

**Kingdom of Saudi Arabia**

**The National Commission for Academic Accreditation &  
Assessment**

**COURSE SPECIFICATION**

**FUNCTIONAL FOODS**

**CHS 457**

# Course Specification

|                    |   |
|--------------------|---|
| Institution        | <b>King Saud University</b>   |
| College/Department | <b>College of Applied Medical Sciences – department of community health (nutrition)</b> |

## A Course Identification and General Information

|   |
|---|
| 1. Course title and code: <b>(CHS 457) Functional Foods</b>   |
| 2. Credit hours: <b>3 (2+1)</b>   |
| 3. Program(s) in which the course is offered.<br>(If general elective available in many programs indicate this rather than list programs) |
| 4. Name of faculty member responsible for the course: <b>Madawi M Aldhwayan</b>   |
| 5. Level/year at which this course is offered: <b>Level 9</b>   |
| 6. Pre-requisites for this course (if any) <b>None</b>  |
| 7. Co-requisites for this course (if any) <b>None</b>   |

## B Objectives

|   |
|---|
| 1. Summary of the main learning outcomes for students enrolled in the course <ul style="list-style-type: none"><li>• Define the nutraceutical and the functional foods.</li><li>• Describe the relationship between each functional foods and human health, the role which dietary modifications can play in the prevention and treatment of some diseases.</li><li>• Explain the mechanism of action by which the functional food can prevent or treat some chronic diseases.</li><li>• Describe the relation that exists between the phytochemicals in each functional food and the prevention or the treatment of some diseases.</li></ul> |
| 2. Briefly describe any plans for developing and improving the course that are being implemented. (eg increased use of IT or web based reference material, changes in content as a result of new research in the field) <ul style="list-style-type: none"><li>• Periodic upgrading of the course content.</li><li>• Using new references.</li><li>• Using relevant web references.</li></ul>  |

| <b>Topics to be Covered</b> |   |                    |                      |
|-----------------------------|---|--------------------|----------------------|
| <b>List of Topics</b>       |   | <b>No of Weeks</b> | <b>Contact hours</b> |
| <b>1</b>                    | Introduction to functional foods and nutraceuticals | 1                  | 2                    |
| <b>2</b>                    | Lycopene  | 1                  | 2                    |
| <b>3</b>                    | National day  | 1                  | 2                    |
| <b>4</b>                    | Garlic  | 2                  | 4                    |
| <b>5</b>                    | Olive oil   | 1                  | 2                    |
| <b>6</b>                    | Eid vacation  | 1                  | 2                    |
| <b>7</b>                    | First term exam                                     | 1                  | 2                    |
| <b>8</b>                    | Probiotics and prebiotics                           | 1                  | 2                    |
| <b>9</b>                    | Isoflavones   | 1                  | 2                    |
| <b>10</b>                   | Second term exam                                    | 1                  | 2                    |
| <b>11</b>                   | Tea polyphenols (1)                                 | 1                  | 2                    |
| <b>12</b>                   | Tea polyphenols (2)                                 | 1                  | 2                    |

### C. Course Description

|   |           |            |  |   |
|---|-----------|------------|--|---|
| 2 Course components (total contact hours per semester):   |           |            |  |   |
| Lecture:<br><b>30 hours</b>   | Tutorial: | Laboratory | Practical/Field work/Internship<br><b>42 hours</b> | Other: (visiting speaker)<br><b>2 hours</b> |
| 3. Additional private study/learning hours expected for students per week. (This should be an average: for the semester not a specific requirement in each week) <b>4 hours/week of private study</b>   |           |            |  |   |
| 4. Development of Learning Outcomes in Domains of Learning  |           |            |  |   |
| For each of the domains of learning shown below indicate:   |           |            |  |   |
| <ul style="list-style-type: none"> <li>• A brief summary of the knowledge or skill the course is intended to develop;</li> <li>• A description of the teaching strategies to be used in the course to develop that knowledge or skill</li> <li>• The methods of student assessment to be used in the course to evaluate learning outcomes in the domain concerned.</li> </ul>   |           |            |  |   |
| <b>Define the effects of food and selected nutrients on health.</b>   |           |            |  |   |
| (i) Describe the different functional components of food.   |           |            |  |   |
| <p><b>Describe the relationship between each functional foods and human health, the role which dietary modifications can play in the prevention and treatment of some diseases.</b></p> <p><b>Explain the mechanism of action by which the functional food can prevent or treat some chronic diseases.</b></p>  |           |            |  |   |
| (ii) Teaching strategies to be used to develop that knowledge   |           |            |  |   |
| <ul style="list-style-type: none"> <li>• <b>Lectures (detailed description of each topic) &amp; class discussion.</b></li> <li>• <b>Assignment and presentation</b></li> <li>• <b>An event day that will be held in the college, which will demonstrate several food items and their role in health.</b></li> <li>• <b>Formative assessment for learning can achieve a range of benefits such as:</b></li> <li>• <b>Finding out where students are starting from</b></li> <li>• <b>Discovering common misconceptions</b></li> <li>• <b>Piloting new assessment techniques for potential barriers and/or errors</b></li> <li>• <b>Assisting students in mastering skills before being summatively assessed</b></li> <li>• <b>Achieving techniques or learning goals throughout a course</b></li> <li>• <b>Identifying strengths and a weaknesses whilst there is still time to do something about it</b></li> <li>• <b>Seminars</b></li> </ul> |           |            |  |   |

(iii) Methods of assessment of knowledge acquired

- **Written exam including MCQs, fill in the blank, true or false and give the reasons.**

## **b. Cognitive Skills**

(i) Description of cognitive skills to be developed

**Explain to themselves and to others the benefits of several food components. And the mechanism of action by which each food in preventing or treatment of each diseases.**

**Distinguish between different food components and their effect on health**

(ii) Teaching strategies to be used to develop these cognitive skills

- **Group discussions during the lecture and after each weekly quiz.**

(iii) Methods of assessment of students cognitive skills

- **Weekly quizzes**
- **Written exam including MCQs, Fill in the blank and give the reasons. are used to during teaching to measure student progress and after teaching to measure what student has learned**

## **c. Interpersonal Skills and Responsibility**

(i) **Description of the interpersonal skills and capacity to carry responsibility to be developed**

- **Demonstrate the ability to pass on information.**

**Demonstrate the ability to present a topic related to the study course.**

**Demonstrate the ability to self leaning and problem solving:**

**Study and find information independently**

**Set aims, targets, objective and plan to meet them with a deadline (time management)**

**Find effective and realistic solutions for work problems.**

**.Demonstrate the ability to plan, design and implement a chronic disease prevention**

(ii) Teaching strategies to be used to develop these skills and abilities

- **Students will display a certain level of responsibility by weekly contact with the instructor to discuss their update regarding their event day.**
- **Communication**
- **Teamwork**
- **Leadership**
- **Time management**
- **Preparation and presentation of assignment**
- **Design and achieve a poster about a studied topic**

(iii) Methods of assessment of students interpersonal skills and capacity to carry responsibility

- **The instructor will observe and assess students during lectures and the practical section of the course.**
- **Class discussion encourages the open exchange of ideas and information between the instructor and the students. As students ask questions or make comments, they begin to take some responsibility for their own learning. Discussion is valuable follow-up activity to a lecture, a group teaching sessions or audiovisual presentation of studied topics.**
- **Assignments and oral presentation**
- **Team working skills.**

**d. Communication, Information Technology and Numerical Skills**

(i) Description of the skills to be developed in this domain.

**Plan for an event titled “with foods, colour your life” where they will demonstrate creativity in displaying information.**

(ii) Teaching strategies to be used to develop these skills

- **Weekly meetings**
- **Preparation of seminar or assignments and oral presentation**
- **Perform a search the internet on a selected topic related to the study course**

(iii) Methods of assessment of students numerical and communication skills

- **Observation and check list**

**e. Psychomotor Skills (if applicable)**

(i) Description of the psychomotor skills to be developed and the level of performance required

- **Demonstrate the ability to plan, design and implement a nutrition education programme.**
- **Choose an appropriate method to perform a nutrition intervention programme for controlling or preventing chronic disease.**

(ii) Teaching strategies to be used to develop these skills

- **Demonstrate by the instructor how the gained information can be applied to plane a nutritional care programme for some important disease.**

(iii) Methods of assessment of students psychomotor skills

- **Written exam**
- **Quizzes**

**5. Schedule of Assessment Tasks for Students During the Semester**

| Asses sment | Assessment task (eg. essay, test, group project, examination etc.) | Week due            | Proportion of Final Assessment |
|-------------|--|---------------------|--------------------------------|
| 1           | <b>Midterm (1)</b>   | <b>19/10/1432</b>   | <b>20%</b>                     |
| 2           | <b>Midterm (2)</b>   | <b>14/12/1432</b>   | <b>20%</b>                     |
| 3           | <b>presentation</b>  | <b>6-19/12/1432</b> | <b>20%</b>                     |
| 4           | <b>Final Exam</b>  | <b>31/12/2011</b>   | <b>40%</b>                     |

## D. Student Support

|  |                 |                    |  |
|--|-----------------|--------------------|--|
| 1. Arrangements for availability of faculty for individual student consultations and academic advice. (include amount of time faculty are available each week) |                 |                    |  |
|  | Sunday (10– 12) | Saturday (10 – 12) |  |

## E Learning Resources

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| Required Text(s)<br><b>A weekly print of the given lectures via Power Point will be provided to students (students are required to assign a class mate responsible in receiving the copy).</b>   |
| 2. Essential References<br><b>Books</b> <ul style="list-style-type: none"><li>• ildman, Robert. (2007) Nutraceuticals and Functional Foods, second edition. Taylor and Francis Group.</li></ul>  |
| 3- Recommended Books and Reference Material (Journals, Reports, etc) (Attach List)<br><b>Journal of food science.</b><br><b>Journal of food chemistery.</b>  |
| 4-.Electronic Materials, Web Sites etc<br><a href="http://www.agr.gc.ca/index_e.php">http://www.agr.gc.ca/index_e.php</a><br><a href="http://www.elsevier.com/wps/find/journaldescription.cws_home/717426/description#description">http://www.elsevier.com/wps/find/journaldescription.cws_home/717426/description#description</a> |
| 5- Other learning material such as computer-based programs/CD, professional standards/regulations<br><b>Not applicable.</b>  |

## F. Facilities Required

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|--|
| Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.) |
| 1. Accommodation (Lecture rooms, laboratories, etc.)<br><b>CHS 1</b>   |
| 2. Computing resources<br><b>A data show is required for displaying lectures via Power Point.</b>  |

## G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching

**A course evaluation questionnaire will be distributed at the end of the course (Peer evaluation).**

**Comparing course result in different years**

3 Processes for Improvement of Teaching

**After the first midterm exam, students will be asked to write an essay describing the following:**

- **The knowledge they gained so far.**
- **Their opinion about the teaching technique.**
- **Their interest in a certain subject they wish to learn about during the course.**
- **What to add, omit, or modify from the course content.**

4 Processes for Verifying Standards of Student Achievement Achievement (eg. check marking by an independent faculty member of a sample of student work, periodic exchange and remarking of a sample of assignments with a faculty member in another institution)

- **. During preparation of the exam, questions are analysed by item to discard inappropriate questions.**
- **. After the exam completion, answer of each questions is checked by the same faculty for all students according to the model answer and scoring guide.**

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- **The above essays filled by the students, as well as the final evaluation form will be collected and revised.**
- **Opinions, constructive criticism will be taken into consideration and implemented in the following year.**
- **Student s' achievement in the course is compared through different years.**
- **As regards planning for improvement; the course should be updates to meet the current students' educational needs, with special emphasis on the use of e-learning to improve student's abilities for accessing to relevant and recent information.**