

PONTIFICIA UNIVERSIDAD CATÓLICA DE CHILE
COLLEGE OF ENGINEERING
DEPARTMENT OF MINING ENGINEERING
ABET COURSE SYLLABI

IMM 2700 PHYSICAL ASSET MANAGEMENT

Credits and contact hours: 10 UC credits / 10 hours (3 h. Lectures; 1.5h. site visit and 5.5h. Independent learning experiences)

Instructor's name: Rodrigo Pascual

Course coordinator's name Rodrigo Pascual

Textbooks:

- A.K.S. Jardine, A. Tsang, Maintenance, Replacement and Reliability. Pitman Publishing, 2006.
- R. Pascual, El Arte de mantener, apuntes de cursos “El Arte de Mantener”, Pontificia Universidad Católica de Chile, 2011.

Course Catalog Description: This course presents the basics of physical asset management, based on the industry state of art, such as the British standard PAS-55. It presents a systemic vision of the physical asset management, its operation and maintenance, and how its performance is affected by equipment and component decision. It emphasizes on multidisciplinary approaches for decision making.

Prerequisite Courses: EYP2113 Statistics: and ICS1502 Introduction to Economic Analysis:

Co-requisite Courses: None

Status in the Curriculum: Required

Course Learning Outcomes:

1. Know theoretical basis and industry best practices concerning equipment management and production systems.
2. Apply these best practices on equipment management, maintenance management, replacement management, spare management and others.

Relation of Course to ABET Criteria:

- a. Knowledge of mathematics, science and engineering
- b. Design and conduct experiments: analyze and interpret data
- c. Design a system, component, or process
- d. Multidisciplinary teams
- e. Identify, formulate, and solve engineering problems
- f. Professional and ethical responsibility
- g. Effective communication
- h. Broad education necessary for global, economic, environmental and societal context
- i. Recognition of the need for, and an ability to engage in life-long learning

- j. Knowledge of contemporary issues
- k. Techniques, skills, and modern tools for engineering practice.

Topics covered:

1. Introduction, asset management inside the industry.
2. Cost structure.
3. Failure and reliability analysis.
4. Spare parts management.
5. Equipment replacement and overhaul.
6. Inspection programs.
7. Redundancy and system reliability.