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| **Course Name:** Chemical Separation and Chromatographic Methods |
| **Course Code:** Chem 458 |
| Faculty members (male & female) assigned to teach the course (including coordinators for service courses):1. Prof. Ahmed-Yacine Badjah-Hadj-Ahmed
2. Dr. Wedad Tohami Alonazi
3. Dr. Ahmad Aqel Ifseisi
 |
| **Course Syllabus in details**-Introduction for separation methods-Theory of separation methods-Classifying separation techniques-Separation and purification-Separation and preconcentration-Extraction methods-Partition theory-Liquid-liquid extraction-Solid-phase extraction-Gas-solid extractions-Continuous extractions-Importance of chromatographic methods-Classification of chromatographic methods-Stationary phase and mobile phase-Paper chromatography-Thin layer chromatography-Column chromatography-Liquid chromatography-Adsorption chromatography-Partition chromatography-Ion exchange chromatography-Size exclusion chromatography-High performance liquid chromatography-HPLC physical components-Gas chromatography-GC physical components-Evaluation of chromatographic column-Factors influencing the separation-Detection methods-Applications: qualitative and quantitative analysis |

**Text books, notebooks, and references**

-Ibrahim Al-Zamil, “Analytical Chemistry, Instrumental Analysis” 5th Ed., Al-Khrigi Publisher, 2015.

-Gary D. Christian, Purnendu K. Dasgupta, Kevin A. Schug, Analytical Chemistry, 7th ed., 2013, Wiley, USA.

-Douglas A. Skoog, F. James Holler, Stanley R. Crouch, Principles of Instrumental Analysis, 7th ed., 2018, Cengage Learning, USA.

-Web of Science, Elsevier Academic Press.

-Encyclopedia of Chromatography.