

**University of Al-Anbar**

**College of Pharmacy**

**Department of Pharmacognosy**

Title of the course: ***Pharmacognosy III*** Course number: **3210**

Level: 3<sup>rd</sup> Class, 2<sup>nd</sup> Semester

Credit hours: **Theory 2 hours      Laboratory 1 hour**

Tutors:

Reference text: ***Robbers JE, Speedie MK, Tyler VE (Eds.); Pharmacognosy and Pharmacobiotechnology; latest edition.***

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**Objectives:** This course is intended to study chemistry of other natural products namely alkaloids and antibiotics. Also this course includes studying tissue culture techniques utilized for production of natural products.

No	Lecture title	hours
1.	Alkaloids: Introduction; Physical and chemical properties; pyridine, piperidine alkaloids; tropane alkaloids.	5
2.	Alkaloids: Quinoline tropan alkaloids; iso-quinoline alkaloids; imidazole alkaloids; indole alkaloids.	5
3.	Alkaloids: Steroidal alkaloids; lupinane alkaloids; alkaloidal amines; purine alkaloids.	4
4.	Antibiotics: Natural sources; biosynthetic pathways, isolation and purification.	8
5.	Tissue culture of medicinal plant: Introduction and history; laboratory of the plant tissue culture; aseptic techniques.	4
6.	Application of the plant tissue culture; environmental and biological control; plant growth regulators.	4