COURSE SPECIFICATION
Neuromuscular system and exercise physiology

PHED 552

Revised April 2010
Course Specification

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

<table>
<thead>
<tr>
<th>Institution</th>
<th>King Saud University</th>
</tr>
</thead>
<tbody>
<tr>
<td>College/Department</td>
<td>Physical Education And Movement Sciences Department</td>
</tr>
</tbody>
</table>

A Course Identification and General Information

1. Course title and code: Neuromuscular system and exercise physiology. PHED 552
2. Credit hours: 3 Credits
3. Program(s) in which the course is offered.
   (If general elective available in many programs indicate this rather than list programs)
   Master degree in Movement Sciences.
4. Name of faculty member responsible for the course: Dr. Khalid Almuzaini
5. Level/year at which this course is offered
   Level 2.
6. Pre-requisites for this course (if any)
   NO
7. Co-requisites for this course (if any)
   NO
8. Location if not on main campus
   Main Campus
B Objectives

1. Summary of the main learning outcomes for students enrolled in the course.

The aim of this course is to provide a comprehensive coverage of the neuromuscular system in relation to exercise and training. This course covers (but not limited to) the following subjects: The basic structure and function of the nervous system (e.g. neurons, nerve impulse, neurotransmitters, motor unit, receptors, motor control of movement), the structure and function of the skeletal muscle (muscle contraction, muscle fibre type characteristics, development of muscle strength and power, muscle hypertrophy, fatigue), bioenergetics and muscle metabolism, and neuromuscular adaptations training.

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).

Are assigned to students to search the international information network and the sites of research for regarding content of both the nervous and muscular and their relationship to physical activity and training, the student on the latest developments of the nervous and muscular and their relationship to physical activity and training of both scientific literature available to university library or via the Internet or through a list of scientific references, which was to provide a list, and then the student work of the seminar to colleagues explaining the findings of the working group is to add.

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

1 Topics to be Covered

<table>
<thead>
<tr>
<th>Topic</th>
<th>No of Weeks</th>
<th>Contact hours</th>
<th>Hours of field practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>General concepts</td>
<td>1</td>
<td>3.</td>
<td></td>
</tr>
<tr>
<td>Structure and function of the nervous system</td>
<td>1</td>
<td>3.</td>
<td></td>
</tr>
</tbody>
</table>
Structure and function of muscle structural | 1 | 3. 
Metabolic processes, production Energy | 2. | 6. 
Adaptation of neuromuscular system | 3. | 9. 
Muscle strength and muscle endurance and methods of their development | 4 | 12 

2. Course components (total contact hours per semester):

<table>
<thead>
<tr>
<th>Lecture:</th>
<th>Tutorial:</th>
<th>Practical/Fieldwork/Internship:</th>
<th>Other:</th>
</tr>
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<tbody>
<tr>
<td>3 hours theory per week</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
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</tbody>
</table>

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)

Expected for the student to learn other than the hours by 5 hours of lecture hours per week is that which prepares the student to the scientific duties assigned to him, which is one of the educational requirements that are prepared to increase the effectiveness of the student except for lessons.

4. 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 to be used in the course to develop that knowledge or skill;

The methods of student assessment to be used in the course to evaluate learning outcomes in the domain concerned.

- This decision was designed to get the learner to advanced studies in one of the nervous and muscular and their relationship to physical activity, training and techniques used to train the teams and the various methods of preparing athletes and the general principles upon which the training took.

- And to develop that knowledge or skills must include the decision on the part of my job to learn the student how the practical application of such knowledge, information and skills acquired by the theory.

- Methods of student assessment used in the course to evaluate learning outcomes is the usual tests, monthly, quarterly, whether oral
or written addition to what is assigned to research scientific literature Arab and foreign countries for the collection of scientific material in one of the topics relating to both the nervous and muscular and their relationship to physical activity and training.

### a. Knowledge

(i) Description of the knowledge to be acquired.
- Provide students with basic concepts related to each of the nervous system and muscular
- The student learns how to take advantage of this scientific knowledge to use it in the practical field.
- The student learns how to examine and interpret the results obtained and for each of the nervous system and muscular system, as well as how to evaluate training loads based on the changes associated with these devices/

(ii) Teaching strategies to be used to develop that knowledge
- Identified through research in the information network on the training programs of the top teams, study and extract what is appropriate for medical nervous and muscular
- Field visits to some clubs and evaluate programs in light of article
- Preparation of field research related to the training of sports team for the development of qualities related to Article
- When one of the modern scientific research in the field of athletic training related to the article
- Expansion of teamwork and the opportunity to get acquainted with modern foreign references

(iii) Methods of assessment of knowledge acquired
- Oral and written tests.
- Research assignments of individual and collective.
- Final written test.

### b. Professional Skills

(i) Professional Skills to be developed
- The ability to analyse the scientific content of the decision and identify the link between them and the process of sports training and
the impact on athletic performance of both the nervous and muscular and how the coach with the problems of training faced during the process of training related to these devices and how to deal with those issues, the methodology

(ii) Teaching strategies to be used to develop these **Professional Skills**
- Assign the student advanced studies related to the field side and the practical application, both at the level of sports teams - or through the educational process in the studied physical education.

(iii) Methods of assessment of students **Professional Skills**
- Tests Quarterly.
- Test half semester.
- Test verbal Month.
- Final written test.
- Evaluate the overall production of the student research.

c. **Professional Dispositions**

(i) Description of the **Professional Dispositions** to be developed
- Ability to work in groups.
- The ability to command and discussion.
- The ability to contact those concerned to obtain knowledge and information required.

(ii) Teaching strategies to be used to develop these **Professional Dispositions**
- Student participation in group discussions
- Student participation in research related to the article, and the collection of scientific material have
- Participation in the student view and critique of scientific studies and clarify the strengths and weaknesses of.

(iii) Methods of assessment of students **Professional Dispositions**
- Self-assessment of the scientific material presented by assessing the work of colleagues.
- Evaluate the performance of the student during the presentation and presentation of scientific papers.
5. Schedule of Assessment Tasks for Students During the Semester

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Assessment task (eg. essay, test, group project, examination etc.)</th>
<th>Week due</th>
<th>Proportion of Final Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Article Translator</td>
<td>1-3</td>
<td>10</td>
</tr>
<tr>
<td>2.</td>
<td>Evaluate and critique scientific research (discussion and presentation)</td>
<td>3-7</td>
<td>10</td>
</tr>
<tr>
<td>3.</td>
<td>Test monthly (editorial)</td>
<td>8.</td>
<td>10</td>
</tr>
<tr>
<td>4</td>
<td>Test monthly (oral)</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>5.</td>
<td>A final test (written)</td>
<td>15</td>
<td>60</td>
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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)

Sample course schedule showing the office hours on the subject of the Office of the faculty member
Add to that all the assignments, research, scientific assigned to the student's progress during office hours to discuss and evaluate the student is then displayed best in the business lecture to all students.

E. Learning Resources

1. Required Text(s)
   - There is no book and a single decision of this article, but will be to use some of the references (English), and will be providing students with rule necessary to complete the requirements of this decision
   Through a memorandum prepared in advance, a book project.

2. Essential References:
   - The Physiology of Sports Coaching (Abu El Ela, Ahmed Abdel Fattah)
3- Recommended Books and Reference Material (Journals, Reports, etc) (Attach List)


4. Electronic Materials, Web Sites etc

http://www.jssm.org/
http://ExercisePhysiologyonline.com
http://www.nismat.org/websites.html
http://Sportscience.org
http://www.acsm.org//AM/Template.cfm?Section=Home_Page
http://www.aun.edu.eg/fac_physical_edu/index_e.htm
http://www.brianmac.co.uk/eval.htm

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (ie number of seats in classrooms and laboratories, extent of computer access etc.)

1. Accommodation (Lecture rooms, laboratories, etc.)
   The lecture hall to accommodate 30 students.

2. Computing resources
   One computer + projector device + blackboard special advanced member of the teaching staff.

3. Other resources (specify --eg. If specific laboratory equipment is required, list requirements or attach list)
   - Lecture hall to accommodate twenty students with five computers in the internal network attached to the laboratory, which contains a number of devices such as the availability of training equipment, multicast, and training equipment weights, as well as hours of pulse (Buller) and measuring functions breath - and Conveyor Belt - and mobile devices to measure lactic acid, glucose and other requirements of research laboratories on the players.

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching
- Periodic review of the decision by the experts and specialists and academics.

2 Other Strategies for Evaluation of Teaching by the Instructor or by the Department
- Learning Resources Update on the recommendations of the Committee plans and schedules seminars.
- Promoting the use of modern technology in providing course.
- Encourage self-learning process.
- Encourage see everything using all modern means of visual and written.
- Increase the effectiveness of students in lectures, allowing them the opportunities on offer and dumping.
- Encourage research group among students to be in the field of Applied Exercise Science.

3 Processes for Improvement of Teaching:

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<th>NO</th>
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4. Processes for Verifying Standards of Student 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)
- The work of a committee of professors who specialize in the section of each course of study to review a sample of student papers, as well as to review the methods to provide decision and propose ways of development after each semester.

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.
- Should convene a forum (seminar) after the end of each semester explaining each member of the faculty accomplishments in developing the decision to put forth his experience fully to provide the decision and the way students and presents examples of student work at different levels to propose at the end of each chapter the possible ways to develop this decision and what he is amended for the development of the decision.