**أهداف المقرر:**

يهدف هذا المقرر إلى دراسة الأسس النظرية والعملية لتقدير وفصل المركبات العضوية وغير العضوية في المخاليط.

**المحتوى العلمي للمقرر:**

***- Overview of the classification of separation techniques***

***- Separation by precipitation***

* + ***Separation based on Ksp values***
	+ ***Separation based on controlling the concentration of the precipitating agent***
	+ ***Separation based on controlling the pH of the solution, Complex ion formation***
	+ ***Organic precipitants***

***- Separation by Electrolysis***

* ***Electrolytic deposition, Controlled potential separation, Stripping electrolysis***

***- Solvent Extraction***

* ***Theory and Types and Extraction techniques***
* ***Extraction of organic compounds***
* ***cExtraction of Metal ions***
* ***Craig counter current process***
* ***Derivation of distribution curves***
* ***Application of the Craig Techniques***

***- Ion Exchange Process***

* ***Theory of ion exchange equilibria***
* ***Exchange resin***
* ***Ion exchange capacity***
* ***Effect of pH a separation of organic compounds***
* ***Effect of neutral salt***
* ***Complexing agents***
* ***Application of ion exchange process***

**الكتب الأساسية:**

**Principals of Instrumental analysis, D. S. Skoog, F. J. Holler and T. A. Nieman, 5th ed., 1998.**

**المرجع المساند:**

**Analytical electrochemistry, J. Wang, 3rd ed., 2006, Jon Wiley & Sons.**