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Nature Care College

Herbal Medicine 2B (Pharmacognosy)

DESCRIPTION	This module investigates the chemistry, pharmacological activity and toxicology of certain 'active constituents' within medicinal plants. Students will consider their relevance and use in both allopathic and herbal medicine.	
DURATION	48 hours	
LEARNING OUTCOMES	<p>By the conclusion of this module, students should be able to:</p> <ol style="list-style-type: none"> 1. Define secondary plant metabolites, their biosynthetic pathways and briefly outline their role in plants. 2. Outline the concepts of pharmacology in relation to medicinal plants. 3. Identify groups of active constituents, their chemistry, pharmacological actions and toxicology. 4. Identify selected constituents and describe their pharmacology and therapeutic value. 5. Classify and assess types of botanical drugs. 6. Identify factors that may qualitatively or quantitatively affect the occurrence of pharmacologically active constituents in plants. 7. Identify toxic plant drugs and plant products listed in <i>Standard for the Uniform Scheduling of Drugs and Poisons</i>. 8. Outline the principles and main methods for quality control of medicinal plants. 9. Outline the value and limitations of phytopharmacological research in relation to herbal medicine. 	
TEACHING METHOD	Modified lectures, group activities.	
ASSESSMENT	Exam	40%
	Assignment (20% written report, 10% oral presentation)	30%
	Quizzes (x3)	30%
	Pass mark	60%
	Both components must be passed at 60% in order to pass this subject satisfactorily.	
	Note: To facilitate the return of your assignment you will need to provide a stamped addressed envelope. If no envelope is provided assignments will be destroyed after results are recorded. Please also make a copy of your assignment before submission for your own records.	
	If a quiz is missed due to absence a 'make up' quiz can be completed in week 12 of that term ONLY. A maximum of 2 quizzes can be missed ALL YEAR. Make-ups are to be arranged IN ADVANCE with your lecturer.	

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ATTENDANCE	80% minimum.
PRE-REQUISITES	Chemistry, Herbal Medicine 1A, 1B, 1C, 1D
CO-REQUISITES	Herbal Medicine 2A
MATERIALS REQUIRED	Notebook, pen.
TEXTBOOKS	<p>Compulsory: Wohlmuth H, 1998. <i>Pharmacognosy and Medicinal Plant Pharmacology Student Manual</i>.</p> <p>Recommended Reading / References: Pengelly A, 2004. <i>The Constituents of Medicinal Plants</i>. Sunflower Herbals, Muswellbrook, NSW. (BHMA) British Herbal Medicine Association, 1992. <i>British Herbal Compendium</i>. Vol 1. Edited by Bradley PR. British Herbal Medicine Association, Dorset, UK. Bruneton J, 1995. <i>Pharmacognosy, Phytochemistry, Medicinal Plants</i>. Paris, Lavoiser, France. Hoffmann D, 1994. <i>The Information Sourcebook of Herbal Medicine</i>. Freedom, California, The Crossing Press, USA. Mills S, 1991. <i>The Essential Book of Herbal Medicine</i>. London, Viking Arkana. Newall CA, Anderson LA, Phillipson JD, 1996. <i>Herbal Medicines - A Guide for Health-Care Professionals</i>. London, The Pharmaceutical Press. Samuelsson G, 1992. <i>Drugs of Natural Origin</i>. Stockholm, Swedish Pharmaceutical Press. Tisserand R, Balacs T, 1995. <i>Essential Oil Safety</i>. Edinburgh, Churchill Livingstone. Trease GE, Evans WC, 1989. <i>Pharmacognosy</i>. 13th ed. Philadelphia, Bailliere Tindall. Willard T, 1992. <i>Textbook of Advanced Herbology</i>. Calgary, Wild Rose College of Natural Healing Ltd. Werbach MR, Murray MT, 1994. <i>Botanical Influences on Illness</i>. Third Line Press, California, USA. Wren RC, 1989. <i>Potter's New Cyclopaedia of Botanical Drugs and Preparations</i>. C.W. Daniel Company Ltd, Essex. Mills, Simon & Bone, Kerry <i>Principles & Practices of Phytotherapy</i> Churchill Livingstone 2000</p> <p>Journals: Australian Journal of Medical Herbalism. Fitoterapia. Herbalgram. Phytomedicine. Phytotherapy Research. Planta Medica.</p>

WEEK-BY-WEEK OUTLINE

TERM ONE

WEEK 1	Introduction to Pharmacognosy and Phytopharmacology
WEEK 2	a) Photosynthesis b) Primary and secondary metabolites and biosynthetic pathways
WEEK 3	Alkaloids
WEEK 4	Alkaloids (continued)
WEEK 5	Alkaloids (continued)
WEEK 6	a) Introduction to Glycosides b) Cyanogenic Glycosides Quiz 1
WEEK 7	Anthraquinones
WEEK 8	Glucosinolates
WEEK 9	Coumarins
WEEK 10	Terpenes and Terpenoids
WEEK 11	Volatile oils
	Assignment Due
WEEK 12	Quiz 2

TERM TWO

WEEK 1	Saponins
WEEK 2	Cardio glycosides
WEEK 3	Mucilages Chemical variation of plants
WEEK 4	SUSDP
WEEK 5	Tannins
WEEK 6	Flavonoids Quiz 3
WEEK 7	Phytoestrogens
WEEK 8	Essential Fatty Acids
WEEK 9	Salicylates
WEEK 10	Quality control
WEEK 11	Herb-Drug interactions
WEEK 12	Exam

Please be respectful of your fellow students and arrive on time for classes. Please ensure all mobile phones are turned off prior to the commencement of class.