



## **GRADING SCALE**

- A = 93 – 100
- B = 85 – 92
- C = 77 – 84
- D = 69 – 76
- F = <69

## **GRADING**

### **PHTA 2241 Gait Analysis and Training:**

Quizzes & Examinations	65%
Assignments	5%
Final Examination	30%

### **PHTA 2242 Gait Analysis and Training Lab:**

Lab Practicals	65%
Assignments	5%
Final Lab Practical	30%

## **GRADES WILL BE BASED UPON:**

### **PHTA 2241 LECTURE**

#### Examinations:

1. Quizzes/exams each week on previous weeks material
2. Lecture Examinations at the close of each module
3. Comprehensive Mid-term
4. Comprehensive Final

#### PHTA 2241 Lecture Assignments:

1. Day in the Life paper
2. Nursing Inservice paper
3. Given a case study with PT goals and treatment plan, choose A.D.; and develop and progress treatment sessions for 1 week within the parameters of the PT plan to meet PT goals
4. Given a case study with PT goals and treatment plan for a patient with an amputation , develop and progress treatment sessions in a specified time frame to address PT goals within the parameters of the treatment plan.
5. Any material previously covered in any of your PTA courses may also be needed to successfully complete written or lab examinations or assignments.

## **PHTA 2242 LAB**

Practicals:

1. Lab practicals will be given at the close of each module
2. Comprehensive Final

### **LAB PRACTICAL EXAMINATIONS:**

1. Lab Practical (Nursing In-service) on Transfer, Fitting of assistive devices and instruction in correct gait patterns
  2. Lab Practical – Case based to include transfers, choosing A.D., fitting A.D., gait pattern, and patient education
  3. Lab Practical – Gait analysis, gait deviations, abnormal gait patterns
  4. Lab Practical – Comprehensive Final
- \*All lab practical examinations will include: Professionalism per instructor and PDP, Universal Precautions, Safety, Communication (verbal & written)

### **LAB ASSIGNMENTS:**

1. Nursing student in-service instruction and handout
2. Kinematic Qualitative Analysis on 2 people representative of different age groups. To include measurements of walking velocity, stride length, cadence, width of walking base, and foot angle.
3. Kinematic Qualitative Analysis on 2 people representative of different age groups.
4. Gait analysis of a video presentation or an individual attending a group exercise session (i.e. Parkinson, MS) community group.

**DROP DATE:** The last day to drop this class with a “W” is November 4, 2005.

### **PTA PROGRAM POLICIES & PROCEDURES**

Please see the current Physical Therapist Assistant Program Student Policy & Procedure Manual for the following Policies and Procedures:

- Grading Scale
- Rounding
- Lab Practical Examinations
- Clinical Prerequisite
- Clinical Competency Examination
- Final Examination
- Participation Informed Consent
- Lab Attire
- Make-up Policy
- Quizzes
- Test & Presentation
- Attendance Policies
- Use of Off-Site<sup>4</sup> Laboratory Facilities
- Open Lab
- Infection Control

- Use of Equipment & Equipment Safety
- Standards of Ethical & Legal Conduct
- Students with Disabilities
- Academic Dishonesty & Student Conduct

Unless otherwise indicated in this syllabus these policies are in effect for this course as written in the current PTA Program Student Policy & Procedure Manual.

### **COURSE OBJECTIVES:**

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

1. Given a PT evaluation with goals and POC and/or mock patient demonstrate:
  - a. The ability to perform the following assessments: MMT, ROM, balance and coordination assessments, patient's cognitive status and alertness, patient's and/or caregivers ability to follow instructions, safety and safety issues, architectural barriers in home, work and community, need for assistive devices, orthotics, or prosthetics, gait deviations and abnormalities, transfers, gait, and other ADL's.
  - b. The ability to utilize information gained from assessments performed to assess and implement appropriate treatment strategies to include; assistive devices, gait patterns, strengthening exercises, stretching exercises, balance and coordination activities, recommendations for equipment, patient and/or caregiver education, recommendations for home modifications for a variety of diagnoses within the plan of care outlined by the supervising Physical Therapist to achieve short and long term goals.
  - c. Provide instruction utilizing good verbal and non-verbal communication and terminology the patient and/or caregiver can understand to the patient and/or caregiver in the use of assistive devices, gait patterns, weight bearing status, prosthetic device care, residual limb care, orthotics, transfers, ambulation, wheelchair management, ADL's, safety issues in the home, work, and community, body mechanics, strengthening and stretching exercises within the plan of care established by the Physical therapist to achieve short and long term goals.
  - d. Assess and recognize changes in the following: patient's cognition and mentation, physiological response to treatment and activity, degree of assistance needed for ADL's to include transfers and gait, skin condition while using orthotic and prosthetic devices; and take appropriate action which may include notifying the Physical Therapist prior to implementing the treatment.

- e. Identify stages of normal gait to include names of each state, muscles acting in each stage, type of muscle contraction, and ROM of various joints in each stage.
- f. Assess gait deviations and gait abnormalities and assess possible causes of these deviations and/or abnormalities and treatment strategies to improve the gait pattern, and patient's safety.
- g. Basic knowledge of function of variety of prosthetic and orthotic devices and their indications.
- h. Appropriate treatment strategies for each of the 4 stages of PT management of a patient who is undergoing an amputation to include: patient and/or caregiver education in any of the following: residual limb care, phantom limb sensation, sensory changes, stretching exercises, strengthening exercises, positioning, transfer and gait training, balance and coordination training, w/c mobility and management, prosthetic care and management, ADL's, safety issues, architectural barriers and recommendations to improve safety and function, usual progression following an amputation,
- i. Meet discharge planning needs and follow-up care as outlined by the Physical Therapist in the plan of care within the legal and ethical abilities of the PTA outlined in the practice act.
- j. Understanding and utilization of universal precautions during lab practice and lab practical examinations.
- k. Recognize when the direction to perform an intervention is beyond the scope of a PTA and report and discuss with the Physical Therapist.
- l. Adjust interventions with in the plan of care established by the Physical Therapist in response to the patients signs and symptoms and report to supervising Physical Therapist.
- m. Complete documentation accurately, concisely, timely, and legibly following the guidelines required by state practice acts, and other regulatory agencies.
- n. Demonstrate appropriate verbal and non-verbal communication with the patient, caregivers, and Physical therapist in an effective, appropriate, capable manner.
- o. Knowledge of practice standards and ethics by following the plan of care outlined, notifying the Physical Therapist when appropriate, and practicing with in the PTA Practice Act and Ethics.

- p. Demonstrate ability to organize and provide education to other health care providers via in-service on assistive devices, gait, and transfers.

### **LAB PRACTICAL MODULE AND COURSE OBJECTIVES:**

1. Given a mock patient, and PT initial evaluation, demonstrate the ability to assess appropriate treatment techniques for this particular patient and perform them correctly to meet the goals set by the PT within the parameters of the plan of care.
2. Demonstrate good communication skills to include verbal and non-verbal with a mock patient, and the ability to discuss and explain your treatment, the goals your addressing, and your rationale to the supervising PT.
3. Demonstrate ability to recognize when the direction to perform a patient treatment intervention is beyond the scope of the PTA practice act and/or standards of normal and ethical practice and report this to the PT.
4. Demonstrate good body mechanics during mock patient treatments and transfers.
5. Demonstrate conduct that reflects knowledge of practice standards that are legal, ethical, and safe in lab practical examinations.
6. Demonstrate ability to recognize changes in a patient's cognitive, mental or arousal level and appropriate action to take if there is a change.
7. Demonstrate safety awareness and correct guarding techniques, keeping the patient safe during all aspects of the treatment session.
8. Demonstrate ability to accurately document treatment in a SOAP note format.
9. Demonstrate ability to establish a therapeutic relationship with the patient using verbal and non-verbal communication, and instructing the patient clearly and concisely in terminology the patient can understand.
10. Be able to provide the rationale for your treatment selections based on knowledge of the developmental sequence, treatment strategies available, patient's functional level, patient's cognitive status, objective findings, goals, and parameters of the plan of care.
11. Demonstrate ability to adjust interventions within the POC established by the P.T. in response to patient clinical indications and changes in patients status and take appropriate action to include reporting to the P.T..
12. Recognize the impact of cultural and individual differences on treatment, communication and discharge planning.

## MODULE/UNIT OBJECTIVES

### MODULE 1: LECTURE:

1. List and/or identify the purpose and treatment goal of an ambulation aid.
2. Differentiate between ambulation aides from most stable/support to least stable/support based on the concepts of base of support, provide rationale for your findings.
3. Identify and provide rationale for patient populations and/or clinical findings for which crutches would not be appropriate.
4. Compare and contrast cane types, i.e. straight, small based quad cane, large based quad cane. Determine criteria and provide rationale for when a quad cane would be preferred over a straight cane.
5. Identify considerations for discharge planning as they relate to patients using assistive devices and the various gait patterns and how this should relate to the treatment plan.
6. Identify possible functional/objective findings with regard to strength, ROM, cognition and explain how they would interfere with a patient maintaining NWB status. Discuss possible appropriate actions to take if a patient is unable to maintain the correct weight bearing status.
7. List information and activities which should be included in the treatment to prepare a patient for ambulation.
8. Describe common errors in fitting crutches.
9. Identify correct position of crutch tips with patient standing, and elbow angle.
10. Describe the tripod position utilized with crutches.
11. List and/or identify safety precautions for ambulating patients.
12. List 3 pre-gait activities
13. Identify and/or list the correct position for guarding a patient during ambulation on level surfaces, uneven terrain, and stairs.
14. Differentiate between advantages and disadvantages of different gait patterns to include: 3 pt.; 3pt.1, 4pt.; modified 4pt. etc.
15. Given a written patient scenario and/or PT evaluation assess the following:
  - a. correct sit to stand; stand to sit techniques
  - b. determine the correct gait pattern and sequence for a given ambulation aide
  - c. assess assistive device for correct fit or possible cause for poor fit
  - d. list and/or identify muscles necessary for gait with a variety of assistive devices.
  - e. Identify correct measuring procedures and fit of an assistive device.
  - f. select and provide rationale for the type of assistive device recommended.
  - g. select an appropriate ambulation aide and gait pattern based on strength, balance, weight bearing status, and cognition
  - h. develop treatment sessions over a specified time frame to meet PT goals within the parameters of the PT treatment plan
  - i. given a written scenario, recognize when interventions should not be provided due to changes in a patient's status and appropriate action to take.
  - j. Recognize appropriate action to take in an emergency situation

## LAB

1. Given a mock patient and case history be able to demonstrate the following:
  - a. the correct procedure for fitting and adjusting walkers, crutches, and canes.
  - b. demonstrate correctly instructing the patient in the correct gait pattern to include: 2 pt.; 3 pt; 4 pt; 3pt1; with assistive devices on level and uneven surfaces (i.e. curbs, stairs, ramps, grass, floor)
  - c. select and explain rationale for the type assistive device recommended.
  - d. demonstrate correct guarding techniques when assisting a patient using an assistive device on level and/or uneven surfaces.
  - e. identify considerations for discharge planning as they relate to patients using assistive devices and the various gait patterns and how this should relate to the treatment plan.
  - f. monitoring the physiological tolerance of the patient and respond appropriately. Response may include assessing vital signs, ending the treatment session, notifying the supervising PT etc.
  - g. patient safety to include gait belt, correct assistance, monitoring patients weight bearing status, etc.
  - h. proper body mechanics while handling equipment and patient.
  - i. ability to assess an appropriate assistive device, gait pattern, guarding techniques and instruct patient appropriately.
  - j. correctly instructing patient in sit to stand; stand to sit transfers appropriate for their functional level, weight bearing status, and assistive device.
  - k. professional behavior, good communication skills, and safety awareness in all interactions.
  - l. Adjust interventions within the POC established by the PT in response to a patient's clinical indications and report to supervising PT
  - m. Recognize when intervention should not be provided due to changes in a patient's status
  - n. Describe safety and status of patient during gait and transfers to include ability to follow gait sequence, gait pattern, possible risk factors, amount of assistance needed, progress, and possible home, work or community barriers
  - o. Document treatment accurately, concisely and in a timely manner
  - p. Demonstrate behavior that reflects practice standards that are legal, ethical, and safe, and consistent with the PTA practice act and ethics.
  - q. Recognize and take appropriate action in an emergency situation.
2. Develop an inservice and instruct other health care students in gait patterns and guarding techniques utilizing appropriate verbal communication.

## **MODULE 2: GAIT TRAINING, GAIT PATTERNS, GUARDING TECHNIQUES, MEASURING AND FITTING ASSISTIVE DEVICES, PRE-GAIT CONSIDERATIONS, INSTRUCTION TRANSFERS & BODY MECHANICS**

### **LECTURE**

1. List and/or identify the effects of good body mechanics.
2. List and/or identify principles of body mechanics.
3. Describe the components of lifting models.
4. Given a written description of a patient transfer:
  - a. determine the amount of assistance involved with the transfer i.e. independent, SBA, verbal cueing, minimum assistance, moderate assistance, maximum assistance, etc.
  - b. determine if the transfer was performed correctly
  - c. identify the type transfer performed i.e. standing pivot, hoyer lift etc.
5. Given a patient diagnosis and or PT evaluation, assess the most appropriate transfer technique for that particular patient based on objective findings in the evaluation, the patient's cognitive status, and safety issues to meet the PT goals within the parameters of the plan of care.

### **LAB**

1. Assess body mechanics on mock clinicians. Be able to provide rationale for good body mechanics and poor body mechanics, and make recommendations for improvement if indicated.
2. Demonstrate safe, effective body mechanics with a variety of transfer techniques and activities.
3. Given a mock patient, demonstrate ability to instruct patients & caregivers in proper body mechanics with effective verbal and non-verbal communication utilizing clear and concise instructions appropriate for the patient and/or caregivers cognitive and mental status and assess their ability to follow through and demonstrate understanding of instructions.
4. Given a mock patient, demonstrate ability to safely set up and perform the following transfers. (with and/or without catheters and IV tubing)
  - one person stand pivots on a variety of patient types
  - stand pivots with assistance
  - sliding board
  - hydraulic lift transfers
  - sliding transfers (in bed, to a cart, haustead chair, tilt table)
  - 2 and 3 person lifts
  - floor transfers
  - bath tub transfers (to include bath bench & bath chair)
  - car transfers
5. Given a mock patient and caregiver, demonstrate ability to instruct and teach patients and caregivers in transfers techniques for both independent patient

- transfers & patients requiring assistance, utilizing and demonstrating knowledge of transfer techniques and body mechanics.
6. Given a mock patient with a PT evaluation, goals, and POC, assess and demonstrate appropriate transfer techniques for that patient utilizing good body mechanics, and safe transfer techniques.
  7. Develop an inservice and instruct other health care students in transfer techniques and body mechanics.

### **MODULE 3: GAIT ANALYSIS MODULE OBJECTIVES:**

#### **LECTURE:**

1. Identify and/or describe gait phases using both traditional terminology and Rancho Los Amigos terminology.
2. Identify and/or describe the 5 stages of the stance phase of gait and the 3 stages of the swing phase of gait.
3. Given a written description, identify the type quantitative analysis performed to include: cadence, walking velocity, stride length, step length, width of walking base, foot angle, single leg stance, double leg stance, and dynamic weight shift.
4. Identify correct technique for measuring cadence, walking velocity, stride length, step length, width of walking base, foot angle, single leg stance, double leg stance, and dynamic weight shift.
5. Identify and/or define gait cycle, cadence, step length, stride length, velocity, width of walking base, foot angle, single leg stance, double leg stance, and dynamic weight shift.
6. Describe and list normal joint motion and muscle activity for each phase of the gait cycle.
7. Identify correct definition and or define terms validity, intertester, and intratester reliability as they relate to gait analysis.
8. Given a scenario, determine if test provides intertester reliability, intratester reliability or shows validity of the testing tool.
9. Compare and contrast qualitative and quantitative gait analysis for validity and intertester reliability.
10. Discuss advantages and disadvantages of observational gait analysis and make recommendations to improve reliability and validity.
11. Given a video presentation observe and analyze normal gait.
12. Given a video presentation, analyze how a gait limitation or deviation may effect a patient's performance of ADL's.
13. Discuss how gait analysis findings should relate to the treatment plan outlined by a Physical Therapist.
14. Given a PT evaluation, objective findings, goals, and a POC, determine need for progressing a patient's use of assistive devices based on gait analysis within the treatment plan parameters.
15. Explain the role of the COG in relation to gait safety.

16. Assess the need for and remake recommendations for common environmental alterations, assistive devices, orthotics, etc. to improve safety of gait based on gait analysis findings.
17. Discuss and/or explain how energy cost during ambulation relates to the following: choosing an assistive device, discharge planning, functional ability, ADL's, and safety.
18. List ways to measure energy cost during ambulation.
19. Describe how to perform gait analysis as it relates to function and list 8 considerations.
20. Describe the differences between walking and running.
21. Given a patient case history with PT goals and treatment plan, develop and progress treatments to meet goals within a specified time frame and within the POC.

**LAB:**

1. Given a mock patient, demonstrate ability to perform kinematic qualitative analysis to include: walking velocity, cadence, stride length, step length, width of walking base, foot angle, single leg stance, double leg stance, and dynamic weight shift.
2. Given a mock patient, and or video presentation, demonstrate ability to perform qualitative gait analysis.
3. Given a mock patient, and or video presentation, demonstrate ability to assess stages of the gait cycle.

**MODULE 4: GAIT DEVIATIONS AND ABNORMAL GAIT PATTERNS**

**LECTURE:**

1. Given a gait deviation, provide possible clinical signs which could produce this deviation. Clinical signs may be related to strength, ROM, balance, cognition, sensation and/or changes in muscle tone. Provide rationale for your opinion.
2. Given a video presentation, or written description analyze gait deviations and identify clinical signs which could produce this abnormality in the gait pattern.
3. Given a video presentation or written patient description of a gait deviation, provide explanations of possible causes and intervention strategies utilizing knowledge of normal gait, strength, ROM, etc.
4. Given a written description, assess and identify probable abnormal gait pattern to include antalgic gait, arthrogenic gait, ataxic gait, gluteus maximus gait, gluteus medius gait, hemiplegic gait, parkinsonian gait, steppage or footdrop gait, stiff knee or hip gait, psoatic limp, scissors gait, short leg gait, festinating gait, cerebellar gait, spastic gait, waddling gait.
5. Given a patient description of clinical signs, assess probable gait deviation or abnormal gait pattern which would be observed based on knowledge of normal gait, MMT findings, and ROM measurements.

#### LAB:

1. Given a mock patient, demonstrate ability to assess gait deviations and/or abnormal gait patterns.
2. Given a gait deviation and/or abnormal gait pattern, be able to demonstrate the gait deviation and/or gait pattern and identify possible causes of the deviation to include muscles involved, pain, neuromotor changes, sensory changes etc.
3. Given a mock patient with a gait deviation and/or abnormal gait, demonstrate ability to assess and describe safety risk factors based on information and recognition of barriers in the home, work, or community, the patient's cognitive status, strength, balance, ROM etc.

### **MODULE 5 PROSTHETICS**

#### LECTURE

1. Identify and/or list 4 major causes of amputations.
2. Identify and/or define types of amputations to include: partial toe, partial foot, transmetatarsal, Syme's, long below knee, short below knee, knee disarticulation, long above knee, short above knee, hip disarticulation, hemipelvectomy, hemipelvectomy.
3. Identify and/or list the 4 stages of PT management of a patient who is undergoing an amputation to include: preoperative, postoperative-preprosthetic, prosthetic prescription, prosthetic training and be able to discuss the role of PT at each of these stages to include strengthening exercises, gait training activities, transfer training, patient education, stump wrapping, etc.
4. Given a patient based case history and/or PT evaluation with objective findings, goals, and a POC, identify probable treatments to address any of the 4 stages. Treatments may include strengthening, stretching, ROM exercises, gait and transfer training, wheelchair mobility and management, ADL training, patient education on residual limb care, stump wrapping, phantom pain phenomenon. Treatments should be within the established POC to meet PT goals.
5. Describe phantom limb sensation.
6. List and/or identify appropriate patient education regarding residual limb care.
7. List and/or identify appropriate patient education regarding prosthetic management.
8. Given a patient based case history with PT goals and treatment plan, assess and develop appropriate treatments to include: patient education, strengthening, gait training etc. for a patient with an amputation at any level, and at any stage of PT management within PT treatment plan parameters.
9. Differentiate between the purpose for shrinker socks and wool or cotton socks.
10. Differentiate between exoskeletal and endoskeletal shanks and advantages or disadvantages for each.
11. Describe criteria which must be met before progressing from a stump ace wrap to a stump shrinker.
12. Given a written description, be able to identify name of prosthetic device or its parts.

13. Identify various prosthetic devices and the type of amputation they are appropriate for.
14. Given a case history of a patient's gait deviation, assess possible causes both prosthetic and anatomic. Make appropriate recommendations on action to take.
15. Given a case history and or PT evaluation with goals and POC, identify discharge planning considerations and recommendations on appropriate action to address.
16. Given a case history and/or PT evaluation with goals, and POC design a comprehensive gait training program to address each of the 4 stages of PT management.
17. Identify and/or list appropriate weight bearing areas for a AKA and a BKA.
18. Given a case history and/or PT evaluation with PT goals and treatment plan, develop and progress treatment sessions to meet goals within a specified time frame within the POC established by the PT.

**Prosthetics LAB:**

1. Given a mock patient and PT evaluation with goals and a POC be able to perform and/or demonstrate the following:
  - a. review goals and treatment plan
  - b. choose appropriate gait training activities within parameters of PT treatment plan to include pre-gait activities if applicable
  - c. instruct , demo, and assist mock patient in appropriate gait training activities for their level of amputation, age, etc utilizing effective verbal and on-verbal communication skills and in terminology a patient and/or caregiver can understand
  - d. provide education to mock patient on care of residual limb to include: stump inspection, usual treatment progression, prosthetic care, gradual wearing program, phantom limb sensation and pain, purpose of exercises, positioning, and edema reduction
  - e. provide education to mock patient on usual progression
  - f. choose appropriate treatment strategies for any of the following: strengthening (based on knowledge of MMT), balance, coordination, stretching, patient education, gait and transfer training, w/c mobility, safety issues
  - g. instruct mock patient and/or caregiver in appropriate exercises within parameters of PT treatment plan
  - h. instruct and assist mock patient and/or caregiver in correct transfer techniques utilizing good body mechanics
  - i. demonstrate professional behavior and good communication skills in all interactions with mock patient
  - j. demonstrate safety awareness during all interactions with mock patient
  - k. identify discharge planning needs and make recommendations on appropriate action to address these needs
  - l. identify safety and/or risk factors based on information and recognition of patient's cognition, strength, functional ability, home, work, or community barriers

- m. ability to identify the patient's and/or caregivers ability to care for the prosthetic or orthotic device
- n. demonstrate ability to assess for changes in a patient's skin condition when using devices and equipment
- o. ability to recognize absent or altered sensation and the impact of altered or absent sensation; and provide appropriate patient education to prevent complications from altered or absent sensation
- p. in all interactions with mock patients, demonstrate good verbal and non verbal communication skills, understanding of PT goals and parameters of POC, conduct that indicates knowledge of PTA practice act and ethical considerations, and knowledge of appropriate treatment strategies, the ability to adjust treatment strategies within the POC in response to patient progress and/or changes, the ability to recognize when there is a change in the patient's status that should be reported to the supervising PT, and recognition of changes in a patient's status that would indicate the treatment should not be performed until after communication and instruction from the supervising PT
- q. adjust interventions within POC established by PT in response to patient clinical indications and report to supervising PT
- r. recognize when intervention should not be provided due to changes in a patient's status and report to PT

## **PROPOSED CLASS SCHEDULE**

The instructor reserves the right to make necessary changes in this syllabus as deemed necessary to accomplish the course objectives. It is the responsibility of the student to stay abreast of any changes that are implemented in an effort to improve the quality of the educational experience.

### **Week 1**

Lecture:

Module

Pre-Ambulation activities, ambulation aides, measurement fit of ambulation aides; Guarding and gait patterns with assistive devices on level and uneven surfaces, case studies

Reading: Physical Rehabilitation, Chapter 14 ( pg 425-439)  
Principles and Techniques of Patient Care, Chp. 9.

Assignments: Day in the Life, due week 2  
Guided Reading Assignment due week 2

Lab:

Reading: Physical Rehabilitation, Chapter 14  
Assignments: Complete skills check off for measuring and fitting ambulation aides, guarding, and gait patterns with assistive devices

**Week 2:** Lecture: Examination over Week 1 material  
Module: Body Mechanics & Transfer Techniques  
Reading: Principles and Techniques of Patient Care, Chapters 4 & 7  
Assignments: Nursing Inservice

**Week 3: No School Labor Day**

**Week 4**

**Lecture Comprehensive Exam**

Lab:

Module: Prepare for Nursing Inservice and lab practical  
Assignments: Provide nursing inservice handout & test, organizational plan for inservice Perform and complete skills check off for gait patterns  
Reading: Principles and Techniques of Patient Care, Chapters 4, 7, &9  
Assignments: Perform variety of transfer techniques, self and group critique, provide demo of inservice

**Week 4**

Lecture:

Module: Preparation for **Nursing In-service** on Guarding, Gait Patterns on level and uneven surfaces, Measurement and Fit of A.D., Transfers. Body Mechanics  
Reading: Review Principles and Techniques of Patient Care; Chapters 4,7,9  
Lab:  
Assignment: Provide nursing inservice, practical, completed skills check off. Case studies  
Reading: Principles and Techniques of Patient Care, Chapter 9

**Week 5**

Lecture:

Module: **Comprehensive Examination Monday**

**Lab**

Module: **Nursing Inservice Practice**

**Week 6**

Lecture: Provide Nursing Inservice to nursing students 9-12, September 26, 2005

Lab:

Module: **Lab Practical Practice:** given mock patient and initial evaluation, Determine appropriate A.D. and gait pattern for patient; transfers, Demonstrate treatment session and assess D/C needs

**Week 7: Lab Practical Exam**

## **Week 8**

### Lecture:

Module: Gait Analysis; Normal Gait, terminology and phases of gait

Reading: Physical Rehabilitation: Chapter 10

### Lab:

Module: Gait Analysis

Reading: Physical Rehabilitation; chapter 10

## **Mid term Conference: October 13, 2005**

## **Week 9**

### Lecture:

Module: Kinematic Qualitative and Quantitative Gait Analysis,  
Gait Analysis as it relates to function, discharge planning,  
ADL's, energy expenditure, and need for orthotics and A.D.

Reading: Physical Rehabilitation: Chapter 10

Assignments: Paper comparing/contrasting quantitative and qualitative gait  
Analysis of 2 individuals, due week 8

### Lab:

Module: Kinematic Qualitative and Quantitative Gait Analysis

Reading: Physical Rehabilitation: Chapter 10

Assignments: Perform kinematic qualitative and quantitative analysis on 2  
People, due week 8

## **Week 10**

### Lecture:

Module: Gait Deviations, and abnormal gait patterns

Reading: Physical Rehabilitation, Chapter 10

### Lab:

Module: Gait deviations and abnormal gait patterns

Reading: Physical Rehabilitation, Chapter 10

Assignments: Video gait analysis due at end of lab

## **Week 11**

### Lecture:

Module: EXAMINATION: GAIT ANALYSIS

### Lab:

Module: PRACTICAL EXAMINATION: GAIT ANALYSIS

## **Week 12**

### **Lecture:**

Module:        Prosthetics: devices, training, care of prosthesis, prosthetic Application, Pre and Post Prosthetic gait training activities  
Reading:       Physical Rehabilitation: Chapter 19 & 20  
Assignment:    Given P.T. eval with goals and POC, develop and progress treatment sessions of a Patient with an amputation within POC, due week 12

### **Lab:**

Module:        Prosthetics: devices, training, care of prosthesis, prosthetic Application, Pre and Post Prosthetic gait training activities  
Reading:       Physical Rehabilitation: Chapter 19 & 20

## **Week 13**

### **Lecture:**

Module:        Gait analysis, gait deviations related to BKA's and AKA's causes And interventions  
Reading:       Physical Rehabilitation: Chapters 19-20  
Assignment:

### **Lab:**

Module:        Gait analysis, gait deviations related to BKA's and AKA's causes And interventions  
Reading:       Physical Rehabilitation: Chapters 19-20

## **Week 14**

**Lecture:        EXAMINATION PROSTHETICS**

**Lab:             PRACTICAL PROSTHETICS**

**Week 15        Review for final**

## **Week 16**

**Lecture:        WRITTEN FINAL EXAMINATION December 5, 2005 at 9:30**

**Integrative Lab Practical Final Exam: December 13, 2005 at 8:30**

**Final Conference: December 14, 2005 at 1:30**

**NWACC PTA PROGRAM  
GAIT ANALYSIS & GAIT TRAINING  
Skills Checklist**

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**It is the student's responsibility to ensure completion of these activities and completion of the form. The student must turn this form in at the end of the semester. Place your initial and date by each of these skills/activities upon completion of practice.**

**TRANSFERS:**

- \_\_\_\_\_ Stand pivot
- \_\_\_\_\_ Sliding Board
- \_\_\_\_\_ 2-3 Person Lift
- \_\_\_\_\_ Floor
- \_\_\_\_\_ Bath Bench
- \_\_\_\_\_ Car

**ASSISTIVE DEVICES:**

- \_\_\_\_\_ walker
- \_\_\_\_\_ cane
- \_\_\_\_\_ quad cane
- \_\_\_\_\_ crutches

**GAIT PATTERNS:**

- \_\_\_\_\_ 3 point (NWB)
- \_\_\_\_\_ 3 point 1 (PWB)
- \_\_\_\_\_ 2 point
- \_\_\_\_\_ 2 point modified
- \_\_\_\_\_ 4 point
- \_\_\_\_\_ 4 point modified
- \_\_\_\_\_ swing through
- \_\_\_\_\_ swing to
- \_\_\_\_\_ guarding techniques for above gait patterns

**GAIT ANALYSIS:**

- \_\_\_\_\_ velocity
- \_\_\_\_\_ cadence
- \_\_\_\_\_ stride length
- \_\_\_\_\_ step length
- \_\_\_\_\_ foot angle/toe out angle
- \_\_\_\_\_ width of walking base
- \_\_\_\_\_ single leg stance
- \_\_\_\_\_ double leg stance
- \_\_\_\_\_ dynamic weight shift

**QUALITATIVE: Observational gait analysis performed on mock patient for all stages of the gait cycle: to include posture, available ROM, gait deviations, etc**

\_\_\_\_\_ **Stance Phase (heel strike, foot flat, midstance, heel off, toe off)**

\_\_\_\_\_ **Swing Phase (initial swing, mid swing, terminal swing)**

**GAIT DEVIATIONS: Be able to demonstrate each gait deviation and assess gait deviations during qualitative gait analysis.**

\_\_\_\_\_ **Antalgic**

\_\_\_\_\_ **Ataxic**

\_\_\_\_\_ **Gluteus Maximus Gait**

\_\_\_\_\_ **Trendelenburg Gait**

\_\_\_\_\_ **Hemiplegic Gait**

\_\_\_\_\_ **Scissors Gait**

\_\_\_\_\_ **Short leg Gait**

\_\_\_\_\_ **Steppage/footdrop Gait**

\_\_\_\_\_ **Festinating Gait**

\_\_\_\_\_ **Stiff Knee Gait**

\_\_\_\_\_ **Arthrogenic Gait**

\_\_\_\_\_ **Parkinsonian Gait**

\_\_\_\_\_ **Psoatic Limp**

\_\_\_\_\_ **Waddling Gait**

\_\_\_\_\_ **Spastic Gait**

**PROSTHETICS:**

\_\_\_\_\_ **Pre-Gait Activities**

\_\_\_\_\_ **Gait Training with Prosthetic Device**

\_\_\_\_\_ **Patient Education for Residual Limb**

\_\_\_\_\_ **Patient Education for Prosthetic limb**

Syllabus Confirmation  
Fall 2005

I have reviewed the syllabus for the following class with my instructor:

PHTA 2241 & 2242

I have been given the opportunity to ask questions about the syllabus. I understand that the instructor reserves the right to make necessary changes in this syllabus as deemed necessary and that is my responsibility to stay abreast of any changes that are implemented.

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Name

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Date