

T6. Course Specification (CS)

Institution: Najran University	Date of Report 1437 /1438
College/Department : College of Medicine	

A. Course Identification and General Information

1. Course title and code: Hematology and Immunology course 352 HEM -6 (6- دم 352)			
2. Credit hours: 6 (4+2)			
3. Program: Bachelor of Medicine and Surgery			
4. Name of faculty member responsible for the course: Coordinator: DR. Mahmoud satte Co. Coordinator: DR. Ismail Alsayed			
5. Level/year: 5 th level/3 rd year			
6. Pre-requisites: According to bylaws			
7. Co-requisites: Non			
8. Location: Main Campus			
9. Mode of Instruction (mark all that apply)			
a. Traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="70%"/>
b. Blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. Correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. Other	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="30%"/>
Comments:			

B Objectives

1. What is the main purpose for this course?

By the end of this course, the student is expected to:

- 1) Acquire knowledge pertaining to hematopoiesis and its responsible organs.
- 2) Acquire the basic knowledge of the common diseases of the hemopoietic system including their management.
- 3) Outline the prevalent hereditary diseases, their associated conditions, and their impact on the community.
- 4) Demonstrate problem solving skills for blood disorders that may be associated with other systems.
- 5) Explain the different disorders affecting the immune system like hypersensitivity, autoimmune diseases and immunodeficiency.
- 6) Acquire basic understanding of the immunological aspects of tumors.
- 7) Explain the role of Major Histocompatibility Complex (MHC) in tissue transplantation and graft rejection.

2. 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)

- 1) Continuous updating of the information, knowledge and skills included in the course through continuous search for the new knowledge and skills available in recent publications (books, researches, internet and others).
- 2) Verifying the information resources.
- 3) Continuous improvements in teaching methods as well as encouraging the students to participate effectively in the lectures.
- 4) Continuous evaluation of the course content, student level and establish plans accordingly.

C. Course Description (Note: General description in the form to be used for the Bulletin or handbook should be attached)

This course includes:

- 1) Normal structure and function of the hematopoietic system and disorders affecting red and white blood cells and platelets. It also includes indications, contraindications and complications of blood transfusion.
- 2) Disorders affecting the immune system like hypersensitivity, autoimmune diseases and immunodeficiency.
- 3) Tumor and transplantation immunology.

1 Topics to be Covered			
List of Topics	<u>first week</u>	No of Weeks	Contact hours
PBL		0.074	2 (0+2)
Function of the blood		0.037	1(1+0)
Heam Bisynthesis		0.037	1(1+0)
Blood cells morphology		0.037	1(1+0)

RBCs Functions	0.037	1(1+0)
Iron metabolism	0.037	1(1+0)
Iron Deficiency Anemia 1	0.037	1(1+0)
Iron Deficiency Anemia 2	0.037	1(1+0)
Blood cells morphology. LAB	0.074	2 (0+2)
Hematopoiesis	0.037	1(1+0)
Hypochromic Anemias	0.037	1(1+0)
B12 & Folic Acid Metabolism	0.037	1(1+0)
Hypersensitivity Reactions	0.037	1(1+0)
Hemoglobin Measurement. LAB	0.074	1(1+0)
Macrocytic Anemia		2 (0+2)
Types of immune response	0.037	1(1+0)
Immune Tolerance	0.037	1(1+0)
Sideroblastic anemia		2 (0+2) SDL
Anaerobic Glycolysis & Pentose Phosphate Shunt1	0.037	1(1+0)
Anaerobic Glycolysis & Pentose Phosphate Shunt2	0.037	1(1+0)
Therapy of Nutritional Anemia	0.074	1(1+0)
PBL-2	0.037	2 (0+2)
Sideroblastic anemia.	0.074	2 (0+2) SDL
abnormal RBC Morphology. LAB		2 (0+2)
Second week	0.034	1(1+0)
PBL-1	0.068	2 (0+2)
Nutritional Anemias	0.037	2 (0+2) Seminar
Anemia of Chronic Disease	0.068	2 (0+2) SDL
Microbial Causes of Nutritional Anemia 1	0.034	1(1+0)
Anemia of Chronic Disease		2 (0+2) SDL
Microbial Causes of Nutritional Anemia 2	0.034	1(1+0)
Megaloblastic Anemia	0.034	2 (0+2) SDL
RBC Degradation Process		1(1+0)
Abnormal RBC Morphology (LAB)	0.034	2 (2+0)
RBC Membrane Structure	0.068	1(1+0)
Aplastic Anemia		1(1+0)
Megaloblastic Anemia	0.034	2 (0+2) SDL
Anemia due to Red Cell Membrane & metabolic Disorders	0.034	1(1+0)
Autoimmunity	0.034	1(1+0)
PCV (LAB)	0.034	2 (0+2)
Sickle Cell Anemia	0.068	1(1+0)
Thalassemia	0.034	1(1+0)
Tropical Diseases in Hematology 1	0.034	1(1+0)
Types of Immune response	0.034	2 (0+2) SDL
Tropical Diseases in Hematology 2		1(1+0)
Microbial Causes of Nutritional Anemia. LAB	0.034	2 (0+2)

Acquired hemolytic Anemias		1(1+0)
Transplantation immunology	0.068	1(1+0)
PBL-2	0.034	2 (0+2)
Types of Immune response	0.034	2 (0+2) SDL
Reticulocyte Count (LAB)	0.068	2 (0+2)
Third week		
PBL.1	0.074	2 (0+2)
Acquired Immune deficiency Syndrome (AIDS)	0.077	2 (2+0)) Seminar
Transplantation immunology	0.077	2 (0+2) SDL
Osmotic Fragility Test (LAB)		2 (0+2)
Antiretroviral therapy	0.077	1(1+0)
	0.038	
Transplantation immunology		2 (0+2) SDL
Immunodeficiency	0.038	1(1+0)
Acquired Non Immune Hemolytic Anemia		2 (0+2) SDL
Lymphatic System 1	0.038	1(1+0)
Hemoglobinopathies Investigations (LAB)	0.077	2 (0+2)
Lymphatic System	0.038	1(1+0)
Acquired Non Immune Hemolytic Anemia		2 (0+2) SDL
Function of WBCs	0.038	1(1+0)
Lymphoid Tissues		1(1+0)
Acquired Non Immune Hemolytic Anemia.		2 (0+2) SDL
Tropical Diseases Hematology. LAB	0.077	2 (0+2)
Erythrocyte antigens	0.038	1(1+0)
Blood Components and Clinical Use	0.038	1(1+0)
Hemato-oncogenic Viruses	0.038	1(1+0)
Acquired Non Immune Hemolytic Anemia		2 (0+2) SDL
Benign Leukocyte disorders	0.038	1(1+0)
Lymphatic System. DR	0.077	2 (0+2)
Acute Leukemia	0.038	1(1+0)
Hemolytic Disease of Newborn		1(1+0)
PBL-2	0.077	2 (0+2)
Acquired Non Immune Hemolytic Anemia		2 (0+2) SDL
Fourth week		
PBL 1	0.077	2 (0+2)
(Disseminated Intravascular coagulopathy)	0.077	2 (0+2) Seminar
Chronic Leukemia	0.038	1(1+0)
MPD	0.038	1(1+0)
Adverse Effects Of Blood Transfusion	0.038	1(1+0)
BM aspiration & biopsy (LAB)	0.077	1(1+0)
Development Of Lymphatic System	0.038	2(0+2)
LPD	0.038	1(1+0)
Cytotoxic Drugs	0.038	1(1+0)

Lymphoma	0.077	1(1+0)					
Lymphoid Tissues (LAB)	0.038	2 (0+2)					
Tumor Immunology	0.038	1(1+0)					
Vit K & Clotting Factors	0.038	1(1+0)					
Introduction homeostasis		1(1+0)					
Polycythemia	0.038	2 (2+0) SDL					
Platelet Ultrastructure & Functions		1(1+0)					
Lymphoma (LAB)		2 (2+0)					
Bleeding Disorders Therapy		1(1+0)					
Purpura		1(1+0)					
Polycythemia		2 (0+2) SDL					
<u>Fifth week</u>							
PBL	0.074	2 (0+2)					
Platelets Count (LAB)	0.074	2 (0+2)					
Coagulation Process	0.037	1(1+0)					
Multiple Myeloma		2 (0+2) SDL					
Inherited bleeding disorders	0.037	1(1+0)					
CLL		2 (0+2) SDL					
Natural Inhibitors Of Coagulation 1	0.037	1(1+0)					
Blood Grouping (hem LAB)	0.074	2 (0+2)					
Natural Inhibitors Of Coagulation 2	0.037	1(1+0)					
Acquired bleeding disorders	0.037	1(1+0)					
Infectious Diseases in Hematology 1	0.037	1(1+0)					
Thrombophilia	0.037	1(1+0)					
Blood Donation (Lab)	0.074	2 (0+2)					
Transfusion Transmitted Diseases1	0.037	1(1+0)					
Hemophilia 1	0.037	1(1+0)					
vW disease		2 (0+2) SDL					
Infectious Diseases in Hematology 2	0.037	1(1+0)					
Bleeding Time & Clotting Time (LAB)	0.074	2 (0+2)					
Transfusion Transmitted Diseases2	0.037	1(1+0)					
PBL 2	0.074	2 (0+2)					
Hemophilia 2	0.037	1(1+0)					
PT, APTT& TT Tests (LAB)	0.074	2 (0+2)					
<u>Sixth week</u>							
2. Course components (total contact hours and credits per semester):							
	Lecture	PBL	Laboratory	Skill lab	Seminar	SDL	Total

		Sessions					
Contact Hours	67	20	36	6	6	19	154
Credit	3.7	0.6	1	0.1	0.2	0.4	6

3. Additional private study/learning hours expected for students per week. 25- 35 hours

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

Course Learning Outcomes, Assessment Methods, and Teaching Strategy work together and are aligned. They are joined together as one, coherent, unity that collectively articulate a consistent agreement between student learning, assessment, and teaching.

The **National Qualification Framework** provides five learning domains. Course learning outcomes are required. Normally a course has should not exceed eight learning outcomes which align with one or more of the five learning domains. Some courses have one or more program learning outcomes integrated into the course learning outcomes to demonstrate program learning outcome alignment. The program learning outcome matrix map identifies which program learning outcomes are incorporated into specific courses.

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. **Fourth**, if any program learning outcomes are included in the course learning outcomes, place the @ symbol next to it.

Every course is not required to include learning outcomes from each domain.

	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	By the end of the course the student should be able to: -	- Lectures. - Seminars.	- Continuous assessment.

	1) Recognize physiology and pathology relevant to the hematological and immunological disorders. 2) Identify the role of the laboratory investigations and imaging techniques of the hematology and immunology diseases. 3) Describe the pharmacological role in the management of the hematological and immunological disorders.	- Self directed learning. - Problem Sessions - Practical classes.	- Assignments. - End of course examination
2.0	Cognitive Skills		
	By the end of this course the student should be able to: 2.1. Construct a proper history and perform an adequate examination to identify the underlying problem. 2.2. Interpret the patient data (history and examination) in an organized and informative manner.	- Interactive lectures. - Seminars. - Self directed learning. - Practical classes. - Problem sessions.	- Continuous assessment. - Assignments. - End of course examination
3.0	Interpersonal Skills & Responsibility		
3.1	By the end of the course the student should be able to: 3.1. Show commitment into positive & interactive laboratory practices between each-others with the presence of the proper equipment and supplies.	- Seminars. - Problem sessions. - Practical classes.	Continuous assessment
4.0	Communication, Information Technology, Numerical		

	By the end of the course, the student should be able to: 4.1. Demonstrate efficiently of the different knowledge resources including the library resources and websites.	- Seminars. - Problem sessions. - Practical classes	Continuous assessment
5.0	Psychomotor		
	By the end of the course, the students should be able to: 4.2. Distinguish normal from abnormal results with correlating data to reach conclusions or decisions.	- Practical classes. - Skills lab.	Practical exams (OSPE/OSCE).

Suggested Guidelines for Learning Outcome Verb, Assessment, and Teaching

NQF Learning Domains	Suggested Verbs
Knowledge	list, name, record, define, label, outline, state, describe, recall, memorize, reproduce, recognize, record, tell, write
Cognitive Skills	estimate, explain, summarize, write, compare, contrast, diagram, subdivide, differentiate, criticize, calculate, analyze, compose, develop, create, prepare, reconstruct, reorganize, summarize, explain, predict, justify, rate, evaluate, plan, design, measure, judge, justify, interpret, appraise
Interpersonal Skills & Responsibility	demonstrate, judge, choose, illustrate, modify, show, use, appraise, evaluate, justify, analyze, question, and write
Communication, Information Technology, Numerical	demonstrate, calculate, illustrate, interpret, research, question, operate, appraise, evaluate, assess, and criticize

Psychomotor	demonstrate, show, illustrate, perform, dramatize, employ, manipulate, operate, prepare, produce, draw, diagram, examine, construct, assemble, experiment, and reconstruct
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Suggested **verbs not to use** when writing measurable and assessable learning outcomes are as follows:

Consider	Maximize	Continue	Review	Ensure	Enlarge	Understand
Maintain	Reflect	Examine	Strengthen	Explore	Encourage	Deepen

Some of these verbs can be used if tied to specific actions or quantification.

Suggested assessment methods and teaching strategies are:

According to research and best practices, multiple and continuous assessment methods are required to verify student learning. Current trends incorporate a wide range of rubric assessment tools; including web-based student performance systems that apply rubrics, benchmarks, KPIs, and analysis. Rubrics are especially helpful for qualitative evaluation. Differentiated assessment strategies include: exams, portfolios, long and short essays, log books, analytical reports, individual and group presentations, posters, journals, case studies, lab manuals, video analysis, group reports, lab reports, debates, speeches, learning logs, peer evaluations, self-evaluations, videos, graphs, dramatic performances, tables, demonstrations, graphic organizers, discussion forums, interviews, learning contracts, antidotal notes, artwork, KWL charts, and concept mapping.

Differentiated teaching strategies should be selected to align with the curriculum taught, the needs of students, and the intended learning outcomes. Teaching methods include: lecture, debate, small group work, whole group and small group discussion, research activities, lab demonstrations, projects, debates, role playing, case studies, guest speakers, memorization, humor, individual presentation, brainstorming, and a wide variety of hands-on student learning activities.

5. Schedule of Assessment Tasks for Students During the Semester

Assessment	Assessment task e.g. (essay, test, group project, examination, speech, oral presentation, etc.)	Week due	Proportion of Final Assessment
1	First quiz	2 nd week	20 %
2	Second quiz	3 rd week	
3	Third quiz	4 th week	
4	Fourth quiz	5 th week	
5	Seminar	Week 2, 3, & 4.	5%
6	PBL Session Evaluation	Week 1, 2, 3, 4 & 5.	5%
7	End of course exam	Week 6	70%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)
 - Each department involved will specify its weekly office hours that will be announced on the university website.

E. Learning Resources

1. List Required Textbooks
 - 1) Lecture notes.
 - 2) Essential Haematology; by V. Hoffbrand & J. E. Pettit.
 - 3) Practical Haematology; by Dacie & Lewis.
 - 4) Wheater's Functional Histology
 - 5) Anatomy for Medical Students by Richard Snell
- 2- Recommended Books and Reference Material (Journals, Reports, etc):
 - 1) Clinical Haematology; by Atul B. Mehta.
 - 2) Hematology Clinical Cases; by S. McCann, R. Foà.
 - 3) Medical Immunology; by Stites & others.
 - 4) Cellular and Molecular Immunology; Abul K. Abbas.
 - 5) Journal of hematology.
 - 6) Clinical Pharmacology by Lawrence
 - 7) Pathologic Basis of Disease by Robbins, Kumar, and Kutran
 - 8) Medical Microbiology by Mackie and McCartney
3. List Recommended Textbooks and Reference Material (Journals, Reports, etc)
See the above list
4. List Electronic Materials (eg. Web Sites, Social Media, Blackboard, etc.)
 - 1) <http://www.hemeteam.com>
 - 2) <http://www.hematology.org>
 - 3) <http://www.immunology.com/>
 - 4) <http://www.topix.com/science/immunology>
 - 5) <http://www.whfreeman.com/immunology>
 - 6) <http://www.umds.ac.uk/tissue/what1.html>
 - 7) <http://www.aaia.ca>
 - 8) <http://allallergy.net/index.html>
 - 9) www.hemeteam.com
 - 10) www.hematology.org
5. Other learning material such as computer-based programs/CD, professional standards or regulations and software.
Computers, multimedia in lecture room, PBL room and laboratories.

F. Facilities Required

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 (Classrooms, laboratories, demonstration rooms/labs, etc.)
 1. Lecture room suitable for Accommodation of students.

2.	Laboratories suitable for Accommodation of students.
3.	PBL discussion rooms.
2.	Computing resources (AV, data show, Smart Board, software, etc.)
3.	Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) Library supplied with reference text books, electronic resources.

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:
1. Completion of course evaluation questionnaire by each student.
2. Day to day direct feedback from the students.
2 Other Strategies for Evaluation of Teaching :
1. Feedback from colleagues.
2. Class observation by supervisors.
3. Independent assessment of standards achieved by the students.
3 Processes for Improvement of Teaching:
1. Continuous updating of course contents.
2. Regular meetings where problems are discussed and solutions given.
3. Workshops on teaching methods.
4. Review of recommended teaching strategies.
4. Processes for Verifying Standards of Student Achievement: e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)
1. Arrange with another institution to have common test items included in an exam and compare marks given.
2. Check marking of a sample of student work by an independent faculty member.
3. Periodic exchange and remarking of a sample of assignments with a faculty member in another institution.
4. Students who believe they are under graded could have their papers checked by another reader.
5 Action planning for improvement: Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.
1. Action plan for course improvement will be done according to the feedback about the course from students, other colleagues and the dean.

Name of instructor: **Mahmoud Shikh Satti**

Signature: *Mahmoud*

Date Report Completed: 27/4/1435

Name of field experience teaching staff: : _____ Head

Program coordinator:

Signature: _____ Date: _____