**Course Specification**

For Guidance on the completion of this template, please refer to of Handbook 2 Internal Quality Assurance Arrangements

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| Institution: King Saud University |
| College/Department: Pharmacy / Pharmaceutics |

A Course Identification and General Information

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| 1. Course title and code: General Immunology PHT 324 |
| 2. Credit hours: 2 (2+0) |
| 3. Program(s) in which the course is offered. ( Doctor of Pharmacy |
| 4. Name of faculty member responsible for the course |
| 5. Level/year at which this course is offered: Level 6 |
| 6. Pre-requisites for this course (if any): PHL 213. PHL223 |
| 7. Co-requisites for this course (if any): None |
| 8. Location if not on main campus: College of Pharmacy, King Saud University |
| 9. Course language: English. |

B. Objectives:

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| 1. Summary of the main learning outcomes for students enrolled in the course.1. Knowledge regarding the components of the immune system that help to protect the body against infectims.
2. Grasping of the mechanisms through which the immune system acts.
3. Understanding of the mechanisms of loth iunate and adoptive immunity
4. Comprehension of the immune system disturlances such an hypersensitive lmmunode jicienuy and auto-immunity.
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| 1. Briefly describe any plans for developing and improving the course that are being implemented. (E.g. increased use of IT or web based reference material, changes in content as a result of new research in the field).

Plans for developing and improving the course* 1. Reviewing and evaluation of the problems that are confronted ly the students and their solution.
	2. Reviewing of the experiences of other colleges providing the same course.
	3. Reviewing and modernization of the course.
	4. Direct of the student to Internet sites that help in the comprehension of the course.
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1. Course Description:

The study of body defenses against infections. Indicating those molecular and cellular factors responsible for preventing and controlling infectious diseases, including cells of the immune system, antibody structure and function, complement system, antigens and immunogens are defined with respect of factors influencing their foreignness, the mechanisms of both innate and adoptive immunity are discussed. In addition, the course is dealing with regulatory mechanisms of immune responses and pathology related to these immune responses including, hypersensitivity, immunodeficiency, and autoimmunity.

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| Wks # | Subjects | No of lectures |
| 1 | Basic concepts of immunity | 2 |
| 2&3 | The immune system: Cells of the immune system, hematopoiesis, the organs and tissues of the immune system | 4 |
| 4 | Innate immunity, including complement | 2 |
| 5 | Antigen, antibodies, and serology | 2 |
| 6&7 | Lymphocytes | 4 |
| 8&9 | Immune responses and regulation | 4 |
| 10 | Immunity to infections & vaccinology | 2 |
| 11 | Hypersensitivity reactions | 2 |
| 12 | Autoimmunity | 2 |

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| 13 | Immunodeficiency | 2 |
| 14 | Tumor immunology | 2 |
|  | 28 |

20. Course components:

Lecture practical others

28 hours exams 2 hours.

Text book: Immunology, A short course

6th Edition (2009) Coico, Sunshine

Willey- Blackwell USA

Further reading: ROITT'S Essential Immunology

Eleventh Edition (2006) Blackwell, USA

Immunology, Fifth Edition 2003

R.A. Goldsby , T.J. Kind, B.A. Osborne , J. Kuby .

W.H. Freemen & Company , New York

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| 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):14 hours / semester |
| 1. Development of Learning Outcomes in Domains of Learning For each of the domains of learning shown below indicate:
	* A brief summary of the knowledge or skill the course is intended to develop;
	* A description of the teaching strategies used in the course.
	* The methods of student assessment are used in the course to evaluate
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| learning outcomes in the domain concerned. |
| a. Knowledge |
| 1. Description of the knowledge to be acquired
	* What are the elements of the immune system
	* Characteristics of immunity
	* How the immune system recognize microbes and foreign substances
	* Types of immunity and how they corporate
	* Immune responses and the out come
	* When the immune system turn bad (hypersensitivity, immunodeficiency, and autoimmunity) and what to do
	* Getting the best of the immune system
 |
| 1. Teaching strategies to be used to develop that knowledge
	1. Theoretical (lectures)
	2. Tutorial
	3. Reports
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| (iii) Methods of assessment of knowledge acquired1. Written quizzes, midterms, and final exams.
2. Verbal discussions and reports
 |
| b. Cognitive Skills |
| 1. Cognitive skills to be developed:-
	* Cellular and hum oral immune mechanisms
	* Immune effectors and immunity
	* How these basic knowledge leads to clinical applications
	* Broad and detailed overview of immunological field providing detailed knowledge of many important immunological techniques.
	* Differences Between in nate and adoptire immanith .
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| * Knowledge of immune system disturbances.
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| 1. Teaching strategies to be used to develop these cognitive skills
	1. Discussion
	2. Electronic interactive presentation
	3. Using new visual tools in teaching
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| 1. Methods of assessment of students cognitive skills
	1. Reports and presentations
	2. Written test
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| c. Interpersonal Skills and Responsibility |
| (i) Description of the interpersonal skills and capacity to carry responsibility to be developedN A |
| (ii) Teaching strategies to be used to develop these skills and abilities* Develop students' interest in current problems and research in Immunology
* Develop written and oral communications skills
* Develop the scientific background required for understanding host parasite relationship
* Group assignments to enhance team work
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| (iii) Methods of assessment of students interpersonal skills and capacity to carry responsibility1. Monitoring of students’ attitudes during lectures.
2. Participation of students in community activities to create effective interpersonal skills, which enable them to bring out the best in colleagues, to resolve conflicts when they arise and to develop and maintain productive, working relationships within the team.
3. Undertake duties such as writing reports, giving evidence and completing and signing documents in a timely, honest and conscientious way
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| 1. Evaluation of the group projects.
2. Monitoring the action/ reaction of students when entitled to higher responsibilities.
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| d. Communication, Information Technology and Numerical Skills |
| (i) Description of the skills to be developed in this domain.1. Search utilizing Internet to cope with course demand.
2. Follow the update knowledge concerning the course demand.
3. Self-learning.
4. Use of data show.
5. Use of smart board.
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| (ii) Teaching strategies to be used to develop these skills |
| (iii) Methods of assessment of students numerical and communication skills1. Assessment of home assignments.
2. Presentation of gifts to active students.

3- The effective participation of student in the activities of his society. 3- Promotes active clever student to team leadership |
| e. Psychomotor Skills (if applicable) |
| (i) Description of the psychomotor skills to be developed and the level of performance requiredN A |

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| (ii) Teaching strategies to be used to develop these skillsN A |
| (iii) Methods of assessment of students psychomotor skill N A |

5. Schedule of Assessment Tasks for Students During the Semester

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| Assessment |  | week |  |
|  | Midterm I | 6-7 | 30 |
|  | Midterm II | 12 | 30 |
|  | Final exam | 16 | 40 |

# Student Support

* 1. Arrangements for availability of faculty for individual student consultations and academic advice. (Include amount of time faculty are available each week) Office hours : 2 hours / week

# E Learning Resources

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| 1. Required Text(s) :Immunology, A short course6th Edition (2009) Coico, Sunshine Willey- Blackwell USA |
| 1. Recommended Books and Reference Material (Journals, Reports, etc)

(Attach List)* + ROITT'S Essential Immunology (2011)

Blackwell, USA* + Immunology, Infection, and Immunity Pier, Lyczak, Wetzler

2011ASM Press Washington, Dc, USA* + Immunoiogy r.a.goldsly etd,freemen&company N. A .(2011)
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| 4- Electronic Materials, Web Sites etc1. The Microbiology network: [www.microbiol.org](http://www.microbiol.org/)
2. Resources for Microbiology education: [www.sp.unconn.edu](http://www.sp.unconn.edu/)
3. Microbiology and \immunology online: <http://pathmicro.med.sc.edu/book/welcome.htm>
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| 5- Other learning material such as computer-based programs/CD, professional standards/regulations |

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.)
	* Number of seats in each classroom would be 100 seats.
	* Computing resources
	* Laptop computer - projector system
	* Data show and smart board
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| 3. Other resources (specify --e.g. If specific laboratory equipment is required, |

List requirements or attach list)

# G Course Evaluation and Improvement Processes

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| 1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching- Questionnaire is given to students to be filled about course content and teaching procedures.-Evaluation of standards of the students in the quizzes, midterms, final exams, and home assignments, reports, and presentations. |
| 2 Other Strategies for Evaluation of Teaching by the Instructor or by the Department* Verbal discussion should be done by the staff in presence of students about course content and teaching procedures, in order to express the extent of comprehension and understanding.
* Discussion of the model answers of the written exams- quizzes& midterms- with the students to review their answers.
* Listening to students’ complaints.
* Faculty annual evaluation including teaching by the department and the university
* Peer evaluation to asses ability of faculty members to work with their colleagues
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| 3. Processes for Improvement of Teaching* Conducting workshops given by experts on the teaching and learning Methodologies.
* Periodical departmental revisions of its methods of teaching.
* Monitoring of teaching activates by senior faculty members.
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| 1. Processes for Verifying Standards of Student Achievement (e.g. 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)
	* Assigning group of faculty members teaching the same course to grade same questions for various students.
	* Faculty from other institutions are invited to review the accuracy of the grading policy
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| 1. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.
	* The course material and learning outcomes are periodically reviewed and the changes to be taken are approved in the departmental and higher councils.
	* The head of department and faculty take the responsibility of implementing the proposed changes.
	* Reviewing of the olstacley that face the students in the course attempts
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will le made to solve them.

* Taking consideration ls the students riewsalsout the course.