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COURSE OBJECTIVES FOR INDUSTRIAL TECHNOLOGY I, THE WORLD OF CONSTRUCTION.

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OBJECTIVES ARE PRESENTED FOR A 1-YEAR COURSE IN INDUSTRIAL ARTS, "THE WORLD OF CONSTRUCTION." THESE WERE PREPARED AT TWO LEVELS -- (1) STATEMENTS INDICATING THE MORE GENERAL OUTCOMES OF THE COURSE OF INSTRUCTION, AND (2) STATEMENTS OF A DETAILED NATURE SPECIFYING DAILY TERMINAL BEHAVIOR OF PUPILS. THE OBJECTIVES COVER THE COGNITIVE, AFFECTIVE, AND PSYCHOMOTOR DOMAINS OF EDUCATIONAL OBJECTIVES AND EMPHASIZE BOTH MASTERY AND TRANSFER DIMENSIONS. A STUDY OF INDUSTRIAL ARTS WILL ENABLE THE PUPILS TO -- (1) UNDERSTAND THE CONCEPTS, PRINCIPLES, GENERALIZATIONS, PROBLEMS, AND STRATEGIES OF INDUSTRIAL TECHNOLOGY, (2) HAVE AN INTEREST IN AND AN APPRECIATION FOR INDUSTRY AS THAT ELEMENT OF THE ECONOMIC SYSTEM THAT PROVIDES INDUSTRIAL MATERIAL GOODS FOR THE SATISFACTION OF HUMAN WANTS FOR THOSE GOODS, AND (3) DEMONSTRATE KNOWLEDGE AND SKILLS THAT WILL BE USEFUL IN LIFE SITUATIONS OF OCCUPATIONAL, RECREATIONAL, CONSUMER, AND SOCIOCULTURAL SIGNIFICANCE. SEVENTEEN COURSE OBJECTIVES ARE LISTED. BEHAVIORAL OBJECTIVES ARE LISTED FOR 170 DAYS OF INSTRUCTION. COMPANION DOCUMENTS ARE VT 003 145, VT 003 203, VT 003 204, AND VT 003 210. (EM)

ATTACHMENT B

IACP industrial arts curriculum project

COURSE OBJECTIVES

FOR

INDUSTRIAL TECHNOLOGY I

THE WORLD OF CONSTRUCTION

Industrial Arts Curriculum Project

Preliminary Draft

August 1966

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INTRODUCTION

This paper presents the objectives of a First Year Course in industrial arts for the junior high school as they have been developed by the staff of the Industrial Arts Curriculum Project. These objectives have been prepared at two levels: (1) statements indicating the more general outcomes of the course of instruction and (2) statements of a detailed nature specifying daily terminal behavior of pupils.

To provide a setting for these objectives, a statement of general educational aims for all schools, prepared by the National Committee of the Project on Instruction of the National Education Association, is presented. To focus more directly on the objectives of education during the junior high school years, this paper presents a statement by the Association for Supervision and Curriculum Development. To complete the setting, the purposes of industrial arts at all school levels have been developed by the staff of the Industrial Arts Curriculum Project and are herein listed.

It should be noted that while general aims or objectives provide overall direction, they are ineffective in communicating the detailed means and outcomes of education.

More detailed objectives provide the educator with more detailed direction for planning programs of instruction and evaluating the effectiveness of these programs in terms of desired student behavior change.

AIMS OF EDUCATION

It is impossible to present any one set of universally recognized aims of education. Since before the turn of this century, groups of educators and individuals have issued many and varied statements of purpose for schools.

During the past decade, there have been signs of more general agreement regarding the tasks of education. Although some educators hold different points of view on basic questions, there is more than a modicum of agreement. One recent and prominent statement is presented here.

In 1963, the National Committee of the Project on Instruction of the NEA recommended that priorities in educational objectives need to be placed upon:

1. learning how to learn, how to attack new problems, and how to acquire new knowledge.

2. using rational processes and developing an abiding interest in learning.

3. exploring values in new experiences.

4. understanding concepts and generalizations.

5. competence in basic skills.

The Committee recommended these objectives for schools in every community in every part of the United States.*

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*Source
National Education Association, Deciding What to Teach. NEA Project on Instruction. Washington, D.C.: The Association, 1963, pp. 92-93.

OBJECTIVES OF EDUCATION

JUNIOR HIGH SCHOOL LEVEL

The statement cited below expresses the unique characteristics of the outcomes of education at the junior high school level. These points are in harmony with the prior general statement of the NEA and sharpen the focus on the objectives and function of the junior high school.

Education in the junior high school years should result in young people who have:

1. a sense of positive self-worth and an enhanced understanding of others.

2. a genuine interest and strengthened competence in several areas of learning, and acquaintance with the world of work.

3. mastery of basic skills of inquiry and study so that independent work may be pursued more adequately.

4. an increased capacity to discipline themselves to work, study and play constructively and with satisfaction to themselves and others.

5. a moral and ethical sense which values the goals and processes of a free society.*

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*Source

Association for Supervision and Curriculum Development, The Junior High School We Need. Washington, D.C.: The Association, 1961, p. 3.

OBJECTIVES OF INDUSTRIAL ARTS

The objectives presented below are general industrial arts objectives. They are applicable to all program levels in industrial arts from elementary school through collegiate and adult programs. These objectives have been prepared by the staff of the Industrial Arts Curriculum Project and are intended to direct development of programs designed to explicate the body of knowledge of industrial technology.

The objectives cover the cognitive, affective, and psychomotor domains of educational objectives, and emphasize both mastery and transfer dimensions.

A study of industrial arts will enable pupils to:

1. understand the concepts, principles, generalizations, problems, and strategies of industrial technology.

2. have an interest in and an appreciation for industry as that element of the economic system that provides industrial material goods for the satisfaction of human wants for those goods.

3. demonstrate knowledge and skills that will be useful in life situations of occupational, recreational, consumer, and socio-cultural significance.

OBJECTIVES FOR FIRST YEAR COURSE

CONSTRUCTION

As a result of this course, the student will:

1. be aware of man's practices in industry that change the forms of materials to satisfy human wants for material products.

2. be aware of the historical significance of the construction phase of industry in society.

3. be aware of the concepts, principles, generalizations, problems, and strategies of construction technology.

4. be aware of and value management practices of planning, organizing and controlling as they relate to satisfying human wants through men and materials.

5. be able to comprehend the concepts of planning, organizing and controlling.

6. be able to analyze the interrelationships between planning, organizing and controlling.

7. be able to perform selected management practices in planning, organizing and controlling as they would relate to actual practice in the field of construction.

8. be able to perform selected production practices using tools and materials common to the construction industry.

9. develop understandings and appreciations through experiencing practices and applying knowledge to various real and simulated production situations in construction.

10. associate and discriminate between pre-processing, processing, and post processing practices used in on-the-site construction of a structure.

11. comprehend the universality of production practices as they relate to any structure.

As a result of this course, the student will:

12. gain knowledge, comprehend concepts, apply knowledge to production procedures, analyze production processes, synthesize production practices, and evaluate the results of production in various situations.

13. gain knowledge and appreciation of the practices of hiring, training, working, advancing, and retiring.

14. be able to identify, associate and discriminate between occupations in the construction industry.

15. gain experience in performing the practices of personnel relations.

16. be able to manipulate his knowledge and skills to investigate factors involved in community development of constructed works as they relate to an environmental setting.

17. gain appreciation and understanding of how man changes the forms of materials to satisfy human wants through construction by conceptualizing ideas, discovering principles, forming generalizations, solving problems, and determining strategies typical of construction technology.

DAILY OBJECTIVES

DAY 1

The student will be able to:

1. understand the purposes of industrial arts.

2. understand the purposes of the course.

3. make effective use of course material.

DAY 2

The student will be able to:

1. describe the hostile natural environment of early man and the need for environmental control.

2. describe some of man's primitive tools and their influence of his environment.

3. Trace the gross evolution of the basic social institutions.

DAY 3

The student will be able to:

1. define the present economic institution of man.

2. explain the changing relationships between material production and other economic activity.

3. list and define the major categories of material production.

4. list and define the major categories of industrial material production.

5. state an equation for man's material welfare.

DAY 4

The student will be able to:

1. define the function and contribution which industry provides in the economic system of society.

2. become aware of man's progress in producing, using, and servicing industrial material goods that he wants.

DAY 5

The student will be able to:

1. list the three major concept classes of industrial management.

2. recall the three major concept classes of industrial production.

3. identify the five major concept classes of practices with humans in industry.

DAY 6

The student will be able to:

1. trace the gross development of construction.

2. define the purposes for constructed structures.

3. identify major types of constructed structures.

DAY 7

The student will be able to:

1. define and list the three major concepts in management in construction.

2. define the functions and list in sequence the four major phases in production in construction.

DAY 8

The student will be able to:

1. express the interrelationships between the activities in the phases of initiation, inputs, management, production activities, outputs, and satisfaction of wants.

DAY 9 (optional)

Continuation of day 8.

DAY 10

The student will be able to:

1. become aware of the life and characteristics of a person who works in the construction field.

2. discuss some of his desires concerning a possible future in the construction field.

DAY 11

The student will be able to:

1. recall the three phases of industrial management, planning, organizing and controlling.

2. recognize that each one of these phases is not independent but rather that they are interrelated.

3. recognize the role of the industrial manager in planning, organizing and controlling men and materials in the manufacturing and construction industries.

DAY 12

The student will be able to:

1. list the phases of planning.

2. define planning in this context.

3. recognize the need for planning an industrial problem.

DAY 13

The student will be able to:

1. define formulating.

2. list phases of formulating.

3. explain what is meant by determining goals.

4. explain what is meant by establishing specific objectives.

DAY 13 (continued)

The student will be able to:

5. explain what is meant by setting policies.

6. explain what is meant by programming.

7. list possible goals for a given construction project.

8. identify those responsible for formulating.

DAY 14

The student will be able to:

1. list phases of researching.

2. define researching.

3. explain what is meant by retrieving.

4. explain what is meant by describing.

5. explain what is meant by experimenting.

6. explain what is meant by forecasting.

7. identify resources for retrieval of information.

8. identify those responsible for experimenting.

DAY 15

Continuation of day 14.

DAY 16

The student will be able to:

1. identify the problems involved in communicating ideas verbally and visually.

2. identify the problems in constructing a visual reproduction from verbal ideas.

3. identify the problems in reproducing sketches, and the need for developing basic skills in sketching.

4. identify how man has communicated his ideas historically.

DAY 17

The student will be able to:

1. identify the fundamentals (shape and proportion) in visual communication.

2. identify visual communication terminology.

3. explain advantages of sketching.

DAY 18

The student will be able to:

1. identify the elements (lines and curves) of sketching.

2. identify and use the equipment and materials necessary in producing a visual idea.

3. construct the elements, (straight, intersecting, parallel lines, curves, triangles, ellipse, and circles), of sketching.

4. identify the need for size description information.

5. solve basic dimensioning problems of objects.

6. read a rule to 1/16 of an inch.

DAY 19

Continuation of day 18.

DAY 20

Continuations of days 18 and 19.

DAY 21

The student will be able to:

1. identify and differentiate between the types of sketching forms. (Pictorial and multi-view)

2. construct sketches in pictorial form from actual objects or models selected from our constructed environment.

DAY 21 (continued)

The student will be able to:

3. construct sketches in multi-view form from actual objects or models.

4. identify and differentiate between the different elevations in multi-view sketching.

DAY 22

Continuation of day 21.

DAY 23

Continuation of days 21 and 22.

DAY 24

The student will be able to:

1. construct the necessary multi-view elevations from objects or models selected from our constructed environment.

2. determine the need for possible construction of a simple model.

3. visually communicate his ideas to others. The interpretation by others of his sketches will provide the means of evaluating his ability to communicate ideas.

DAY 25

The student will be able to:

1. identify the role of sketching in mans daily life.

2. identify the formal representation of ideas from sketches.

3. identify the materials and equipment necessary in producing formal drawings.

4. identify and compare the occupations involved in the visual communication of an idea.

DAY 26

The student will be able to:

1. define the designing phase.

2. list the classes of practice under designing.

3. explain the need of the design phase.

4. recognize the importance of design.

5. list four stages of design history and explain each.

6. list characteristics of good design.

DAY 27

The student will be able to:

1. define function.

2. explain the need to establish functions.

3. determine some functions when given a particular problem.

4. explain what performance specifications are and how they will effect a design solution.

5. search out and present some performance specifications for a problem.

DAY 28

The student will be able to:

1. create a solution in principle for a given problem.

2. explain what is meant by conceiving a solution in principle.

3. explain what is meant by conceiving alternate solutions to a design problem.

4. conceive some alternate solutions for a given design problem.

DAY 29

The student will be able to:

1. explain how one might select a solution for a design problem.

2. select a solution setting ones own criteria.

DAY 30

The student will be able to:

1. list ways of communicating a design solution.

2. communicate ones own design solution.

DAY 31

The student will be able to:

1. explain need for model making as it relates to design and engineering.

2. list types of models and where they take place in the design phase.

3. list materials used in building models at their respective levels of complexity.

DAY 32

The student will be able to:

1. explain how engineering relates to design and how it may in fact be design.

2. list practices which go on in engineering.

3. expand engineering beyond the drawings in terms of structures and calculations being made.

DAY 33

The student will be able to:

1. explain the need for working drawings.

2. read a simple detailed drawing.

DAY 33 (continued)

The student will be able to:

3. detail a drawing at his own level for others to understand.

4. identify those who use working drawings and for what purposes.

DAY 34

The student will be able to:

1. explain what specifications are.

2. identify who writes them and who uses them.

3. identify the need for specifications in terms of estimating and purchasing materials.

4. prepare an example specification at their own level.

DAY 35

The student will be able to:

1. identify who does the estimating.

2. explain the need for estimating in terms of obtaining the services of contractors as well as the actual realization of the potential of the project.

3. define estimating.

4. estimate a project at his own level.

5. define scheduling.

6. identify who makes up the schedules.

7. give examples of schedules.

8. simulate a schedule for a project at his own level.

DAY 36

The student will be able to:

1. define organizing.

2. list two major phases under organizing.

3. recognize the importance of organizing men and materials as they relate to a construction project.

DAY 37

The student will be able to:

1. list elements under structuring.

2. recognize the need for structuring a staff to perform various tasks.

3. explain what is meant by analyzing work tasks.

4. identify work tasks for a particular construction project.

5. explain what is meant by determining worker functions.

6. explain what is meant by establishing roles.

7. explain what is meant by setting work conditions.

DAY 38

The student will be able to:

1. explain supply in terms of what is supplied.

2. list phases under supplying.

3. explain what is meant by requisitioning.

4. fill out requisition forms for a given project.

5. explain sub-contracting as related to obtaining the services of people.

6. explain what is meant by procuring.

7. be aware of the need to sub-contract.

DAY 38 (continued)

The student will be able to:

8. be aware of importance of routing and storing.

9. explain routing.

10. explain storing.

DAY 39

Continuation of day 38.

DAY 40

The student will be able to:

1. answer questions on achievement test.

DAY 41

The student will be able to:

1. explain what is meant by controlling in this context.

2. list the phases under controlling.

3. recognize controlling as being a major element in the execution of a construction project.

DAY 42

The student will be able to:

1. define directing.

2. list phases under directing.

3. explain what is meant by supervising.

4. explain what is meant by coordinating.

5. identify people who do these jobs.

6. list the responsibilities of these people.

DAY 43

The student will be able to:

1. explain what is meant by monitoring.
2. list phases under monitoring.
3. define inspecting.
4. list types of inspecting.
5. explain what each type of inspecting involves.
6. explain what is meant by inventoring.
7. explain what is meant by timekeeping.
8. fill out an inventory sheet.
9. recognize the need for inventoring.
10. list methods of timekeeping and why it must be done.

DAY 44

Continuation of day 43.

DAY 45

The student will be able to:

1. define reporting.
2. be aware of the need to report findings.
3. list phases under reporting.
4. explain what is meant by compiling.
5. explain what is meant by appraising.
6. explain what is meant by notifying.

DAY 46

The student will be able to:

1. define correcting.

2. be aware of the need for corrective actions on a construction project.

3. explain what is meant by adjusting and give examples.

4. explain what is meant by expediting and give examples.

5. explain what is meant by restraining and give examples.

6. explain what is meant by replanning.

7. explain what is meant by redirecting.

8. explain what is meant by retraining.

DAY 47

The student will be able to:

1. answer questions on achievement test.

DAY 48

Continuation of days 16 through 25.

DAY 49

Continuation of day 28.

DAY 50

Continuation of day 29.

DAY 51

Continuation of day 31.

DAY 52

Continuation of day 32.

DAY 53

The student will be able to:

1. define what is meant by changing the forms of materials.

2. indicate the scope and purpose of changing the forms of materials.

3. outline the major activities by which man changes the form of materials.

DAY 54

The student will be able to:

1. give reasons why a site is prepared.

2. indicate the major stages in preparing a site.

3. indicate that the form of the site itself is changed.

DAY 55

The student will be able to:

1. classify terminology as related to temporary facilities.

2. identify the scope or kinds of temporary facilities.

3. identify common problems associated with the provision of temporary facilities.

4. to give reasons for the provision of temporary facilities - recognize the need.

DAY 56

The student will be able to:

1. give reasons why personnel and property should be protected.

2. give reasons why it is necessary in many instances to lay roads and walkways.

DAY 56 (continued)

The student will be able to:

3. identify some of the common problems associated with the provision of access.

4. clarify terminology related to the provision of temporary access and protection.

5. (given sites) select appropriate means of providing access and identify areas where protection may be necessary.

6. identify the practices common to the provision of temporary access and protection.

7. to simulate the processes of setting up temporary access and protection.

8. give the basic principles behind selected practices - where applicable.

DAY 57

The student will be able to:

1. clarify terminology as related to the establishing of temporary shelters.

2. identify the basic processes involved in the establishing of temporary shelters.

3. give reasons for the establishing of temporary shelters.

4. identify the basic characteristics of these temporary shelters.

5. identify the practices common in establishing temporary shelters noting alternatives.

6. to simulate the deployment and processes of establishing temporary shelters on model cites.

7. give reasons where applicable for the practices involved in setting up temporary shelters.

DAY 58

The student will be able to:

1. clarify terminology as related to providing temporary utilities - distinguish between types.

2. give reasons why temporary utilities are needed.

3. identify the sources from which these temporary utilities may be obtained.

4. identify the practices commonly used in the provision of temporary utilities.

5. put in sequence the practices appropriate for providing a particular utility.

6. identify some common materials, tools and equipment used in providing temporary utilities.

7. give reasons for the inclusion of certain practices common in providing temporary utilities.

8. simulate the provision of temporary utilities on full scale equipment - perform common practices.

9. give reasons for choosing certain utility sources.

DAY 59

The student will be able to:

1. clarify terminology as related to clearing the site.

2. identify the scope of clearing, and the major processes involved in clearing the site.

3. give reasons why it may be necessary to clear all or part of a site.

4. identify common obstacles which may have to be cleared.

5. identify common conditions found in clearing.

DAY 60

The student will be able to:

1. clarify terminology as related to the reduction of obstacles and their extraction.

2. give reasons why obstacles may have to be reduced.

3. identify and associate (with obstacles) the various means of reducing obstances.

4. compare methods of reducing obstacles.

5. distinguish between the methods used for (a) demolishing and (b) extracting.

6. identify the practices commonly used for demolishing and salvaging - distinguish between demolishing and salvaging.

7. give reasons why obstacles may have to be extracted.

8. identify common practices used in extracting.

9. describe the practices used in reducing obstacles and identify some commonly used equipment and materials.

10. give the basic principles behind certain practices.

11. identify types of obstacles which may need to be extracted.

12. select appropriate methods of reducing (given) obstacles.

DAY 61

The student will be able to:

1. clarify terminology as related to the handling of materials.

2. identify the source and nature of materials requiring handling.

3. give reasons why these materials require handling.

4. identify the processes common in handling materials.

DAY 61 (continued)

The student will be able to:

5. identify the practices commonly used in each of these practices.

6. identify and associate (with materials and practices) some of the more commonly used equipment.

7. give reasons why alternative means of handling different materials might be selected.

8. give estimates of the type and size of the materials being handled.

9. give basic principles behind selected practices.

10. give reasons why one method of disposal of material might be selected over another.

11. select appropriate means of handling given materials.

DAY 62

The student will be able to:

1. clarify terminology as related to surveying for construction.

2. describe equipment commonly used in surveying.

3. give reasons why it is necessary to survey for construction.

4. identify the major processes involved in surveying for construction.

5. give reasons for the high degree of accuracy necessary in surveying for construction.

6. identify the practices used in surveying.

7. describe the practices used in surveying.

8. perform practices related to surveying for construction.

DAY 63

The student will be able to:

1. clarify terminology as related to earthworking.

2. give reasons why it may be necessary to move earth.

3. identify the major processes which may be involved in earthworking.

4. identify conditions and/or situations under which earthworking may be necessary.

5. identify and describe the basic characteristics of the two major types of materials which may have to be moved.

6. list some of the most commonly used pieces of equipment.

DAY 64

The student will be able to:

1. clarify terminology as related to the mobilization of special equipment.

2. give reasons why equipment is mobilized.

3. list the factors which determine the type of equipment which will be mobilized.

4. identify the major processes and their practices involved in mobilizing equipment.

5. identify some common pieces of earthworking equipment.

6. give the factors which may influence the choice of method or practice (position, quality of soil, etc.) adopted.

7. put in sequence the major processes and selected practices involved in mobilizing equipment.

8. manipulate model equipment.

DAY 65

The student will be able to:

1. clarify terminology as related to removing material.

2. describe the characteristics of the materials being moved in this case.

3. identify the processes involved in removing materials.

4. describe those processes and their practices which are similar to those used in clearing the site.

5. give the relationships between this and earlier phases of the work. (survey, etc.)

6. determine the scope of material removal and list the major applications.

7. identify the practices used in removing material and indicate alternatives.

8. give reasons for removing material and for the processes used in removing material.

9. identify and associate (with practices) some equipment and materials used in removing material.

10. Select (given certain sites conditions) appropriate means of moving materials.

11. manipulate and deploy equipment on model sites.

DAY 66

The student will be able to:

1. clarify terminology as related to the protection of existing utilities and structures.

2. give reasons why existing utilities and structures need to be protected.

3. identify utilities and describe situations under which they might need protection.

4. identify and describe the processes which might be adopted to protect utilities and/or structures.

5. identify and describe situations which might require that structures be protected.

DAY 66 (continued)

The student will be able to:

6. give the basic principles underlying a process or method of protecting existing utilities and/or structures.

7. select appropriate means of protecting existing utilities and/or structures as illustrated.

8. manipulate model equipment so as to 'protect' existing utilities and/or structures.

DAY 67

The student will be able to:

1. clarify terminology as related to the shaping and stabilizing of earthworks.

2. give reasons why it may be necessary to shape and/or stabilize earthworks.

3. identify the various methods (processes) and (practices) means of shaping and/or stabilizing earthworks - describe same.

4. give reasons why it may be necessary to adopt a given process or practice.

5. list and associate some equipment commonly used in shaping and stabilizing earthworks.

6. identify some materials commonly used in stablizing earthworks.

7. give the factors which may help in determining the method of stabilization to be adopted.

8. illustrate and/or describe where applicable some of the basic principles underlying certain practices.

9. analyze and select appropriate means of shaping and/or stabilizing various types of earthworks (from given pictures).

10. manipulate and deploy model equipment in model situations.

DAY 68 (optional)

Continuation of day 62, points 1 through 8.

DAY 69

The student will be able to:

1. define what is meant by structure.

2. give reasons why a structure is built.

3. indicate the major phases or stages in building a structure.

4. list and describe the many different kinds of structures which might be built.

DAY 70

The student will be able to:

1. clarify terminology as related to setting foundations.

2. define what is meant by foundation.

3. give reasons why foundations are necessary.

4. indicate by describing, illustrating or demonstrating that all structures for whatever purpose have some sort of foundation.

5. identify the major steps used in setting the foundations of any building.

6. describe and identify and associate (with soil conditions) the major types of foundations.

7. identify materials commonly used in foundation construction.

DAY 71

The student will be able to:

1. clarify terminology as related to the making of forms.

2. give reasons why forms are necessary.

DAY 71 (continued)

The student will be able to:

3. describe the characteristics of the foundation material for which forms are made.

4. identify some of the materials from which forms can be made.

5. identify the major processes involved in making and placing forms. Describe these processes.

6. give reasons why these processes are used.

7. identify and describe the various practices and associate them with the processes used in making and placing forms.

8. describe the basic characteristics of good formwork.

9. carry out the practices of making and placing formwork.

DAY 72

The student will be able to:

1. clarify terminology as related to setting reinforcement and preparing foundation materials.

2. identify the major characteristics of concrete and give reason why reinformement is used.

3. identify the materials most commonly used for reinforcement.

4. indicate and/or describe the form or shape of reinforcement.

5. identify and describe the basic processes and practices involved in setting reinforcement and preparing foundation materials.

6. put in sequence the basic processes and practices.

7. identify the materials used in making foundations.

DAY 72 (continued)

The student will be able to:

8. identify the characteristics of the materials used in foundations.

9. perform selected practices in setting reinforcement and preparing foundation materials.

DAY 73

The student will be able to:

1. clarify terminology as related to the handling of materials.

2. identify the types of materials to be handled.

3. give reasons why these materials must be handled.

4. indicate the scope of handling materials in this context.

5. identify and describe the processes and practices in handling materials in this context.

6. indicate the precautions which must be taken in handling materials.

7. identify and associate (with practices) some of the most commonly used equipment.

8. identify the factors which determine the method selected for handling foundation materials.

9. simulate handling practices on model equipment.

10. perform selected practices in handling foundation materials.

DAY 74

The student will be able to:

1. clarify terminology as related to the bonding and curing of foundation materials.

2. identify the major types of foundation materials.

3. identify the processes and practices in bonding and curing.

DAY 74 (continued)

The student will be able to:

4. describe the processes and practices in bonding and curing.

5. give reasons for the practices used in bonding.

6. give reasons for the processes of bonding.

7. identify and describe methods of curing.

8. give reasons why curing is necessary, and describe the purposes of curing.

9. identify some of the equipment and materials used in bonding and curing and associate with practices.

10. perform selected practices in bonding and curing.

DAY 75

The student will be able to:

1. clarify terminology as related to the removal of forms and the finishing of foundations.

2. identify the precautions which must be taken in removing forms.

3. identify and describe the major processes in removing forms.

4. identify and describe the major processes in finishing foundations.

5. identify and describe the practices used in removing forms and finishing foundations.

6. give reasons why foundations are finished.

7. associate the practices with the processes.

8. give the purposes behind the practices in removing a finishing.

9. perform selected practices in removing formwork and finishing foundations.

10. identify, describe and associate (with practices) some commonly used equipment.

DAY 76

The student will be able to:

1. clarify terminology and define terms as related to building the major structural elements.

2. identify and describe the major types of structure.

3. identify and describe the major elements in these structural types.

4. give reasons (or the purpose underlying) why major structural elements are required.

5. list the major stages in building any structure.

6. identify the materials most commonly used in building major structural elements.

7. compare (the basic differences) structural types. (steel - light, quick as against concrete - slow and heavy.

8. give an estimate as to the proportion of the total construction work involved in building the major structural elements.

DAY 77

The student will be able to:

1. clarify terminology in relation to the preparation of materials in this context.

2. list some of the materials being prepared.

3. indicate the processes and practices being used in preparing materials.

4. indicate those practices which may have already been used in earlier work - give the relationships with respect to differences. (accuracy and workmanship required, etc.)

5. indicate the condition of these materials when they arrive on site.

6. describe the practices and methods of preparing materials.

DAY 77 (continued)

The student will be able to:

7. indicate where applicable the basic principles underlying the practices in preparing materials.

8. perform selected practices in preparing materials for major structural elements.

9. indicate where these materials may be prepared.

DAY 78 (optional)

Continuation of day 77, points 1 through 7.

DAY 79

The student will be able to:

1. clarify terminology as related to the above.

2. give reasons why temporary forms may be needed.

3. give reasons why units may be fabricated (on or off site).

4. identify the restraints placed on units which are fabricated (on or off site).

5. identify the major processes in fabricating components and temporary forms.

6. describe the process of setting reinforcement and give the purpose of reinforcement.

7. perform some selected practices.

DAY 80

Continuation of day 79.

DAY 81

The student will be able to:

1. clarify terminology as related to the handling of materials and components in this context.

2. give the factors which influence the choice of method of handling materials or components.

DAY 81 (continued)

The student will be able to:

3. describe how the handling of materials and components is a recurring procedure.

4. indicate and describe the basic processes involved in the handling of materials and components in this context.

5. indicate and describe the practices used in the handling of materials and components.

6. give the precautions which must be taken in handling materials and components in this context.

7. describe the types of materials and components which might be handled in this context.

8. indicate how these materials and components differ or are similar to those handled in earlier stages of the work.

9. associate equipment with practices and materials being handled.

10. indicate the similarities between these practices and those used in earlier stages of the work.

11. perform selected practices in handling materials and components.

DAY 82

Continuation of day 81.

DAY 83

The student will be able to:

1. clarify terminology as related to treating, removing temporary forms and finishing work.

2. identify the materials and structural elements which may require treatment or have forms removed as he finished.

3. identify and describe the processes used in treating materials and removing temporary forms.

DAY 83 (continued)

The student will be able to:

4. indicate the similarities between these processes and those met with or utilized in earlier stages of the work.

5. indicate how major structural elements may be finished and what factors influence the type of finish.

6. perform selected practices in treating, removal of temporary formwork and finishing elements.

DAY 84

The student will be able to:

1. clarify terminology as related to building the major structural elements.

2. identify structural elements and materials commonly used.

3. discuss processes and practices used in building the major structural elements.

4. indicate similarities between these processes and the processes used in earlier stages.

DAY 85

Continuation of day 84 plus the following:

1. observe film on universality of practices.

DAY 86

The student will be able to:

1. clarify terminology as related to the installation of circulatory systems.

2. define what is meant by circulatory systems.

3. indicate that circulatory systems may be either permanent or temporary.

4. indicate the purposes of, and the reasons for, the installation of circulatory systems.

DAY 86 (continued)

The student will be able to:

5. indicate at what stage in the work these systems may be installed.

6. indicate the scope of the work.

DAY 87

The student will be able to:

1. clarify terminology and define what is meant by permanent utilities and mechanical plant.

2. indicate what is included in utilities and mechanical plant.

3. indicate the scope of the work of installing utilities and mechanical plant.

4. indicate at what stage in the construction process the utilities and plant are installed.

DAY 88

The student will be able to:

1. clarify terminology as related to the preparation and handling of materials and components.

2. indicate the processes and practices involved in the preparation and handling of materials and components.

3. describe the practices in handling and preparing materials and components for utilities and mechanical plant.

4. indicate the characteristics of the materials and components.

5. give some of the basic materials and components from which these utilities and plant are made up.

6. differentiate between component and material installation.

7. perform selected practices in preparing and handling components and materials for utilities and mechanical plant.

DAY 88 (continued)

The student will be able to:

8. clarify terminology as related to fastening, connecting and jointing.

9. identify and describe the practices used in fastening, connecting and jointing.

10. indicate the similarities between these practices and those used in earlier stages of the work. Indicate differences (materials, tools, techniques)

11. describe and/or list the methods used in selected practices.

12. perform selected practices.

DAY 89

The student will be able to:

1. define what is meant by temporary equipment in this context.

2. give reasons why it is sometimes necessary to provide temporary equipment.

3. indicate the source of these pieces of equipment.

4. indicate the characteristics of these pieces of equipment.

5. indicate and describe the major processes in providing temporary equipment.

6. indicate and describe the practices involved in carrying out these processes.

7. compare these practices with those used earlier in the work.

8. indicate the purposes underlying the major processes in providing temporary equipment.

9. list, describe and associate some of the equipment and tools used.

10. perform some of the practices used in providing temporary equipment.

DAY 90

Continuation of day 89.

DAY 91

The student will be able to:

1. give the reasons for finishing a structure.

2. define what is meant by finishing in this context- distinguish between rough and fine finishing.

3. indicate the scale of operations, materials and components at this stage.

4. indicate the degree of accuracy and/or skill needed at this stage of the work - compare with earlier stages.

5. identify the two major processes involved in finishing any structure and outline their purposes.

DAY 92

The student will be able to:

1. give reasons why a structure is sometimes enclosed.

2. define what is meant by enclosure list elements.

3. clarify terminology.

4. describe the more usual form of materials used in this stage of construction.

5. identify some of the more common materials used in this stage.

6. illustrate or sketch concepts related to enclosure of a structure.

7. indicate the types of structure more commonly requiring enclosure.

8. distinguish between structural and non-structural elements.

DAY 93

The student will be able to:

1. clarify terminology in context.

2. list and describe the major processes involved in preparing, handling and assembling components and materials.

3. list and describe the major practices (in relation to the processes) used in preparation, handling and assembling components and materials.

4. compare the processes and practices in this case with those used in earlier work. Indicate significant differences (degrees of skill, accuracy, care, etc.)

5. identify the major types of materials being prepared, handled and assembled at this stage.

6. identify and give reasons for the purposes underlying the processes and practices employed in this stage of the work.

7. indicate the scope of the work and the scale of the operations involved.

8. describe the precautions which must be taken in preparing, handling and assembling components and materials.

9. give examples of the types of components being used in this case.

10. perform selected practices.

DAY 94

Continuation of day 93.

DAY 95

Continuation of day 93.

DAY 96

Continuation of day 93.

DAY 97

Continuation of day 93.

DAY 98 (optional)

Continuation of day 93 plus the following:

1. apply knowledge to determine practices in ones own home environment.

DAY 99

Continuation of day 93.

DAY 100

Continuation of day 98.

DAY 101

Continuation of day 93.

DAY 102

The student will be able to:

1. clarify terminology.

2. give the purposes underlying the completing of a structure.

3. indicate the scale and scope of the operations involved in the completion of a structure.

4. compare the completion of a structure with the enclosure of a structure.

5. indicate the forms of materials used in completing the structure and their basic characteristics.

6. define what is meant by completing in this context.

DAY 103

The student will be able to:

1. give the purpose underlying the preparation of subsurfaces.

2. indicate the practices used in preparing subsurfaces.

3. describe the practices used in preparing subsurfaces and list some tools and equipment commonly used.

DAY 103 (continued)

The student will be able to:

4. give the purposes underlying the preparation and handling of materials and components in this context.

5. identify some of the types of materials and kinds of components in use at this stage.

6. indicate and describe the practices used in handling and preparing materials and components.

7. compare these practices with similar practices used in earlier parts of the work.

8. indicate the scale and scope of operations at this stage.

9. perform selected practices.

DAY 104

Continuation of day 103.

DAY 105

Continuation of day 103.

DAY 106

The student will be able to:

1. define what is meant by trimming in this context.

2. clarify terminology.

3. describe the types of activities involved in trimming.

4. indicate the types of structure and some parts of a structure which may require trimming.

5. indicate the major processes used in trimming.

6. indicate the major practices involved in these processes.

7. compare these practices with earlier work.

8. indicate the scope and scale of the work at this stage.

DAY 106 (continued)

The student will be able to:

9. indicate the major processes involved in removing.

10. indicate the major practices involved in removing.

11. give the purposes underlying trimming and removing practices and processes.

12. perform selected practices.

13. give examples of equipment and types of debris which may be removed. Indicate the major factor effecting such removal.

DAY 107

Continuation of day 106.

DAY 108

Continuation of day 106.

DAY 109

Continuation of day 106.

DAY 110

Continuation of day 106.

DAY 111

Continuation of day 106.

DAY 112 (optional)

Continuation of day 106.

DAY 113

Continuation of day 69.

DAY 114

The student will be able to:

1. give the purposes underlying site completion.

2. give the scope and scale of operations in completing a site.

3. indicate the relationships between site and structure.

4. indicate the major stages or activities in the completion of a site.

5. give reasons why these activities are included in completing a site.

DAY 115

The student will be able to:

1. indicate the nature and scope of landscaping.

2. define what is meant by landscaping.

3. identify the purposes of landscaping.

4. identify the major processes involved in landscaping.

DAY 116

The student will be able to:

1. clarify terminology.

2. define what is meant by accesses in this context.

3. give the scope and scale of operations associated with the building of accesses.

4. indicate the relationship between building accesses and landscaping.

5. indicate and describe the major processes used in the building of accesses.

6. give reasons why these processes are used in building accesses.

DAY 116 (continued)

The student will be able to:

7. compare the processes and practices with those met with in earlier work.

8. compare the process of building accesses with the process of building the structure.

9. perform practices where possible.

DAY 117

The student will be able to:

1. define what is meant by features.

2. give examples of features.

3. give the relationships between the building of features and landscaping.

4. indicate that the building of a feature may involve many if not all of the practices involved in building the structure.

5. indicate and describe the major stages in building features.

DAY 118

The student will be able to:

1. define what is meant by shaping and finishing the earth.

2. give the scope and scale of operations in this case.

3. give the relationship to landscaping.

4. identify and describe the major processes in shaping and forming the earth.

5. identify, describe and associate with processes the practices involved in shaping and finishing the earth.

6. compare these processes (where applicable) with those used in earlier stages of the work.

DAY 118 (continued)

The student will be able to:

7. indicate the necessity of shaping and finishing the earth.

8. list, describe and associate with practices some tools and equipment commonly used.

9. simulate the processes of shaping and finishing on model sites.

DAY 119

Continuation of day 118.

DAY 120

The student will be able to:

1. identify the type of equipment which is removed.

2. identify the type of debris which is removed.

3. list and describe the practices used in removing equipment and debris.

4. list and describe and associate some commonly used equipment.

5. give reasons why equipment and debris is removed.

DAY 121

The student will be able to:

1. define what is meant by plant and facilities in this instance.

2. identify some pieces of plant and equipment which may be removed at this point.

3. indicate when this plant and equipment should be removed.

4. identify and describe the processes and practices used in removing temporary plant and equipment.

DAY 121 (continued)

The student will be able to:

5. compare these practices with those used in earlier stages of the work.

6. list the factors influencing the method which might be adopted to move a particular piece of equipment or plant.

DAY 122

The student will be able to:

1. define what is meant by post processing.

2. give the reasons for post processing.

3. indicate the relationship of post processing to changing the form of materials.

4. name the major elements in post processing as they relate to construction.

5. indicate the causes which bring about the need for post processing.

6. indicate the ways in which a structure may exhibit signs indicating the need for a form of post processing.

7. indicate what practices may be involved in the post processing of a structure.

8. define each of the major elements which make up post processing.

9. give examples to illustrate the need for any or all of the elements in post processing to be applied to a structure.

10. indicate from photos areas or parts of a structure requiring post processing.

DAY 123

Continuation of day 122.

DAY 124 (optional)

Continuation of day 122.

DAY 125

Continuation of day 122.

DAY 126

The student will be able to:

1. indicate the common elements of construction as they relate to any structure.

2. define what is meant by the phrase changing the form of materials.

3. indicate the scope of changing the form of materials.

4. give the general ways by which man changes the forms of materials.

5. give reasons why man changes the form of materials.

Plus continuation of days 59 and 60.

DAY 127

The student will be able to:

1. define what is meant by control.

2. give the purposes of such control.

3. identify and describe the major activities which are included under worker control.

4. give the purpose of handling materials.

5. indicate the scope of this activity.

6. describe how these activities of control and handling are common and continuous throughout the construction process.

Plus continuation of days 59 and 60.

DAY 128

The student will be able to:

1. give the purpose of separating.

2. indicate the scope of separating.

3. indicate how the whole range of methods of separating relate and are common in the process of construction.

4, define what is meant by combining.

5. indicate scope of combining operations.

6. indicate relationship and commonality throughout construction process.

7. define what is meant by forming.

8. indicate scope of forming operations.

DAY 129

Continuation of day 128 plus days 59 and 60.

DAY 130

Continuation of days 59 and 60.

DAY 131

The student will be able to:

1. identify major phases and stages in production in construction.

2. discuss processes and practices, tools, equipment, methods, techniques related to production in construction.

3. define terminology.

4. synthesize the practices of changing the form of materials.

5. comprehend the sequence of changing the form of materials.

DAY 131 (continued)

The student will be able to:

6. recognize the interpretation of worker control over the shape of the material as related to measuring and layout.

7. synthesize and categorize material handling practices.

8. synthesize and categorize practices dealing with separating, combining and changing form.

9. comprehend the universality of practices of changing the forms of materials as they relate to any structure.

Plus continuation of days 59 and 60.

DAY 132

Continuation of day 131 except for those listed for days 59 and 60.

DAY 133

The student will be able to:

1. perform on achievement test.

DAY 134

The student will be able to:

1. perform on achievement test.

DAY 135 (optional)

The student will be able to:

1. perform on achievement test.

DAY 136

The student will be able to:

1. identify the significance of the human being in industrial production.

2. outline the structure of the knowledge of how to affect human behavior in industry.

3. define industrial workers as all those within the industrial system.

4. distinguish between industrial workers who use industrial knowledge and industrial workers who use other knowledge in industry.

5. identify employment opportunities and trends in industry.

DAY 137

The student will be able to:

1. arrive at conclusions regarding the give and take between the employer and the employee in a structured situation involving the hiring of new personnel.

2. define hiring in terms of recruiting, selecting and inducting.

3. identify construction worker classes.

4. apply the principles of practice to securing a simulated work force.

DAY 138

The student will be able to:

1. list prime sources of construction workers.

2. state the admission requirements for each of the various "source" organizations.

3. describe the processes by which management informs prospective employees of its manpower needs.

4. apply the principles of practice to the recruitment of a simulated hiring situation.

DAY 139

The student will be able to:

1. identify differing requirements for different jobs.

2. identify principal means of gathering personnel data.

3. list factors employed in matching worker qualifications and job requirements.

4. explain the urgency and responsibility of both sides reporting employment progress decisions to the other party.

5. apply the principles of practice to selecting simulated employees in a hiring situation.

DAY 140

The student will be able to:

1. identify the common ways in which workers are apprised of their roles in the establishment.

2. list practices used in initiating and maintaining personnel records.

3. be aware of the importance of induction practices.

4. apply the principles of practice to the proper induction of a simulated hiring situation.

DAY 141

Continuation of days 137 through 140.

DAY 142

The student will be able to:

1. identify practices used in maintaining an effective up-to-date work force.

2. define training in terms of on and off the job, and/or formal and informal training.

3. distinguish between different types of training.

DAY 142 (continued)

The student will be able to:

4. identify the purpose of each type of training.

5. describe worker education as a part of the capital investment of the enterprise.

6. describe the interrelationship between employee training and employee efficiency.

7. identify different training techniques required for different jobs.

8. identify abilities and personal traits needed by a potential trainee.

9. apply the principle of practice to the development of a simulated training situation.

DAY 143

Continuation of day 142.

DAY 144

The student will be able to:

1. provide guide lines necessary for determining the most efficient practice, given a structured situation that involves determining working conditions.

2. describe the significance of working conditions, both those under formal and those under informal agreements.

3. explain the scope of working conditions encompassed in a formal working agreement and the processes by which they are derived.

4. apply the principles of practice to the development of a simulated working agreement.

DAY 145

The student will be able to:

1. list the economic considerations in formal and informal work agreements.

2. classify both wages and fringe benefits as economic rewards.

3. explain the role of personal preferences in the individual evaluation of economic rewards.

4. apply the principles of practice to the development of a simulated working agreement.

DAY 146

The student will be able to:

1. list the factors in the physical environment which are commonly in formal and informal work agreements.

2. attribute safety and comfort to practices in providing the physical work environment.

3. explain the role of personal preferences in the individual evaluation of the work environment.

4. apply the principles of practice to the development of a simulated working agreement.

DAY 147

The student will be able to:

1. list the factors in the social environment which are commonly in formal and informal work agreements.

2. attribute the social environment to reward and reprimand and social welfare.

3. explain the role of personal preferences in the individual evaluation of the social environment.

4. apply the principles of practice to the development of a simulated working agreement.

DAY 148

Continuation of days 144 through 147.

DAY 149

Continuation of days 136 through 148.

DAY 150

The student will be able to:

1. trace the evolution and effects of advancement practices in a situation that involves decisions made in determining advancement procedures.

2. identify the kinds and nature of advancement practices; realizing that advancement may be up, down, or out.

3. relate factors that contribute to the significance of employee advancement.

4. list interpersonal traits that contribute to employee advancement.

5. identify social, economic and psychological effects that are directly influenced by advancement practices.

6. describe the significance of advancement practices within a company and their relationship to hiring, training and working practices.

7. apply the principles of practice to a simulated situation involving the advancement of employees.

DAY 151

Continuation of day 150.

DAY 152

Continuation of days 136 through 151.

DAY 153

Continuation of days 136 through 152.

DAY 154

Continuation of days 136 through 153.

DAY 155

The student will be able to:

1. answer questions on achievement test.

DAY 156

The student will be able to:

1. be aware that communities arise because of a human need.

2. appreciate that the fulfillment of this need usually requires construction of an object.

3. be aware that there are criteria for the location of each construction object.

4. list the general needs that cause development of a community.

5. list construction objects usually required to fill these needs.

6. list the general need factors, function factors, and land factors that each constructed object must meet.

7. list the factors applicable to industrial siting.

8. apply industrial site factors to the identification of alternate sites for industrial development.

9. select an industrial plant site.

10. estimate industrial plant land costs.

DAY 157

The student will be able to:

1. be aware that virtually all construction requires sewer service, water service and access.

2. be aware that there are criteria for the provision and location of access types.

DAY 157 (continued)

The student will be able to:

3. appreciate that different construction types require different utility service levels.

4. be aware that water and sewer systems consist of underground pipes and treatment plants.

5. be aware that underground utility pipes are arranged in a branch-like system with the main trunk connecting to the treatment plant.

6. be aware that sewer pipes must flow downhill.

7. be aware that there are criteria for the location of sewer and water plants.

8. list the need, function and land factors applicable to water and sewer plant siting.

9. list five (5) types of access.

10. apply utility plant site factors to the identification of alternate sites for sewer and water plants.

11. determine utility pipe sizes needed.

12. estimate utility plant and piping costs.

DAY 158

The student will be able to:

1. be aware that basic employment results in service employment.

2. appreciate that employment creates need for housing construction.

3. be aware of the concept of housing density.

4. appreciate that single family housing densities are generally determined by employment income levels.

5. be aware that there are criteria for the location of single family housing units.

6. distinguish between basic and service employment.

DAY 158 (continued)

The student will be able to:

7. estimate probable total population, given basic employment.

8. estimate probable total housing needs, given basic employment.

9. list the need, function and land factors applicable to single family housing developments.

10. estimate a housing market by income levels.

11. apply housing site factors to the identification of sites for housing development (single family).

12. estimate development costs and potential developer's profits from single family housing developments.

13. select single family housing developments to be marketed.

DAY 159

The student will be able to:

1. be aware that floods cause great damage to developed areas.

2. be aware of the concept of flood probability.

3. be aware of the reasons why development occurs in floodable areas.

4. be aware that developed areas can be protected by (a) controlling development, and (b) controlling floods.

5. be aware of the concept of "open space" protection.

6. be aware of the concept of levee protection.

7. be aware of the concept of dam protection.

8. explain why development occurs in floodable areas.

9. explain how "open space", levees, and dams protect developed areas.

DAY 159 (continued)

The student will be able to:

10. list general criteria for adoption of flood protection methods.

11. apply criteria for flood protection to selection of a protection method.

12. estimate flood protection costs.

DAY 160

The student will be able to:

1. be aware that street system results from travel needs.

2. be aware that origin and destination determine street pattern.

3. be aware that volume of traffic determines street type.

4. be aware of the concept of street capacity.

5. appreciate the need for interchanges on high volume or high speed streets.

6. distinguish between service, collector, and arterial streets.

7. list street types and their general capacity.

8. select street types, given traffic volumes.

9. determine need for interchanges.

10. determine street traffic.

11. analyze street adequacy.

12. select new street types required.

13. estimate street construction costs.

DAY 161

The student will be able to:

1. be aware that housing construction generates need for school construction.

2. be aware that elementary schools require a minimum number of housing units for support, that they are located on the basis of short and safe, small-child-walking-paths, and have a maximum capacity.

3. be aware that junior and senior high schools require a minimum number of housing units for support, that they are located on the basis of older-child-walking limits and road accesses, and have a maximum capacity.

4. be aware that there are land factors that limit school location.

5. be aware that children living beyond school walking limits must be transported at an expense to the community.

6. list the need, function and land factors applicable to elementary and junior and senior high school location.

7. distinguish between good and bad school locations.

8. select school types given housing unit support.

9. estimate school needs.

10. select school types applicable to needs.

11. apply location and land criteria to the selection of school sites.

12. estimate school development and transportation costs.

DAY 162

The student will be able to:

1. be aware that housing construction generates need for local shopping center construction.

2. appreciate the difference between "strip" and "center" local shopping facilities.

DAY 162 (continued)

The student will be able to:

3. be aware that local shopping requires a minimum number of housing units for support.

4. be aware that local shopping location is a function of street traffic pattern.

5. be aware that there are land factors that limit local shopping location.

6. list the need, location and land factors applicable to local shopping center development.

7. distinguish between good and bad local shopping center locations.

8. estimate local shopping center support, given housing units.

9. estimate need for local shopping centers.

10. apply location and land criteria to the selection of sites for local shopping centers.

11. estimate development costs and potential developer's profit from local shopping center construction.

DAY 163

The student will be able to:

1. be aware that high density housing is a function of high land price and potential for use.

2. be aware that there are a number of high density housing types.

3. appreciate that with increased land price and/or potential for use the type and height of high density housing must change.

4. be aware that location of high density housing is a function of traffic patterns.

5. be aware that there are land factors that influence high density housing location.

DAY 163 (continued)

The student will be able to:

6. be aware that increased development requires expansion of utility systems.

7. list the need, location and land factors applicable to high density housing construction.

8. distinguish between good and bad high density housing locations.

9. estimate a market for high density housing.

10. apply location and land criteria to the selection of sites for high density housing construction.

11. estimate development costs and potential developer's profit from high density housing construction.

12. determine expanded utility plant and piping needs.

13. estimate utility expansion costs.

DAY 164

Continuation of day 163.

DAY 165

The student will be able to:

1. appreciate that increased land occupancy creates need for construction of recreation facilities.

2. appreciate the differences between playgrounds and playfields, neighborhood parks and community parks.

3. be aware that increased housing density requires increased neighborhood park construction to fill the role of lost private yards.

4. be aware that location of neighborhood parks and playgrounds is a function of safe, small-child-walking-distances.

5. be aware that there are land factors that influence recreation development locations.

DAY 165 (continued)

The student will be able to:

6. appreciate that as community population expands, all community facilities must expand to meet increased community needs.

7. list the need, location and land factors applicable to various types of recreation developments.

8. distinguish between good and bad recreation facility locations.

9. select recreation types and locations, given housing unit densities and locations.

10. estimate recreation needs by development type.

11. apply location and land criteria to the selection of recreation sites.

12. estimate the cost of recreation developments.

13. determine expanded community facility needs.

14. estimate expanded community facility costs.

DAY 166

Continuation of day 165.

DAY 167

The student will be able to:

1. be aware that community population increase results in specialization of commercial facilities.

2. appreciate the distinction between the role of local shopping and central business.

3. be aware that location of central business district is a function of traffic pattern.

4. be aware that central business development height and form is a function of the availability of land, traffic pattern and soil qualities.

DAY 167 (continued)

The student will be able to:

5. be aware that there are land factors that influence central business district location.

6. list the need, location and land factors applicable to central business district construction.

7. list use and building types common in central business districts.

8. distinguish between good and bad central business locations.

9. estimate a market for central business construction.

10. apply location and land criteria to the selection of sites for central business developments.

11. estimate development costs and potential developer's profit from central business construction.

DAY 168

The student will be able to:

1. be aware of the general causes of community deterioration.

2. be aware of the general causes of community inefficiency.

3. list causes of community deterioration and give examples.

4. list causes of community inefficiency and give examples.

5. identify potentially deteriorated areas.

6. estimate deterioration losses.

7. estimate developer and community flood losses.

DAY 169

The student will be able to:

1. be aware of the need for community planning.

2. be aware of the three roles of planning: prediction, physical planning and control.

3. be aware of what a general plan is.

4. be aware of what a zoning plan is.

5. be aware of what subdivision control is.

6. appreciate the role of the professional community planner.

7. be aware of the role of the planning board.

8. be aware of the role of the city council.

9. explain the three roles of planning and their need.

10. explain the roles of the community planner, planning board and city council.

11. estimate developer's profits and community costs resulting from community development.

DAY 170

The student will be able to:

1. be aware that every community is a part of a region.

2. be aware that regional development affects communities.

3. be aware that some community problems must be solved regionally.

4. appreciate the role of regional planning and coordination.

5. explain the need for regional planning.