ATTACHMENT K

Program in Physical Therapy
Washington University School of Medicine

SYNOPSIS OF PROFESSIONAL EDUCATION

CLINICAL EDUCATION I

In order to appropriately plan clinical education experiences and especially in view of the reorganization and extension of the physical therapy curriculum at Washington University, it is essential that the clinical faculty is informed of the skills and knowledge given to the students prior to each clinical period. The first year students' program has thus far emphasized basic scientific knowledge and evaluation skills, with an emphasis on treatment skills, especially therapeutic exercise, being planned for two second year didactic semesters.

The following is a synopsis of the course content the first year students have been exposed to thus far in the physical therapy curriculum at Washington University and the skills to which they have had instruction. This list and dates of expected completion of course and skill instruction during the current semester should assist you in determining appropriate expectations for each student's clinical performance.

I. Course work completed in first semester first year
   (Fall, 2010)

   Essential Clinical Skills in PT I
   Cells, Systems & Disease I
   Professional Issues
   Early Clinical Experience I
   Kinesiology I
   Neuroscience
   Diagnosis & Evidence Analysis in PT Practice I

II. Course work completed in second semester first year (Spring, 2011)

   Diagnosis & Management of Musculoskeletal Conditions I
   Kinesiology II
   Cells, Systems & Disease II
   Early Clinical Experience II
   Human Anatomy
   Diagnosis & Evidence Analysis in PT Practice II
III. Evaluation/Treatment Skills Expected in CE I

The following evaluation and treatment skills have been organized in four general categories so that teaching and learning throughout the clerkship phases of the Clinical Education Program may be more evenly dispersed. In addition, each category has been divided according to the date during this second semester of the first year that instruction will be completed in each area.

EXAMINATION SKILLS

By May, 2011

*Goniometry
Patient Interview
*Anthropometrics (Length and Girth)
Neuro Screening
Chart reading
*Manual Muscle Testing
Vital Signs
* Normal and Pathological Gait Analysis
*Assessing posture and muscle imbalance
Visual Appraisal
Foot Evaluation
Normal Development (Infant)

THERAPEUTIC EXERCISE

By May, 2011

*Passive, Active Assistive, & Resistive Manual Exercise
Postural Exercises
Passive Stretching Technique/Contract-Relax
PNF Diagonal Patterns
Movement System Balance Exercises (exercises to improve movement impairments)
Functional mobility teaching – roll, sit, stand, ambulation
GAIT/TRANSFERS/OTHER PROCEDURES

By May, 2010

Positioning, Turning & Draping
Body Mechanics
PT Equipment:
  Use of Hoyer Lift
  Use of Tilt Table
  Gurney Mobility
  Wheelchair Parts & Mobility
*Transfer Techniques:
  Sliding board
  Dependent sit or stand pivot
  2-Man Lift
  3-Man Lift
*Gross Screening Evaluation for transfer/gait
CPR
Use of Problem Oriented Medical Records (SOAP notes)
*Gait training with measurement of all assistive devices.
Sterile technique
Bandaging
BSI techniques
*Patient contact has been included in instruction of these skills.
SYNOPSIS OF PROFESSIONAL EDUCATION

CLINICAL EDUCATION II

In order to appropriately plan clinical education experiences and especially in view of the reorganization and extension of the physical therapy curriculum at Washington University, it is essential that the clinical faculty is informed of the skills and knowledge given to the students prior to each clinical period. The following is a synopsis of the course content the second year students have been exposed to thus far in the physical therapy curriculum at Washington University and the skills in which they have had instruction. This list and dates of expected completion of course and skill instruction during the current semester should assist you in determining appropriate expectations for the student’s clinical performance.

I. Course work completed in first and second semester (Fall, 2009 and Spring, 2010)

Neuroscience
Essential Clinical Skills I
Cells, Systems & Disease I
Professional Issues & Skill Development I
Kinesiology I
Early Clinical Experience I
Diagnosis & Evidence Analysis I
Human Anatomy
Kinesiology II
Cells, Systems & Disease II
Clinical Education I (Summer 2010)
Early Clinical Experience II
Diagnosis & Evidence Analysis II
Diagnosis & Management of Musculoskeletal Conditions I

II. Course work completed in third semester (Fall, 2010)

Diagnosis & Management of Musculoskeletal Conditions II
Essential Skills II
Orthopedics
Diagnosis & Management of Cardiopulmonary Conditions I
Neurology Medicine I
Exercise Physiology
Case Integration I
Moderators of Health & Wellness in Rehabilitation
Synopsis of Professional Education
CE II

III. Evaluation/Treatment Skills Expected in CE II

The following evaluation and treatment skills have been organized in four general categories so that teaching and learning throughout the clerkship phases of the Clinical Education Program may be more evenly dispersed.

EVALUATION SKILLS

Completed in First Year

*Goniometry
  Patient Interview
*Anthropometrics (Length and Girth)
*Manual Muscle Testing
*Vital Signs
*Normal and Pathological Gait Analysis
  Normal Infant Development
*Development & Reflex Testing
Kinesiological Analysis of:
  Sit to Stand
  Stair Climbing
  Rolling/Reaching/Grasping
Analysis of Mechanics of Foot & Ankle
Analysis of Knee/Hip/Pelvis/Spine/Trunk/Shoulder
Analysis of Elbow/Wrist/Hand
Posture Analysis
Principles of Screening
CNS Testing
Chart Reading
Visual Appraisal
Neurological Exam
  Components of nervous system exam
  Reflexes
  Sensation
  Screening exam
Problem specific tests (e.g. test for meniscus tear)

Completed during 3rd Semester

Evaluation & Treatment of:
  Pediatric Posture Evaluation (school screening) – some will complete experience in 4th semester (introduction to screening experience occurs 3rd & 4th semester)
  Soft Tissue Differential
 Synopsis of Professional Education 
CE II 

Relative flexibility, analysis of functional activities  
*Musculoskeletal Pain Syndromes:  
Back  
Shoulder  
Hip  
Knee  
(Neck, ankle/foot, and hand/wrist taught in 4th Semester) 

**MASSAGE/MODALITIES**

Completed during 3rd Semester 

Manual & Mechanical Traction  
Massage  
Hot Packs  
Cold Packs  
Short Wave Diathermy (textbook only, no lab practice)  
Ultrasound  
Paraffin  
Infrared (textbook only, no lab practice)  
Ultraviolet (textbook only, no lab practice)  
Nerve & Muscle Stimulation  
Hydrotherapy – contrast bath, *hip and knee whirlpool  
Jobst  
TENS  
Biofeedback  
Galvanic stimulation 

**THERAPEUTIC EXERCISE**

Completed in First Year  

*Passive Range of Motion  
Functional mobility including PNF techniques
Synopsis of Professional Education  
CE II  
Completed during 3rd Semester  
McKenzie Treatment Approach  
Passive, Active, Active Assistive and Resistive Manual Exercise  
Use of Exercise Equipment (weights)  
Postural Exercises  
Manual Therapy (Mobilization)  

GAIT/TRANSFERS/OTHER PROCEDURES  
Completed in First Year  
Positioning, Turning, Draping  
Body Mechanics  
Use of Hoyer Lift  
Use of Tilt Table  
Bandaging  
Chart Reading  
Problem Oriented Medical Records (Note Writing)  
*Crutch, Cane, and Walker Use  
*Transfer Techniques for orthopedic patients and neuro and SCI  
  Pivot  
  2-Man and 4-Man Lift  
  Wheelchair and Gurney Mobility  
  Sliding board  
  Normal gait analysis  
Completed during 3rd Semester  
Goal Setting & Program Planning  
Skills to be taught in 3rd Semester  
Cardiopulmonary evaluation and treatment  
Exercise physiology evaluation and treatment  

*Patient contact has been included in instruction of these skills.
ATTACHMENT K

Washington University School of Medicine
Program in Physical Therapy
Curriculum Synopsis

STUDENTS BEGINNING CE III/IV HAVE COMPLETED THE FOLLOWING COURSES:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnosis &amp; Evidence Analysis in PT Practice I</td>
<td>2</td>
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<tr>
<td>Includes processes required for effective clinical decision-making such as the use of disablement models, decision trees, diagnostic classification systems, patient interviewing and outcome measures. Students are introduced to the problem-centered history and exam format. An introduction to basic research methods and systematic review of the literature. Patient cases will be used to practice clinical decision-making skills.</td>
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<tr>
<td>Professional Issues &amp; Skill Development I</td>
<td>3</td>
</tr>
<tr>
<td>An introduction to the profession of physical therapy, the American Physical Therapy Association (which students will be required to join), professional behavior, and clinical activities such as documentation and quality improvement. Includes ethics, legal issues and policies that guide professional behavior. Students will learn and practice using principles of patient teaching, negotiation and team building. Students will spend 80 hours at clinical sites and patient labs.</td>
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<tr>
<td>Essential Clinical Skills I</td>
<td>4</td>
</tr>
<tr>
<td>Beginning skills for patient management include using systems screening and reliable assessment of impairments including visual appraisal, vital signs, sensation, reflexes, pain, range of motion, muscle strength and infection control. Skill and safety in positioning, draping and managing equipment during patient care activities such as walking and transfers will be developed. Students will be introduced to patient outcome measures of ambulation status and fall risk.</td>
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<tr>
<td>Cells, Systems &amp; Disease I</td>
<td>4</td>
</tr>
<tr>
<td>The first of a two-semester course, this course focuses on advanced human physiology and pathological mechanisms of disease. Course content emphasizes cellular and organ system physiology, pathological mechanisms of disease, and medical management of pathological conditions. Physicians will discuss medical diagnosis, clinical signs and symptoms, and management of selected diseases. Students will be introduced to pharmacology and to the relevance of clinical laboratory values. Patient case studies will be used to integrate information.</td>
<td></td>
</tr>
</tbody>
</table>
Neuroscience
Focuses on the study of structures, organization, and function of the nervous and muscular systems. Emphasis is on the sensory and motor systems involved in motor control and on basic knowledge required for clinical practice. Limited lab experience will be provided to reinforce the connection between foundations, science and practice.

Kinesiology I
An introduction to the analysis of normal human movement activities through the application of mechanical concepts including displacement, velocity, acceleration, force and torque. Students will be introduced to myometry and isokinetic measures. Emphasizes kinematic and kinetic concepts relevant to human movement and study of the structures involved in movement.

Cells, Systems & Disease II
A continuation of the first semester.

Human Anatomy
Emphasis is on: 1) musculoskeletal, neural and vascular systems of the extremities, head, neck and trunk; and 2) anatomical features relevant to current physical therapy practice. Lectures are complemented by student-performed dissection of human cadavers, instructor-prepared prosections and computer assisted instruction.

Diagnosis & Evidence Analysis in PT Practice II
Continuation of research methods from the first semester, including use of statistics and outcome measurements. Students will learn skills needed to critique and abstract the literature to determine the quality of evidence available to support clinical practice. Cases will permit further practice using decision trees and assigning diagnoses of basic movement-related conditions.

Kinesiology II
Emphasizes principles of maturation and motor learning relative to the application of biomechanical principles to the analysis of human movement. Standardized methods of characterizing movement by observation and with the use of technology will be addressed. Topics include developmental, anatomical, electromyographical and physiological elements of kinesiology with regard to individual joints and common functional activities such as gait and transitional movements.

Diagnosis & Management of Musculoskeletal Conditions in PT I
Students will learn postural assessment and application of Movement Systems Balance. Analysis of functional activities, the essential components and compensatory strategies, will prepare the student to begin to plan interventions for individuals with musculoskeletal problems. Skill in providing interventions of manual exercise, fitness training and functional mobility training will be developed. Cases will provide use of diagnostic systems relevant to musculoskeletal conditions.
Professional Issues & Skill Development II  
Students will be assigned to part-time clinical experiences for 45 hours to allow practice of acquired skills in patient care, documentation and communication.

Clinical Experience I  
An eight-week, full-time clinical experience supervised by clinical faculty. Allows the student to practice evaluation and treatment skills acquired in the classroom and laboratory. Also emphasizes development of professional behaviors.

Exercise Physiology  
A study of the responses of various physiological systems to exercise. Includes application and integration of these systems to various diseases and to human performance. Content will be coordinated with Diagnosis and Management of Cardiopulmonary Conditions in PT.

Diagnosis & Management of Cardiopulmonary Conditions in PT  
Students will learn to assess, diagnose and treat movement-related cardiopulmonary conditions. Treatment techniques will include exercise and conditioning, breathing techniques, postural drainage and percussion. Interpretation of laboratory tests and pharmacology will prepare students to work with patients safely. Case studies will prepare students for general practice.

Orthopaedic Medicine  
Physician lectures will provide students with information on surgical and non-surgical procedures and postoperative management of patients with orthopaedic conditions. Physicians will discuss medical diagnosis, clinical signs and symptoms, and management of selected conditions to prepare the students to use this information in Diagnosis and Management of Musculoskeletal Conditions in PT II-III.

Diagnosis & Management of Musculoskeletal Conditions in PT II  
Students will acquire the skills needed to manage and prevent movement-related musculoskeletal problems of the spine and lower quarter. Acute and post-acute care will be addressed. Integration of information from previous and concurrent courses will be stressed with emphasis on screening, examination, analysis of findings, diagnosis, design and implementation of intervention programs for patients with increasingly complex problems. Functional activities across the life span also will be addressed.

Motor Control and Motor Learning  
Combines knowledge of physiological characteristics of movement with the neurophysiological mechanisms that produce movement. Emphasizes motor programming, motor learning principles, central pattern generators, postural control, plasticity, and the role of various motor centers in regulation of movement. Lab experience will be included to link the foundation science to clinical practice. The scientific basis of educational principles of teaching motor skills will be provided.
### Moderators of Health, Wellness & Rehabilitation

Designed to explore individual attitudes toward health, illness, disability and death. Emphasizes the effect of these attitudes on individual goals, motivation, expectations, interpersonal relationships and exercise adherence. Investigates individual health attitudes, personal values, family interaction, stress management and concepts of wellness. Age-related issues will be addressed.

**Essential Clinical Skills II**  
Skills in providing interventions including massage and mobilization, and the application of thermal, mechanical, hydro and electrotherapeutic modalities will be developed. Students will learn the basic indications for and prescription of adaptive equipment and wheelchairs.

**Case Integration Lab I**  
Paper, video and live patient cases provided by faculty and students will be completed to provide practice in managing patients with varying movement-related diagnoses of the cardiopulmonary and musculoskeletal systems.

**Clinical Experience II**  
An eight-week, full-time clinical experience supervised by clinical faculty. Allows the student to practice evaluation and treatment skills acquired in the classroom and laboratory. Also emphasizes development of professional behaviors.

**Professional Issues & Skill Development III**  
Focuses on clinical application of compliance and motivation principles. Peer teaching, communication, consultation skills, leadership skills, lobbying legislation, documentation and negotiation in the clinic will be practiced. Students will practice decision making, supervision and delegation. Students will prepare resumes and begin career planning.

**Diagnosis & Management of General Medical Conditions in PT**  
Students will acquire the skills needed to manage movement-related problems in patients with diabetes, burns, arthritis, wounds, amputation and prosthetics, obesity, oncological problems, incontinence, pain, genetic conditions and neonatology. Integration of information from previous and concurrent courses will be stressed with emphasis on screening, examination, analysis of findings, diagnosis, design and implementation of intervention programs for patients with increasingly complex problems. Functional activities across the life span will be addressed.

**Essential Clinical Skills III**  
Students will develop skill in prescription of prostheses and orthoses. Students will practice fabricating simple orthoses and splints, taping and casting. Continued skill with prescription of adaptive equipment and wheelchairs will be developed. Advanced skills in pain and sensory testing will be acquired. Students will learn to use computerized exercise equipment and formatted documentation systems. Experience in aquatics will be included.

**Credits**
Diagnosis & Management of Musculoskeletal Conditions in PT III 3
Students will acquire the skills needed to manage and prevent movement-related musculoskeletal problems of the neck, spine and upper quarter. Integration of information from previous and concurrent courses will be stressed with emphasis on screening, examination, analysis of findings, diagnosis, design and implementation of intervention programs for acute and post-acute patients with increasingly complex problems. Functional activities across the life span will be addressed.

Diagnosis & Management of Neuromuscular Conditions in PT 4
Students will acquire the skills needed to manage and prevent movement-related neuromuscular problems. Integration of information from previous and concurrent courses will be stressed with emphasis on screening, examination, analysis of findings, diagnosis, design and implementation of intervention programs for acute and post-acute patients with increasingly complex problems. Functional activities across the life span will be addressed.

Neurology Medicine 2
Physician lectures will provide students with information on the medical management of patients with neurological conditions. Physicians will discuss medical diagnosis, clinical signs and symptoms, and management of selected conditions to prepare the student to use this information in Diagnosis and Management of Neuromuscular Conditions in PT.

Case Integration Lab II 1
Students will use paper, computer, video and live patients to integrate information learned across the curriculum. Students will orally present cases they managed during Clinical Experience II.

STUDENTS WILL BE TAKING THE FOLLOWING COURSES AFTER CE IV:

Diagnosis & Evidence Analysis in PT Practice III 3
Students will prepare written case reports based on patients seen during their clinical experiences. Students will defend the use of diagnostic classifications and integrate the literature to support their case. Students will practice selecting appropriate outcome measures, designing clinical research questions, and use data to make decisions about individual and group treatment.

Organizational & Management Issues 3
Dynamics of organizations and departments will be discussed using case examples. Focuses on the knowledge and skills needed by physical therapists early in their careers. Principles of administration and management that enable the physical therapist to supervise supportive personnel, to understand fiscal issues including reimbursement, and to recommend staffing schedules and patterns will be addressed. Students will learn marketing and public relations strategies.
Clinical Skills for Special Populations
Physical therapy practice in work and community settings will be addressed with an emphasis on ergonomics and group treatment. Special PT tests and the interpretation of other tests will be integrated into cases. Students also will be introduced to care for the patient with vestibular problems, care in the ER, and an update in genetics/genomics. Alternative medicine and alternative PT practice will be studied. Students will explore recreational options for disabled populations.

Health, Fitness & Prevention
Emphasis will be on critiquing and designing fitness and wellness programs for well and special populations. Programs will focus on those for employee fitness, diabetes, arthritis, obesity and the elderly. Students will participate in and evaluate group treatments and recreational exercise. Use of exercise equipment will be addressed.

Case Integration Lab III
A variety of teaching methods, including rounds format, assessment centers and student presentations will enable students to integrate information from across the curriculum to complete complex case studies. Emphasis will be on pharmacology, other tests, moderators, establishing time frames and setting priorities for care. Age-related issues will be addressed.

Professional Issues & Skill Development IV
Focus will be on the professional skills students need to function in entry-level practice in a variety of settings. Students will study licensure, and will participate in lobbying and a mock House of Delegates. Skills in serving as an expert witness, a leader, peer instructor and in clinical instruction will be developed. Students will be expected to participate in a service project and activities of the American Physical Therapy Association. Cultural and race issues will be actively explored.

Total Semester Credits = 114.5