

Section 1: General Information

1. Code and course name

AHS 2221 Aromatology

2. Number of credits

3 credits 3 (2-3-5)

3. Curriculum and course types

Bachelor of Science, Department of Allied Health Sciences as a compulsory professional group

4. Instructors in charge of the course and instructors

Dr.Rattana Panriansaen

5. Semester/year of study

Undergraduate

6. Subjects that must be taken first Pre-requisites (if any)

None

7. Courses to be studied at the same time (Co-requisites) (if any)

None

8. Place of study

Suan Sunandha Rajabhat University

9. Date of preparation of course details or date of last update

April 26, 2022

Section 2: Aims and Objectives

1. Objectives of the course

1.1 Have knowledge and understanding of Aromatology or the science of using scents as the basis for health and beauty care

1.2 Having knowledge, understanding, and realizing the importance of aromatics or the science of using scents with health and beauty care

1.3 Able to apply the knowledge of Aromatology or the science of using scents to apply to health care and

1.4 Have knowledge and understanding of the progress of Aromatology or the science of using scents in health and beauty care

2. Objectives of course development/improvement

To provide students with knowledge and understanding of smell skills or aromatherapy for health care and beauty in accordance with occupation as well as current situations and changes.

Section 3: Characteristics and Operations

1. Course Description

Background, principles, benefits and precautions of aromatherapy, fragrant plants and essential oils. How to extract essential oils, Difference between essential oils and synthetics oil, Application technique of aromatics for health and beauty, Selection of essential oils according to the body element, Practice sniffing, comparative, application of aromatics and Thai incense.

2. The number of hours used/semester

Lecture	Additional teaching	Practice/ Laboratory	Self study
30 hours/semester	None	45	5 hours/ week

3. Number of hours per week that teachers give advice and academic advice to students individually.

1.1 The teacher arranged the time to give advice on individual or group 1 hour/week. (Only the desired person)

1.2 Master gives advice via e-mail: rtana@hotmail.com and the website www.ssru.ac.th/teacher/Science/rattana_pa

Section 4: Development of student learning

1. Morality and ethics

1.1 Morals and ethics that need to be developed

1.1.1 Aware of the value and morality, ethics, sacrifice and honesty.

1.1.2 Be disciplined, punctual, and responsible for oneself and society.

1.1.3 Having leadership and follower status Can work as a team and can edit Conflicts and priorities

1.1.4 Respect the rights and listen to the opinions of others. Including respect for the value and dignity of human beings.

1.1.5 Respect the rules and regulations of the organization and society.

1.1.6 Have academic and professional ethics.

1.2 Teaching methods used to develop learning

1.2.1 Lecture with examples

1.2.2 Discuss both specific and large groups

1.2.3 Encourage students to express their opinions.

1.2.4 Encourage students to do research on their own.

1.2.5 Practice exam

1.3 Evaluation methods

1.3.1 Observe behaviors, including punctuality in attending classes. Delivering work on time as assigned class participation giving classmates the opportunity to ask questions and having respect for teachers Observe the behavior of the students in group operations.

1.3.2 Assessment scores for morality, ethics, and responsibility behaviors and participation in classroom activities and techniques for conducting operations

2. Knowledge

2.1 Knowledge that must be acquired

2.1.1 Knowledge and understanding of important principles and theories of aromatology

2.1.2 Able to analyze problems, understand, provide care, improve and/or evaluate the use of scents or aromatics in care and health and beauty care services.

2.1.3 Be able to analyze, design, provide services, as well as apply knowledge, skills, and the use of aromatherapy appropriate to care and health care and beauty services.

2.1.4 Be able to follow up academic progress in Aromatherapy, including appropriate application.

2.1.5 have a broad knowledge of Aromatherapy in order to foresee changes and understand the impact of new technologies

2.1.6 Be able to integrate knowledge in Aromatherapy with knowledge in other sciences. Related

2.2 Teaching methods

2.2.1 The lecturer explains the theoretical principles. and use student-centered teaching, for example, for students to find ways to find out more self-study teaching and Internet research, etc.

2.2.2 Provide teaching and learning that emphasizes education from real practice.

2.2.3 Assign individual and group tasks (Students search for information from various sources, collect, analyze and summarize information)

2.2.4 arrange for students to create projects and prepare a report on the results of the project

2.3 Evaluation methods

2.3.1 Midterm Exam Final Exam Subtest

2.3.2 Assessment from answering questions and expressing opinions in class

2.3.3 Assessment of student performance, both individual reports and group reports.

3. Cognitive skills

3.1 Intellectual skills that need to be developed

1.1.1 Think critically and systematically

1.1.2 Able to search, interpret and evaluate various information related to the science of using smell or aromatherapy for use in health and beauty care and linked in a holistic way

1.1.3 Able to collect, study, analyze and summarize problems and needs

1.1.4 Able to apply knowledge of smell and skills to solve professional problems appropriately

3.2 Teaching methods

1.2.1 Provide teaching and learning that emphasizes education from real practice.

1.2.2 Assign individual and group tasks (Students search for information from various sources. collect and analyze data)

1.2.3 Students answer class problems and express opinions in class.

3.3 Evaluation methods

1.3.1 Mid-term exam, final exam and subtests

1.3.2 Assessment from student performance, both individual reports and group reports.

1.3.3 Assessment from answering questions and expressing opinions in class

4. Interpersonal Skills and Responsibilities

4.1 Interpersonal skills and responsibilities to be developed

4.1.1 Able to communicate effectively with diverse groups of people

4.1.2 Be able to aid and facilitation in solving various situations in the group both in the leadership role. or in the role of working teammates

4.1.3 Be able to use knowledge from science to guide society on appropriate issues.

4.1.4 Have responsibility for their own actions and responsibility for work in the group.

4.1.5 Be able to take the initiative to show issues in resolving both personal and public situations, as well as showing appropriate stances for themselves and the group.

4.1.6 Be responsible for continuous development of their own and professional learning.

4.2 Teaching methods

4.2.1 Lecture with examples

4.2.2 Provide teaching and learning that emphasizes education from real practice.

4.2.3 Assign individual and group tasks

4.2.4 Give students the opportunity to discuss problems. in group work and find solutions

4.3 Evaluation methods

4.3.1 Evaluate from class participation behavior.

4.3.2 Assess the responsibility of individual and group reports of students.

5. Numerical Analysis, Communication, and Information Technology Skills

5.1 Numerical analysis, communication, and information technology skills to be developed

5.1.1 Skills in the use of tools that are currently necessary for computer-related work.

5.1.2 Be able to creatively introduce problem-solving issues using mathematical information or applied statistical representations to relevant problems.

5.1.3 Able to communicate effectively orally and in writing Choose the form of presentation media appropriately.

5.1.4 Able to use information and communication technology appropriately.

5.2 Teaching methods

5.2.1 Assign tasks that require searching for information via the Internet.

5.2.2 Present information using appropriate methods.

5.2.3 Allowing students to ask and answer through the web-board.

5.3 Evaluation methods

5.3.1 Assessment from internet search reports (Substantial, content, reference evidence)

5.3.2 Participation in discussions and presentation methods

5.3.3 Assessment from asking-answering via the web board.

Section 5: Lesson Plan and Evaluation

1. Lesson plan

Week	Topic/ details	Hrs.	Teaching and learning activities/ used media
1	Instruction Brief <ul style="list-style-type: none"> - Course descriptions and study plans - Preparation and behavior in the classroom - Methods for measuring and evaluating academic performance - Documents and textbooks 	3	Teaching activities <p>Theory (2 hours)</p> <ul style="list-style-type: none"> - Explain the course instruction - Explaining study plans, learning methods, grading - Describe the resources for further study by yourself. <p>Practical (3 hours)</p> <ul style="list-style-type: none"> - Pre-test - form groups for practical activities - Have students' group together to ask questions. and express opinions with friends from different groups

Week	Topic/ details	Hrs.	Teaching and learning activities/ used media
			Teaching materials <ul style="list-style-type: none"> - Compilation of course teaching - Power Point, computer, LCD projector - Pre-study test in Aromatology - morality and ethics in aromatics Self-study (5 hours) <ul style="list-style-type: none"> - Observe the use of aromatics in the daily life of those around you. To prepare discussions and provide concrete examples, such as Power Point or Chart, etc., as a group in the next week.
2	Chapter 1 Introduction to aromatherapy <ul style="list-style-type: none"> - History of aromatherapy - Concept of aromatherapy - Importance and use of aromatherapy in daily life 	3	Teaching activities <p>Theory (2 hours)</p> <ul style="list-style-type: none"> - Lecture on Power Point media - Give examples of using aromatherapy in daily life. <p>Practical (3 hours)</p> <ul style="list-style-type: none"> - Group discussion on the use of aromatics in everyday life assigned last week with examples shown in various media such as Power Point and diagrams (Charts). - Let different groups of students join to ask questions. and comment - The teacher explains and gives additional comments. <p>Teaching materials</p> <ul style="list-style-type: none"> - Handouts - Power Point, computer, LCD projector - Performance Report Form 1 on Aromatics in

Week	Topic/ details	Hrs.	Teaching and learning activities/ used media
			Daily Life Self-study (5 hours) - Observe the sources of aromatic substances found in daily life, 2-3 types of each person, in the same group, do not repeat the same type (15-20 types per group).
3	Chapter 2 Types of Aromatic Substances and Essential Oils - Definitions and definitions - Source of essential oils (Source of Volatile Oil) - The difference between natural and synthetic essential oils	3	Teaching activities Theory (2 hours) - Lecture on Power Point media Practical (3 hours) - Study real examples of sources of aromas and essential oils. - Study real examples of natural and synthetic fragrances. - Summarize the study report Including self-reported study results - Submit a performance report at the end of the class. Self-study (5 hours) - Study and research essential oils used in daily life including benefits Penalty and method of correct use, one type per person, in the same group, do not repeat the same type. Teaching materials - Handouts - Power Point, computer, LCD projector - Samples of natural fragrance substances

Week	Topic/ details	Hrs.	Teaching and learning activities/ used media
			both plants and animals Including synthetic fragrance substances - Operation report form 2 on types and sources of aromatic substances and essential oils. Including the results of the study in week 2
4	Chapter 3 Biomechanical of aromatherapy - Chemical compounds in organisms that give off aroma - Mechanism of action of essential oils - Pharmacological effects of essential oils	3	Teaching activities Theory (2 hours) - Lecture on Power Point media Practical (3 hours) - Study the essential oil samples provided. along with experimenting with essential oils, as well as observing what was found after the experiment - Summarize the results of the study, including the report of the study itself. - Submit a performance report at the end of the class. Self-study (5 hours) - Study and research Thai plants that produce essential oils. important substances found Mechanism of action, benefits, harms and uses, 1 type per group Teaching materials - handouts - Power Point, computer, LCD projector - Samples of 10 essential oils - Operation report form 3: Mechanism of action of essential oils Including study

Week	Topic/ details	Hrs.	Teaching and learning activities/ used media
			results in week 3
5	<p>Chapter 4 Plants that give essential oils and their properties</p> <ul style="list-style-type: none"> - Thai plants that give essential oils and pharmacological effects - Products that contain Thai essential oils. 	3	<p>Teaching activities</p> <p>Theory (2 hours)</p> <ul style="list-style-type: none"> - Lecture on Power Point media <p>Practical (3 hours)</p> <ul style="list-style-type: none"> - Study Thai plants that produce essential oils. including essential oils extracted provided along with experimenting with essential oils, as well as observing what was found after the experiment - Summarize the study report Including self-reported study results - Submit a performance report at the end of the class. <p>Self-study (5 hours)</p> <ul style="list-style-type: none"> - Study and research foreign plants that produce essential oils important substances found Mechanism of action, benefits, harms and uses, 1 type per group <p>Teaching materials</p> <ul style="list-style-type: none"> - Handouts - Power Point, computer, LCD projector - Samples of 10 Thai plants and essential oils - Operation report form 4 on plants that produce essential oils, part 1 on aromatic substances in Thai plants Including study results in week 4

Week	Topic/ details	Hrs.	Teaching and learning activities/ used media
6	<p>Chapter 4 (Continued) Plants that provide essential oils and their properties</p> <ul style="list-style-type: none"> - Non-native plants that provide essential oils and pharmacological effects - Products containing foreign essential oils 	3	<p>Teaching activities</p> <p>Theory (2 hours)</p> <ul style="list-style-type: none"> - Lecture on Power Point media <p>Practical (3 hours)</p> <ul style="list-style-type: none"> - Study examples of exotic plants that produce essential oils. including essential oils extracted provided along with experimenting with essential oils, as well as observing what was found after the experiment - Summarize the study report Including self-reported study results - Submit a performance report at the end of the class. <p>Self-study (5 hours)</p> <ul style="list-style-type: none"> - Studying and researching plant sources for essential oils both in Thailand and abroad planting time harvest parts used for oil extraction number of raw materials used Amount of essential oil Factories that accept the extraction of essential oils of that type, 1 per group <p>Teaching materials</p> <ul style="list-style-type: none"> - Handouts - Power Point, computer, LCD projector - Samples of 10 exotic plants and essential oils - Operation report form No. 4 on plants that produce essential oils, part 2 on aromatic

Week	Topic/ details	Hrs.	Teaching and learning activities/ used media
			substances in non-native plants Including the results of the study in week 5
7	<p>Chapter 5 Process of extracting essential oils</p> <ul style="list-style-type: none"> - Classification of raw materials used in the extraction of essential oils. - Methods for extracting essential oils from raw materials - Essential oil quality check 	3	<p>Teaching activities</p> <p>Theory (2 hours)</p> <ul style="list-style-type: none"> - Lecture on Power Point media <p>Practical (3 hours)</p> <ul style="list-style-type: none"> - Study examples of exotic plants that produce essential oils. including essential oils extracted provided along with experimenting with essential oils, as well as observing what was found after the experiment - Summarize the study report Including self-reported study results - Submit a performance report at the end of the class. <p>Self-study (5 hours)</p> <ul style="list-style-type: none"> - Studying and researching plant sources for essential oils both in Thailand and abroad planting time harvest parts used for oil extraction number of raw materials used Amount of essential oil Factories that accept the extraction of essential oils of that type, 1 per group <p>Teaching materials</p> <ul style="list-style-type: none"> - Handouts - Power Point, computer, LCD projector - Samples of 10 exotic plants and essential oils

Week	Topic/ details	Hrs.	Teaching and learning activities/ used media
			<ul style="list-style-type: none"> - Operation report form No. 5 on the extraction of essential oils from plants. Including study results in week 6.
8	Midterm Exam	3	<p>Theoretical exam (2 hours)</p> <ul style="list-style-type: none"> - Multiple-choice, chapters 1-5 <p>Laboratory exam (3 hours)</p> <ul style="list-style-type: none"> - Classification of essential oils by smell distinguish from plant samples Equipment used to extract essential oils (Lab Circulation)
9	<p>Chapter 6 Carrier oil</p> <ul style="list-style-type: none"> - Classification of Carrier oil - Methods for extracting carrier oil - Properties for Health - Quality check 	3	<p>Teaching activities</p> <p>Theory (2 hours)</p> <ul style="list-style-type: none"> - Lecture on Power Point media <p>Practical (3 hours)</p> <ul style="list-style-type: none"> - Study examples of exotic plants that produce carrier oil - Summarize the study report Including self-reported study results - Submit a performance report at the end of the class. <p>Self-study (5 hours)</p> <ul style="list-style-type: none"> - Studying and researching plant sources for carrier oils both in Thailand and abroad , extraction amount of raw materials <p>Teaching materials</p> <ul style="list-style-type: none"> - Handouts - Power Point, computer, LCD projector - Samples of 10 plants and oils - Operation report form No. 6 on plants that

Week	Topic/ details	Hrs.	Teaching and learning activities/ used media
			produce carrier oils Including the results of the study in week 7
10	<p>Chapter 7 Essential Oil Recipes</p> <ul style="list-style-type: none"> - Classification of essential oils according to the durability of the scent (Top nose, Middle nose, Bottom nose) - Principles of blending essential oils - Substances used to mix essential oils 	3	<p>Teaching activities</p> <p>Theory (2 hours)</p> <ul style="list-style-type: none"> - Lecture on Power Point media <p>Practical (3 hours)</p> <ul style="list-style-type: none"> - Practice smelling essential oils and grouping essential oils. - Study the characteristics of substances used in blending essential oils. - Study products that contain essential oils. Including considering the smell according to the criteria - Summarize the study report - Submit a report with examples of operations at the end of the class. <p>Self-study (5 hours)</p> <ul style="list-style-type: none"> - Study essential oil products that are successfully blended in the market from public relations media and the Internet. physical description Mechanism of action, benefits, harms, usage, limitations of use Lifespan, brand, manufacturing company Including taking it as a sample next week <p>Teaching materials</p> <ul style="list-style-type: none"> - Handouts - Power Point, computer, LCD projector - Essential oil samples Classified by groups Top nose, Middle nose and Bottom nose

Week	Topic/ details	Hrs.	Teaching and learning activities/ used media
			<ul style="list-style-type: none"> - Examples of products that contain essential oils (bring 1 type per group) - Operation report form 7 on principle of blending essential oils, part 1 on classification of oils and mixtures
11	<p>Chapter 7 (Continued) Mixing Essential Oils</p> <ul style="list-style-type: none"> - Setting up essential oil blending recipes - Essential oil recipes for inhalation - Essential oil recipes to treat and relieve various symptoms. - Essential oils for use in various products - Essential oils for body massage 	3	<p>Teaching activities</p> <p>Theory (2 hours)</p> <ul style="list-style-type: none"> - Lecture on Power Point media <p>Practical (3 hours)</p> <ul style="list-style-type: none"> - Practice setting up essential oil recipes for use in different types of work. - Present the results of the group's operations in front of the class. ready to exchange opinions answering questions between groups - The teacher gave advice on the proposed recipes. - Summarize the study report - Submit a report with examples of operations at the end of the class. <p>Self-study (5 hours)</p> <ul style="list-style-type: none"> - Choose up to 3 roommates with different personalities to observe their behavior based on the given form. <p>Teaching materials</p> <ul style="list-style-type: none"> - handouts - Power Point, computer, LCD projector - Essential oils for the Top nose, Middle nose and Bottom nose groups

Week	Topic/ details	Hrs.	Teaching and learning activities/ used media
			<ul style="list-style-type: none"> - Substances that are mixed in essential oil formulas - Operational Report Form 7 on Principles of Essential Oil Mixing, Part 2, Formulation of Essential Oil Mixing
12	<p>Chapter 8 Essential Oils and the Body Elements</p> <ul style="list-style-type: none"> - Knowledge of the Body Elemental - Essential oils and formulas according to the body elements - Essential oil massage according to the elements 	3	<p>Teaching activities</p> <p>Theory (2 hours)</p> <ul style="list-style-type: none"> - Lecture on Power Point media <p>Practical (3 hours)</p> <ul style="list-style-type: none"> - Set recipes and cook essential oils according to the element of the house - Experiment by massaging volunteers to match the element of the house. - Ask questions, exchange opinions about the smell and touch of the oil. between volunteers and different groups of friends - Summarize the study report - Submit a report with examples of operations at the end of the class. <p>Self-study (5 hours)</p> <ul style="list-style-type: none"> - Study essential oils used in spas as follows: physical characteristics, components, usage, popularity, prices, production sources, distribution sources, and other related matters. By surveying and asking spa and beauty business owners who have used such products. <p>Teaching materials</p> <ul style="list-style-type: none"> - handouts

Week	Topic/ details	Hrs.	Teaching and learning activities/ used media
			<ul style="list-style-type: none"> - Power Point, computer, LCD projector - Samples of 10 exotic plants and essential oils - Operation report form 8 on the use of essential oils according to the elements
13	<p>Chapter 9 Thai incense</p> <ul style="list-style-type: none"> - Types of Thai incense - Thai plants used to ferment incense - Traditional Thai incense fermentation process 	3	<p>Teaching activities</p> <p>Theory (2 hours)</p> <ul style="list-style-type: none"> - Lecture on Power Point media <p>Practical (3 hours)</p> <ul style="list-style-type: none"> - Studying plant samples that are used to make Thai incense and ready-made Thai incense. - Practice Thai fragrances by setting up your own recipes - Summarize the study report - Submit a report with examples of operations at the end of the class. <p>Teaching materials</p> <ul style="list-style-type: none"> - Handouts - Power Point, computer, LCD projector - Samples of 10 exotic plants and essential oils - Operational results report form 6 on Thai aromatic spices and fermentation process <p>Self-study (5 hours)</p> <ul style="list-style-type: none"> - Study 1 product in the market that contains a mixture of essential oils. physical appearance Mechanism of action, benefits, harms, usage, limitations of use Lifespan,

Week	Topic/ details	Hrs.	Teaching and learning activities/ used media
			brand, manufacturing company Including taking it as a sample next week
13	<p>Chapter 10 Application of Essential Oils</p> <ul style="list-style-type: none"> - The use of essential oils in everyday life - Using essential oils in the spa - Medical use of essential oils - Use of specific essential oils 		<p>Teaching activities</p> <p>Theory (2 hours)</p> <ul style="list-style-type: none"> - Lecture on Power Point media <p>Practical (3 hours)</p> <ul style="list-style-type: none"> - study essential oil samples Nature of work used, method of use, equipment and storage - Summarize the study report - Submit a report with examples of operations at the end of the class. <p>Self-study (5 hours)</p> <ul style="list-style-type: none"> - Researching and researching Thai plants that produce essential oils that are currently in demand in the market both in Thailand and abroad, 1 type per group, mentioning the source of production. the importance of that plant important substances found mechanism of action research operations product Effects of implementation, advantages, disadvantages, and other related By preparing to bring research documents that have been researched in the next week (1 type per group, 1 document per person, not duplicate in the group) <p>Teaching materials</p> <ul style="list-style-type: none"> - Handouts

Week	Topic/ details	Hrs.	Teaching and learning activities/ used media
			<ul style="list-style-type: none"> - Power Point, computer, LCD projector - Examples of essential oils used in various fields including equipment - Operation report form 9 on the selection of essential oils
14	Chapter 10 The Progress of Aromatics and Effects	3	<p>Teaching activities</p> <p>Theory (2 hours)</p> <ul style="list-style-type: none"> - Lecture on Power Point media on research, progress and effects of Thai plants that produce essential oils. <p>Practical (3 hours)</p> <ul style="list-style-type: none"> - Discuss your own study results from Week 13 as a group. - Discuss and exchange opinions among fellow students - teacher gives advice - Summarize the study report - Submit the results report at the end of the class <p>Self-study (5 hours)</p> <ul style="list-style-type: none"> - Prepare to present the research report as a group. by submitting reports and presenting them in Power Point format, including looking for raw materials, products for the report and show how to use it correctly (30 minutes per group) - Preparing to organize an exhibition to present the results of the study to outsiders.

Week	Topic/ details	Hrs.	Teaching and learning activities/ used media
			teaching materials - handouts - Power Point, computer, LCD projector - Documents prepared by each student - Documents, manuals, books for reference - Operation report form 10 on research in eugenics
15	Presentation of Aromatherapy research	3	Teaching activities Theory (2 hours) - Group research presentation report on the progress of Thai fragrant plants to the world (20-30 minutes per group) - Discuss and exchange opinions between fellow students from different groups and teachers who attended the hearing (2-3 persons) - Send reports in the form of books and CDs to accompany the presentation. Practical (3 hours) - Presentation of exhibition works In the form of a board and a demonstration of how to use essential oils. to personnel in universities and outsiders who visit the event - Grading of each group's works by professors and visitors Self-study (5 hours) - Self-assessment What can be learned in the classroom both theoretical and

Week	Topic/ details	Hrs.	Teaching and learning activities/ used media
			practical - Evaluate the satisfaction of the exhibition participants. - Assessment of the organizer's satisfaction, readiness, cooperation, unity, flaws to assess the quality of education morality and ethics - Reporting media and exhibitions - Power Point, computer, LCD projector - exhibition board Appropriate equipment to be used
16	Final exam	3	Theory test - Multiple-choice, chapters 6-10 Laboratory exam - Setting up essential oil formulations and their use

2. Learning Evaluation Plan

Activities	Learning results	Evaluation Method	Week of evaluation	Ratio
1	2.1,2.2	Midterm exam	8	20 %
2	2.1,2.2	Final exam	18	30 %
3	2.1,2.2	Quiz	5-11	10 %
4	1.2,1.3, 2.1,3.2,4.1	Individual Report - Responsibility Honesty and punctuality (2%) - Interesting and modern (3%) Accuracy and understanding of the content (5%)	2-14	10 %

Activities	Learning results	Evaluation Method	Week of evaluation	Ratio
5	1.2,1.3,2.1,3 2,4.1,4.2,5.5	Group Report - Honesty and punctuality (1%) - format is correct and complete as required (1%) - The accuracy of the experimental method in practice (1%) - the validity of the experimental results Summarizing and reviewing results and answering questions at the end of the experiment (5%) - Assessment of group behavior (2%)	2-14	10 %
6	1.2,1.3,4.1,4.2	- Assessment of behavior on morality, ethics, responsibility and - Participation in class activities and techniques for conducting operations	1-16	20 %

Section 6: Teaching Resources

1. Textbooks and main documents

- Chamras Sennil and Pissom Malisuwan. (2003). Aromatherapy, the science of therapy. Nonthaburi: Siam Heritage Publishing House. (in Thai)
- Sud-Uam Masanglong. (n.d.) Basic of Aromatherpy Training Documents Bangkok: Health and Beauty Sciences Program. Suan Sunandha Rajabhat University. (in Thai)

- Institute of Thai Traditional Medicine. (2008). Thai spa training manual for health. Department of Thai Traditional and Alternative Medicine Development Ministry of Health: 169-190. (in Thai)
- Mc Gilvery, C. and Reed, J. (2002). Aromatherapy for Health, Beauty & Well Being. 2nd ed. London: Anness Publishing Ltd.
- Martin, I. (2007). Aromatherapy for Massage Practitioners. Baltimore: Lippincott Williams & Wilkins.

2. Important documents and information

- Rattana Panriansaen. 2011. Teaching materials for the Aromatology course, Bangkok: Health and Beauty Sciences. Suan Sunandha Rajabhat University.
- Research journals related to the use of aromatics for health and beauty. and related sciences

3. Documents and advice

- Academic websites related to aromatics
- Articles, magazines, print media, internet, as well as news.

Section 7: Assessment and Improvement of Course Operations

1. Strategies for assessing course effectiveness by students

Evaluation of effectiveness in this course Have students evaluate teaching methods. teaching and learning activities teaching aids with suggestions for improvement by

1.1 Course Evaluation Form and teacher evaluation form

1.2 Group discussion between teachers and students

1.3 Observation from learners' behavior

1.4 Suggestions through the web forum that teachers have prepared as a communication channel for students.

2. Teaching Assessment Strategies

In collecting data for teaching evaluation, the strategies are as follows:

2.1 Observe the teacher's teaching

2.2 Student participation in class

2.3 Academic results and work assigned to students

2.4 Verification of learning assessment results

3. Improving teaching

teacher review and improve teaching methods from the results of the evaluation of the effectiveness of the course. Then prepare the course portfolio and report the results of the course (TQF 5) every semester. The faculty set up and exchange knowledge to discuss students' learning problems and jointly find solutions.

4. Verification of student achievement standards in the course

The Curriculum Development and Educational Standards Committee is responsible for verifying student achievement in courses by evaluating the quality of the examination and the appropriateness of scoring, as well as considering the grade level in the course.

5. Implementation of review and planning to improve course effectiveness

from the assessment results and verify the achievement and effectiveness of the course. There is a plan to improve teaching and subject details in order to achieve more quality as follows:

5.1 Courses are revised every two years or based on recommendations and verification results of achievement standards.

5.2 Change or switch instructors. To give students a perspective on applying this knowledge to the content of the professor's research.