



UNIVERSIDADE FEDERAL DO PARANÁ  
Setor de Tecnologia  
Departamento de Engenharia Mecânica - DEMEC

Nome da disciplina:	<b>ADVANCED CORROSION</b>
Código:	<b>TME7009</b>
Carga horária total:	60 hours
Número de créditos:	4
Nível:	MSc and PhD
Pré-requisito:	Sem/No
Co-requisito:	Sem/No

### **OBJECTIVES:**

The objective of this course is to understand the thermodynamic and kinetic of corrosion processes, the measure of its corrosion rate and its mitigation.

### **SCOPUS:**

The Technology and Evaluation of Corrosion. Electrochemical Thermodynamics and Electrode Potential. Electrochemical Kinetics of Corrosion. Passivity. Polarization Methods to Measure Corrosion Rate. Pitting and Crevice Corrosion. Environmental-Induced Cracking of Metals. Cathodic Protection

### **BIBLIOGRAPHY:**

- J. O. M. Bochrís, B. E. Conway, E. Yeager e R. E. White, "Comprehensive Treatise of Electrochemistry", Volume 4, Plenum Press, New York, 1981.
- C. Dutra, L. P. Nunes, "Proteção catódica", Editora Técnica Ltda, Rio de Janeiro, 1987.
- Denny A. Jones, Principles and Prevention of the Corrosion. Prentice Hall, Inc.
- Dieter Landolt, Corrosion and Surface Chemistry of Metals. EPFL Press.
- Zaki Ahmad, Principles of Corrosion Engineering and Corrosion Control. BH Press
- Philip A Schweitzer, Fundamentals of Corrosion. CRC Press
- H. Kaesche, Metallic Corrosion. NACE Publication
- Marcel Pourbaix, Lectures on Electrochemical Corrosion. NACE Publication
- J.C. Scully, The Fundamentals of Corrosion. Pergamon Press.

### **PROFESSOR RESPONSÁVEL:**

Prof. DSc. Haroldo de Araújo Ponte