

PALOMAR COLLEGE
COURSE OUTLINE OF RECORD FOR
DEGREE CREDIT COURSE

_____ Transfer Course X A.A. Degree applicable course
(check all that apply)

COURSE NUMBER AND TITLE: PWM 52 Concrete & Cement Construction

UNIT VALUE: 3

MINIMUM NUMBER OF SEMESTER HOURS: 48

BASIC SKILLS REQUIREMENTS: Appropriate language and computational skills.

ENTRANCE REQUIREMENTS

PREREQUISITE: None.

COREQUISITE: None.

RECOMMENDED PREPARATION: None.

SCOPE OF COURSE:

Provides instruction on the recommended procedures, practices, and testing criteria used by the Asphalt Institute highlighting local city and county asphalt requirements. Content includes specifications for roads, runway floors, and hydraulic structures and Portland Cement concrete design and uses. Includes transporting, placing, curing, and testing concrete as well as application and construction methods employed.

SPECIFIC COURSE OBJECTIVES:

Successful students will be able to:

1. Identify the available asphalt products and their proper uses.
2. Explain asphalt product specifications and appropriate laboratory test procedures.
3. Identify proper mixing and handling of asphalt concrete materials.
4. Demonstrate knowledge of how to properly place asphalt materials including subgrade and base preparation.
5. Demonstrate knowledge of estimating methods and calculating materials for Portland Cement concrete.
6. Describe the testing methods of Portland Cement concrete and application of test results to finished structures.
7. Explain the safety standards for Portland Cement concrete construction.

CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE:

- I. Asphalt Components
 - A. Aggregate
 - B. Binding agents

- II. Written Materials Specifications
 - A. Manufacturing control
 - B. Placement control

- III. Materials Testing
 - A. Destructive
 - B. Non-destructive

- IV. Placement Equipment
 - A. Pavers
 - B. Rollers
 - C. Transportation

- V. Quality Control
 - A. Field evaluation
 - B. Lab evaluation

- VI. Portland Cement Components
 - A. Aggregate
 - B. Water
 - C. Cement

- VII. Written Materials Specifications
 - A. Manufacturing control
 - B. Placement control

- VIII. Materials Testing
 - A. Field
 - B. Lab

- IX. Materials Selection
 - A. Exterior
 - B. Interior

- X. Placement
 - A. Forming
 - B. Tolls
 - C. Finishing requirements

REQUIRED READING:

Introduction to Asphalt. Asphalt Institute Manual, Series #5, 8th edition, 2000.

Mix Design Methods. Asphalt Institute Manual, Series #2, 6th edition, 2000.

SUGGESTED READING: None.

REQUIRED WRITING:

Students may be required to write several short reports.

OUTSIDE ASSIGNMENTS:

Students are expected to spend a minimum of three hours per unit per week in class and on outside assignments, prorated for short-term classes.

Students may be required to attend field trips.

INSTRUCTIONAL METHODOLOGY:**Check all that apply:**

- lecture
- laboratory
- lecture-laboratory combination
- directed study

DISTANCE LEARNING:

This course may be offered as a distance learning course and meets Title 5 regulations 55370, 55372, 55374, 55376, 55378, and 55380.

Yes No

If yes, check all that apply:

- Television Course (Video one-way, e.g. ITV, video cassette, etc.)
- Online Course (Text one-way, e.g. newspaper, correspondence, electronic file, etc.)
- Two-Way Video Conferencing (Two-way interactive video and audio)
- One-Way Video Conferencing (One-way interactive video and two-way interactive audio)
- Computer Assisted Instruction (A specialized form of mediated instruction relying primarily on student access to information and prepared lessons or teaching materials through a computer terminal, but not under immediate supervision of a qualified instructor.)

GRADING POLICY AND STANDARDS (include methods of determining whether the stated objectives have been met by students): Quizzes and a final exam will be administered.

The course grading policy will be determined by individual instructors and may include the following:

- Exams
- Quizzes
- Research projects
- Writing assignments
- Classroom presentations
- Research papers
- Lab assignments
- Journal writing
- Classroom participation & discussion
- Homework

IS COURSE REPEATABLE FOR REASON(S) OTHER THAN DEFICIENT GRADE?

Yes ____ No X Number of times course may be taken for credit: 1

If yes, identify specific provision of Title 5 Division 2 section(s), 55761-55763 and 58161 which qualifies course as repeatable:

CONTACT PERSON: Director, Occupational and Noncredit Programs, Ext. 2286

SIGNATURES ON FILE
