg foams are included.

Facts: Types of egg foams
Definition of foam
The effect of foam on volume of product

Principle: Foaming ability of eggs is dependent upon part of egg used and amount of protein present.

Facts: The foaming ability of different parts of egg
Factors that affect ability of egg to foam

Principle: Stability of egg foam is affected by concentration of protein, quality of egg, pH, temperature, presence of sugar, and extent of beating.

Facts: The effect of concentration of egg protein on stability
The effect of quality of egg on stability
The effect of temperature on stability
The effect of underbaking on stability
The effect of presence of sugar on stability
The effect of pH on stability
The effect of extent of beating on stability

Principle: Texture of egg foam is affected by sugar, amount of beating, and acid content.

Facts: The effect of sugar on texture
The effect of amount of beating on texture
The effect of acid content on texture

Concept: STAGES IN FOAM FORMATION

Principle: Stages in foam formation are caused by agitation.

Facts: Four stages of foam formation and description of each
The effect of sugar on stages of foam formation
Uses of egg foams in each stage

Terms: foamy, opalescent, opaque

Concept: THE EFFECT OF PREPARATION TECHNIQUES ON MERINGUES

Principle: Meringue quality is affected by agitation, sugar, and acid.

Facts: Optimum amount of sugar for soft and hard meringues
Differences between dessert sugar and regular sugar
Methods to make soft and hard meringues
Determination of doneness
The effect of underbaking or overbaking soft meringues
The effect of underbaking or overbaking hard meringues
Optimum baking temperatures for soft and hard meringues
Criteria for judging soft and hard meringues

Terms: meringue

Concept: THE EFFECT OF PREPARATION TECHNIQUES ON FLUFFY OMELETS

Principle: Proper cookery techniques enhance the quality of fluffy omelets.

Facts: Methods of making fluffy omelets
The importance of speed in mixing omelet
Methods to prevent liquid drainage
Methods to prevent volume loss
Criteria for judging fluffy omelets

Concept: THE EFFECT OF COOKERY ON EGG OMELET

Principle: Proper omelet-making techniques ensures finished quality of eggs.

Facts: The best methods of making omelets
Criteria for evaluating omelets
The importance of heat in omelet making

Concept: THE EFFECT OF PREPARATION TECHNIQUES ON SOUFFLES

Principle: Proper cookery techniques enhance the quality of souffles.

Facts: Methods of making souffles
The effect of the sauce on souffle preparation
Methods to correct sauce that is seperated, too thick, or too thin
Methods to prevent liquid layer at bottom
The effect of underbaking on souffles
Determination of doneness
Criteria for judging souffles

Concept: THE EFFECT OF PREPARATION TECHNIQUES ON FOAM CAKES

Principle: Proper cookery techniques enhance the quality of foam cakes.

Facts: Types of foam cakes
Methods to make foam cakes

<u>Egg Substitutes</u>

Concept: THE EFFECT OF EGG SUBSTITUTES ON THE DIET

Principle: Using egg substitutes affects the cholesterol content in the diet.

Facts: Composition of egg substitutes
How the egg substitutes are produced
The effect of egg substitutes on egg products

PERFORMANCE SKILLS RELATED TO

EGGS

Prepare eggs by common cookery methods

CHAPTER 10: LEAVENING AGENTS

Concept: THE EFFECT OF AIR ON VOLUME OF BAKED PRODUCTS

Principle: The amount of air included in a batter is dependent upon amount of manipulation, viscosity of batter, and length of time elaspsing before baking.

Facts: The effect of manipulation on air incorporated in batter
The effect of viscosity on air incorporated in batter
Factors that determine viscosity of batter
The effect of nature of ingredients on air incorporated in batter
The effect of bench time on air incorporated in batter

Terms: manipulation, viscosity, creaming, leavening

Concept: THE EFFECT OF STEAM ON VOLUME OF BAKED PRODUCTS

Principle: The amount of steam affects volume of the finished product.

Facts: How conversion of water to steam during baking occurs

Yeast

Concept: YEAST AS A LEAVENING AGENT

Principle: Leavening from yeast is dependent upon sugar as a food source.

Facts: Three products of the yeast feeding on sugar
Sources of sugar in leavening

Terms: zymase, sucrose, sucrase, glucose, fructose, beta-amylase onosaccarides, disaccarides

Concept: THE EFFECT OF TEMPERATURE ON YEAST PRODUCTION

Principle: Yeast production is enhanced by optimum temperatures.

Facts: Optimum temperatures for growth of yeast
The effect of too high temperatures on yeast
The effect of freezing temperatures on yeast

Concept: THE EFFECT OF ADDED INGREDIENTS ON YEAST PRODUCTION

Principle: Yeast production is affected by added ingredients.

Facts: The effect of sugar on yeast production
The effect of salt on yeast production
The effect of oven heat on yeast production

Concept: FORMS OF YEAST

Principle: Yeast form selected is dependent upon personal choice and needs.

Facts: Two forms of yeast
Storage procedures and shelf life of each form
Methods of production of each form

Chemical Leavening Agents

Concept: PURPOSE OF BAKING POWDERS

Principle: Baking powder quality is determined by four factors.

Facts: Four factors that determine quality

Concept: THE EFFECT OF ADDED INGREDIENTS ON BAKING POWDERS

Principle: Added ingredients have an effect on the performance of baking powders.

Facts: Acid and alkaline ingredients used in baking powder
Active ingredients in baking powder
Chemical reaction of baking powder
The function of starch in the formula
Additional ingredients and their function

Concept: THE EFFECT OF ACID INGREDIENTS ON LEAVENING

Principle: Acid ingredients in a baking powder affect flavor, volume, and keeping qualities.

Facts: Acid ingredients in baking powder and advantages of each
Differences between single acting and double acting powders

Concept: THE EFFECT OF BAKING POWDERS ON BAKED PRODUCTS

Principle: Baking powder affects texture, flavor, and volume of baked products.

Facts: Types of baking powders
Definition of baking powder
Chemical reaction that occurs

Concept: SODA AS A LEAVENER

Principle: Soda is affected by the addition of acid ingredients.

Facts: The effect of acid ingredients on soda
Examples of acid ingredients
The effect of insufficient acid ingredients on product
The effect of temperature on reaction rate
Methods to acidify milk
Proportion of soda to sour milk

Concept: SELF RISING FLOUR AS A LEAVENER

Principle: Self-rising flour depends on chemical leaveners for leavening.

Facts: Methods of using self-rising flour

Concept: CHEMICAL LEAVENING AGENTS FOR COMMERCIAL USE

Principle: Soda is affected by the addition of commercial acid ingredients.

Facts: Advantages of seperate acid ingredients
Types of phosphates available
Advantages and disadvantages of each phosphates
Other acid products used and advantages and disadvantages of each

CHAPTER 11: BASICS OF BATTERS AND DOUGHS

Ingredients

Concept: FUNCTION OF FLOUR IN BATTERS AND DOUGHS

Principle: Flour type affects the structure of baked products.

Facts: Different cereal grains effect on structure

Principle: Protein content affects structure of baked products.

Facts: Protein content of wheat and its effect on structure
Distribution of protein in the wheat grain
Limiting amino acid in wheat
Two groups of wheat protein and basis for this division and classess within these two groups

Principle: Gluten affects the structure of baked products.

Facts: Formation of gluten structure
The effect of liquids on gluten development
Gluten content in various cereal grains and the effect on structure
Two necessary ingredients for gluten development
The effect of optimum and more than optimum development on product

Principle: The amount of flour in relation to other ingredients affect volume and tenderness.

Facts: Effect of amount of flour on tenderness and volume
Effect of mixing on gluten structure
Other contributions of flour

Concept: THE EFFECT OF MILLING ON WHEAT

Principle: Wheat characteristics are affected by the milling process.

Facts: The milling process
The effect of milling on the whole grain

Principle: Special treatments following milling affects flour performance.

Facts: The effect of bleaching on performance
The effect of maturing agents on performance
The effect of time since milling on performance
Bleaching agents used
Maturing agents used

Principle: Enrichment affects nutritional value of flour.

Facts: Levels of enrichment
Vitamins and minerals added to flour

Concept: SELECTION OF FLOUR ON BASIS OF GRADE

Principle: Grade designation is an indication of potential baking quality.

Facts: Grades used for flour
How grades are determined

Concept: SELECTION ON BASIS OF TYPE OF FLOUR

Principle: Type of flour affects volume and flavor of product.

Facts: Types of flour available and characteristics of each
Basis for these divisions
Recommended flour for baking various products
The effect of growing location on baking quality

Concept: THE FUNCTION OF EGGS IN BATTERS AND DOUGHS

Principle: Eggs affect the structure and leavening of baked products.

Facts: The seven functions of eggs in batters and doughs

Concept: THE FUNCTION OF SUGAR IN BATTERS AND DOUGHS

Principle: Sugar affects the flavor, tenderness, and volume of baked products.

Facts: The four functions of sugar
The effect of sugar on gluten development
The effect of sugar on browning
The effect of sugar on volume
The effect of sugar on tenderness

Concept: THE FUNCTION OF SALT IN BATTERS AND DOUGHS

Principle: Salt affects the flavor and texture of baked products.

Facts: The two major functions of salt in batters and doughs.

Concept: THE EFFECT OF LEAVENING AGENTS IN BATTERS AND DOUGHS

Principle: Leavening agents affect the volume of baked products.

Facts: The function of leavening agents in batters and doughs
Evaluation of leavening agents

Concept: THE FUNCTION OF FATS AND OILS IN BATTERS AND DOUGHS

Principle: Fats and oils affect texture and tenderness of baked products.

Facts: The functions of fats and oils in batters and doughs
The effect of type of fat on texture
Fats commonly used in batters and doughs

Mixing

Concept: MIXING TECHNIQUES FOR BATTERS AND DOUGHS

Principle: Mixing techniques affect the quality and characteristics of the finished product.

Facts: The effect of proper mixing techniques and descriptions of each technique

Baking

Concept: BAKING TECHNIQUES FOR BATTERS AND DOUGHS

Principle: Baking techniques affect the quality and characteristics of finished product.

Facts: Proper baking techniques for various products
The effect of preheating on quality
Determination of doneness

Concept: TREATMENT FOLLOWING BAKING

Principle: Treatment following baking affects the quality of finished product.

Facts: Proper treatment for various baked products

Concept: HIGH ALTITUDE BAKING

Principle: High altitude affects quality of baked products and baking process.

Facts: The effect of high altitude on products
Changes necessary for high altitude baking

CHAPTER 12: BREADS

Concept: TYPES OF BREAD

Principle: The classification of bread is based upon leavening used.

Facts: Two classifications of bread

Quick Breads

Concept: TYPES OF QUICK BREADS

Principle: Quick breads are classified according to ingredients.

Facts: Comparison of ingredients in quick breads

Concept: MIXING AND BAKING TECHNIQUES FOR MUFFINS

Principle: Proper mixing and baking techniques affect quality characteristics of muffins.

Facts: Techniques for mixing muffins
Effect of overmixing or undermixing of muffins
Description of properly mixed muffins
Methods to delay baking without loss of quality
Baking techniques for muffins
The effect of proportion of ingredients on quality
Criteria for evaluating muffins

Concept: MIXING AND BAKING TECHNIQUES FOR FRUIT AND NUT BREADS

Principle: Mixing and baking techniques affect quality characteristics of fruit and nut breads.

Facts: Mixing techniques for fruit and nut breads
Baking techniques for fruit and nut breads
Criteria for evaluation of fruit and nut breads
The effect of overbaking or underbaking of bread
The effect of proportion of ingredients on quality

Concept: MIXING AND BAKING TECHNIQUES FOR BISCUITS

Principle: Mixing and baking techniques affect quality and characteristics of biscuits.

Facts: Mixing techniques for biscuits
The effect of kneading on biscuits
The effect of rolling thickness on quality
Baking techniques for biscuits
Criteria for evaluation of biscuits
The effect of proportion of ingredients on quality

Concept: MIXING AND BAKING TECHNIQUES FOR POPOVERS

Principle: Mixing and baking techniques affect quality and characistics of popovers.

Facts: Recommended mixing techniques for popovers
The effect of steam on popover structure
Recommended baking techniques for popovers
The effect of egg on pop
Optimum temperatures for popovers
Criteria for evaluation of popovers
The effect of proportion of ingredients on quality

Concept: MIXING AND BAKING TECHNIQUES FOR CREAM PUFFS

Principle: Mixing and baking techniques affect quality and characteristics of cream puffs.

Facts: Leavening agent used in cream puffs
Proportion of ingredients and its effect on structure
Recommended mixing techniques
The effect of water evaporation on emulsion and methods to correct this problem
Recommended baking techniques
Criteria for evaluation of cream puffs

Concept: MIXING AND COOKING TECHNIQUES FOR WAFFLES AND PANCAKES

Principle: Mixing and cooking techniques affect quality and characteristics of waffles and pancakes.

Facts: Proportions of ingredients and its effect on structure
Recommended mixing techniques for waffles, pancakes, and crepes
Recommended cooking techniques for waffles, pancakes, and crepes

Concept: MIXING AND FRYING TECHNIQUES FOR CAKE DOUGHNUTS

Principle: Mixing and frying techniques affect quality and characteristics of cake doughnuts.

Facts: Recommended mixing techniques for doughnuts
Recommended frying techniques for doughnuts
The effect of vigorous mixing on doughnuts
The effect of frying temperatures on doughnuts
Criteria for evaluating doughnuts
The effect of proportion of ingredients on quality

Yeast Breads

Concept: METHODS OF YEAST BREAD MIXING

Principle: The method of mixing yeast bread affects time expended.

Facts: Three types of mixing methods

Concept: TECHNIQUES OF STRAIGHT DOUGH METHOD

Principle: Straight dough mixing techniques affect characteristics of yeast bread.

Facts: Mixing techniques for straight dough method
The function of hot fat in the dough
The effect of heat on yeast
Purpose of kneading on yeast bread
The process of rising

Terms: rise, proof, kneading

Concept: TECHNIQUES OF RAPID MIX METHOD

Principle: Rapid mix mixing techniques affect characteristics of yeast bread.

Facts: Mixing techniques for rapid mix method

Concept: TECHNIQUES OF SPONGE METHOD

Principle: Sponge mixing techniques affect characteristics of yeast bread.

Facts: Mixing techniques for sponge method

Concept: FACTORS IN YEAST BREAD QUALITY

Principle: Control of fermentation affects quality of yeast bread.

Facts: The effect of fermentation on quality of yeast bread
Common mistakes that kill yeast
The effect of sugar on fermentation
The effect of amount of flour on bread

Principle: Baking techniques affect quality of bread.

Facts: Recommended baking techniques for bread
Criteria for evaluation of yeast bread
Determination on doneness

Concept: TECHNIQUES OF SOUR DOUGH COOKERY

Principle: Mixing techniques for sour dough affect quality and characteristics of bread.

Facts: Mixing techniques for sour dough

PERFORMANCE SKILLS RELATED TO

BREADS

Prepare quick breads by common cookery methods

Prepare yeast breads by common cookery methods

CHAPTER 13: CAKES, COOKIES, AND PASTRIES

Concept: CLASSIFICATION OF CAKES

Principle: Cakes are classified by type of leavening agent use.

Facts: Two types of cakes and examples of each

Foam Cakes

Concept: THE EFFECT OF EGG WHITE FOAM ON ANGEL CAKES

Principle: Egg white foams affect volume and texture of angel cakes.

Facts: Factors that affect formation, volume, and stability of foams.
Importance of high quality eggs

Concept: THE EFFECT OF MIXING AND BAKING TECHNIQUES ON ANGEL CAKES

Principle: Mixing and baking techniques affect volume, tenderness, and texture of angel cakes.

Facts: Recommended methods of mixing angel cakes
The effect of excessive folding on volume
Recommended baking techniques
Determination of doneness
The effect of overbaking or underbaking on quality
Recommended cooling techniques
Criteria for evaluation of angel cakes

Concept: THE EFFECT OF MIXING TECHNIQUES ON ANGEL CAKE MIXES

Principle: Mixing and baking techniques affect volume, tenderness, and texture of angel cakes prepared from mixes.

Facts: Recommended methods for mixing
Differences between using mix and preparing cakes from scratch

Concept: THE EFFECT OF MIXING AND BAKING TECHNIQUES ON SPONGE CAKES

Principle: Mixing and baking techniques affect volume, tenderness, and texture of sponge cakes.

Facts: Recommended mixing techniques for sponge cakes
Correct end point of yolk foam and white foam
Stabilizers used for foams
The effect of water on foam and its function in the cake
The effect of overfolding on volume of cake
The effect of egg white foam on tenderness and volume
Criteria for evaluation of sponge cakes

Concept: THE EFFECT OF MIXING AND BAKING TECHNIQUES OF CHIFFON CAKES

Principle: Mixing and baking techniques affect volume, tenderness, and texture of sponge cakes.

Facts: Recommended mixing and baking techniques for chiffon cakes
The effect of folding on chiffon cakes
Methods to stop seperation of batter in chiffon cakes
Criteria for evaluation of chiffon cakes

Shortened Cakes

Concept: CONVENTIONAL METHODS OF MIXING

Principle: Proper mixing techniques using conventional methods affect volume, tenderness, and texture of shortened cakes.

Facts: Conventional method of mixing
Purpose of creaming shortening and sugar
The effect of breaking the egg-fat emulsion
Purpose of creaming flavorings with sugar-shortening mixture
Advantages and disadvantages of conventional cakes

Concept: MODIFIED CONVENTIONAL METHOD OF MIXING

Principle: Proper modified conventional method affects the tenderness, volume, and texture of shortened cakes.

Facts: Modified conventional method of mixing
Advantages and disadvantages of this method

Concept: CONVENTIONAL SPONGE METHOD

Principle: Proper sponge method mixing techniques affect tenderness, volume, and texture of shortened cakes.

Facts: Conventional sponge method
Type of cake this method is best suited to
Advantages and disadvantages of this method

Concept: MUFFIN METHOD

Principle: Proper muffin method mixing techniques affects tenderness, volume, and texture of shortened cakes.

Facts: Muffin method of mixing
Type of cake best suited to this method
Advantages and disadvantages of this method

Concept: SINGLE-STAGE METHOD

Principle: Proper single-stage method mixing techniques affects tenderness, volume, and texture of shortened cakes.

Facts: Single-stage method of mixing
Advantages and disadvantages of this method

Baking of Cakes

Concept: EFFECT OF BAKING ON CAKES

Principle: Proper baking techniques ensure quality of cake.

Facts: Recommended baking techniques for shortened cakes
Recommended baking techniques for foam cakes
Determination of doneness
The effect of overbaking and underbaking
Criteria for evaluation of cakes

Concept: VARIATION IN CAKE QUALITY

Principle: Correct amount of baking powder is necessary for optimum cake quality.

Facts: The function of baking powder in cake
The effect of too little or too much baking powder

Principle: Correct amount of sugar is necessary for optimum cake quality.

Facts: The function of fat in cake
The effect of too little or too much fat

Principle: Correct amount of flour is necessary for optimum cake quality.

Facts: The function of flour in cake
The effect of too little or too much flour
The effect of type of flour on cake quality

Principle: Correct amount of egg is necessary for optimum cake quality.

Facts: The function of egg in cake
The effect of too much or too little egg

Principle: Extent of mixing affects texture, volume, and tenderness cf cake.

Facts: The effect of too little or too much mixing on cake quality

Cookies

Concept: CLASSIFICATION OF COOKIES

Principle: Cookies are classified according to form of baking.

Facts: Types of cookies and differences in batters
Form of cookery for each
Determination of doneness

Pastry

Concept: FUNCTION OF INGREDIENTS IN PASTRY

Principle: Ingredients affect tenderness and texture of pastry.

Facts: Ingredients and their function in pastry
Proper ratio of ingredients
Variation of ratio and its effect on pastry

Concept: PREPARATION OF PASTRY

Principle: Proper mixing techniques affect texture of pastry.

Facts: Recommended methods of mixing pastry and their effect on finished products
Recommended methods of rolling pastry
Methods to acheive uniform thickness
Methods to transfer dough to plate
Methods to avoid pastry shrinkage
Recommended methods for baking

Concept: TENDERNESS OF PASTRY

Principle: Proper mixing techniques affects tenderness of pastry.

Facts: The effect of soft fat on tenderness
The cause of tenderness
The effect of oil on tenderness
The effect of blending on tenderness
The effect of manipulation on tenderness
The effect of amount of flour on tenderness
The effect of type of flour on tenderness
The effect of amount of fat on tenderness
The effect of type of fat on tenderness

Concept: FLAKINESS OF PASTRY

Principle: Proper mixing techniques affect flakiness of pastry.

Facts: The cause of flakiness
The effect of oil on flakiness
The effect of type of flour on flakiness
The effect of proportion of ingredients on flakiness
Description of flaky crust

Concept: TYPES OF PIES

Principle: Classification of pies is based upon number of crusts.

Facts: Basic types of pies and characteristics of each
Special preparation procedures for one crust pies
Special preparation procedures for two crust pies

Concept: EVALUATION OF PIES

Principle: Mixing and baking techniques affect quality of two crust pie.

Facts: Methods to avoid soggy bottom crust
Criteria for evaluation of two crust pies
Methods to avoid gaps between filling and upper crust

Principle: Mixing and baking techniques affect quality of one crust pie.

Facts: Criteria for evaluation of cream, chiffon, and custard pies
Methods to avoid soggy bottom crust in custard pies
Recommended methods for serving
The effect of age on quality of pie

Principle: Freezing methods affect quality of pies.

Facts: The effect of freezing on one crust pies
The effect of freezing on two crust pies
Recommended methods of freezing pies

Concept: SELECTION PROCESS FOR CONVENIENCE PIES, CAKES, AND COOKIES

Principle: Convenience foods should be selected after consideration of expenditure of time, money, and energy.

Facts: Forms of convenience foods available and advantages and disadvantages of each.

PERFORMANCE SKILLS RELATED TO CAKES, COOKIES, AND PASTRIES

Prepare the basic types of cakes by common cookery methods

Prepare the basic types of cookies by common cookery methods

Prepare the basic types of pastries by common cookery methods

CHAPTER 14: CRYSTALLIZATION OF SUGAR AND ICE

Concept: PRODUCTION OF SUGAR

Principle: Processing affects characteristics of sugar.

Facts: Mehtods of producing sugar from cane
Methods of refining cane sugar

Principle: Processing affects characteristics of beet sugar.

Facts: Methods of producing sugar from beets
By-products of the sugar-making process

Concept: FORMS OF SUGAR

Principle: Form of sugar relates to flavor, sweetening power, and crystal size.

Facts: Forms of sugar available and their characteristics
Comparative sweetness of sugars
Uses of each form of sugar

Reactions of Sugar

Concept: THE EFFECT OF HEAT AND ACIDS ON SUGAR

Principle: Heat affects reactions in sugar.

Facts: The effect of heat on dry sugar
Methods to halt this process
Uses of carmelized sugar
By-products of the carmelization and its effect on the finished product
The effect of heating time on sugar solutions

Terms: carmelization

Principle: Acid affects reactions in sugar solutions.

Facts: The effect of heat and acids on sugar solutions
The effect of invertase on hydrolysis

Terms: hydrolysis

Types of Candies

Concept: PREPARATION OF AMPHOROUS CANDIES

Principle: Final temperature affects quality of amphorous candies.

Facts: Recommended methods to read thermometer
The effect of air on reading
Recommended methods to avoid scorching
Criteria for evaluation
Types of amphorous candies
Characteristics of amphorous candies

Terms: amphorous

Concept: PREPARATION OF CRYSTALLINE CANDIES

Principle: Final temperature affects quality of crystalline candies.

Facts: Types of crystalline candies
Characteristics of crystalline candies
The effect of correct temperature on quality
The effect of boiling time on quality
The effect of weather on quality
Criteria for evaluation of crystalline candies
Methods to correct unsatisfactory candies
The causes for grainy candy

Terms: crystalline

Concept: FACTORS AFFECTING CRYSTAL GROWTH

Principle: The size of crystals is affected by degree of supersaturation, the time at which beating begins, duration of beating, the presence of substances to act nuceli for crystal growth, and the inclusion of substances inhibiting crystallization.

Facts: The effect of supersaturation on crystal size
The effect of beating on crystal size
Factors that may start the precipitation of crystals
The effect of higher temperatures when beginning agitation on crystal size

Facts: Substances used to inhibit crystal growth and their reaction within the candy
Description of heat of crystallization and methods to work candy following this stage
The effect of time of storage on crystal growth

Terms: crystallization, nuclei, seed, hydrolytic, glucose, maltose, destrins, sucrose, invert

Concept: PREPARATION OF SATURATED AND SUPERSATURATED SOLUTIONS

Principle: Amount of solute dissolved in a solution is determined by temperature of solvent.

Facts: Description of saturated and supersaturated solution
The effect of heat on amount of sugar in solution
The effect of properties of sugar on hardness of final product
Heating temperatures for amphorous and srystalline candies
The effect of evaporation on final product
Description of stages and temperatures for each
The importance of correct temperature on final product
The conversion from saturated to supersaturated in amphorous and crystalline candies
The effect of cooling on texture of product

Terms: saturated, supersaturated

Concept: COMMERCIAL CANDY PREPARATION

Principle: Commercial candy quality is affected by commercial additives.

Facts: Additives used and their purpose in the candy

Frozen Desserts

Concept: FACTORS AFFECTING FLAVOR, TEXTURE, AND BODY OF FROZEN DESSERTS

Principle: Sugar affects flavor, texture, and body of frozen desserts.

Facts: The effect of sugar on flavor
The effect of sugar on freezing
The effect of sugar on texture
The effect of amount of sugar on freezing and how it affects serving

Principle: Dairy products have an effect on texture, body, and flavor of frozen desserts.

Facts: The effect of dairy products on flavor
The effect of dairy products on texture
Differences between homogenized and non-homogenized product
The effect of concentration of milk proteins on texture

Terms: lactose, sucrose

Principle: Fruit juices have an effect on texture, body, and flavor of frozen desserts.

Facts: The effect of fruit juice on texture
The effect of mixing dairy products and fruit juices and how to prevent this problem
The effect of viscosity of product on texture and the reason for this viscosity

Principle: Agitation affects the mouthfeel of the product.

Facts: Methods of agitation used and equipment needed
The purpose of ice in freezing
The purpose of salt in freezing
Optimum salt/ice proportions
The effect of speed of agitation on product
The effect of incorrect ice brine mixture
Criteria for evaluating agitated product

Terms: brine, agitator, dasher, overrun

Principle: Foams affect lightness of non-agitated product.

Facts: Methods of freezing without agitation
Substances used to inhibit crystal formation
Methods to increase lightness of product
Types of foams used
The effect of sugar on freezing a non-agitated product
Criteria for evaluating non-agitated product

PERFORMANCE SKILLS RELATED TO

CRYSTALLIZATION

Prepare the basic types of candy by common cookery methods

Prepare the basic types of frozen desserts by common cookery methods

CHAPTER 15: BEVERAGES

Coffee

Concept: COFFEE PRODUCTION

Principle: Coffee flavor is affected by growing conditions.

Facts: Required growing conditions for top quality coffee
Regions that grow coffee
The effect of growing conditions on flavor
The production process of raw coffee

Principle: Blending affects coffee flavor.

Facts: The blending process

Terms: blending

Principle: Roasting affects coffee flavor.

Facts: Regional differences in roast preferences
Chemical changes during roasting
Peak time of quality

Terms: roasting, dextrinization, carmelization

Principle: Grinding affects brewing of coffee.

Facts: The purpose of grinding
Advantages and disadvantages of grinding
Recommended packaging to retain flavor after grinding

Concept: CONSTITUENTS OF COFFEE

Principle: The flavor of coffee is affected by oil content.

Facts: The function of oils in coffee
The effect of oxidation on flavor
The effect of grind on flavor
Methods to slow oxidation

Principle: Caffeine affects flavor of coffee.

Facts: The effect of roasting on caffine content
The effect of brewing on caffine content
The effect of type of brewing on caffine content
The effect of caffine on flavor

Principle: Caffine, caffeol, and polyphenols affect flavor of coffee.

Facts: The effect of caffine on flavor
The effect of caffeol on flavor
The effect of polyphenols on flavor
The effect of boiling temperatures on polyphenols

Terms: caffine, caffeol, polyphenols, tanning

Principle: Method of brewing coffee depends upon personal preference.

Facts: Methods of brewing coffee

Concept: BUYING COFFEE

Principle: Form of coffee purchased is affected by personal preference.

Facts: Two forms of coffee and characteristics of each
History of soluable coffee
Types of soluable coffee and descriptions
The effect of particle size on quality
The effect of decaffinization of coffee, advantages and disadvantages of this process
Types of grinds available and type of pot that is recommended for each

Concept: PREPARATION OF COFFEE

Principle: Preparation techniques for coffee affect quality of beverage.

Facts: Four requirements for high quality coffee
Methods to retain flavor in coffee
Methods to slow rancidity
The effect of loss of aromatic compounds on flavor
The effect of rancidity on flavor
The effect of hardness of water on coffee flavor
The effect of flavor of water on coffee
The effect of distilled water on appearance and flavor

Facts: The effect of oily film on flavor
Optimum temperatures for preparing coffee
The effect of temperature on preparing coffee
The effect of filter paper on appearance and flavor
Amount of coffee needed
Types of coffeemakers, the proper method of use, advantages and disadvantages of each
Evaluation of coffee
Ways to serve coffee

Terms: vacuum, dripolator, percolator, steeped

Tea

Concept: TEA PRODUCTION

Principle: Tea is affected by growing conditions.

Facts: Necessary growing conditions for top quality tea
Regions that grow tea
Production of tea

Concept: CLASSIFICATION OF TEA

Principle: Classification of tea depends on method of processing.

Facts: Three types of tea, method of processing, evaluation of each type, and regions that produce each type of tea
Basis for subclassifications

Terms: black, oolong, green, fermentation, catechin, gallocatechin

Concept: PREPARATION OF TEA

Principle: Preparation techniques of tea affect quality of beverage.

Facts: Regional differences in brewing procedures
Methods to prepare high quality tea
Amount of tea required
Optimum time for brewing
Evaluation of tea
The importance of quality of tea used
Forms of tea available
Ways of serving tea
Storage of types of tea

Cocoa and Chocolate

Concept: PROCESSING OF COCOA AND CHOCOLATE

Principle: Roasting affects cocoa and chocolate quality.

Facts: The roasting process and its effect on cocoa

Principle: Composition of nibs affects flavor.

Facts: Components of nibs and their importance in flavor

Principle: Blending affects cocoa and chocolate quality.

Facts: The blending process

Principle: Processing of nibs affects flavor.

Facts: Processing of nibs for desired product

Principle: The addition of alkali affects settline of cocoa or chocolate.

Facts: Types of cocoa and chocolate
The effect of alkali on products
Necessary changes when using Dutch-processed products

Principle: Conching and tempering affect appearance of product.

Facts: Conching process and its effect on product
Tempering process and its effect on product

Terms: conching, tempering

Concept: STORAGE OF CHOCOLATE

Principle: Storage affects appearance of product.

Facts: The effect of warm temperatures on products
The effect of moisture on products

Concept: PREPARATION OF COCOA AND HOT CHOCOLATE

Principle: Preparation techniques affect quality of cocoa and hot chocolate.

Facts: Recommended preparation procedures
Methods to control scum formation
Preparation of instant cocoa and advantages and disadvantages of this form
Substitution for chocolate products
Criteria for evaluation of beverages

Fruit Beverages

Concept: THE EFFECT OF FRUIT PIGMENTS ON COLOR OF BEVERAGE

Principle: Blending of different types of juices affects color.

Facts: Color changes caused by mixing various juices

Concept: PREPARATION OF FRUIT BEVERAGES

Principle: Preparation techniques affect quality of fruit beverages.

Facts: Recommended preparation procedures
Criteria for evaluation of fruit beverages

Concept: SERVING OF FRUIT BEVERAGES

Principle: Palatability of beverages is affected by serving procedures.

Facts: Recommended methods of serving for high quality beverages

PEFORMANCE SKILLS RELATED TO

BEVERAGES

Prepare coffee by common cookery practices

Prepare tea by common cookery practices

Prepare cocoa by common coodery practices

Prepare fruit beverages by common cookery practices

CHAPTER 16: MICROWAVE COOKERY

Concept: THE EFFECT OF MICROWAVES ON FOOD

Principle: Microwaves affect water molecules in food.

Facts: The process of microwave cookery
Differences between penetration of microwaves and heat from conventional cookery

Terms: electromagnetic, dipole, kinetic, microwave

Principle: Microwave cookery is dependent upon the magnetron for for the production of energy.

Facts: The effect of frequency on penetration of microwaves
The effect of scattering microwaves in oven
The methods of testing distribution of microwaves
Various power loads available and their use in cookery
Special features available in microwave ovens

Terms: frequency, magnetron

Concept: SAFETY OF MICROWAVE OVENS

Principle: Oven design affects safety.

Facts: Safety features available
Levels considered safe and methods of measuring
The effect of microwaves on pacemakers
Methods to test for leakage

Concept: THE EFFECT OF EQUIPMENT USED IN OVEN

Principle: Equipment used in microwave cookery affects life of oven and quality of food.

Facts: The effect of metal on microwave oven
Methods to prevent arcing
Recommended cookware for microwave ovens
Methods to test for suitability of cookware

Concept: THE EFFECT OF PREPARATION PROCEDURES

Principle: Preparation procedures affect quality of finished product.

Facts: Foods best suited for microwave cookery
The effect of microwave cookery on flavor
The effect of microwave cookery on surface browning
The effect of microwave cookery on nutritional value
The effect of quanity on speed of cookery
The effect of microwave cookery on baked products
Methods of reheating and defrosting

Concept: THE EFFECT OF PHYSICAL FACTORS ON MICROWAVE COOKERY

Principle: Physical factors affect cookery techniques.

Facts: The effect of size of food on cookery
The effect of shape of food on cookery
The effect of density of food on cookery
The effect of quanity of food on cookery

Concept: THE EFFECT OF PLACEMENT ON EVENNESS OF COOKERY

Principle: Placement of food affects evenness of cookery.

Facts: The importance of spacing on cookery
The importance of placement on cookery

Concept: THE EFFECT OF MOISTURE ON COOKERY

Principle: Moisture control affects quality of finished product.

Facts: The effect of using a cover on quality
Methods of using a cover
Appropriate covers for microwave dishes

Concept: OPERATING PROCEDURES

Principle: Operating procedures affect quality of food.

Facts: Two basis rules for operating oven
Importance of rearrangement of food
Methods to ensure even heating

Facts: The effect of standing time on even heating
Determination of doneness
The effect of microwave cookery on appearance

Concept: THE EFFECT OF BROWNING ON VISUAL APPEAL

Principle: Browning of the food affects appearance.

Facts: The effect of microwave cookery on browning
Methods to brown products cooked in the microwave

Concept: THE EFFECT OF TEXTURE AND SURFACE APPEARANCE ON VISUAL APPEAL

Principle: Texture and surface appearance affect visual appearance.

Facts: Methods to improve texture and surface appearance

Concept: THE EFFECT OF COOKING AND SERVING DISHES ON VISUAL APPEAL

Principle: The appearance of the food is affected by the dish it is cooked in.

Facts: Dishes available for use in microwave, advantages and disadvantages of each

Concept: MAINTANANCE OF OVEN

Principle: Oven cleanliness affects safety during operation.

Facts: The effect of trapped particles on microwave leakage
Recommended methods for cleaning

CHAPTER 17: MEAL MANAGEMENT

Concept: THE ROLE OF PROTEIN IN THE DIET

Principle: Proper growth of body tissues depends upon an adequate supply of protein.

Facts:
Essential amino acids and their function in the body
Differences between complete and incomplete proteins
Sources of protein in the diet
Function of protein in the body
Chemical makeup of proteins
Amounts necessary for good health
Suggested supplements for plant protein

Concept: THE FUNCTION OF CARBOHYDRATES IN THE DIET

Principle: The body's energy supply depends upon an adequate supply of carbohydrates.

Facts:
Function of carbohydrates in the body
Function of carbohydrates in cookery
Sources of carbohydrates
Amounts necessary for good health

Concept: THE FUNCTION OF FATS IN THE DIET

Principle: The body's energy supply depends upon an adequate supply of fat.

Facts:
Function of fat in the body
Function of fat in cookery
Sources of fat
Amounts necessary for good health

Concept: THE FUNCTION OF MINERALS IN THE DIET

Principle: Proper regulation of body functions depends upon an adequate supply of minerals.

Facts:
Functions of minerals in the body
Sources of minerals
Amount necessary for good health

Concept: THE FUNCTION OF VITAMINS IN THE DIET

Principle: Proper regulation of body functions depends upon an adequate sppply of vitamins.

Facts: Functions of vitamins in the body
Sources of vitamins
Amounts necessary for good health
Rules for planning menus to include minerals

Concept: RECOMMENDED DAILY DIETARY ALLOWANCES AS A BASIS FOR DIETARY PLANNING

Principle: Planning meals by the Recommended Daily Dietary Allowance ensures an adequate diet.

Facts: How to use the RDA
Relationship between nutrient labeling and the U.S. RDA

Concept: BASIC FOUR FOOD GROUPS AS A BASIS FOR DIETARY PLANNING

Principle: Planning meals by the basic four food groups ensures an adequate diet.

Facts: How to use the basic four plan
Basic four food groups, examples, number of servings necessary per day, and size of servings for each

Concept: NUTRITIONAL LABELING

Principle: Nutritional labeling indicates amount of nutrients in a product.

Facts: Cases when nutrition labeling is required
What must be listed on the label

Concept: INGREDIENT LABELING

Principle: Ingredient labeling is an indication of amount of ingredients in an item.

Facts: Items required on ingredient labels
Relationship between listing order and contents of product

Menu Planning

Concept: METHODS FOR MEAL PLANNING

Principle: Meal planning is affected by nutritional need and budgetary considerations.

Facts: Four considerations for meal planning
Methods of varying these four considerations
Importance of satiety value of meal
The relationship between meal planning and management principles
Methods to cope with the time element of cookery

Food Buying

Concept: METHODS OF FOOD BUYING

Principle: Food buying should be planned in advance considering food budget and family preferences.

Facts: Advantages of shopping for one week's menus at one time
Methods for food buying
Information sources available to the consumer
How to use unit pricing

Terms: generic, UPC

Time Planning

Concept: METHODS FOR TIME MANAGEMENT

Principle: Time planning depends on selection of menu, skill of cook, and time limitations.

Facts: The effect of skill of cook on time planning
The effect of selection of menu on time planning
The effect of time limitations on time planning
Methods to create a time plan

Table Appointments

Concept: PLANNING FOR AN ATTRACTIVE TABLE

Principle: Choice of table appointments affects appearance.

Facts: Considerations for choosing table linens
Appropriate linens for occasion
Four basic questions for selecting a cloth
Proper size of cloth
Considerations for planning centerpieces
Considerations for planning flatware to be used
Considerations for choosing appropriate dishes
Considerations for choosing glassware
Advantages and disadvantages of the three types of flatware

Meal Service

Concept: SERVICE OF THE MEAL

Principle: Type of service depends upon group and formality of the occassion.

Facts: Types of service, description of service, and appropriate times for using service
Goals of service

Terms: family, English, blue-plate, American, Russian, buffet, tea, coffee

CHAPTER 18: FOOD SAFETY AND QUALITY

Concept: THE EFFECT OF CONTAMINATION ON FOOD

Principle: Contamination and microorganism growth affect safety and quality of foods.

Facts: Where contamination often occurs
Methods to avoid contamination
Causes of contamination

Food Spoilage

Concept: CAUSES OF FOOD SPOILAGE

Principle: Microbiological contaminants and enzymes cause food spoilage.

Facts: The effect of microbiological contaminants on food
The effect of enzymes on food quality
Three requirements for growth of microorganisms
Methods to avoid growth of microorganisms
Types of microorganisms responsible for food spoilage
Optimum conditions for yeast growth
Optimum conditions for mold growth
Optimum conditions for bacteria growth

Concept STORAGE OF FOOD

Principle: Incorrect or inadequate storage can cause food waste.

Facts: Requirements for adequate long term storage of products
Requirements for adequate short term storage of products

Concept: THE EFFECT OF FOOD ADDITIVES ON FOOD SPOILAGE

Principle: Additives affect storage life, nutritional value, and appeal.

Facts: The purpose of additives in foods
Two types of additives and examples of each
The effect of additives on storage life
The effect of additives on nutritional value
The effect of additives on food appeal
Additives used for extending storage life
Additives used for increasing nutritional value
Additives used for increasing food appeal
Methods of finding incidental additives
Methods to prevent incidental additives

Concept: FEDERAL INVOLVEMENT IN ADDITIVES

Principle: Federal regulations contribute to the quality of food products by regulating food additives.

Facts: Major legislation affecting use of additives
The federal agency that enforces this legislation
Methods of controlling additives

Food Poisoning

Concept: TOXIN PRODUCING MICROORGANISMS

Principle: Botulism is caused by toxin produced by bacteria.

Facts: Sources of botulism bacteria
The effect of toxin on people
Symptoms of botulism
The use of antitoxin
Methods of home canning for low-acid vegetables and meat
Ideal conditions for growth of botulism toxin
Additional precautions recommended before serving home canned foods

Terms: botulism, anaerobic, low-acid, bacteria

Principle: Poisoning due to staphylococcus is caused by enterotoxin produced by staphylococci.

Facts: Ideal conditions for growth of staphylococci
Foods suspect as sources of staphylococci

Terms: staphylococci, enterotoxin

Concept: TYPES OF BACTERIAL POISONINGS

Principle: Salmonellosis is caused by ingestion of live salmonellae.

Facts: Symptoms of salmonellosis
Sources of salmonellosis
Ideal conditions for salmonellosis

Terms: salmonellosis

Principle: Clostridium perfringens and streptococcal infections are most often caused by ingestion of contaminated meat and poultry.

Facts: Symptoms of clostridium perfringens
Sources of clostridium perfringens
Symptoms of streptococcal
Sources of streptococcal
Methods to prevent streptococcal

Terms: streptococcal, perfringens

Concept: DISEASES FROM ANIMAL PARASITES

Principle: Trichinosis is caused by ingesting larvae of trinchanella spiralis.

Facts: Sources of trinchinella spiralis
Symptoms of trichinosis
Methods to kill trichinosis

Concept: CHEMICAL POISONINGS

Principle: Chemical additives in large amounts affect safety of foods.

Facts: Common reactions to chemicals
Symptoms of chemical poisonings
Methods to prevent chemical poisonings

Concept: ENVIRONMENTAL CAUSES OF POISONING

Principle: Shellfish poisoning is caused by ingestion of saxitoxin.

Facts: Sources of saxitoxin
Growth of saxitoxin in shellfish
Methods of reducing concentration of saxitoxin
Symptoms of saxitoxin poisoning

Terms: saxitoxin

Food Safety in the Home

Concept: PREVENTING GROWTH OF MICROORGANISMS IN THE HOME

Principle: Personal hygiene, good kitchen sanitation practices, and appropriate storage affect growth of microorganisms.

Facts: The effect of personal hygiene on growth of microorganisms
The effect of kitchen sanitation practices on the growth of microorganisms
The effect of storage on growth of microorganisms
Recommended personal hygiene practices for minimizing contamination
Recommended kitchen sanitation practices for minimizing contamination
Recommended storage practices for minimizing contamination

CHAPTER 19: FOOD PRESERVATION

Concept: PURPOSES OF FOOD PRESERVATION

Principle: Food preservation affects spoilage characteristics of foods.

Facts: Purposes of food preservation
The effect of freezing on microorganisms and enzymes
The effect of canning on microorganisms and enzymes
The effect of drying on microorganisms and enzymes
The effect of heavy salt or sugar concentrations on microorganisms and enzymes

Concept: PROCESSING OF FOODS

Principle: Food processing techniques affect safety and storage life.

Facts: Four major considerations in food preservation
The effect of pressure treatment on bacteria
The relationship between acidity and bacterial growth

Terms: low-acid, acid

Canning

Concept: BOILING WATER BATH AS A METHOD OF FOOD PRESERVATION

Principle: The boiling water bath affects safety and storage life.

Facts: Foods suitable for boiling water bath treatment
Special equipment needed for boiling water bath
Recommended methods for canning by boiling water
The importance of water circulation during boiling
Methods of preparing foods for canning
Types of sugar syrup and their proportions
Methods to check seals and what to do about unsealed jars

Concept: PRESSURE CANNING AS A METHOD OF FOOD PRESERVATION

Principle: Pressure canning affects safety and storage life of foods.

Facts: Foods suitable for pressure canning
Special equipment needed for pressure canning
Recommended methods for pressure canning
Methods to check seal
Recommended methods for preparation of home canned vegetables

Freezing

Concept: FREEZING AS A METHOD OF FOOD PRESERVATION

Principle: Freezing of food affects safety and storage life.

Facts: Foods suitable for freezing
Special equipment needed
Recommended methods for freezing
The effect of air on frozen food
The importance of blanching before freezing
Methods for packing for freezing
Optimum temperatures for freezing
The effect of quanity on freezing
The effect of sugar on freezing
Proportions for sugar pack or syrup pack
The effect of ascorbic acid on freezing
Storage life for vegetables, fruits, and other foods
The importance of wrap on freezing

Terms: blanching, dehydration

Jams, Jellies, and Preserves

Concept: NOMENCLATURE OF SPREADS

Principle: The part of fruit used in spreads determines name of product.

Facts: Names and definitions of the seven types of spreads

Terms: jelly, jam, preserves, conserves, marmelades, butters

Concept: SELECTION OF FRUITS FOR JELLING

Principle: Amount of pectin in fruits affects jelling quality.

Facts: Two factors important to jellies
The development of pectin throughout the life of fruit
The effect of green or overripe fruit on gelation
Fruits low in pectin
The effect of acid on gelation
Fruits low in acid
Methods to alter pectin or acid content of fruits
Forms of pectin available, advantages and disadvantages of each

Terms: gelation, protopectin, pectin, pectic

Concept: FACTORS AFFECTING GELATION

Principle: Gelation is affected by pectin, sugar, and acid

Facts: The effect of pectin on gelation
The effect of sugar on gelation
The effect of acid on gelation
The way pectin works to form a gel

Terms: hydration, hygroscopic, fiberous

Concept: PREPARATION OF SPREADS

Principle: Proper preparation procedures ensures quality of finished product.

Facts: The effect of heating on sugar
Optimum concentration point for sugar
The effect of inversion of sugar on jelly
The effect of carmelization of sugar on jelly and methods to avoid carmelization
The effect of time of boiling on volume, color, and flavor
The effect of too much pectin on jelly
The effect of heat on pectin
The effect of heat on sugar
Evaluation of doneness
Criteria for evaluation of jelly
The effect of improper ratios of pectin, sugar, and acid to liquid
The effect of too much or too little heat

Drying

Concept: METHODS OF DRYING

Principle: Drying procedures affect quality of finished product.

Facts: Equipment needed for drying
Recommended storage for dried products
Foods recommended for drying
The effect of blanching on dried foods
The effect of ascorbic acid on dried foods
Methods of drying
The importance of slicing food thinly
Determination of doneness

Concept: COMMERCIAL METHODS OF PRESERVING FOODS

Principle: Preparation procedures affect quality of commercial products.

Facts: Commercial methods of preparation
The effect of freeze-drying on foods
The effect of irradiation on safety of foods

Terms: freeze-drying, cobalt, cesium, irradiation

PERFORMANCE SKILLS RELATED TO FOOD PRESERVATION

Preserve foods by common preservation methods

CHAPTER 20: COLLOIDS

Concept: CHARACTERISTICS OF COLOIDAL SYSTEMS

Principle: The size of the dispersed particles in the dispersed phase determines the viscosity of the coloidal system.

Facts: Size of coloidal particles
Forms of colloids, examples, and characteristics of each
The Tyndall effect
Characteristics of sols
The effect of gravitational pull on sols
The Brownian movement
Explanation of the gelling phenomena

Terms: colloidal, sol, gel

Concept: FACTORS AFFECT GEL FORMATION

Principle: Gel formation is affected by temperature, agitation, and concentration of dispersed phase.

Facts: The effect of temperature on gelation
The effect of agitation on gelation
The effect of concentration of dispersed phase on gelation
The effect of acids on gelation
The effect of salts on gelation
The effect of sugar on gelation

Terms: isoelectric

Concept: PHYSICAL CHARACTERISTICS OF A GEL

Principle: Gel rigidity is affected by age.

Facts: The effect of age on gel rigidity

Principle: Gelation affects volume of product.

Facts: The effect of gelation on volume
Cause for shrinking

Principle: Synersis is caused by cutting of a gel.

Facts: The synersis process and its cause
Gels more subject to synersis

Emulsions

Concept: CHARACTERISTICS OF EMULSIONS

Principle: Emulsions are affected by surface tension, emulsifying agents, and viscosity.

Facts: Description of an emulsion
Types of emulsions
The effect of surface tension on emulsions
Formation of an emulsion
The effect of emulsifying agents on stability
Emulsifiers used in foods
The effect of viscosity on stability
The effect of emulsions on quality of food products

Foams

Concept: FACTORS INFLUENCING FOAM FORMATION AND STABILITY

Principle: Formation of a foam is affected by surface tension, and vapor pressure.

Facts: Definition of a foam
The effect of surface tension on formation of foam
The effect of vapor pressure on formation of foam
The effect of substances that have rigidity of foam
Formation of foam

Terms: foam

Principle: Stability of egg foams is affected by quality of egg, concentration of protein, pH, temperature, presence of sugar, and extent of beating.

Facts: The effect of quality of egg on foam stability
The effect of concentration of protein on foam stability
The effect of pH on foam stability
The effect of temperature on foam stability
The effect of presence of sugar on foam stability
The effect of extent of beating on foam stability

Principle: Stability of gelatin foams is affected by vapor pressure and surface tension.

Facts:
The effect of vapor pressure on stability
The effect of surface tension on stability
Formation of gelatin foams
The effect of chilling on stability
The effect of stage on gelation on quality
Evaluation of gelatin foams

Principle: Stability of dairy foams is affected by vapor pressure and surface tension.

Facts:
The effect of vapor pressure on stability
The effect of surface tension on stability
Dairy products suitable for foams
The effect of gelatin on foams
The effect of cream content on stability
The effect of temperature on stability

CHAPTER 21: CARBOHYDRATES

Concept: CHEMICAL IDENTITY OF CARBOHYDRATES

Principle: Sugars are classified on the basis of size of molecule.

Fact: Types of sugar and its chemical structure
Formation of disaccarides and trisaccarides from monosaccarides

Terms: pentoses, hexoses, pyronose, glucose, dextrose, maltose, fructose, sucrose, lactose, galactose, hygroscopic

Principle: Dextrins are classified on the basis of molecule size.

Facts: Formation of dextrins
The effect of high and low molecular weight on properties of dextrins

Terms: dextrins

Principle: Starches are classified on the basis of molecular linkages.

Facts: Types of starches and their chemical structure
Differences between alpha and beta linkages on absorption during digestion
Formation of starch in grain
Characteristics of amylose
Characteristics of smylopectin

Concept: STRUCTURE OF THE STARCH GRANULE

Principle: The starch granule is affected by chemical composition.

Facts: Ratio of amylopectin to amylose molecules in granule and the effect of this ratio on performance of the starch

Concept: THE EFFECT OF ACID ON STARCH

Principle: Acids affects performance of starches.

Facts: The relationship between temperature and pH on starch swelling
The effect of chlorine on starch swelling
The effect of acid on viscosity of starch paste
The eggect of amount of acid on viscosity
The effect of sugar on viscosity

Concept: THE EFFECT OF ENZYMES ON STARCHES

Principle: Enzymes affect linkages in starches.

Facts: The effect of enzymes on linkage
The effect of enzymes in combination with heat
The effect of enzymes in combination with fat
The effect of breakdown on the properties of starch

Concept: RETROGRADATION OF STARCH

Principle: Retrogradation is affected by quanity of swolen amylose granules and free amylose in mixture.

Facts: The effect of retrogradation on starch mixture
Agents to retard leaching of amylose
Methods to reverse retrogradation
The effect of moisture on retrogradation

Terms: retrogradation, staling

Concept: TYPES OF FROZEN STARCH PRODUCTS

Principle: Freezing affects starch products.

Facts: Types of frozen products available
The effect of freezing on different types of starch
The effect of types of starch on flavor
The effect of freezing on white sauce and ways to reverse this product

Terms: synersis, sponge

Concept: SPECIAL STARCHES

Principle: Selective breeding has produced starch with special properties.

Facts: Special starches produced and advantages and disadvantages of each

Concept: PRECOOKED STARCHES

Principle: Precooked starches are affected by coagulation and drying.

Facts: Precooked starch products available
Methods of making precooked starches
Causes of sticky and gummy precooked starches
The effect of quick freezing on precooked potatoes
The effect of controlled thawing on precooked potatoes
Methods to increase whiteness of precooked potatoes

Concept: PROPERTIES OF CELLULOSE

Principle: Cellulose is affected by food preparation procedures.

Facts: The effect of enzymes on cellulose
The effect of food preparation techniques on cellulose

Concept: CHEMISTRY OF PECTIC SUBSTANCES

Principle: Pectic substances affect cell structure.

Facts: Chemical makeup of pectic substances
Effect of pectic substances on cells

Terms: galacturonic, methyl, esters, galactose, anhydrogalacturonic

Principle: Nomenclature of pectic substances is based on size of molecules and gel-formaing qualities.

Facts: Six types of pectic substances, description, and characteristics of each

Terms: pectic, protopectin, pectin, pectinic, pectinates

CHAPTER 22: LIPIDS

Chemistry of Fats

Concept: COMPOSITION OF FATS

Principle: Fats are classified on the basis of chemical composition.

Facts: Chemical description of glycerol
Chemical description of fatty acids
Formation of monoglycerides, triglycerides, and di glycerides

Terms: monoglycerides, diglycerides, triglycerides, carboxyl, estrify

Principle: Characteristics of fats are due to composition of fatty acids.

Facts: Description of fatty acids
Description of polyunsaturated and saturated fats
Definition of trans and cis formation of fats

Terms: trans, cis

Principle: Chemical tests define characteristics of fats.

Facts: Four common chemical tests and what they tell about fats

Physical Properties of Fats

Concept: FORM OF FAT

Principle: Whether fat is in liquid or solid form is determined by length of fatty acid chains, degree of saturation, configuration, and position of oduble bonds.

Facts: The effect of length of fatty acid chain on form
The effect of degree of saturation on form
The effect of configuration on form
The effect of position of double bonds on form

Terms: saturation, configuration

Principle: Plasticity of fat is determined by degree of saturation, degree of hydrogenation, and molecular weight of molecule.

Facts: Methods to create a fat with a wide plasticity range
Factors that affect plasticity

Terms: plasticity, acetin, tallow, acetoolein

Principle: Crystal formation is dependent upon configuration.

Facts: The effect of configuration on crystal formation
Forms of crystals and characteristics of each
Process of altering crystal form
The effect of diet of animals on fatty acid composition

Technology

Concept: MODIFICATION OF FATS AND OILS

Principle: Choice of rendering method is determined by origin of fat.

Facts: Three types of rendering processes and fat that is rendered in each

Terms: rendering

Principle: Refining is determined by impurities in rendered fats.

Facts: Types of refining processes and their effect on the fat

Terms: refining, bleaching, deodorizing

Principle: Hydrogenation is determined by final product desired.

Facts: Define the hydrogenation process

Principle: Blending and tempering affects range of plasticity and size of crystals.

Facts: The blending process and its effect on fats
The tempering process and its effect on fats

Terms: supercooled, blending, tempering

Principle: Winterizing affects clarity of product.

Facts: Winterizing process and its effect on product
Oils that require winterizing

Terms: winterizing

Principle: Characteristics of fat are affected by rearrangement of fatty acids, addition of emulsifiers, addition of fat crystals, and addition of antioxidants.

Facts: The effect of rearrangement of fatty acids on shortening
The effect of addition of emulsifiers on shortening
The effect of addition of fat crystals on shortening
The effect of antioxidants on shortening

Shortening Value of Fats

Concept: FACTORS THAT AFFECT SHORTENING VALUE OF FATS

Principle: Shortening value of fats is determined by plasticity of fat and surface area covered by a fat.

Facts: The effect of shortening on baked products
The effect of plasticity of fat on shortening value
The effect of surface area covered by fat on shortening value
The chemical relationship between water and fat
Differences between unsaturated and saturated fats
Differences between number of double bonds and shortening power

Terms: shortening, polar, nonpolar, interface

Concept: CHANGES EFFECTED IN FATS BY HEAT

Principle: Heat affects size of fat molecules.

Facts: The process of polymerization and its effect on fats

Terms: polymerization

Principle: Heat causes oxidation of fats.

Facts: The process of oxidation
Methods of slowing oxidation

Terms: oxidation, antioxidants

Principle: Heat causes hydrolysis of fats.

Facts: The process of hydrolysis and its effect on fat
Changes occuring in fats due to hydrolysis
The relationship between acrolein formation and smoke point
Criteria for selection of a fat with a high smoke point
Other factors to control smoke point

Rancidity and Antioxidants

Concept: THE EFFECT OF RANCIDITY ON FATS

Principle: Oxidative rancidity is affected by heat and light.

Facts: The chemical process of oxidative rancidity
The effect of heat on oxidative rancidity
The effect of light on oxidative rancidity
Cause of flavors and odors of rancid fats
The effect of metals on oxidative rancidity
The effect of metals on oxidative rancidity
The effect of freezing on oxidative rancidity
The effect of negetable enzymes on oxidative rancidity
Methods to curtail oxidative rancidity

Terms: rancidity, oxidation, hydrolysis, reversion, autocatalytic, synergists, hematin, lipoxidases

Principle: Hydrolytic rancidity is affected by enzymes.

Facts: The chemical process of hydrolytic rancidity
The effect of enzymes on hydrolytic rancidity
The effect of temperatures on hydrolytic rancidity
Methods to retard hydrolytic rancidity

Terms: hydrolytic, lipases, enzymes

Concept: ANTIOXIDANTS ROLE IN FATS

Principle: Antioxidants retard the oxidation of fats.

Facts: The effect of antioxidants on fats
Source of antioxidants in fats
Methods of controlling rancidity

Principle: The value of compounds as antioxidants is dependent upon promotion of shelf life, carry-through ability, and possible toxic effect on humans.

Facts: The effect of addition of synergists to antioxidants
The effect of exceeding optimum levels of antioxidants and synergists
The importance of good carry-through properties
Antioxidants commonly used in fats
Synergists commonly used

Terms: synergists, carry-through

CHAPTER 23: PROTEINS

Concept: THE EFFECT OF HEATING AND AGITATION ON PROTEIN

Principle: Heating and agitation affect characteristics of proteins.

Facts: The effect of heating on muscle proteins
The effect of heating on connective tissue
The effect of heating on egg proteins
The effect of heating on gluten
The heating on soluability on denatured protein
The effect of heating on flow in denatured proteins
The effect of agitation on denaturation

Terms: denaturation, native

Concept: COMPOSITION OF PROTEINS

Principle: Proteins are affected by chemical composition.

Facts: Chemical structure of proteins
The effect of environmental circumstances on behavior of proteins
The effect of R group on behavior of protein
Chemical characteristics of proteins

Terms: amino, radical, amphoteric, carboxyl, ionize, zwitterions, dipolar, sulphur, amide, cyclic, tryptophan, glycine, cysteine, cystine, methionine, configuration, nonpolar

Concept: STRUCTURE OF PROTEINS

Principle: Proteins form primary structures determined by the linking of amino acids.

Facts: The chemical reaction that forms primary structure
Configuration of backbone chain of proteins
The effect of enzymes on backbone chain

Principle: Proteins form secondary structures determined by the linking of amino acids.

Facts: The chemical reaction that forms secondary structure
Configuration of secondary structure and stability of this structure
Differences of configuration in various types of proteins
The effect of hydrogen bonding, disulfide bridges, and van der Waal's forces

Terms: fiberous, globular, helical, alpha, beta, helix, extensible, proloin, hydroxyproline

Principle: Proteins form tertiary structures determined by the linking of amino acids.

Facts: The chemical reaction that forms tertiary structure and stability of this bond

Principle: Proteins form quarternary structure determined by linking of amino acids.

Facts: The chemical reaction that forms quaternary structure

Terms: peptide, quaternary

Concept: TYPES OF PROTEINS

Principle: Proteins are classified on the basis of structural shape.

Facts: Structural shape of fiberous proteins
Structural shape of globular proteins
Examples of each type of protein

Terms: fiberous, globular, fibroin, keratin, fibrinogen, collagen, gelatin, ellipsodial, myoglobin, zein, gluten

Concept: REACTIONS OF PROTEINS

Principle: Protein is affected by denaturation.

Facts: Two steps in denaturation and cause of these steps
The effect of denaturation on properties of protein
The effect of denaturation on structure of protein
Methods of causing denaturation
The effect of heat on denaturation
The effect of freezing on denaturation
The effect of agitation on denaturation

Facts: The effect of salt on denaturation
The effect of concentration of protein on denaturation
The effect of ultraviolet light on denaturation
The effect of high pressure on denaturation
The effect of ultrasonic waves on denaturation
The importance of water in denaturation

Terms: native, denaturation, agglomeration, hydrophobic, ultraviolet, ultrasonic

Principle: Protein is affected by hydrolysis.

Facts: The effect of hydrolysis on protein
The chemical change of hydrolysis
Types of hydrolysis
Examples of hydrolysis
Types of hydrolysis
Examples of hydrolysis

Terms: hydrolysis

Principle: The browning reaction affects appearance of protein.

Facts: The browning reaction in proteins
The effect of temperatures on browning reaction
Examples of this browning reaction

Terms: maillard, browning

Principle: Protein is affected by reactions with metals.

Facts: The effect of metals on proteins
Methods to prevent reactions

Principle: Protein is affected by isoelectric point.

Facts: The effect of isoelectric point on behavior of proteins
Relationship between pH and isoelectric point

Terms: isoelectric, amphoteric, curdling, flocculation

CREDIT DETERMINATION

CREDIT DETERMINATION

The student must complete all assessment and evaluation steps as described in the Student Evaluation Manual at the level of quality specified and in the time frame outlined in Chapter IV. These are as follows:

1. Complete the Student Evaluation Agreement,
2. Administer and score the pre-test,
3. Complete the student portfolio,
4. Administer and score the post-test,
5. Complete the Performance Test Plan,
6. Perform and evaluate the Performance Test, and
7. Administer and evaluate the Oral Examination.

Credit determination is based upon measuring competencies acquired through the prior learning to those expected of students in NFS 1301 and 1302. Because it is difficult to assign an empirical rating when dealing with a minimum requirement, students will be assigned a grade of "pass", "fail", or "provisional pass". If the student is awarded "pass", the advisor will then notify the registrar of credit award. If the student is awarded "fail", he/she must then enroll for NFS 1301 and 1302 in the traditional form. If the student is awarded "provisional pass", he/she must complete materials specified by the committee to complete the course.

Upon completion of the program, the evaluation committee will inform the registrar's office of the credit award for the course. This will be done through the completion of a form to be sent

through proper channels. This form is shown on page 234. The form will be accompanied by a completed copy of the Student Evaluation Agreement shown on page 75.

P. O. Box 23975
Texas Woman's University
Denton, Texas 76204

Memo to: Channels

Subject: Credit award for the HAVEE program

From: _____

_____

_____
Evaluation Committee

_____ has completed the requirements for credit award in the Homemaking And Volunteer Experiences Evaluation (HAVEE) program. A copy of the Student Evaluation Agreement showing the tasks completed, completion dates, and student rating is included for your information. Please record the grade of "passing" for NFS 1301 and 1302, Food Preparation Principles, Section 005, _____. Thank you.
advisor

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The following sources were used in creating the HAVEE model program. For further information on the evaluation of experiential learning, refer to these sources.

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APPENDIX B

STUDENT EVALUATION MANUAL

STUDENT EVALUATION MANUAL

Table of Contents

PURPOSE OF THE PROGRAM

PURPOSE OF THE MANUAL

This is the student evaluation manual for the Homemaking And Volunteer Experiences Evaluation (HAVEE) program. The purpose of this manual is to guide you, step-by-step, through the evaluation process of your prior learning. Prior learning is defined as anything you learned before you enrolled in college through activites in homemaking and volunteer experiences.

The process is divided into eight steps: 1) initial conference, 2) pre-test, 3) portfolio, 4) reference list, 5) post-test, 6) performance test plan, 7) performance test, and 8) oral examination. The competency evaluation sequence is shown in Table 1 on page 240.

Table 1

Competency Evaluation Sequence

Activity	Purpose	Materials
First Meeting		
Give student the Student Evaluation Manual Explain the total evaluation process Fill out and sign the Evaluation Agreement	To give student guidance in beginning the process	Student Evaluation Manual Evaluation Agreement
Second Meeting		
Administer Pre-test	To evaluate cognitive learning	Pre-test Evaluation Agreement
Third Meeting		
Initiate Student Portfolio	To identify and organize prior learning	Student Manual Examples of completed portfolios (if available)
Fourth Meeting		
Administer Post-test	To evaluate cognitive learning	Post-test Evaluation Agreement
Fifth Meeting		
Review purpose and procedure for performance test	To set up performance plan	Performance Test Plan

Table 1, Continued

Activity	Purpose	Materials
Fifth Meeting, Continued		
Review Student Portfolio	To give student feedback on progress on portfolio	Portfolio
Send Portfolio to members of Committee	Evaluate Portfolio	Portfolio
Send Performance Test Plan to committee	Inform them of plans for performance test	Performance Test Plan
Sixth Meeting		
Performance Test	To evaluate skill in identified competency areas	Performance Test Plan Evaluation Agreement
Seventh Meeting		
Give Student evaluation results on performance test	To keep student informed of evaluation	Evaluation Agreement Summary of Performance test
Review file to determine if steps have been completed		
Eighth Meeting		
Oral Examination	To evaluate student's cognitive learning and skills	Oral Examination Worksheet Oral Examination Critique Form

GETTING STARTED

STEPS TO COMPLETION OF THE HAVEE PROGRAM

There are eight steps in the HAVEE program:

1. Meet with the advisor to complete a Student Evaluation Agreement.

2. Take the pre-test.

3. Develop a portfolio of prior experiences including:

   Autobiographical Resume
   Competencies List
   Time-life Chronologue
   Documentation

4. Complete reference list readings covering competencies from Food Preparation Principles, NFS 1301 and 1302.

5. Develop a Performance Test Plan.

6. Present a food product demonstration for assessment by the evaluation committee.

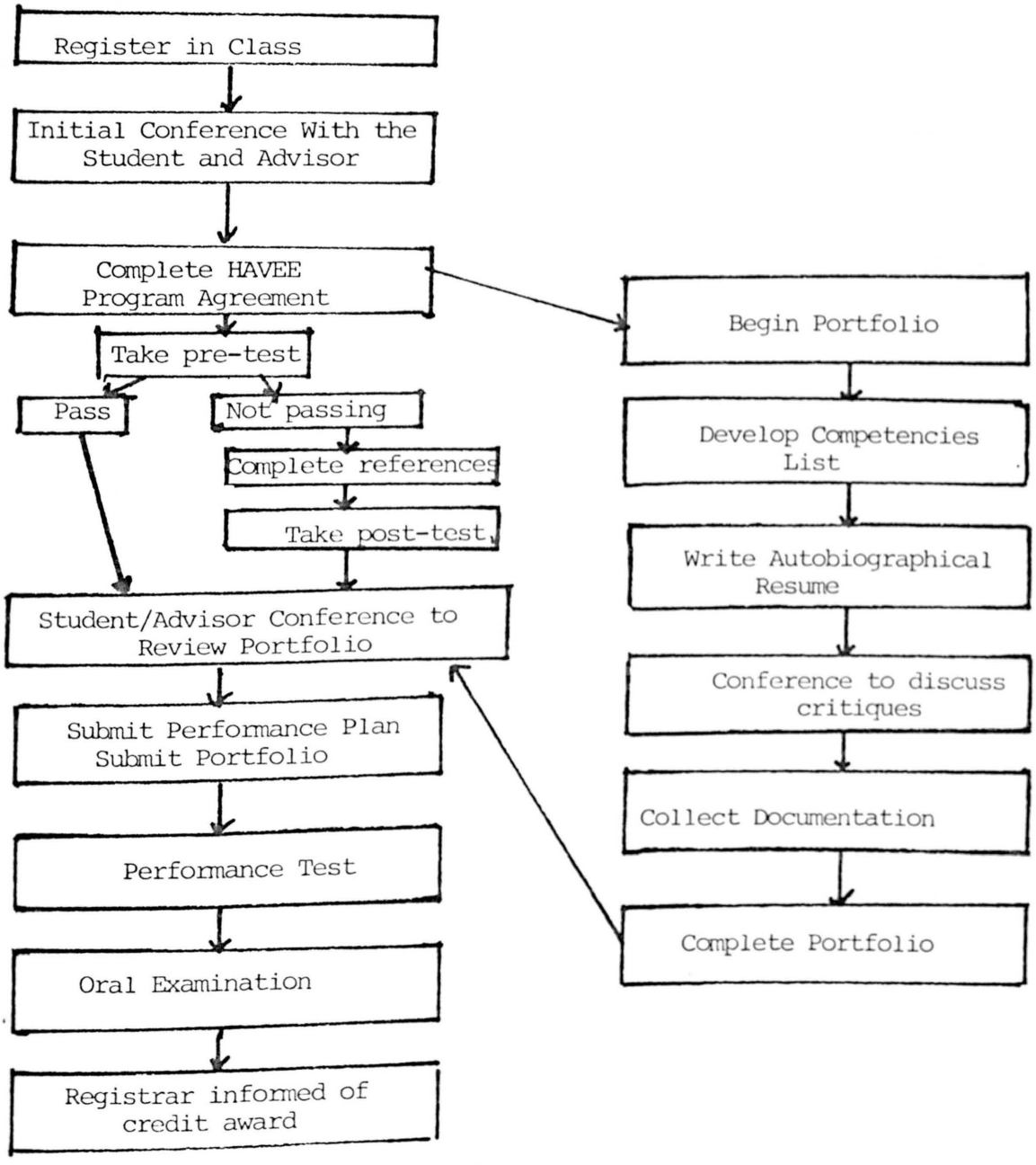
7. Take post-test.

8. Complete oral examination with the evaluation committee.

The sequence for the HAVEE program is shown in Figure 1, on page 244.

Figure 1

SEQUENCE OF EVALUATION PROCEDURE



CONFERENCES WITH EVALUATION ADVISOR

Conferences with the evaluation advisor are an intergal part of the learning process. The HAVEE program requires a minimum of eight conferences with the advisor. These conferences and objectives are:

No.	When held	Objective
1	Prior to pre-test	To explain assessment process and sign HAVEE Agreement
2	Following pre-test	To receive grade on pre-test and plan for portfolio preparation and reference list
3	Prior to post-test	To explain test procedure and schedule the post-test
4	Following post-test	To receive grade on post-test and answer questions on portfolio
5	Prior to performance test	To plan date, subject, and procedure for performance test To review student portfolio
6	Following Performance test	To receive Summary of Performance Test form
7	Prior to oral examination	To review the procedure for oral examination and schedule oral examiation
8	Following oral examination	To receive critique on oral examination and to review the entire evaluation procedure

Additional conferences may be held dependent upon mutual agreement between the student and evaluation advisor. The worksheet on page 246 is designed to record each conference.

CONFERENCES WITH EVALUATION ADVISOR

No.	Date	Materials Needed	Comments
1		Student Manual Evaluation Agreement	
2		Student Manual Pre-test score	
3		Student Manual	
4		Student Manual Post-test score	
5		Student Manual	
6		Student Manual Summary of Performance test	
7		Student Manual Post-test score Summary of Performance test	
8		Student Manual Critique on oral examination	

Additional Conferences

EVALUATION COMMITTEE

There will be three members of the evaluation committee to work with you in completing the HAVEE program: the director of the HAVEE program who will serve as evaluation advisor, the professor who teaches NFS 1301 and 1302, and the professor who directs the undergraduate program in home economics education and consumer sciences.

The committee's responsibility to you is to evaluate your prior learning as exhibited through a series of tasks and materials you will complete during this semester. They will determine if you possess those competencies required in this course. The evaluation advisor has an additional duty in that he/she is required to help you plan and execute the steps of the HAVEE program.

Your responsibility to the committee is to complete those steps outlined in the Student Agreement. You must follow all rules concerning time limits and scheduling with the committee.

EVALUATION PROCEDURES

STEP 1

Initial Conference

Purpose:

To review the assessment process and complete the Student Evaluation Agreement

Advisor's Tasks

Explain the evaluation procedure

Help the student fill out and sign the evaluation agreement

Review the Student Evaluation Manual

Assist the student in setting time goals for the evaluation

Students' Tasks

Schedule the initial conference with the Evaluation Advisor

Materials Needed

Evaluation Advisor's Manual

Student Evaluation Agreement

STudent Evaluation Manual

Desired Outcome

Completion of Evaluation Agreement. Prepared for Step 2.

INITIAL CONFERENCE

The first step in the HAVEE program is to meet with the evaluation advisor to complete the Student Evaluation Agreement. Probably by the time you read this you will have already had the initial conference with the advisor. Let's look at what was accomplished at this first meeting.

Student Evaluation Agreement

You have completed the Student Evaluation Agreement with the assistance of the Evaluation Advisor. This agreement gives you a time framework for the completion of the HAVEE program. These dates are target dates, there will be no penalty if each step is not completed by this date. However, you should make every effort to complete the activities by the target date. Remember, all steps must be completed by the end of the semester.

Student Evaluation Manual

The Student Evaluation Manual serves as your guidebook for the HAVEE program. Each step is described in detail with instructions on how to complete each item. If you should need additional information to complete a task, check with the advisor. He/she had additional instructions to help you complete these tasks.

STEP 2

Pre-test

Purpose

Evaluate students' cognitive learning

Advisor's Tasks

Arrange for testing location

Administer, evaluate, and score pre-test

Students' Tasks

Schedule pre-test with advisor

Materials Needed

Pre-test

Student Evaluation Agreement

Desired Outcome

Completion, grading, and recording of pretest. Prepared to proceed with Step 3.

PRE-TEST

The first test in the series required for HAVEE credit is the written examination. The written examination consists of two tests. The first test is a pre-test to be given early in the evaluation program. The second is a post-test to be taken later in the program. If you score satisfactorily on the pre-test, you can omit taking the post-test. If you do not do well on the first test, you have another opportunity to take the test after doing additional reading and study.

The tests may be taken as you feel you are ready, within the confines of the overall schedule listed in Chapter II. You are responsible for scheduling the tests. You will meet with the evaluation advisor and find a time convenient to both of you for testing. The evaluation advisor administers and scores the written test.

You must score a minimum of 80 to receive credit for the course. If you do not score 80 on the first test, ask the advisor for a list of material covered within the class. Use this list to study for the post-test. The text for this course is Food Fundamentals by Margaret McWilliams. Since the HAVEE examination is based on general course content, any basic food preparation text can be used for study, as long as it covers the concepts, principles, facts, skills, and terms covered in NFS 1301 and 1302, Food Preparation

Principles. A reference list of materials for independent study is included on page 272.

Following the scoring of the test by the evaluation advisor, you will meet with the advisor to discuss results. You and the evaluation advisor will then inform other members of the committee the results of the pre-test.

STEP 3

Portfolio

Purpose

To identify and detail prior learning that relates to Food Preparation Principles, NFS 1301 and 1302

Advisor's Tasks

Assist student in developing competnecies, autobiographical resume, and offer suggestions for possible forms of documentation

Critique competencies and autobiographical resume

Students' Tasks

Prepare materials and deliver to advisor within the stated time

Revise materials according to advisor's critique

Materials Needed

Student Evaluation Manual

Student Evaluation Agreement

Desired Outcome

Complete portfolio. Prepared for Step 4.

HOW TO PUT TOGETHER YOUR PORTFOLIO

Your portfolio should be a reflection of your life's work. For this reason, it is not a task to be taken superficially. Preparing a portfolio is not an easy process and you should be prepared to spend considerable time in its completion. In the HAVEE program, a portfolio helps you organize your thinking and planning so that you don't forget any of your learning experiences. The portfolio will give the evaluation committee a clear understanding of what you've learned and how you learned it. Outside of college work, you will find the portfolio to be of much value to you personally. In the future, the portfolio may be used in job hunting (as evidence of your learnings), for self analysis, and for planning future activities.

Probably one of the biggest problems returning students have when reentering college is an unrealistic idea of their abilities. Students either take classes too difficult for their present abilities, or enroll in those that repeat learnings they already possess. With such a realistic appraisal of what you know and can do, you can use this information to plan educational activities leading toward a degree in home economics education. It is difficult to plan where you are going without a realistic picture of where you are at the present time.

Also, assessment of your experiential learning gives you an opportunity to understand evaluation techniques. As you begin to understand your evaluation, you will learn how to receive a favorable evaluation in the future. This information can help you during your college career as well as throughout your working career.

The portfolio will consist of the following parts:

Title Page

Table of Contents

Time-life Chronologue

Autobiographical Resume

Competency Statement

Documentation

Specific information and instructions for each of the sections follows.

COMPETENCY LIST

Most people can easily make statements about their homemaking and volunteer careers, such as "in charge of city-wide campaign for United Fund" or "prepared meals for a family of five for four years." Each of these are statements of facts, but tell nothing of what learning was acquired or competencies gained through these activities. These statements can not be evaluated for credit, only the competencies learned through these activities can be evaluated. You must translate these activities into a form that meets the following requirements:

Lend itself to measurement and evaluation,

Involve higher levels of learning, not just the "doing" part of learning

Be equivalent to college-level work,

Applicable to areas outside the specific situation where it was learned, and

Indicate that the learning is current.

A more complete discussion of these requirements and examples follows.

The first step is to review what you have done in the area of food in the past few years. It sometimes helps to list those activities that have occurred this year, then move to last year, proceeding year-by-year as far back as your activities occurred. You might use one sheet to jot down activities at home, and a second one to list volunteer activities relating to food and food preparation.

After preparing your list of activities, you need to organize them. The Time-life Chronologue on page 259 has been provided for your use in organizing activities. It provides columns for the year, activities, type of experience gained through activity, and any special comments you want to make on each activity. The easiest way to complete the form is to begin at the present time and work backwards to the beginning of the relevant activities.

Let's look at an activity that might be listed on the Time-life Chronologue. For example, let's say that one homemaker has worked for two years as a volunteer in the "Meals on Wheels" porgram. It might be listed like this.

Years	Activities	Type of Experience	Comments
1979-81	Worked in the "Meals on Wheels" program	Cooking, serving, ordering supplies	500 meals per day

Complete Time-life Chronologue in this manner, beginning with the present time and working backwards through your experiences.

TIME-LIFE CHRONOLOGUE

Begin this time frame with the present and work backwards to some point in time that you consider the beginning of your adult life. You might consider this when you got married, when you graduated from high school, or even when you took your first job. List each activity and the years it was performed, then specify what type of activity. List as many activities as you'd like. This is to help you get organized, so list as many activities as possible.

Years	Activities	Type of Experience	Comments

The next step in the process is to express each of the learnings from these activities in the form of a complete sentence that clearly identifies what you know and can do. These sentences or competencies will form the basis of your assessment.

Many students have problems expressing competencies, so let's write a competency for the example given of working with "Meals on Wheels". We might write a statement as follows:

> Worked for two years as a volunteer in the "Meals on Wheels" program.

This statement does not give adequate information upon which to base a judgement of credit or no credit. What were the responsibilities? What was the level of the involvement? Did it include delivering meals, or cooking them? After further questioning, we might write the following competency:

> Knows the intermediate concepts and methods of quanity cookery at a level equivalent to a food service supervisor. These skills include planning meals for 500 people each day, ordering supplies, supervision of personnel, analyzing nutritional value of the meal, and coordinating service of the meal.

Let's refer back to the requirements for competencies at the first of this section to see if our competency can be evaluated for credit.

Measurable? Yes, but how might we measure it? The student might be required to perform in her regular duties at the program with the evaluation commitee in attendance. Or, she might be asked to plan a meal, nutritionally rate, and order supplies in a paper-and-pencil test. You might be able to think of additional methods of assessment.

Higher levels of learning? She was responsible for planning and coordination in addition to preparing the meal.

College-level learning? Quanity Cookery is an important part of many foods classes.

Applicable outside of this situation? Where else might you use these skills? How about planning meals for a nursing home? Or, maybe in a restaurant? There are countless organizations interested in people with experience in quanity cookery.

Current? If this activity was done twenty years ago, there might be some question as to whether our student remembers what she learned. Since our student completed her service in 1981, the knowledge is current.

The sample competency passes all five requirements, so we're ready to go on to the next activity and write other competencies.

Look again at your completed Time-life Chronologue. Now construct competencies for each of your activities. To help you in this task, a step-by-step instruction guide is provided on page 262. Remember if you are having difficulties writing competencies, schedule an appointment and ask your advisor for help.

When you have completed your competencies, refer back to the questions listed earlier in this section. One of the most important results of this step is to give you an accurate picture of your abilities. By knowing your strengths and weaknesses, you can make special plans to bring up your weak areas to match those which are strong, and become even more proficient in other areas.

WRITING A COMPETENCE STATEMENT

1. Begin with the word "Knows."

2. Identify level of competency by selecting one of the following words.

basic	intermediate	advanced

3. Select one of the following words to identify theoretical aspect.

theory	history	concepts
principles	ideology	rules
beliefs	laws	relationships
vocabulary	generalizations	structure
systems	roles	classifications

4. Add the word "and" to your statement.

5. Select one of the following words to identify the practical aspect.

procedures	approaches	processes
methodology	techniques	methods
treatment	functions	research techniques

6. Add the word "of" to your statement.

7. Enter subject area.

8. Select one of the following statements, then complete the sentence.

well enough to _____(enter description)

specifically _____(list theories, concepts, principles, skills, techniques, methods, etc.)

at a level equivalent to _____(reference group and level attained within that group)

and can (Choose one of the following verbs): apply, use, translate, interpret, determine, analyze, evaluate, relate, plan, compare, function as, write, etc._____(enter description).

AUTOBIOGRAPHICAL RESUME

So far, you've listed activities and changed them into competencies, but haven't had an opportunity to tell how these activities hav affected your life. In the next step, you will relate your past learnings to what you want to learn or do in the future.

Your autobiographical resume is not a determining factor in your eligibility for credit in this course. It does, however, serve several useful purposes. It allows you to provide background information about yourself to your committee. This information, in turn, willhelp them plan your semester so that you can make the best use of your strnegths and develop knowledge and skills needed in order to earn credit for this course.

Before you begin writing your resume, you will probably find it helpful to review the Time-life Chronologue and your competency list. These competencies may remind you of certain skills and experiences which you will want to describe in your resume.

The resume has six purposes. It will help you: 1) reflect on your past experiences and relate them to competnecies required in this course as a way of preparing for the pre-test, performance test, post-test, and oral examination with your evaluation committee; 2) build your confidence as you identify your strengths, 3) demonstrate your skills in organization of information and writing a clear,

concise report; 4) identify probable competencies, and areas of weakness which may be used in planning your demonstration; 5) show proof of course-related competency such certificates of recognition, record of training sessions, volunteer work or other services that require skills similar to those required for this course; and 6) present yourself to your evaluation committee in the most favorable perspective.

Description

Your resume will consist of all or most of the section listed here. On the following pages, you will find guidelines for writing/compiling each of these sections. You may wish to make a few notes about how you plan to complete each part and make an appointment with your advisor to discuss your resume before you begin actually writing it. Keep in mind that you have signed a agreement on which you have set a deadline for having the final, approved copy of your resume ready for distribution to your committee. Making plans, organizing your time, and successfully completing the required task in the evaluation process provide both the potential for developing or strengthening your professional skills and showing your competence to your committee.

I. Demographic Information--personal, academic

II. Homemaking Experiences

III. Other Significant Experiences Related to this Course

IV. Membership in Professional Organizations

V. Books you have read

VI. Special Accomplishments

VII. Professional Goals

VIII. References

IX. Appendix

Now let's take this outline step-by-step and see what needs to be included in each section.

I. Demographic Information

A. Personal
Your age, sex, any information you feel would be relevent to you and your academic goals and would be of interest to the committee

B. Academic
Include here information about any formal education you have had--date of high school graduation, special honors, any college credits earned.

II. Homemaking Experiences

Include activities that relate to course competencies. Don't spend a lot of time explaining when and where something happened, tell more about what you learned and how it related to other activities.

III. Other significant experiences

Volunteer work--Include activities that relate to the course competencies. You might include such activities as 4-H leader for the foods project, service in the "Meals on Wheels" program (as in our example), or any other form of volunteer work related to foods.

Paid employment--List and describe here any jobs you have had that world give you skills required for this course. These might include food service, school cafeteria work, or restaurant work.

Travel--Include travel that has helped you meet course competencies. This might include travel in this or other countries.

Adult/Continuing Education--List those classes that relate to competencies. This includes credit and non-credit classes.

IV. Membership in professional organizations

Again, include only those organizations that relate to this course

V. Books you have read

Include those that relate to course competencies

VI. Special Accomplishments

Review those things you think the committee might like to know about your activities. If you received an award for your volunteer work or some other major accomplishment, be sure to list it here.

VII. Professional Goals

Let the committee know what you plan to do with your degee and how your out of class learning relates to your professional goals.

VIII. Appendix (Documents)

Include anything you feel would help the committee

DOCUMENTATION

Documentation of learning experiences helps strengthen the claim for credit. Documentation is the presentation of adequate evidence of learning. It may include letters, awards, and learning products. It does not tell the whole story of learning, but it can help you let the evaluation committee know more about your learning.

When planning for documentation, consider including those items that lend credibility to your claim that you know the competencies for Food Preparation Principles, NFS 1301 and 1302. Letters from a third person telling about a job (whether volunteer or paid work) you did are the most popular forms of documentation. You might consider any of the following for documentation of your learning:

Certificate for volunteer leadership of a youth group in some area of foods

Volunteer work record in school cafeteria, nursing home, or other public facility working in food preparation

Job descriptions of volunteer or paid work done in food preparation

Samples of work produced

Learning outcomes or objectives of courses completed for noncredit

There are many other forms of documentation. To plan documentation you might use for your portfolio, refer back to your Time-life

Chronologue and try to think of methods to document this learning. Remember the documentation should back up or add to the learning you have already defined.

A sample of a letter requesting documentation from a third party follows.

P.O. Box 23975
Texas Woman's University
Denton, Texas 76204

Dear Friend:

You have been asked to write a letter on behalf of a student who is seeking college credit for prior learning. Texas Woman's University is offering students the opportunity to recieve college credit for learning acquired outside of the classroom setting, on the job, or in life experience. Your letter will help the student provide evidence that learning occurred. Please use the following guidelines:

1) Send your written evaluation on letterhead stationery.

2) Include a description of your present position.

3) Identify your relationship to the student (e.g. supervisory), the situation in which you have observed him or her, and the dates of this observation.

4) Evaluate how well the student performed in the situation.

5) Verify that the student held the position and fulfilled the responsibilities claimed.

6) Use examples, whenever possible, for the standards you have used, such as: performed at the same level as my other employees who possess the bachelor degree; performance exceeded all other volunteers under my supervision who have performed these same or similar duties.

It is important to know that are not being asked to make a reccomendation. That is, we are not asking you to make comments on the student's appearance or deportment, nor are you being asked to make a prediction of the students' future performance. Rather, you are asked to verify that the candidate has learned and to evaluate how well he or she knows or can do what has been asserted.

This information will be public and the candidate will be provided with a copy. Therefore, your statement will be most helpful both to the student and to the committee, if it is entirely straightforward. We wish to thank you in advance for taking the time to provide as thoughtful and candid an assessment as possible.

Sincerely,
HAVEE Evaluation Advisor

STEP 4

Reference List

Purpose

To prepare for the post-test by reviewing concepts, facts, principles, terms, and skills, relating to the materials covered in Food Preparation Principles, NFS 1301 and 1302

Advisor's Tasks

Provide student with a list of references to cover competencies

Students' Tasks

Study reference readings to improve performance on post-test

Materials Needed

References

Desired Outcome

Concepts, principles, facts, terms and skills will be developed. Prepared for Step 5.

REFERENCE LIST

The fourth step in the HAVEE program is to complete the reference list. After you have taken the pre-test, you will want to prepare for the post-test.

Review the results of the pre-test to find the areas you need to improve in the post-test. Check the list on the following page to find references to be read. Use this list to prepare for the post-test.

REFERENCE LIST

1. Charley, Helen. Food Study Manual (2nd ed.). New York: Ronald Press, 1975.

2. Devine, M.M., & Pimentel, M.H. Dimensions of Foods. An Introductory Food Manual. New York: Harper and Row, 1975.

3. Freeland-Graves, Jeanne H. Principles of Food Preparation. A Laboratory Manual. New York: Macmillan, 1979.

4. Gates, June C. Basic Foods. A Laboratory Manual. New York: Holt, Rinehart, and Winston, 1976.

5. Kansas State University. Practical Cookery (24th ed.). New York: John Wiley and Sons, 1975.

6. McWilliams, Margaret. Experimental Foods Laboratory Manual. Fullerton: Plycon Press, 1979.

7. McWilliams, Margaret. Illustrated Guide to Food Preparation (3rd ed.). Fullerton: Plycon Press, 1976.

8. Mizer, David, & Porter, Mary. Learning to Cook Professionally. A Lab Manual. San Francisco: Canfield Press, 1978.

9. Morr, Mary L., and Irmiter, T.F. Illustrated Foods. A Lab Manual of Food Preparation and Evalution (3rd ed.). New York: Macmillan, 1980.

10. Oklahoma State University Food Preparation Manual (5th ed.). Dubuque: Kendall/Hunt, 1977.

11. Vail, G., Phillips, J.A., Rust, L., Griswold, R.M., & Justin, M.M. Foods. Instructor's Guide (7th ed.). Boston: Houghton Mifflin, 1978.

STEP 5

Post-test

Purpose

To evaluate your learning through a written test

Advisor's Tasks

Arrange for a testing location

Administer and grade post-test

Students' Tasks

Schedule post-test with advisor

Materials Needed

Post-test

Student Evaluation Agreement

Desired Outcome

Completion, grading and recording of the post-test

Post-test

The post-test may be taken as you feel you are ready within the confines of the overall schedule listed in Chapter II. You are responsible for scheduling the tests. The evaluation advisor administers and scores the written test. You must score a minimum of 80 to receive credit for the course.

The post-test will be very similar in both content and format to the pre-test. By reviewing the pre-test and the reference list, you will be prepared to take the post-test.

STEP 6

Performance Test Plan

Purpose

To make a detailed plan for the performance test listing concepts, principles, facts, terms, and skills to be performed

Advisor's Tasks

Assist student in completing Performance Test Plan

Review portfolio with student

Students' Tasks

Plan the performance test and complete the Performance Test Plan

Materials Needed

Performance Test Plan

Student Portfolio

Desired Outcome

Test is planned and plan is completed. Prepared for Step 7.

Performance Test Plan

The evaluation advisor will meet with you following the written test to discuss possible subjects for the performance test. If the written test shows several areas of weakness, you will be required to do more than one demonstration. The advisor will conference with you concerning the type and number of demonstrations within the performance test.

When the subject of the demonstration is determined, the evaluation advisor and student will develop a plan for the demonstration. The plan will include a list of materials needed, techniques to be demonstrated, and knowledge (concepts, principles, facts, and terms) needed for performance of this skill. This plan must be given to each member of the evaluation committee at least five days prior to the performance test. You are responsible for scheduling the performance test with all members of the committee.

Another task to be accomplished in this step is to review the student portfolio. The advisor and student will review the portfolio and the advisor will make a critique of the work. The student will revise the portfolio according to this critique. It will then be sent to members of the evaluation committee for their review. Each will read the portfolio and will give a score of "pass" or "fail."

HAVEE PROGRAM PERFORMANCE TEST PLAN

This form is to be completed by the student in conference with the advisor to help plan the performance test. It should be submitted to each committee member at least five days prior to the testing date.

Student_____ Date_____

Date and time of performance test_____

Location for performance test_____

Evaluation Committee_____
advisor

_____

Name of performance_____

Competency to be shown_____

Catagory (Refer to Evaluation Advisor's Manual, beginning on page 155)

_____

Concept(s)_____

Materials and equipment needed

Techniques to be demonstrated

Knowledge (Concepts, principles, facts, and terms) to be demonstrated

HAVEE PROGRAM PERFORMANCE TEST PLAN
(continued)

Name of performance _____

Competency to be shown _____

Catagory _____

Concept _____

Materials and equipment needed

Techniques to be demonstrated

Knowledge (Concepts, principles, facts, and terms) to be demonstrated

STEP 7

Performance Test

Purpose:

To evaluate your skills in food preparation

Advisor's Tasks

Arrange for testing location

Evaluate performance test

Complete Summary of Performance Test and sent to committee

Students' Tasks

Schedule performance test with advisor

Materials Needed

Performance Test Plan

Performance Test Rating Sheet

Summary of Performance TEst

Student Evaluation Agreement

Desired Outcome

Performance test completed, scored, and recorded on Agreement

Performance Test

The performance test is the seventh step in the examination process. You will show the evaluation committee, through the performance of a demonstration or demonstrations, that you know the concepts, principles, facts, terms, and skills that would be acquired through study in NFS 1301 and 1302. The subject of the performance test will be determined by the results of the written test. In any area which you scored 80 or lower, you will give a demonstration. Because the program is competency based, evaluators must be certain you have learned all the competencies covered in the course through your prior learning. Therefore, one or more areas will be selected for the performance test.

The demonstration should follow the plan set by the Performance Test Plan. At the close of each performance, a question and answer period will be held. The committee may ask the student anything they have questions about concerning the demonstration.

STEP 8

Oral Examination

Purpose

To evaluate your skills and knowledge of the material covered in Food Preparation Principles, NFS 1301 and 1301

Advisor's Tasks

Arrange for testing location

Evaluate students' skills and knowledge

Students' Tasks

Schedule oral examination with committee members

Materials Needed

Oral Examination Worksheet

Oral Examination Critique form

Desired Outcome

Oral examination completed and recorded on the Student Evaluation Agreement

Oral Examination

The oral examination is the final test in the evaluation process. It is given as a final summation of the other tests. If the evaluation committee has any questions about anything you've done in the evaluation process, this is when you will have an opportunity to explain. For example, if you reversed two steps in the performance test, they will give you an opportunity to explain the correct procedure. During the oral examination, you will also have an opportunity to add any additional information you may feel is important to the evaluation.

The best way to prepare for the oral examination is to review everything you have done in the evaluation process. Review the critique form from the performance test for further information on what the committee will ask you. You should also review the results of the written test.

Scoring for this examination will be "pass" or "fail", either you have the competencies covered in the class or you do not know them. You will receive a critique sheet from committee members on the oral examination.

Successful completion of the oral examination completes the HAVEE program evaluation process. You will now receive credit for Food Preparation Principles, NFS 1301 and 1302.

BIBLIOGRAPHY

The following sources were used in creating the HAVEE model program. For further information on the evaluation of experiential learning, refer to these sources.

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Ekstrom, R.B., Harris, A.M., and Lockheed, M.E. How to get college credit for what you have learned as a homemaker and volunteer. Princeton, N.J.: Educational Testing Service, 1977. (ERIC Document Reproduction No. 158 676)

Forrest, Aubrey. Experiential Learning and the Assessment Problem. American Vocational Journal, October 1976, 51 (7), 39-41.

Knapp, Joan. Assessing Prior Learning--A CAEL Handbook. Columbia, MD.: Cooperative Assessment of Prior Learning, 1977. (ERIC Document Reproduction Service No. ED 148 845)

Meyer, P. Awarding college credit for non-college learning. San Francisco: Josey-Bass, 1975.

Willingham, W. & Nesbitt, H. Implementing a program for assessment of experiential learning. Princeton, N.J.: Cooperative Assessment of Prior Learning, 1976.

Wylie, N. Implementing competency based assessment of prior learning--A CAEL institutional report. Princeton, N.J.: Educational Testing Service, 1976. (ERIC Document Reproduction Service No. ED 148 854)

APPENDIX C

TEST ITEMS RELATING TO VEGETABLE CONCEPTS

These items are exemplary of test items that should be written for each of the topics of the course. This test itme pool covers one topic--vegetables. There are 26 concepts related to vegetables. These are listed beginning on page 108 of the evaluation Advisor's Manual

The number to the left of each item indicates the level in Bloom's Taxonomy of Educational Objectives. At the end of each item, the concept number is listed. The key to items follows beginning on page 294.

TEST ITEMS RELATING TO VEGETABLE CONCEPTS

Levels

1.12 1. List four characteristics of food that should be considered in meal planning. (Concept 1)

1.11 2. Circle the words that are not types of vegetables. (Concept 2)

bulb root tuber pome fiber

1.11 3. Select the correct form from the right column for each of these vegetables listed and write the letter in the blank. (Concept 2)

____	1. beets	a.	bulb
____	2. broccoli	b.	flowers
____	3. celery	c.	fruits
____	4. carrots	d.	leaves
____	5. cauliflower	e.	root
____	6. lettuce	f.	seeds
____	7. okra	g.	stems and shoots
____	8. onions	h.	tuber
____	9. peas		
____	10. potatoes		
____	11. tomato		
____	12. turnip greens		

1.12 4. Cells of green leafy vegetables contain _____ which results in crispness. (Concept 3)

1.12 6. Match the pectic substance present at each maturity level of the vegetable. Write the letter to th left of each substance. (Concept 3)

____ 1.	pectic acid	a. immature vegetables
____ 2.	pectin	b. mature vegetables
____ 3.	protopectin	c. overmature vegetables

1.12 7. The carbohydrate present in immature corn and potatoes have a high percentage of _____. (Concept 3)

1.12 8. The carbohydrate present in mature corn and potatoes have a high percentage of _____. (Concept 3)

2.20 9. Match the nutrient to the vegetable in which it occurs in the highest proportion. Write the letter in the space to the left of the vegetable. (Concept 4)

____ 1.	broccoli	a. ascorbic acis
____ 2.	dry beans	b. calcium
____ 3.	green peas	c. carptene
____ 4.	squash	d. iron
____ 5.	turnips	e. protein
____ 6.	turnip greens	

1.12 10. Ascorbic acid levels of vegetables are influenced by what two environmental factors? (Concept 5)

1.11 11. Define the term "organic". (Concept 6)

1.12 12. List three storage conditions necessary to keep vegetables fresh. (Concept 7)

1.12 13. The Agricultural Marketing Agreement Act of 1937 granted authority for marketing orders and agreements for the purpose of: (Concept 8)

a) selling wheat to USSR

b) regulating quantity and quality of commodities

c) grading fresh meats

d) transporting bananas to Canada

1.12 14. List two factors to consider in choosing the most appropriate form of vegetable for end use. (Concept 9)

1.12 15. List three characteristics to consider in choosing fresh vegetables of the highest quality. (Concept 9)

1.12 16. List two rules to consider in choosing the best frozen vegetable. (Concept 9)

1.12 17. List two rules to consider in choosing the best canned vegetables. (Concept 9)

1.21 18. List two rules for choosing the best variety of tomato for stewing. (Concept 10)

1.21 19. List two rules for choosing the best variety of tomato for broiling. (Concept 10)

1.24 20. List criteria for choosing best potatoe for boiling.

1.11 21. Define "waxy" and "non-waxy" as it relates to potatoes. (Concept 10)

1.23 22. List grades for fresh vegetables and qualities that determine grades. (Concept 11)

1.23 23. List grades for canned vegetables and qualities that determine grades. (Concept 11)

1.23 24. List grades for frozen vegetables and qualities that determine grades. (Concept 11)

1.11 25. The nutrient labeling is based upon nutrients within:

a) one container b) one serving
b) One quart d) 2 cups

1.12 26. What three management factors should be considered when choosing between convenience foods and a home prepared product? (Concept 13)

1.12 27. Match the proper storage to the vegetable. Each form of storage may be used more than once. (Concept 14)

____ 1. fresh potatoes	a. cool, dry cabinet
____ 2. fresh tomatoes	b. hydrator drawer of refrigerator
____ 3. frozen corn	c. frozen food section of the refrigerator
____ 4. fresh lettuce	
____ 5. onions	
____ 6. canned green beans	

1.23 28. Describe how fresh vegetables should be treated prior to storage. (Concept 14)

1.12 29. Describe how the storage of potatoes can affect the proportion of starch and sugar (Concept 14)

1.12 30. Oxidative changes during storage result in loss of _____and _____. (Concept 14)

1.12 31. Complete the following chart. (Concept 15)

Vitamin	Soluable in Water	Sensitivity to: oxygen	light	Heat in presence of: acid	alkaline
Vit. A	No	Sensitive			
Thiamin			Stable		
Riboflavin					
Niacin					
Vit. C.					Stable
Vit. D.				Stable	

1.12 32. How does an alkaline medium affect the texture of vegetables? (Concept 16)

1.12 33.

1.12 33. How does an acid medium affect the texture of vegetables? (Concept 16)

1.12 34. Describe the effect of calcium ions on the preparation vegetables. (Concept 16)

1.12 35. List the three basic pigments and examples of a vegetable in which they would be present. (Concept 17)

1.12 36. What is the effect of using a lid on the pan on the pH of cooking medium? (Concept 17)

1.24 37. What is the effect of cooking time on chlorophyll? (Concept 17)

1.12 38. Complete the following chart. (Concept 17)

Pigment	Color in acid	Color in alkali	Color reaction to metals
Chlorophyll		Bright Green	
Carotenoids	Orange		
Anthoxanthins			
Anthocyanins			Iron: purple

1.12 39. What is the effect of using a lid on the pan on strong-flavored vegetables? (Concept 18)

1.25 40. Describe how to prepare the following vegeatbles for cooking. (Concept 19)

broccoli
cabbage
cauliflower
potatoes
spinach

1.12 41. What are the three factors important in deciding how to cut vegetables? (Concept 20)

1.12 42. Cooking of vegetables will _____ the cellulose, alter the flavor, digestibility, and _____ the starch. (Concept 21)

1.25 43. Describe the proper method of boiling a vegetable. (Concept 21)

1.25 44. Match the vegetable to a possible method of cookery. Each method may be used more than once. Place the letter next to the method in the blank. (Concept 21)

____	1. artichoke	a.	baked
____	2. brocolli	b.	boiled
____	3. dry beans	c.	broiled
____	4. onions dipped in batter	d.	fried
____	5. potatoes in the skin	e.	simmered
____	6. spinach	f.	stir-fried
____	7. thinly sliced water chestnuts		
____	8. tomatoes		

1.12 45. What is the effect of vigorously boiling water on the appearance of the vegetable? (Concept 21)

1.12 46. Describe the proper endpoint for boiled begetables.

1.12 47. What special equipment is needed for steaming? (Concept 21)

1.12 48. Which vegetables should not be steamed? (Concept 21)

1.12 49. What is the effect of steaming on nutrients present in vegetables? (Concept 21)

1.25 50. Describe the proper method of simmering a vegetable. (Concept 21)

1.12 51. Which vegetables should be simmered? (Concept 21)

1.25 52. Describe two methods of shortening the simmering time for vegetables? (Concept 21)

1.12 53. Which vegetables are appropriate for baking? (Concept 21)

1.25 54. Describe the proper method of baking a vegetable. (Concept 21)

1.12 55. What is the function of a covered casserole in baking some vegetables? (Concept 22)

1.12 56. What vegeatbles are appropriate for broiling? (Concept 22)

1.25 57. Describe the proper method of broiling a vegetable. (Concept 22)

1.25 58. Describe two methods of frying a vegetable. (Concept 23)

1.12 59. What is the effect of fat that is too hot during frying? (Concept 23)

1.12 60. What is the effect of fat that is too cool during frying? (Concept 23)

1.12 61. Stir-fried vegetables are softened, but still have a slightly _____texture. (Concept 23)

1.25 62. Describe the proper method of stir-frying. (Concept 23)

1.12 63. Home canned vegetables should be boiled for ____ minutes to avoid the possibility of _____. (Concept 24)

1.25 64. Describe the proper method of preparing canned vegetables. (Concept 24)

1.12 65. Describe the proper method of preparing frozen vegetables. (Concept 25)

1.12 66. Describe the best method to mix vegetables with sauces. (Concept 26)

TEST ITEMS RELATED TO VEGETABLE CONCEPTS

Answer Key

1. colors, flavors, shapes, textures

2. fiber pome

3.

1. e	5. b	9. f
2. f	6. d	10. h
3. d	7. c	11. c
4. e	8. a	12. d

4. water

5. adds to the rigidity of cells

6.
   1. c
   2. b
   3. a

7. sugar

8. starch

9.
   1. a
   2. e
   3. d
   4. a
   5. b
   6. c

10. rainfall and sunlight

11. vegetables grown only with natural fertilizer and without the aid of pesticides

12. control of moisture, air circulation, and temperature

13. b

14. price and availability

15. color, crispness, freedom from blemishes

16. Choose product for the end use. Choose grade based on end use.

17. Choose product based on end use. Choose grade based on end use.

18. Choose tomatoes with lots of juice, soft pulp

19. Choose meaty tomatoes, little juice

20. Potatoes that hold their shape when cooled

21. waxy--potatoes high in sugars and low in starch
non-waxy--potatoes high in starch and low in sugar

22. U.S. Grade A, B, C. based on color, tenderness, and freedom from blemishes

23. U.S. Grade A, B, C. based on color, tenderness, and freedom from blemishes

24. U.S. Grade A, B, C. Based on color, tenderness, and freedom from blemishes

25. b

26. time, money, and energy expended

27. 1. a
2. b
3. c
4. b
5. a
6. a

28. Spoiled portions cut off, excess foilage cut off

29. cooler temperatures favor conversion of carbohydrate to sugar

30. vitamin A and ascorbic acid

31.

Vit.	Soluable	Oxygen	Light	Acid	Alkaline
A	No	Sens.	Sens.	Stable	Stable
Thiamin	Yes	Stable	Stable	Sens.	Sens.
Riboflavin	Yes	Stable	Sens.	Sens.	Sens.
Niacin	Yes	Stable	Stable	Stable	Stable
C	Yes	Sens.	Sens.	Sens.	Sens
D	No	Stable	Stable	Stable	Stable

32. Vegetable softens. Pieces become mushy.

33. Retards softening rate of vegeatble

34. It retards the softening rate of vegetables

35. Chlorophyll-brocolli
Carotenoids-carrots
Flavonoids-cauliflower

36.

Pigment	Acid	Alkali	Metals
Chlorophyll	Olive Green	Bright Green	Copper, iron: bright greem
Carotenoids	Orange	Orange	
Anthoxanthins	White	Yellow	Aluminum: yellow Iron: brown
Anthocyanins	Red	Blue to Green	Iron: blue Tin: purple

37. Vegetables lose organic acids in water causing an increase in acidity

38. Green vegetables cooked no more than seven minutes will retain chlorophyll

39. Brocolli--trim excess leaves. Split stem in an X to allow heat to penetrate
Cabbage--trim excess leaves. Shread or cut into wedges
Cauliflower--cut off stem close to head. Cut into flowerets
Potatoes--scrub, peel, cut out blemishes

40. type of preparation, maturity of vegetable, and shapes of other foods to be served

41. soften, gelatinizing

42. Bring water to boil, then add vegetables. Kepp at a gently boil. Cook minimum time.

43. Vigorously boiling water disrupts shape

44. Cook until barely tender

45. a pan to boil water in and a basket above water

46. green or strong-flavored vegetables

47, water soluable vegetables are not lost

48. vegetable is heated in simmering water

49. dry beans and peas

50. overnight soak. bring water to a boil, then soak for 1 hour

51. vegetables that have thick skins or those that are cooked in a covered casserole

52. wash, cook at high temperatures

53. hold in moist air

54. tomatoes, parboiled onions, those that soften quickly

55. slice in half, place under broiler

56. deep-fat or shallow-fat frying

57. vegetables brown excessively

58. fat is absorbed into food

59. crisp

60. vegetables sliced thinly, melt butter, add vegetables, stir

61. 15, botulism

62. heat in canning water until warm

63. place frozen vegetables in ½ c. boiling water

64. drain vegetables before pouring sauce over

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