I. BROAD PURPOSE OF COURSE

This course in 14 hours of recorded lectures will present the primary drug classes and the physiologic basis of their action. Drugs will be grouped according to their general effects and the type of disorders they are routinely used to treat. Special emphasis will be placed on drugs that are commonly used to treat people receiving physical therapy. This course will likewise address how drug therapy interacts with physical therapy, and how drugs can exert beneficial effects as well as adverse side effects that impact on rehabilitation.

II. COURSE OBJECTIVES

Upon successful completion of this course, the student will be able to:

1. Integrate pharmacokinetic principles with pharmacodynamics, and judge how drug effects are influenced by their administration, absorption, distribution, storage, and metabolism in the human body.
2. Compare and contrast general categories of drugs that are used therapeutically to treat specific problems in the body.
3. Compare and contrast the physiological mechanisms by which individual drugs affect the different organ systems in the body.
4. Evaluate drug side effects, and differentiate these side effects from the symptoms of the patient’s disease(s).
5. Assess situations where drug levels are too high versus too low (i.e., increased drug toxicity versus decreased efficacy).
6. Judge the potential for harmful interactions between specific drugs and various physical therapy interventions.
7. Choose physical therapy interventions in accordance with the patient’s drug regimen.

III. TEACHING METHODS

Students will have access to online slides and voice over by the instructors similar to a lecture presentation. Readings are required and connection to the web allows for students to access relevant abstracts/articles and other materials. There will be relevant articles and other pertinent documents. A “discussion board” and email will allow student and faculty interaction.
Distance education therefore no regular meeting times. Lecture outline is as follows:

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Chapter</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part 1</td>
<td>Basic Principles of Pharmacology</td>
<td>Chapters 1-3</td>
<td>52:57 minutes</td>
</tr>
<tr>
<td>Part 2 Segment 1</td>
<td>Pain and Inflammation: opioids, PCA</td>
<td>Chapters 14, 17</td>
<td>31:02 minutes</td>
</tr>
<tr>
<td>Part 2 Segment 2</td>
<td>Pain and Inflammation: NSAID’s; acetaminophen; glucocorticoids</td>
<td>Chapters 15, 29</td>
<td>50:21 minutes</td>
</tr>
<tr>
<td>Part 3</td>
<td>Muscle Relaxants</td>
<td>Chapter 13</td>
<td>47:38 minutes</td>
</tr>
<tr>
<td>Part 4</td>
<td>Anesthesia</td>
<td>Chapters 11, 12</td>
<td>45:45 minutes</td>
</tr>
<tr>
<td>Part 5</td>
<td>Seizure Disorders</td>
<td>Chapter 9</td>
<td>23:49 minutes</td>
</tr>
<tr>
<td>Part 6</td>
<td>Parkinson Disease</td>
<td>Chapter 10</td>
<td>41:26 minutes</td>
</tr>
<tr>
<td>Part 7 Segment 1</td>
<td>Psychopharmacology: sedative-hypnotics; antianxiety drugs; antidepressants</td>
<td>Chapters 6, 7</td>
<td>46:59 minutes</td>
</tr>
<tr>
<td>Part 7 Segment 2</td>
<td>Psychopharmacology: antipsychotics; treatment of dementia</td>
<td>Chapter 8</td>
<td>28:02 minutes</td>
</tr>
<tr>
<td>Part 8 Segment 1</td>
<td>Cardiovascular Drugs: drugs affecting blood pressure, heart failure, angina</td>
<td>Chapters 21 - 24</td>
<td>58:08 minutes</td>
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<tr>
<td>Part 8 Segment 2</td>
<td>Cardiovascular Drugs: coagulation disorders, treatment of hyperlipidemia</td>
<td>Chapter 25</td>
<td>50:00 minutes</td>
</tr>
<tr>
<td>Part 9 Segment 1</td>
<td>Respiratory Drugs: antitussives; antihistamines; decongestants; bronchodilators</td>
<td>Chapter 26</td>
<td>43:16 minutes</td>
</tr>
<tr>
<td>Part 9 Segment 2</td>
<td>Respiratory Drugs: Treatment of airway inflammation; supplemental O2; surfactant; nitric oxide; drugs to quit smoking</td>
<td>Chapter 26; supplemental reading “A” (see below)</td>
<td>27:48 minutes</td>
</tr>
<tr>
<td>Part 10</td>
<td>Gastrointestinal Drugs: Antacids; antidiarrheals; laxatives</td>
<td>Chapter 27</td>
<td>19:03 minutes</td>
</tr>
<tr>
<td>Part 11 Segment 1</td>
<td>Treatment of Infection: antibacterials; antivirals</td>
<td>Chapters 33, 34</td>
<td>36:29 minutes</td>
</tr>
<tr>
<td>Part 11 Segment 2</td>
<td>Treatment of Infection: Anti-HIV drugs; antifungals</td>
<td>Chapters 34, 35</td>
<td>27:27 minutes</td>
</tr>
<tr>
<td>Part 12</td>
<td>Cancer Chemotherapy</td>
<td>Chapter 36</td>
<td>33:41 minutes</td>
</tr>
<tr>
<td>Part 13 Segment 1</td>
<td>Endocrine Pharmacology: treatment of diabetes mellitus</td>
<td>Chapter 32</td>
<td>40:53 minutes</td>
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<tr>
<td>Part 13 Segment 2</td>
<td>Endocrine Pharmacology: male and female hormones; thyroid hormones</td>
<td>Chapters 30, 31</td>
<td>46:05 minutes</td>
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<tr>
<td>Part 14</td>
<td>Arthritis</td>
<td>Chapter 16</td>
<td>26:36 minutes</td>
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<tr>
<td>Part 15</td>
<td>Complimentary &amp; Alternative Medicines</td>
<td>Chapter 38</td>
<td>31:43 minutes</td>
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<tr>
<td>Part 16</td>
<td>Geriatric Pharmacology</td>
<td>Supplemental reading “B” (see below)</td>
<td>27:27 minutes</td>
</tr>
</tbody>
</table>

Total Time = 836:35 minutes

*Readings refer to Ciccone: *Pharmacology in Rehabilitation*, 5th edition, unless otherwise indicated. If you are interested, other supplemental or optional references are:


V. REQUIRED TEXTS


VI. SUGGESTED READINGS


VII. Recommended Resources


**VIII. AUDIOVISUAL MATERIALS**

Students are responsible for having a computer with the following capability.

- Platform: Microsoft Windows XP or Mac OS.X v10.4+
- 1GB of RAM
- Flash Player 10
- Pentium-class PC (1.0 GHz or higher recommended),
- 8x DVD-ROM drive or better,
- Microsoft Windows Media Player 8.0 (or higher),
- Microsoft Internet Explorer 8.0 (or higher), or other internet browser
- Acrobat Reader 5.0 or higher.

**Downloads:**
To obtain the most recent version of the Microsoft programs go to [http://www.microsoft.com](http://www.microsoft.com), click on Downloads

To obtain adobe reader go to [http://www.adobe.com](http://www.adobe.com), click on “get adobe reader”.

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