PONTIFICIA UNIVERSIDAD CATÓLICA DE CHILE
COLLEGE OF ENGINERING
DEPARTAMENT OF COMPUTER SCIENCE
ABET COURSE SYLLABI

IIC2154 CAPSTONE MAJOR-FIELD PROJECT

Credits and contact hours:	10 credits / 10 hours (3 h. Teacher coaching; 3 h. Coach consulting; 4 h. Project development)
Instructor's name:	Andrés Neyem
Course coordinator's name	Andrés Neyem
Textbook:	Applying UML and patterns: An introduction to object-oriented analysis and desing and the unified process, Larman, C., (2002). Prentice hall PTR upper Saddle River, NJ, USA.
Course Catalog Description:	To apply prior knowledge, in a integrated fashion, of software development, hardware sizing, network design; to experience real problems related to software projects developed by teams. In those projects, it is necessary to integrate knowledge of software and hardware in order to build the best possible solution for the client, delivering architectural recommendations to guarantee the best performance of the software. Additionally, students will learn to work in teams using roles, following quality standards and good practices in management, design and development.
Prerequisite Courses:	IIC2143 Software Engineering and IIC2413 Data Base
Co-requisite Courses:	None
Status in the Curriculum:	Required
Course Learning Outcomes:	1. To conduct the steps that underlies software development: definition of requirements, functional design, feature implementation and integration 2. To develop the non-technical and technical skills students will need in their post-graduate careers.

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
e. Identify, formulate, and solve engineering problems
f. Professional and ethical responsibility
j. Knowledge of contemporary issues
k. Techniques, skills, and modern tools for engineering practice.

Topics covered:

1. Project planning and control
    a. Project planning
    b. Resource sizing.
    c. Software project management.
    d. Development, testing and production environments
    e. Support tools, design frameworks.
2. Role-based coordination
3. Software development models.
    a. Agile process: Scrum, XP
4. Requirements analysis
5. Software testing
6. Quality in software testing
7. Configuration administration
    a. Software versioning
    b. Support tools