

## Course Description

Department: Department of Medical Rehabilitation Science

1439-1440 H Academic Year – Semester-II

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Course name	Research Project
Course number	PTH 424
Credit Hours (teaching units)	2 (1+1)
College	College of Applied Medical Sciences
Targeted Students	4 Year (level 8)
Pre-requisite	NIL
Name of Coordinator	Dr. Jaya Shanker Tedla

### Course Description

This course presents the purpose and characteristics of research, basic principles of scientific methods, and interpretation of professional literature. The students will participate in clinical research activities, and critically analyze the current and new concept in Physical Therapy. Project will be a clinical assignment on given topic or condition. This may be done in the form of a literature review. This will give the student a background on research methods and recent advances.

It can be done individually or in groups, and the result should be a written document corresponding to 25 standard pages for individual projects and 35 for group projects. This course involves students planning and conducting a research project under the supervision of academic staff in the King Khalid University. Students will be required to perform all aspects of research required for completion of the project, which may include gaining ethics approval, patient recruitment, data collection and statistical analysis.

### Main Textbook

#### Recommended Text Books:

1. WHO Regional Publications Eastern Mediterranean Series 30, A Practical Guide for Health Researchers, Mahmoud F. Fathall, 2004.
2. Physical Therapy research. Domhalt, Saunde
3. Foundation of clinical Research: Application to Practice Portney LG, Watkins MP, Pearson and prentice hall

## Mark Distribution

### Assessment Tasks for Students During the course

#	Assessment task*	Week Due	Proportion of Total Assessment
1	Written Exam-1	6	10
2	Practical Exam-1	7	10
3	Written Exam-2	11	10
4	Practical Exam-2	12	10
5	Class Activities (1 & 2)	All	10
6	Final Practical Exam	16	25
7	Final Theory Exam	18	25

## Distribution of Course Lectures and Practical Classes

### Topics to be covered

Week	Theory Topic	Practical Topic
1	<b>Introduction to research project</b> <ul style="list-style-type: none"> <li>❖ Definition and introduction to research</li> <li>❖ Explanation about research project, thesis, dissertation and research paper</li> <li>❖ Detailed outline of the research project</li> <li>❖ Explanation about the each subdivision of the project</li> <li>❖ Plagiarism and how to avoid it</li> </ul>	<ul style="list-style-type: none"> <li>❖ Writing outline of a written project</li> <li>❖ Identifying a journal, journal article, thesis, dissertation, research project and text book.</li> <li>❖ Introduction to plagiarism software, identifying plagiarism by demonstrating in plagiarism software.</li> </ul>
2	<b>Ethics in health research</b> <ul style="list-style-type: none"> <li>❖ Components of ethics in health research</li> <li>❖ How to ensure following of ethics in health research</li> <li>❖ Ethics committee formation, members and functioning</li> </ul>	<b>Group activity</b> <ul style="list-style-type: none"> <li>❖ Identifying beneficence, non-maleficence, respect, justice, honesty and mercy components in a sample of research projects given to the students.</li> </ul> <b>Mock play</b> <ul style="list-style-type: none"> <li>❖ Forming an ethics committee as per guideline provided by professors and providing their roles in ethics committee</li> </ul>
3	<b>Referencing systems</b> <ul style="list-style-type: none"> <li>❖ Focus on Vancouver style of referencing system.</li> <li>❖ Teach the student how to do Vancouver style of referencing in text and at the end in references for a</li> </ul>	<b>Group activity</b> <ul style="list-style-type: none"> <li>❖ The student will be provided with a published copy of a journal article. The student should collect all the information's needed for referencing and arrange them as per the Vancouver style.</li> </ul>

	journal article, book and an authenticated online material.	<ul style="list-style-type: none"> <li>❖ The student will be provided with a published book. The student should collect all the information's needed for referencing and arrange them as per the Vancouver style.</li> <li>❖ The student will be provided with an authenticated online material and the student should collect all the information's needed for referencing and arrange them as per the Vancouver style.</li> </ul>
<b>4</b>	<b>Data entry in statistical software</b> <ul style="list-style-type: none"> <li>❖ Teach data coding</li> <li>❖ Teach step by step data entry into the Microsoft excel/ SPSS</li> </ul>	<b>Group activity on computer</b> <ul style="list-style-type: none"> <li>❖ Provide sample data entry sheets to groups</li> <li>❖ Make them code the data</li> <li>❖ Make them enter the data in Microsoft excel/ SPSS</li> </ul>
<b>5</b>	<b>Variable</b> <ul style="list-style-type: none"> <li>❖ What is a variable, classification of variables, examples for each type of variable</li> </ul> <b>Normality Checking</b>	<b>Group activity</b> <ul style="list-style-type: none"> <li>❖ Provide sample data entry sheets to groups</li> <li>❖ Identify the type of variable</li> <li>❖ Enter them in software</li> <li>❖ Plot normality distribution graphs</li> </ul>
<b>6</b>	<b>Parametric statistical tests</b>	<b>Group activity</b> <ul style="list-style-type: none"> <li>❖ Provide sample data in a software</li> <li>❖ Identify the type of variable</li> <li>❖ Plot normality distribution graphs</li> <li>❖ Identify the statistical test needed</li> <li>❖ Perform the statistical test</li> <li>❖ Obtain result &amp; Interpret the results</li> </ul>
<b>7</b>	<b>Non parametric statistical tests</b>	<b>Group activity</b> <ul style="list-style-type: none"> <li>❖ Provide sample data in a software</li> <li>❖ Identify the type of variable</li> <li>❖ Plot normality distribution graphs</li> <li>❖ Identify the statistical test needed</li> <li>❖ Perform the statistical test</li> <li>❖ Obtain result &amp; Interpret the results</li> </ul>
<b>8</b>	<b>Reliability and validity checking</b>	<b>Group activity</b> <ul style="list-style-type: none"> <li>❖ Provide sample data in a software</li> <li>❖ Do a reliability and validity testing for that data</li> <li>❖ Interpretation of results</li> </ul>
<b>9</b>	<b>Correlation and regression testing</b>	<b>Group activity</b> <ul style="list-style-type: none"> <li>❖ Provide sample data in a software</li> <li>❖ Do a Correlation and regression testing for that data &amp; Interpretation of results</li> </ul>
<b>10</b>	<b>Interpretation of results</b>	<b>Group activity</b> <ul style="list-style-type: none"> <li>❖ Provide sample results and do the interpretation of all the statistical results</li> </ul>
<b>11</b>	<b>Writing the results</b>	<b>Group activity</b>

		<ul style="list-style-type: none"> <li>❖ Provide sample data in a software</li> <li>❖ Do the analysis required for that study</li> <li>❖ Practice writing results</li> </ul>
<b>12</b>	<b>Plotting the tables, graphs, charts of the results</b>	<b>Group activity</b> <ul style="list-style-type: none"> <li>❖ Practice plotting tables, graphs and charts from a material provided</li> </ul>
<b>13</b>	<b>Writing the discussion</b>	<b>Group activity</b> <ul style="list-style-type: none"> <li>❖ Provide sample result paper</li> <li>❖ Practice writing the discussion section</li> </ul>
<b>14</b>	<b>Writing the conclusion and abstract</b>	<b>Group activity</b> <ul style="list-style-type: none"> <li>❖ Provide sample results and protocol</li> <li>❖ Practice writing the conclusion and abstract</li> </ul>
<b>15</b>	<b>Summarizing all the steps of a research project</b>	<b>Group activity</b> <ul style="list-style-type: none"> <li>❖ Provide sample of a jumbled project and ask the students to arrange in the specific order</li> <li>❖ Practice writing various steps needed for doing the research</li> </ul>