

Prosthetics-Orthotics course descriptions

RHB PO 511 Upper Limb Prosthetics I (Fall quarter year 1)

This course focuses on three main content areas: 1) development of clinical reasoning skills in upper limb prosthetic examination and assessment of activity-based impairments and functional needs, 2) formulation of prosthetic interventions for individuals with transradial limb loss, and 3) development of psychomotor, problem-solving, and teamwork skills relevant to transradial limb loss.

RHB PO 501 Prosthetics and Orthotics Skills (Fall quarter year 1)

This skills course emphasizes the 1) ability to use materials, equipment and tools safely, 2) knowledge of psychomotor skills in the lab setting and 3) development of mechanical problem-solving skills with materials and equipment. This course stresses appropriate ergonomics (physiological principles) when performing hand skills. Discussions of mechanical and physical techniques, work place safety and elimination of waste (lean principles) are used to promote problem-solving skills, quality standards and sustainable practices.

RHB PO 502 Professional and Practice Issues (Winter quarter year 1)

This course addresses practical and logistical issues in prosthetic and orthotic practice management. It includes the preparation of appropriate clinical documentation adhering to legal compliance, and implementation of reimbursement processes and regulations that impact P&O practice (e.g., federal coding, state regulations, and third-party insurance reimbursements). You will engage in thoughtful discussions involving professional behavior and appropriate patient management with awareness of professional ethics and patient/clinician boundaries.

RHB PO 515 Upper Limb Orthotics (Winter quarter year 1)

This course focuses on integrating information from anatomy and patient evaluation procedures courses with knowledge and skills of orthotic theory and clinical practice related to upper limb orthotic interventions. Students develop treatment plans by integrating knowledge of available research with current treatment protocols in problem-solving exercises. Learning is achieved through lectures, discussions, and laboratory experiences. Class lectures and discussions will focus on clinical pathologies while the laboratory sessions provide experiential activities to integrate patient evaluation techniques and procedures in the formulation of orthotic treatment plans, obtain casts and measurements and application of orthotic principles for the selected projects.

RHB PO 512 Upper Limb Prosthetics II (Spring quarter year 1)

The second of a two-course series integrating the principles from Upper Limb Prosthetics I. This course provides further learning experiences in prosthetic management and prescription considerations of body powered and electric components and control options. Critical thinking and appropriate clinical decision making are encouraged through discussions and case study exercises that consider prosthetic systems for all levels of upper limb amputation.

RHB PO 581 Outcome Measures for the P&O Clinic (Spring quarter year 1)

This course examines the development and use of health-related outcome measures suited to the P&O clinical environment. In this course, students explore the relationship between measurement constructs and patient populations; explain the psychometric properties of scaling, reliability, validity, responsiveness, and sensitivity; and articulate how outcome measures can be used to benefit patient care. Students demonstrate their ability to select, implement, and critically evaluate patient

outcomes using appropriate and specific outcome measures through simulations, written examinations, and development of outcomes assessment strategies suited to the clinical environment.

RHB PO 521 Lower Limb Prosthetics and Orthotics I Theory and Application (Summer quarter year 2)

This is the first of a two-course series on lower limb prosthetics and orthotics theory and application. Students integrate prior core foundational knowledge (anatomy, kinesiology, medical science, gait analysis, patient evaluation procedures, and functional skills) with new knowledge and skills of prosthetic and orthotic (P&O) theory, patient evaluation and clinical practice. Instruction methods offer the student the opportunity to actively analyze, evaluate, and synthesize principles and theories in the development of P&O intervention plans for individuals with lower limb dysfunction or amputation.

RHB PO 522 Lower Limb Prosthetics I Clinical Practice (Summer quarter year 2)

Explains and applies biomechanical principles of prosthetic gait and alignment to treatment of individuals with amputations below the knee. Students develop individualized treatment plans that demonstrate analysis of client needs, application of transtibial socket design, prescription principles, and components. Integrates knowledge of available research and protocols into the planning process.

RHB PO 523 Lower Limb Orthotics I Clinical Practice (Summer quarter year 2)

This is the first of a two-course series focusing on lower limb orthoses used in the treatment of lower limb dysfunction. This course relies on the integration of prior core foundational knowledge (anatomy, kinesiology, clinical pathology, gait analysis, patient evaluation procedures, technical skills) with new knowledge and skills necessary for clinical practice. The course content and learning activities will assist you in the further development and refinement of skills necessary for the implementation of orthotic intervention plans for individuals with lower limb dysfunction below the knee. The clinical experience portion of the course focuses on patient evaluation, formulation of orthotic treatment plans, and implementation of technical competencies. The laboratory sessions provide the student with the background knowledge and technical skills of the procedural processes necessary for entry-level clinical practice.

REHAB 566 Introduction to Research (Summer quarter year 2)

The overall goal of this course is to prepare students to be skilled and effective consumers of the literature through understanding key elements of clinical research methods, and critical review of clinical and scientific literature in prosthetics and orthotics (P&O).

RHB PO 561 Clinical Rotation I (Summer quarter year 2)

This is the first in a four-quarter series of clinical rotation courses. The purpose is to offer learners the opportunity to integrate classroom learning into the reality of daily clinical practice treating patients across the life span in a variety of settings (e.g., hospitals and private outpatient clinics). During this rotation, learners actively observe patient care, perform patient histories and evaluation procedures, and develop clinical patient care psychomotor skills under the guidance and mentorship of clinical preceptors.

RHB PO 524 Lower Limb Prosthetics and Orthotics II: Theory and Application (Fall quarter year 2)

This is the second of a two-course series on lower limb prosthetics and orthotics (P&O) theory and application. Students integrate prior core foundational knowledge (anatomy, kinesiology, medical science, gait analysis, patient evaluation procedures, and functional skills) and knowledge acquired in RHB PO 521 with new knowledge and skills of P&O theory, patient evaluation and clinical practice. Instruction methods offer the student the opportunity to actively analyze, evaluate, and synthesize principles and theories in the development of P&O intervention plans for individuals with lower limb dysfunction or limb absence.

RHB PO 525 Lower Limb Prosthetics II: Clinical Practice (Fall quarter year 2)

This is the second of a two-course series on lower limb prostheses used in the treatment of transtibial limb loss. This course focuses on integrating prior core foundational knowledge (anatomy, kinesiology, medical science, gait analysis, patient evaluation procedures, and functional skills) with new knowledge and skills necessary for clinical practice. This integration of knowledge will assist in the development and implementation of prosthetic intervention plans for individuals with transtibial amputation. The clinical experience portion of the course focuses on patient evaluation, formulation of prosthetic treatment plans, and implementation of technical competencies. The laboratory sessions provide the student with the background knowledge and technical skills of the procedural processes necessary for entry-level clinical practice.

RHB PO 526 Lower Limb Orthotics II: Clinical Practice (Fall quarter year 2)

This is the second of a two-course series on lower limb orthoses used in the treatment of lower limb dysfunction. This course focuses on integrating prior core foundational knowledge (anatomy, kinesiology, medical science, gait analysis, patient evaluation procedures, and functional skills) with new knowledge and skills necessary for clinical practice. This integration of knowledge will assist in the development and implementation of orthotic intervention plans for individuals with lower limb dysfunction below the knee. The clinical experience portion of the course focuses on patient evaluation, formulation of orthotic treatment plans, and implementation of technical competencies. The laboratory sessions provide the student with the background knowledge and technical skills of the procedural processes necessary for entry-level clinical practice.

RHB PO 533 Spinal Orthotics I: Trauma (Fall quarter year 2)

This course focuses on integrating previous core foundational knowledge (anatomy, kinesiology, diseases and diagnose, patient evaluation procedures) with knowledge and skills of orthotic theory and practice related to trauma and degenerative etiologies. Learning is achieved through lectures, discussions, and laboratory experiences. Problem-solving and critical thinking skills are facilitated through the use of clinical cases.

RHB PO 582 Critical Evaluation of the Prosthetics and Orthotics Literature (Fall quarter year 2)

The overall goal of this course is to prepare students to be skilled and effective consumers of the literature through exposure to and critical review of clinical and scientific literature in prosthetics and orthotics (P&O). In this course, students identify key characteristics of printed information such as authorship, audience, indexing, and peer review; discriminate among various types of contemporary P&O literature; and discuss the scientific quality and clinical relevance of peer-reviewed scientific literature. Students integrate knowledge of research methodologies, outcome measures, and analysis techniques with clinical experience in the critical evaluation of select examples of scientific literature. Students demonstrate an ability to inform clinical practice with scientific literature through group

discussions, written reviews of clinical/scientific publications, and presentation of a scholarly critique.

RHB PO 530 Lower Limb Orthotics III: Theory and Application (Winter quarter year 2)

This is the third course on lower limb orthotics theory and application. Students build upon prior knowledge and skills acquired from Lower Limb Orthotics I, II: Theory and Application. Students integrate competencies gained from the core foundational knowledge (anatomy, kinesiology, medical science, gait analysis, patient evaluation procedures, and functional skills) with new knowledge and skills regarding the orthotic management of the lower limb involving the ankle, knee, and hip. Students integrate knowledge of biomechanics, pathomechanics, gait analysis, and patient assessment in the formulation of orthotic treatment plans integrating current clinical practice protocols and research evidence. Instruction methods offer the student the opportunity to actively analyze, evaluate, and synthesize principles and theories in the development of orthotic intervention plans for individuals with lower limb dysfunction.

RHB PO 531 Lower Limb Orthotics III: Clinical Practice (Winter quarter year 2)

This is the third clinical practice course on lower limb orthoses used in the treatment of lower limb dysfunction and is directly associated with Lower Limb Orthotics III: Theory and Application. Students integrate prior core foundational knowledge (anatomy, kinesiology, medical science, gait analysis, patient evaluation procedures, and functional skills) with new knowledge and skills necessary for clinical practice related to the ankle, knee and hip. This integration of knowledge assists in the development and implementation of orthotic intervention plans for individuals with lower limb dysfunction at the knee and above. The clinical experience portion of the course focuses on patient evaluation, formulation of orthotic treatment plans, and implementation of technical competencies. Emphasis is placed on professional competencies focusing on communication, critical thinking, and assessment of orthotic treatment plan efficacy using accepted outcome measures. In laboratory sessions, students integrate prior knowledge of design principles, material science, and fabrication process; acquire knowledge of components and design options; and analyze the efficacy of orthotic treatment plans in achieving desired biomechanical goals and outcomes.

RHB PO 534 Spinal Orthotics II: Scoliosis (Winter quarter year 2)

This course focuses on integrating previous core foundational knowledge (anatomy, kinesiology, diseases and diagnoses, patient evaluation procedures) with knowledge and skills of orthotic theory and practice related to scoliosis and kyphosis. Learning is achieved through lectures, discussions, and laboratory experiences. Problem-solving and critical thinking skills are facilitated through the use of case scenarios.

RHB PO 583 Evidence Based Practice I (Winter quarter year 2)

EBP I focuses on the use, critical evaluation, and synthesis of evidence to answer clinical problems. This course encourages students to become consumers of evidence by developing an understanding of how to acquire and incorporate evidence into routine clinical practice. Course content and activities will build upon prior knowledge of clinical content, research design, psychometric properties, and critical evaluation of scientific literature.

RHB PO 528 Lower Limb Prosthetics III: Theory and Application (Spring quarter year 2)

Develops individualized prosthetic treatment plans based on a comprehensive knowledge of prosthetic gait, alignment, transfemoral socket design, and component principles. Develops support

treatment plans be integrating knowledge of available research and treatment protocols into the decision-making process.

RHB PO 529 Lower Limb Prosthetics III: Clinical Practice (Spring quarter year 2)

Advanced instruction in application of biomechanical principles of prosthetic gait and alignment to treatment of individuals with amputations above the knee. Includes obtaining histories, assessing physical function, and taking residual limb impressions and measurements to prove prosthetic care.

RHB PO 527 Pediatric Prosthetics and Orthotics (Spring quarter year 2)

This course focuses on specific pediatric medical conditions and interventions through the integration of information of previous coursework. Students will discuss pathology/pathophysiology, etiology, clinical presentation, natural history, and surgical and medical management. Emphasis will be placed on the changes in biomechanics, pathomechanics and functional considerations throughout the growing years. Implications of various medical interventions will be discussed based on the available literature.

RHB PO 584 Evidence Based Practice II (Spring quarter year 2)

This course focuses on the use of theory, evidence, and experience to develop clinical solutions. Students will also learn to develop quantitative and qualitative assessment strategies to evaluate clinical solutions. The main goal of the course is to encourage students to become consumers of evidence to answer clinically relevant prosthetic and orthotic questions. This course builds upon prior knowledge of research design, psychometric properties, and critical evaluation/synthesis of scientific literature.

RHB PO 561, 562, 563, 564 Clinical Rotations (Summer, Fall, Winter and Spring quarters year 2)

This is a four-quarter series of clinical rotation courses. The purpose is to offer students the opportunity to integrate classroom learning into the reality of daily clinical practice treating patients across the life span in a variety of settings (e.g., hospitals and private outpatient clinics). During this rotation, students actively observe patient care, perform patient histories and evaluation procedures, and develop clinical patient care psychomotor skills under the guidance and mentorship of clinical preceptors. Students complete the hours at clinical rotation sites in the Seattle area, attending the site one day a week during over each quarter.