



# SUBJECT OUTLINE

Subject Name:

**Herbal Botany**

Subject Code:

**WHMF123**

## SECTION 1 – GENERAL INFORMATION

<b>Award/s:</b>	<b>Total Course Credit Points:</b>	<b>Level:</b>
Bachelor of Complementary Medicine	48	3 <sup>rd</sup> Year
<b>Duration:</b> 1 Semester		
<b>Subject is:</b> Elective	<b>Subject Credit Points:</b> 2	

### Student Workload:

<b>No. timetabled hours per week:</b> 3	<b>No. personal study hours per week:</b> 2	<b>Total hours per week:</b> 5
<b>Delivery Mode*:</b>		
<input type="checkbox"/> On campus	<input checked="" type="checkbox"/> Online / Digital	<input type="checkbox"/> Blended
		<input type="checkbox"/> Intensive
<b>Weekly Session^ Format/s - 1 session per week:</b>		
<input checked="" type="checkbox"/> eLearning modules: Lectures: Narrated PowerPoint presentations Tutorials: can include asynchronous tutor moderated discussion forum and activities, learning journal activities or other web-based resources		
<p>*All modes are supported by the online learning management system which will include subject documents such as handouts, readings and assessment guides.</p> <p>^A 'session' is made up of 3 hours of timetabled / online study time per week unless otherwise specified. Each subject has a set number of sessions as outlined above.</p>		
<b>Study Pattern:</b>	<input checked="" type="checkbox"/> Full Time	<input checked="" type="checkbox"/> Part Time
<b>Pre-requisites:</b>	Nil	
<b>Co-requisites:</b>	Nil	

## SECTION 2 – ACADEMIC DETAILS

### Subject Rationale

This foundational herbal medicine subject introduces students to the study of plant medicine via an exploration of botany. Through an understanding of basic plant morphology, botanical terminology, taxonomy, and nomenclature, students learn to recognise similar and different physical characteristics of plants and to identify plant specimens. Additionally students are introduced to the legislative and regulatory frameworks that govern the manufacture and sale of botanical medicines in Australia.



## Learning Outcomes

1. Identify plant specimens based on an understanding of plant morphology and botanical taxonomy.
2. Demonstrate an understanding of the environmental influences on the quality of plant materials used in clinical herbal practice.
3. Critically evaluate the various pharmaceutical forms for administration of herbs therapeutically and their appropriateness to different health conditions.
4. Discuss current Australian legislation as it relates to the growing, manufacture, dispensing and dosage of herbs for therapeutic administration.

## Assessment Tasks

Type	Learning Outcomes Assessed	Session Content Delivered	Due	Weighting
<b>2 x Online Quizzes</b> multiple choice and short answer questions (40 minutes each)	1-4	1-4; 5-10	Weeks 5, 11	50% (25% each)
<b>Final Written Exam</b> (1.5 hours)	1-4	1-13	Final Examination Period	50%
All written assessments and online quizzes are due at 11:55 p.m. Sunday and submitted through the LMS				

### Prescribed Readings:

1. Capon, B. (2010). *Botany for gardeners* (3rd ed.). Timber Press. [ebook available]

### Recommended Readings:

1. Fisher, C. (2018). *Materia medica of Western herbs*. Vitex Medica. [ebook available]
2. Lassak, E. V., & McCarthy, T. (2011). *Australian medicinal plants: A complete guide to identification and usage* (2nd ed.). Reed New Holland.
3. Van Wyk, B-E., & Wink, M. (2004). *Medicinal plants of the world: An illustrated guide to important medicinal plants and their uses*. Timber Press.
4. Wiart, C. (2006). *Medicinal plants of Asia and the Pacific*. CRC Taylor & Francis. [ebook available]
5. Williams, C. (2010). *Medicinal plants in Australia: Bush pharmacy* (Vol. 1). Rosenberg Publishers. [ebook available]
6. Williams, C. (2011). *Medicinal plants in Australia: Gums, resins, tannins and essential oils* (Vol. 2). Rosenberg Publishers. [ebook available]
7. Wink, M., & Van Wyk, B. (2008). *Mind-altering and poisonous plants of the world*. Timber Press.



Subject Content		
Week	Lectures	Tutorials / Practicals
1.	<p><b>Introduction</b> (Subject Outline / Subject Aims / Assessment / Teaching Resources)</p> <p><b>Introduction to Plant Taxonomy and Botanical Nomenclature</b></p> <ul style="list-style-type: none"> <li>➤ What is botany? <ul style="list-style-type: none"> <li>⌚ Why do we need to study it?</li> </ul> </li> <li>➤ What is taxonomy? <ul style="list-style-type: none"> <li>⌚ Why do we need it?</li> <li>⌚ How was it developed?</li> </ul> </li> <li>➤ Phylogeny and the theory of evolution</li> <li>➤ The 5 Kingdoms</li> <li>➤ Plant diversity and the 10 Plant Divisions <ul style="list-style-type: none"> <li>⌚ What is nomenclature?</li> <li>⌚ How is it applied to herbal medicine?</li> <li>⌚ Why is it so important?</li> </ul> </li> </ul>	<p>Activities are developed to allow the students to explore relevant concepts, expand on ideas and have peer and lecturer interaction. Activities also allow for formative assessment and feedback.</p> <ul style="list-style-type: none"> <li>➤ Online discussion post</li> </ul>
2.	<p><b>Plant Morphology - Part 1</b></p> <ul style="list-style-type: none"> <li>➤ Definition of monocotyledons (monocots) and dicotyledons (dicots)</li> <li>➤ The specific differences between monocots and dicots with specificity to plant morphological structures (seeds, roots, stems, leaves, flowers etc.) <ul style="list-style-type: none"> <li>⌚ Seeds: Function and morphology</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>➤ Botany practical</li> </ul>
3.	<p><b>Plant Morphology - Part 2</b></p> <ul style="list-style-type: none"> <li>➤ Definition of fibrous and tap root systems</li> <li>➤ Root anatomy</li> <li>➤ Root modifications</li> <li>➤ The concept of geotropism</li> <li>➤ The functions of roots (support, absorption, hormone production, storage etc.)</li> </ul>	<ul style="list-style-type: none"> <li>➤ Online discussion post</li> </ul>
4.	<p><b>Plant Morphology - Part 3</b></p> <ul style="list-style-type: none"> <li>➤ Stem anatomy (nodes, internodes)</li> <li>➤ Stem modifications (stolons, rhizomes, tubers, corms and cladodes)</li> <li>➤ The function of the stem</li> <li>➤ The theory of phototropism and apical dominance</li> </ul>	<ul style="list-style-type: none"> <li>➤ Online discussion post</li> </ul>



5.	<b>Plant Morphology - Part 4</b> <ul style="list-style-type: none"> <li>➤ Leaf anatomy (lamina, petiole, axis, mid-rib etc.)</li> <li>➤ Leaf characteristics (structure, attachment, arrangement, shape, venation and margin)</li> <li>➤ The functions of leaves</li> <li>➤ Leaf modifications (tendrils, spines, bracts)</li> <li>➤ The theory behind photosynthesis</li> </ul>	➤ Online discussion post
6.	<b>Plant Morphology - Part 5</b> <ul style="list-style-type: none"> <li>➤ The anatomy of flowers and inflorescences</li> <li>➤ Floral structures and their associated functions</li> <li>➤ Flower pollination</li> <li>➤ The evolutionary advantage of flowering plants</li> </ul>	➤ Online discussion post
7.	<b>Virtual Field Trip to a Herbarium</b> <ul style="list-style-type: none"> <li>➤ Students refer to the Australian Virtual Herbarium (AVH)</li> </ul>	➤ Online discussion post
<b>NON-TEACHING WEEK</b> (note that make-up classes may be scheduled in this week) <b>Semester 1</b> – This aligns with the week after Easter so it may fall between Weeks 6 to 8 <b>Semester 2 &amp; Online students</b> – The non-teaching week falls between Weeks 7 and 8		
8.	<b>Plant Morphology - Part 6</b> <ul style="list-style-type: none"> <li>➤ Fruit formation and structure</li> <li>➤ The functions of fruit</li> <li>➤ The types of fruit</li> <li>➤ Methods of dispersal (air, water, animal etc.)</li> </ul>	➤ Online discussion post
9.	<b>Plant Families (Monocots)</b> <ul style="list-style-type: none"> <li>➤ Examine the various spotting characteristics of members of the <i>Liliaceae</i>, <i>Zingiberaceae</i> and <i>Gramineae</i> families</li> <li>➤ Identify the various medicinal herbs of each family</li> <li>➤ Authentication / identification via botanical keys (where applicable) of the medicinal herbs within each family</li> </ul>	➤ Online discussion post
10.	<b>Plant Families (Dicots - Part 1)</b> <ul style="list-style-type: none"> <li>➤ Examine the various spotting characteristics of members of the <i>Ranunculaceae</i>, <i>Myrtaceae</i>, <i>Papaveraceae</i> &amp; <i>Cruciferae</i> families</li> <li>➤ Identify the various medicinal herbs of each family</li> <li>➤ Authentication / identification via botanical keys (where applicable) of the medicinal and indigenous herbs within each family</li> </ul>	➤ Online discussion post



11.	<b>Plant Families (Dicots - Part 2)</b> <ul style="list-style-type: none"> <li>Examine the various spotting characteristics of members of the (perigynous): <i>Leguminosae</i>, <i>Rosaceae</i>; (hypogynous): <i>Lamiaceae</i>, <i>Scrophulariaceae</i> &amp; <i>Solanaceae</i> families</li> <li>Identify the various medicinal herbs of each family</li> <li>Authentication / identification via botanical keys (where applicable) of the medicinal herbs within each family</li> </ul>	<ul style="list-style-type: none"> <li>Online discussion post</li> </ul>
12.	<b>Plant Families (Dicots - Part 3)</b> <ul style="list-style-type: none"> <li>Examine the various spotting characteristics of members of the (epigynous): <i>Asteraceae</i>, <i>Apiaceae</i> and <i>Polygonaceae</i>; (non-angiosperms): <i>Pinaceae</i>, &amp; <i>Equisetaceae</i> families</li> <li>Identify the various medicinal herbs of each family</li> <li>Authentication / identification via botanical keys (where applicable) of the medicinal herbs within each family</li> </ul>	<ul style="list-style-type: none"> <li>Online discussion post</li> </ul>
13.	<b>Poisonous and Restricted (Scheduled) Medicinal Plants</b> <ul style="list-style-type: none"> <li>Discuss what makes a plant poisonous</li> <li>Examine the traditional uses of the selected poisonous plants</li> <li>Examine the various spotting characteristics of a number of poisonous plants and fungi</li> </ul>	<ul style="list-style-type: none"> <li>Online discussion post</li> </ul>
14.	<b>Non-Teaching Week/Practical Examination Week 1</b> Note that make-up classes may be scheduled in this week	
15.	<b>Non-Teaching Week/Practical Examination Week 2</b> Note that make-up classes may be scheduled in this week	
16.	<b>Final Examination Week 1</b> Students are required to sit examinations using the Respondus Lockdown Browser software per the <a href="#">Examination Policy – Higher Education</a> . Refer to your local campus calendar for exam opening and closing times.	
17.	<b>Final Examination Week 2</b> Students are required to sit examinations using the Respondus Lockdown Browser software per the <a href="#">Examination Policy – Higher Education</a> . Refer to your local campus calendar for exam opening and closing times.	