

課程編號：26M107

115 全國夏季學院課程計畫書

所屬學校	國立中興大學
課程中文名稱	香料植物之應用與保健機能
課程英文名稱	Application and Health Function of Spices and Herbs
授課教授中文姓名	古山吉
任職單位/系所	General Education Center
授課教授 e-mail	zenkumar@dragon.nchu.edu.tw

二、課程規劃	
課程名稱	香料植物之應用與保健機能
課程類別	<input type="checkbox"/> A 類討論課 <input checked="" type="checkbox"/> C 類一般課
授課方式	<input type="checkbox"/> 實體課程 <input checked="" type="checkbox"/> 同步遠距課程 (請檢附相關通過辦法之文件、會議記錄等) <input type="checkbox"/> 非同步遠距課程 Banner.png
課程領域	<input type="checkbox"/> 文學與藝術 <input type="checkbox"/> 歷史思維 <input type="checkbox"/> 世界文明 <input type="checkbox"/> 哲學與道德思考 <input type="checkbox"/> 公民意識與社會分析 <input type="checkbox"/> 數學數位與量化分析 <input type="checkbox"/> 物質科學 <input checked="" type="checkbox"/> 生命科學
與課程相關之 聯合國永續發展目標(SDGs) (複選)	<input type="checkbox"/> SDG1 消除貧窮 (No Poverty) <input type="checkbox"/> SDG2 消除飢餓 (Zero Hunger) <input checked="" type="checkbox"/> SDG3 良好健康和福祉 (Good Health and Well-being) <input type="checkbox"/> SDG4 優質教育 (Quality Education) <input type="checkbox"/> SDG5 性別平等 (Gender Equality) <input type="checkbox"/> SDG6 潔淨水與衛生 (Clean Water and Sanitation) <input type="checkbox"/> SDG7 可負擔的潔淨能源 (Affordable and Clean Energy) <input type="checkbox"/> SDG8 尊嚴就業與經濟發展 (Decent Work and Economic Growth) <input type="checkbox"/> SDG9 產業創新與基礎設施 (Industry, Innovation and Infrastructure) <input type="checkbox"/> SDG10 減少不平等 (Reduced Inequalities) <input type="checkbox"/> SDG11 永續城市與社區 (Sustainable Cities and Communities) <input type="checkbox"/> SDG12 負責任的消費與生產 (Responsible Consumption and Production) <input type="checkbox"/> SDG13 氣候行動 (Climate Action) <input type="checkbox"/> SDG14 水下生命 (Life below Water) <input type="checkbox"/> SDG15 陸域生命 (Life on Land) <input type="checkbox"/> SDG16 和平正義與有力的制度 (Peace, Justice and Strong Institutions) <input type="checkbox"/> SDG17 夥伴關係 (Partnerships for the Goals)
英文授課比例	<input type="checkbox"/> 全中文授課(上課語言、材料皆無英文) <input checked="" type="checkbox"/> 全英文授課(上課語言、材料皆無中文) <input type="checkbox"/> 中文、英文皆有 上課語言 (中文： %；英文： %) 教材 (中文： %；英文： %) (因同學英文程度不同，請務必註明，以供學生選課評估)
修課人數上限	100 人
特殊限制	是否開放高中生修課 <input checked="" type="checkbox"/> 是 <input type="checkbox"/> 否 是否開放準大學生 (高三升大一之新生) 修課 <input checked="" type="checkbox"/> 是 <input type="checkbox"/> 否 是否開放研究生修課 <input checked="" type="checkbox"/> 是 <input type="checkbox"/> 否
學分數	3 學分
上課起迄日	2026-07-06 ~ 2026-07-29

上課總週數	上課共4週，是否連續每週排課？ <input checked="" type="checkbox"/> 是，上課時間連續數週不中斷 <input type="checkbox"/> 否，中間中斷 週
上課地點	<input type="checkbox"/> 同步遠距 同步遠距 校區
上課教室	<input checked="" type="checkbox"/> 已確定：同步遠距教室 <input type="checkbox"/> 尚未確定
上課時間及節數	07/06 07/13 07/20 07/27 星期一 09:10 ~ 12:00 共 4 次 07/07 07/14 07/21 07/28 星期二 09:10 ~ 12:00 共 4 次 07/08 07/15 07/22 07/29 星期三 09:10 ~ 12:00 共 4 次 07/09 07/16 07/23 星期四 09:10 ~ 12:00 共 3 次 07/10 07/17 07/24 星期五 09:10 ~ 12:00 共 3 次

課程目標

The primary objective of this course is to equip students with a comprehensive understanding of the historical, cultural, economic, and health aspects of herbs and spices. By the end of the course, students should be able to distinguish various herbs and spices, recognize their cultural significance, and comprehend their economic importance in the global market. Additionally, they should gain insights into the potential health benefits and applications of herbs and spices, ranging from influenza prevention to the treatment of chronic diseases such as cancer.

Specifically, the teaching goal can be broken down into three main components:

Historical and Cultural Significance, Characteristics, and Economic Importance (First Third of the Course): Students will delve into the rich historical and cultural roots of herbs and spices, understanding their traditional uses and significance in different societies. They will learn to identify and differentiate various herbs and spices based on their characteristics, flavors, and aromas. Exploring the economic importance, students will grasp the role of herbs and spices in international trade, agriculture, and global markets.

Applications and Health Benefits (Second Third of the Course): Students will gain a deep understanding of the diverse applications of herbs and spices, both in culinary arts and traditional medicine. The focus will be on exploring the potential health benefits of herbs and spices, examining their roles in preventing and treating various health conditions, including contagious diseases and chronic illnesses.

Herbs and Spices as Agricultural Commodities and Relevant Agricultural Practices (Final Third of the Course): The course will shift its emphasis towards the agricultural aspect of herbs and spices, discussing their cultivation, harvesting, and processing. Students will learn about sustainable agriculture practices related to herbs and spices, considering environmental factors, crop management, and quality control. Specialized skills will be developed to understand the herb and spice supply chain, from cultivation to the market, and the factors influencing their pricing and availability.

Through a combination of theoretical knowledge and practical skills, students will be well-prepared to appreciate the multifaceted nature of herbs and spices, recognizing their significance in our daily lives, from the kitchen to the field and beyond.

教學內容及進度

次別	上課日期/時間	課程內容
1	2026/07/06 (一) 09:10 - 12:00	Course introduction (The course provides a comprehensive overview of herbs and spices, covering their history, classification, bioactive compounds, cultural uses, economic value, and roles in culinary, medicinal, cosmetic, and primary health care applications. It also explores key therapeutic properties, encourages collaborative learning, and concludes with an assessment to evaluate understanding)
2	2026/07/07 (二) 09:10 - 12:00	Historical perspectives of herbs and spices (Traditional knowledge of herbs and spices from the pre-historical period to modern times)
3	2026/07/08 (三) 09:10 - 12:00	Introduction to common herbs and spices (Illustrating common herbs and spices used in various cultures and regions)

4	2026/07/09 (四) 09:10 - 12:00	Classification of herbs and spices (Classification based on plant parts used, economic importance, climate requirement, origin and flavors, season of growth and botanical description, and commercial classification)
5	2026/07/10 (五) 09:10 - 12:00	Characterization of herbs and spices (Content of the substances, smell, taste, and use, in combination with other spices)
6	2026/07/13 (一) 09:10 - 12:00	Primary and Secondary metabolites in herbs and spices (Culinary herbs and spices, fresh and drying spices, everyday ingredients, wild herbs and spices essential oils and Preservatives, nutritional, pharmacological and cosmeceuticals)
7	2026/07/14 (二) 09:10 - 12:00	Economic importance of herbs and spices (Demand, market values, and producers)
8	2026/07/15 (三) 09:10 - 12:00	Role of herbs and spices in primary health care (home remedies, traditional herbalism, and modern utilization)
9	2026/07/16 (四) 09:10 - 12:00	Group Discussion
10	2026/07/17 (五) 09:10 - 12:00	Anti-microbial properties of herbs and spices (Common herbs used for disease prevention, food preservation, and bio-pesticides)
11	2026/07/20 (一) 09:10 - 12:00	Anti-oxidant Properties of herbs and spices (Herbs and spices are rich in natural compounds like polyphenols, flavonoids, and vitamins that help neutralize harmful free radicals in the body. Their antioxidant properties can reduce oxidative stress, support immune function, and contribute to the prevention of chronic diseases.)
12	2026/07/21 (二) 09:10 - 12:00	Anti-cancer properties of herbs and spices (By the end of this lesson, learners will be able to describe the anti-cancer properties of herbs and spices, identify bioactive compounds that may help inhibit the growth of cancer cells, and explain the potential mechanisms through which these natural substances contribute to cancer prevention and overall health support.)
13	2026/07/22 (三) 09:10 - 12:00	Anti-diabetic properties of herbs and spices (By the end of this lesson, learners will be able to explain the anti-diabetic properties of herbs and spices, identify key bioactive compounds that help regulate blood glucose levels, and describe the mechanisms by which these natural substances improve insulin sensitivity and support overall metabolic health.)
14	2026/07/23 (四) 09:10 - 12:00	Anti-aging properties of herbs and spices (By the end of the lesson, learners will be able to identify key herbs and spices known for their anti-aging properties and describe the bioactive compounds responsible for their effects. Learners will also be able to explain how these natural ingredients support skin health)

		and overall wellness through antioxidant and anti-inflammatory mechanisms.)
15	2026/07/24 (五) 09:10 - 12:00	Hepato- and Cardio protective herbs and spices (By the end of the lesson, learners will be able to identify herbs and spices that support liver and heart health and summarize their key protective properties. Learners will also be able to explain the mechanisms by which these botanicals promote hepatic detoxification and cardiovascular function)
16	2026/07/27 (一) 09:10 - 12:00	Cosmetic applications of herbs and spices (By the end of the lesson, learners will be able to identify common herbs and spices used in cosmetic formulations and describe their functional benefits for skin and hair care. Learners will also be able to explain how the active compounds in these botanicals contribute to cleansing, nourishing, soothing, and protecting the skin.)
17	2026/07/28 (二) 09:10 - 12:00	Essential oils and their health applications (By the end of the lesson, learners will be able to identify commonly used essential oils and describe their primary health applications and therapeutic properties. Learners will also be able to explain safe usage methods and evaluate potential benefits and risks associated with essential oil use)
18	2026/07/29 (三) 09:10 - 12:00	Final exam

教學助理規劃	C type (General Sessions), 1 TAs (estimated)
指定用書	NO
參考書籍	<p>Brown, Deni. Encyclopedia of Herbs and Their Uses. New York: Dorling Kindersley Publishing Inc., 1995.</p> <p>Singh, V.B. and Kirti Singh, 2000, Spices, New Age International Publisher, New Delhi.</p> <p>See ESA List of Culinary Herbs and Spices for major, most commonly traded products in the EU: http://www.esa-spices.org/download/esa-list-of-culinary-herbs-and-spices.pdf.</p> <p>Anonymous. Guidance on Authenticity of Herbs and Spices: Industry Best Practice on Assessing and Protecting Culinary Dried Herbs and Spices. https://www.fdf.org.uk/corporate_pubs/guidance-herbsandspices.pdf.</p> <p>El-Sayed SM and Youssef AM. Potential application of herbs and spices and their effects in functional dairy products. Helion. E01989. https://www.sciencedirect.com/science/article/pii/S2405844019356142?via%3Dihub.</p> <p>Martinez Y and Mas D, 2020. Role of Herbs and Medicinal Spices as Modulators of Gut Microbiota. InTech Open. https://www.intechopen.com/online-first/role-of-herbs-and-medicinal-spices-as-modulators-of-gut-microbiota.</p> <p>Kaefer CM and Milner JA, 2008. The Role of Herbs and Spices in Cancer Prevention. Journal of Nutritional Biochemistry. 19(6): 347–361. https://www.sciencedirect.com/science/article/pii/S0955286307002689?via%3Dihub.</p>
作業設計	<p>Final Exam – 80%</p> <p>Final Report – 20%</p>
成績評定方式	<p>Final Exam - 80%</p> <p>Attendance 20%</p>
預估學生一週須投入時間	Classroom time: 15 hours (3 credits, 5 times a week)
修課程度建議	<p><input checked="" type="checkbox"/>無基礎要求，有興趣皆可修課</p> <p><input type="checkbox"/>建議說明：</p>
課程文字介紹	The primary objective of this course is to equip students with a comprehensive understanding of the historical, cultural, economic, and health aspects of herbs and spices. By the end of the course, students should be able to distinguish various herbs and spices, recognize their cultural significance, and comprehend their economic importance in the global market. Additionally, they should gain insights into the potential health benefits and applications of herbs and spices, ranging from influenza prevention to the treatment of chronic diseases such as cancer.

課程宣傳	海報	 <p>國立臺灣大學 全國夏季學院</p> <p>Application and Health Function of Spices and Herbs 香料植物之應用與保健機能</p> <p>Instructor: KUMAR 古山吉 Course Code: 26M107</p> <p>Course Period: 2026-07-06 ~ 2026-07-29 Credits: 3 Distance Learning</p>
	影片	
其他補充資料		