

# Electrochemistry



Component  
École Nationale  
Supérieure  
d'Électrotechnique  
d'Électronique

## In brief

- > **Ametys Code:** N9EE35D
- > **Open to exchange students:** Yes

## Presentation

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### Description

Introduction: Measurable quantities in an electrochemical chain. Two centuries of electrochemical development.

Electrochemical chains at equilibrium. Electromotive force. Electrode potential. Nernst's law. Primary and secondary generators, fuel cells. Capacity, efficiency.

Current-carrying electrochemical chains: Heterogeneous electron transfer. Coupling of heterogeneous electron transfer and solution transport phenomena. Various kinetic regimes. Butler-Volmer law. Limiting current.

- Applications to the development of electrochemical synthesis processes. Applications to corrosion. Applications to the study of generator operation (charging, discharging).

- Overview of various electrochemical methods. Potentiostat.