



COURSE CATALOG

**BACHELOR OF SCIENCE PROGRAM
IN PROSTHETICS AND ORTHOTICS
ACADEMIC YEAR 2020**

**SIRINDHORN SCHOOL OF PROSTHETICS AND
ORTHOTICS (SSPO)**
FACULTY OF MEDICINE SIRIRAJ HOSPITAL,
MAHIDOL UNIVERSITY
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BANGKOKNOI, BANGKOK, 10700 THAILAND

COURSE CATALOG

Bachelor of Science Program in Prosthetics and Orthotics, Academic Year 2020

	Page
Degree Offered	1
Curriculum Structure	1
Recommended Four-Year Plan	2
Course Descriptions	
- General Education Subjects	6
- Core Subjects	9
- Elective Subjects	18



DEGREE OFFERED

Bachelor of Science (Prosthetics and Orthotics)

B.Sc. (Prosthetics and Orthotics)

CURRICULUM STRUCTURE

Subject	Credits
General Education Subject	30
Core Subject	111
- Basic Science Subject	3
- Basic Medical Science Subject	18
- Basic Prosthetics and Orthotics Subject	7
- Prosthetics and Orthotics Subject	83
Elective Subject	6
Total	147



RECOMMENDED FOUR-YEAR PLAN

1st Year

Semester 1			Credits
MUGE	100	General Education for Human Development	3(3-0-6)*
LATH	100	Art of Using Thai Language in Communication	0(2-2-5)*
LAEN	XXX	English Level (1 course from LAEN 103 and 105)	3(2-2-5)
xxxx	xxx	General Education Subject	2(X-X-X)
xxxx	xxx	General Education Subject	2(X-X-X)
SCGE	121	Bioscience for Well-Being	2(2-0-4)
SCBI	117	Foundation of Life	2(1.5-1-3.5)
SIPO	123	Introduction to Prosthetics and Orthotics	2(2-0-4)
xxxx	xxx	Electives	2(X-X-X)
Total			18

1st Year

Semester 2			Credits
MUGE	100	General Education for Human Development	0(0-0-0)*
LATH	100	Art of Using Thai Language in Communication	3(2-2-5)*
LAEN	XXX	English Level (1 course from LAEN 104 and 106)	3(2-2-5)
SIPO	104	Ethics for Health Professionals	2(2-0-4)
SCGE	132	Decision Mak Us Prin of Statis	2(2-0-4)
SCGE	103	Physics for Future Entrepres	3(3-0-6)
SCPY	110	General Physics Laboratory	1(0-3-1.5)
SCCH	100	Integrated Chemistry	3(3-0-6)
SHSS	160	Principles of Administration	2(2-0-4)
Total			19

*This subject is required to study for the whole semester



RECOMMENDED FOUR-YEAR PLAN (CONT.)

2nd Year

Semester 1			Credits
SIAN	219	Anatomy	4(3-2-7)
SIPS	219	Physiology	2(2-0-4)
SIPA	219	Pathology	2(1-2-3)
SICP	211	Clinical Pathology	1(1-0-2)
SIPO	211	Biomechanics	3(3-0-6)
SIRM	211	Rehabilitation Medicine	3(3-0-6)
SIPO	223	Materials Science for Prosthetics and Orthotics	1(1-0-2)
SIPO	224	Prosthetic and Orthotic Technical Skills	4(1-6-5)
Total			20

2nd Year

Semester 2			Credits
SIPC	211	Psychology Practice for Persons with Physical Disabilities	1(1-0-2)
SIPO	225	Patient Assessment and Gait Analysis	2(1-2-3)
SIPO	235	Foot & Ankle Foot Orthotic Science	3(3-0-6)
SIPO	236	Foot & Ankle Foot Orthotic Practice	5(0-10-5)
SIPO	237	Medical Footwear and Shoe Modification	3(1-4-4)
SIPO	238	Spinal Orthotic Science	2(2-0-4)
SIPO	239	Spinal Orthotic Practice	4(0-8-4)
Total			20

RECOMMENDED FOUR-YEAR PLAN (CONT.)

3rd Year

Semester 1			Credits
SIPO 345	Ankle Disarticulation and Transtibial Prosthetic Science		3(3-0-6)
SIPO 346	Ankle Disarticulation and Transtibial Prosthetic Practice		5(0-10-5)
SIPO 347	Knee Disarticulation and Transfemoral Prosthetic Science		3(3-0-6)
SIPO 348	Knee Disarticulation and Transfemoral Prosthetic Practice		5(0-10-5)
SIPO 358	Clinical Practice in Prosthetics		4(0-12-4)
Total			20

3rd Year

Semester 2			Credits
SIPO 323	Research Process in Prosthetics and Orthotics		2(2-0-4)
SIPO 326	Clinical Research Instrumentation in Prosthetics and Orthotics		2(1-2-3)
SIPO 331	Knee Ankle Foot Orthotic Science		2(2-0-4)
SIPO 332	Knee Ankle Foot Orthotic Practice		3(0-6-3)
SIPO 333	Upper Limb Orthotic Science		3(2-2-5)
SIPO 359	Clinical Practice in Orthotics		4(0-12-4)
Total			16



RECOMMENDED FOUR-YEAR PLAN (CONT.)

4th Year

Semester 1			Credits
SIPO 427	Wheelchair and Seating for Persons with Physical Disabilities		2(1-2-3)
SIPO 447	Upper Limb Prosthetic Science		4(2-4-6)
SIPO 448	Partial Foot and Hip Disarticulation Prosthetic Science		3(1-4-4)
SIPO 457	Preparation for Clinical Experience in Prosthetics and Orthotics		6(1-15-7)
xxxx xxx	Electives		2(X-X-X)
xxxx xxx	Electives		2(X-X-X)
Total			19

4th Year

Semester 2			Credits
SIPO 428	Research Project in Prosthetics and Orthotics		3(0-6-3)
SIPO 458	Clinical Experience in Prosthetics and Orthotics		6(0-18-6)
SIPO 459	External Clinical Experience in Prosthetics and Orthotics		6(0-18-6)
Total			15

COURSE DESCRIPTIONS

General Education Subject	30 Credits
Social Science and Humanities Subjects	11 Credits

MUGE 100 General Education for Human Development 3(3-0-6)

Prerequisite: -

The meaning, significance, and relation of General Education to other vocational / specific subjects; the relation between behavior and mentality; critical thinking; the qualifications of ideal graduates; analysis of causes and consequences of events / situations / problems; synthesis of solutions to, precautions against, or improvements in those events / situations to benefit individuals and their community; and the application of knowledge to solve the problems of case studies

SIPO 104 Ethics for Health Professionals 2 (2-0-4)

Prerequisite: -

Principle and philosophical concepts in ethics, morals of prosthetic and orthotic profession; basic knowledge of laws relevant to prosthetic and orthotic profession; patient's right, patient autonomy; doctor-patient relationship, principle of giving information and counseling for the patient, holistic demeanour to the patient, moral behavior in counseling and communication; ethical problems and solutions in prosthetic and orthotic profession, analytic of ethical problem relating to medical personnel

Language Subjects	9 Credits
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LATH 100 Art of Using Thai Language in Communication 3 (2-2-5)

Prerequisite: -

Art of using Thai language and of speaking, listening, reading, writing, and thinking skills for accurate and appropriate communication.



LAEN 103 English Level 1 3 (2-2-5)

Prerequisite: -

English structure, grammar and vocabulary in the context of daily language use, dealing with integration in listening, speaking, reading, and writing skills; reading strategies, sentence writing, listening for the gist, pronunciation and classroom communication.

LAEN 104 English Level 2 3 (2-2-5)

Prerequisite: -

Vocabulary, expressions, grammar, and contextualized social language; essential communicative skills in small groups; writing practice at a paragraph level; and reading and listening from various sources.

LAEN 105 English Level 3 3 (2-2-5)

Prerequisite: -

Essential strategies for four language skills: reading and listening from various sources, speaking in everyday use and writing at a paragraph level and short essay, including sub-skills i.e., grammar, pronunciation, and vocabulary; focusing on English in everyday life and in academic reading and issues that enhance students' world knowledge.

LAEN 106 English Level 4 3 (2-2-5)

Prerequisite: -

Integrating four English skills by practicing reading news, research articles, commentary, and academic texts, for comprehension and critical thinking, from various sources focusing on the issues that enhance students' world knowledge; listening to news, lecture, and speech via multimedia and the Internet; making conversations in various situations including speaking in public, giving oral presentations and making simulations; and writing essays in various types using citations and references; also practicing sub-skills such as grammar, pronunciation, and vocabulary used in appropriate context



Science & Mathematics Subjects**10 Credits****SCGE 121 Bioscience for Well-Being 2 (2-0-4)****Prerequisite:** -

Changes in the 21st century affecting human well-being: social change, climate change and pollution; the bioscience development for well-being: biotechnology, stem cells, gene therapy, vaccine technology and synthetic biology

SCGE 132 Decision Mak Us Prin of Statis 2 (2-0-4)**Prerequisite:** -

Concepts of data collections; types of data; presentation of quantitative data; the use of appropriate methods and tools for the data analysis; conclusions and discussions in order to make decision using principles of statistics

SCGE 103 Physics for Future Entrepre 3 (3-0-6)**Prerequisite:** -

Physics Working principles of innovation for future entrepreneurs such as advanced technology instruments, physics and smart devices for health cares, physics and energy saving; physics and safety, physics and environmental issues; presenting new ideas about developing innovation based on physics through team working and communicating to others

SCCH 100 Integrated Chemistry 3 (3-0-6)**Prerequisite:** -

Definition, development and history of chemistry, the discovery of atoms and molecules, properties of elements and formation of compounds. Natural phenomena related to the behavior and properties of molecules in gaseous, liquid and solid states, chemical reactions in daily life and factors influencing the reactions, natural compounds and modern materials with designed properties, problems from science development and its impact to living things and environment.



Core Subject **111 Credits**

Basic Science Subjects **3 Credits**

SCBI 117 Foundation of Life 2 (1.5-1-3.5)

Prerequisite: -

Systemic classification of living organisms; reproduction and development in human and animals; comparative physiology of organ systems in human and animals, emphasizes on diseases and abnormalities, including nervous system, receptor and motor system, digestive system, endocrine system, gas exchange and excretory system, circulatory system and immune system; and basic biology laboratories.

SCPY 110 General Physics Laboratory 1(0-3-1.5)

Prerequisite: -

Basic Physics experiments relating to Physics curriculums taught to the first year students in each faculty

Basic Medical Science Subjects **18 Credits**

SIAN 219 Anatomy 4(3-2-7)

Prerequisite: Pass all subjects in 1st academic year

Gross anatomy of human body regarding structure, function and relationships between various structures of head, face and neck, upper extremity and brachial plexus, and the thoracic and abdominal wall including surface anatomy and practice of cadaver dissection.

SIPS 219 Physiology 2 (2-0-4)

Prerequisite: Pass all subjects in 1st academic year

Normal functions and mechanism of the body systems such as the musculoskeletal, circulatory, respiratory, endocrine, urinary, digestive, metabolism and body temperature regulatory systems.



SIPA 219 Pathology 2 (1-2-3)**Prerequisite:** Has been studied or study with courses of SIAN 219 and SIPS 219

Causes, mechanisms and basic pathologic changes of cell and tissue of human body suffering from diseases. Pathology of organ systems that are important and /or commonly found.

SIPC 211 Clinical Pathology 1 (1-0-2)**Prerequisite:** -

Principle of laboratory investigation; clinical microscopic, clinical chemistry, serology, hematology, molecular clinical pathology

SIPO 211 Biomechanics 3 (3-0-6)**Prerequisite:** -

Basic mathematics; linear and angular kinematics, linear and angular kinetics; biomechanics of musculoskeletal system; posture and balance; ergonomics; biomechanics of lower limb, upper limb and spine; biomechanical application of lower limb, upper limb and spine to the orthotic and prosthetic device

SIPC 211 Psychology Practice for Persons with Physical Disabilities 1 (1-0-2)**Prerequisite:** -

Basic Psychology; Clinical Psychology; Psychological reaction to loss; How to approach and communication for persons with physical disabilities

SIRM 211 Rehabilitation Medicine 3 (3-0-6)**Prerequisite:** Has been studied or study with courses of SIPA 219

Gross rehabilitation medicine and teamwork, goals and principles of rehabilitation, rehabilitation, assessment, quality of life, activities of daily living, Introduction to physical therapy, occupational therapy: manual muscle testing, range of motion; Rehabilitation of common disease/disorders.



SIPO 323 Research Process in Prosthetics and Orthotics 2 (2-0-4)

Prerequisite: -

Introduction to research methodology; research problems; research design; statistics in research; research example in prosthetics and orthotics; research proposal structure; research presentation; ethics in research

Basic Prosthetics and Orthotics Subjects

7 Credits

SIPO 123 Introduction to Prosthetics and Orthotics 2 (2-0-4)

Prerequisite: -

Terminologies & definition in prosthetics and orthotics; role of prosthetist and orthotist; introduction to prosthetic and orthotic clinic; history of prosthetics and orthotics in Thailand; national and international prosthetic and orthotic services; code of ethics; laws and regulations relating to prosthetics and orthotics; patient centered care; community based rehabilitation; patient communication

SIPO 223 Materials Science for Prosthetics and Orthotics 1(1-0-2)

Prerequisite: -

Introduction to material science in prosthetics and orthotics; application and properties of wood, thermoplastic, leather, metal, fabric, chemical material

SIPO 224 Prosthetic and Orthotic Technical Skills 4 (1-6-5)

Prerequisite: -

Basic practical skills in prosthetics and orthotics; awareness of health and safety; basic skills for the use of hand tools, portable power tools and machines; introduction to materials used in prosthetics and orthotics, material sciences, decision on the use of materials



Prosthetics and Orthotics Subjects**83 Credits****SIPO 225 Patient Assessment and Gait Analysis 2 (1-2-3)****Prerequisite: -**

Introduction to the patient assessment; the patient assessment principles; orthotic patient assessment; prosthetic patient assessment; special test; an application of patient assessment; gait analysis instruments; normal gait; pathologic gaits; gait deviations; gait analysis principles

SIPO 235 Foot & Ankle Foot Orthotic Science 3 (3-0-6)**Prerequisite: -**

Biomechanics of the lower leg; pathology of foot; an assessment and gait analysis; biomechanics of foot and ankle foot orthosis; the variation of materials for foot and ankle foot orthosis; prescription principle of foot and ankle foot orthosis; padding, posting and offloading in foot orthosis; shoe & shoe modification; principle of lower limb orthosis; variation of foot an ankle foot orthosis; prescription principle of foot and ankle foot orthosis

SIPO 236 Foot & Ankle Foot Orthotic Practice 5 (0-10-5)**Prerequisite: -**

An assessment and gait analysis; foam impression casting & fabrication technique for flexible foot orthosis; padding, posting and offloading technique; foot orthotic fitting procedure; casting technique for UCBL; UCBL fitting procedure; casting technique for the ankle foot orthosis; fabrication and joint setting techniques

SIPO 237 Medical Footwear and Shoe Modification 3 (1-4-4)**Prerequisite: -**

Lower limb assessment and deformities; pedorthic treatment options including materials selection, design, fit, function, biomechanical properties, construction methods for medical grade footwear and footwear modification; clinical consideration of the footwear to manage pathologies and deformities; existing orthotic appliances and its impact on footwear fitting; application of knowledge to construct lasts, orthotic appliances, medical grade footwear and footwear modification



SIPO 238 Spinal Orthotic Science 2 (2-0-4)

Prerequisite: -

A review of anatomy, biomechanics, pathologies related to spine; rehabilitation approach to spinal problems, exercise for spinal problems; prescription consideration ; spinal orthotic principle, variation of spinal orthoses; orthotic management for patient with scoliosis; x-ray examination; biomechanical principle of orthotic design; patient communication and assessment; measurement and casting, rectification, fitting and modifying the spinal orthoses

SIPO 239 Spinal Orthotic Practice 4 (0-8-4)

Prerequisite: -

Clinical demonstration and practice of spinal orthotic management for patient with spinal disorders; patient communication and assessment; prescription and orthotic design, material selection, casting, rectification, fabrication, fitting, problem solving and outcome evaluation; spinal orthotic adjustment as necessary to obtain optimal function for the specific patient; patient, caregiver and family education in the use and care of orthotic devices

SIPO 345 Ankle Disarticulation and Transtibial Prosthetic Science 3 (3-0-6)

Prerequisite: -

Anatomy, physical and functional deficits related to the transtibial and ankle disarticulation amputee; basic principle and biomechanical concept of the transtibial and ankle disarticulation prosthesis; composition of prosthesis, variation of design, materials and components; patient assessment; prosthetic prescription consideration; principles of manufacturing, alignment setting, fitting and adjustment of the transtibial and ankle disarticulation prosthesis; prosthetic gait analysis; transtibial and ankle disarticulation prosthetic gait training; patient education

SIPO 346 Ankle Disarticulation and Transtibial Prosthetic Practice 5 (0-10-5)

Prerequisite: -

Clinical and technical aspects on transtibial and ankle disarticulation amputees; an assessment and prescription based on the biomechanics principle; prosthetic socket design, components and materials selection; casting, rectification, fabrication and alignment, fitting; prosthetic problem analysis, solution



SIPO 347 Knee Disarticulation and Transfemoral Prosthetic Science 3 (3-0-6)**Prerequisite: -**

Physical, mental and functional deficits following knee disarticulation and transfemoral amputation; medical treatment; pre- and post-operative prosthetic care; prescription considerations; biomechanics; prosthetic materials and components; principles of fabrication, fitting, dynamic alignment of knee disarticulation and transfemoral prostheses

SIPO 348 Knee Disarticulation and Transfemoral Prosthetic Practice 5 (0-10-5)**Prerequisite: -**

the demonstration and practice of the physical, mental and functional deficits following knee disarticulation and transfemoral amputation; patient assessment; medical treatment; pre- and post-operative prosthetic care; prescription considerations; biomechanics; prosthetic materials and components; principles of fabrication, fitting, dynamic alignment of knee disarticulation and transfemoral prostheses; professional ethics; patients' rights, human relations

SIPO 358 Clinical Practice in Prosthetics 4 (0-12-4)**Prerequisite: -**

A supervised clinical practice in the general provision of prosthetic services to the general public; a review of biomechanical and clinical assessments, gait analysis; medical reports; review cases by peer and supervisor interaction manufacture or modification of prosthetic device; professional competence, attitudes and standards appropriate for practice, interpersonal skills, workplace professionalism and teamwork; case planning and management

SIPO 326 Clinical Research Instrumentation in Prosthetics and Orthotics 2 (1-2-3)**Prerequisite: -**

An introduction to clinical research instrumentation in prosthetics and orthotics; the outcome measurement in prosthetics and orthotics; motion measurement; load and pressure measurement; 3D motion analysis; metabolism and energy expenditure measurement; mechanical property testing; data analysis and interpretation



SIPO 331 Knee Ankle Foot Orthotic Science 2 (2-0-4)

Prerequisite: -

A lower limb assessment and deformities of hip, knee, ankle; clinical evaluation for orthotic prescription, orthotic adjustment, treatment plan; pediatric hip and knee orthosis; principles of orthotic treatment; material and component selection; biomechanical approach; knee ankle foot orthotic fabrication, fitting, outcome measurement, clinical problem solving; complication of knee ankle foot orthotic fitting

SIPO 332 Knee Ankle Foot Orthotic Practice 3 (0-6-3)

Prerequisite: -

A clinical practice of lower limb assessment; deformities of hip, knee, ankle; evaluation for orthotic prescription, orthotic adjustment, treatment plan; principles of orthotic treatment; material and component selection; knee ankle foot orthotic fabrication, fitting, outcome measurement, clinical problem solving; complication of knee ankle foot orthotic fitting

SIPO 333 Upper Limb Orthotic Science 3 (2-2-5)

Prerequisite: -

A review of anatomy, biomechanics, pathologies related to upper limb; prescription consideration principle; material used in upper limb orthoses; variation of upper limb orthoses; patient assessment, measurement and casting, rectification, fitting and modifying the upper limb orthoses

SIPO 359 Clinical Practice in Orthotics 4 (0-12-4)

Prerequisite: -

A supervised clinical practice in the general provision of orthotic services to the general public; review biomechanical and clinical assessments, medical reports, including radiology results; a review of cases related manufacture or modification of orthotic device; professional competence, attitudes and standards appropriate for practice, interpersonal skills, workplace professionalism and teamwork; case planning and management



SIPO 427 Wheelchair and Seating for Persons with Physical Disabilities 2 (1-2-3)**Prerequisite: -**

An introduction to wheelchair users; wheelchair services; wheelchair mobility; sitting upright and transfers; pressure sores; appropriate wheelchairs; cushions and cushion fabrication; assessment and physical assessment; prescription; fitting; user training; maintenance and repairs; follow up

SIPO 447 Upper Limb Prosthetic Science 4 (2-4-6)**Prerequisite: -**

An overview, general principles, level of upper limb amputation; congenital upper limb deficiency; prosthetics for upper limb amputation; biomechanics, prescription considerations, materials and components of upper limb prostheses; principles, demonstration and practice of assessment, designation and prescription, casting, mechanism of suspension, fabrication, assembly, fitting, harness and cable, adjustment, cosmetic finishing for upper limb prostheses; problem solving skills; application of knowledge from theory to practice; self-assessment; multidisciplinary team working; professionalism; professional ethics; patient's right; good human relations; communications

SIPO 448 Partial Foot and Hip Disarticulation Prosthetic Science 3 (1-4-4)**Prerequisite: -**

Physical and functional deficits at each level of partial foot amputee; basic principle of the partial foot prosthesis; variation of design and materials; prosthetic prescription consideration in each level of amputation; principles of manufacturing, fitting and adjustment of the partial foot prosthesis; anatomy, physical and functional deficits that related to the hip disarticulation amputee; basic principle of the hip disarticulation prosthesis; composition of prosthesis, variation of socket design, prosthetic hip joint components; patient assessment; prosthetic prescription consideration; principles of manufacturing, alignment setting, fitting and adjustment of the hip disarticulation prosthesis; hip disarticulation prosthetic gait training; patient education; partial foot and hip disarticulation prosthetic practice project



SIPO 457 Preparation for Clinical Experience in Prosthetics and Orthotics 6 (1-15-7)

Prerequisite: -

The process of patient check-in until device delivery in the clinical service; the reimbursement of the prosthetic and orthotic device following the patient's payment type; time management in clinical practice; review the proper performance to approach the patient; variety case study discussion

SIPO 428 Research Project in Prosthetics and Orthotics 3 (0-6-3)

Prerequisite: -

Writing research proposal; doing research; presenting research; writing final research report

SIPO 458 Clinical Experience in Prosthetics and Orthotics 6 (0-18-6)

Prerequisite: -

A clinical practice of the assigned prosthetic and orthotic device under supervision at the training placement at the Faculty of Medicine Siriraj Hospital and/or collaborating center; the practice including assessment, prescription considerations, manufacturing the appropriate prosthetic and orthotic device following the patient's condition, in the proper manner of professional ethics, patient's right and good human relations

SIPO 459 External Clinical Experience in Prosthetics and Orthotics 6 (0-18-6)

Prerequisite: -

A clinical practice of the assigned prosthetic and orthotic device under supervision at the training placement or the collaborating hospital; the practice including assessment, prescription considerations, and manufacturing the appropriate prosthetic and orthotic device following the patient's condition, in the proper manner of professional ethics, patient's right and good human relations



Elective Subjects**6 Credits****SHHU 103 Art Appreciation 2 (2-0-4)****Prerequisite: -**

Evolution of fine art from pre-historical period to civilizations of ancient Egypt, Greek, and Roman antiquity, Middle Ages, Renaissance, Baroque, Rococo, Neo-classicism, up to the present time including traditional Thai art in Thai mural painting, styles of Buddha images and Thai architectural styles in Buddhist temples in Thailand.

SHSS 250 Public Health Laws & Regulations 2 (2-0-4)**Prerequisite: -**

Introduction to Law Justice Procedure, Law and regulation for doctor and public health practitioners, Medical Treatment Act, Practice of the Art of Healing Act, Medical Service Act, Food Act, Drug Act, Criminal Code, Civil and Commercial Code, Ministerial Regulation, rule and regulation relating to Public Health Administration.

SIPO 435 Orthotic Science for Clubfoot 2 (1-2-3)**Prerequisite: -**

Patient assessment; biomechanics concept of the lower limb; joint alignment; pathology of clubfoot and treatments options; orthotic treatment plan and specific technique for clubfoot; design, materials and components to support the treatment plan; evaluate the fit and function of the device; adjust as necessary to obtain optimal function for the specific patient; educate the patient, caregiver and family in the use and care of orthotic devices

SIPO 436 Cranial Remolding Orthotic Science 2 (1-2-3)**Prerequisite: -**

Patient assessment; anatomy and pathology of involving diseases; general and orthotic treatments; types, indications, precautions, and contraindications of cranial remodeling orthoses; materials, designs, procedures, and concerns in making an orthosis; adjusting an orthosis; counselling



SIPO 437 Orthotic Science for Charcot Foot 2 (1-2-3)

Prerequisite: -

Patient assessment; biomechanics and concept of orthotic management of charcot foot; ankle alignment; ankle and foot anatomy particularly in nervous system; pathology of charcot foot deformity and treatment options; orthotic treatment plan and specific technique for charcot deformities; design, materials and components to support the treatment plan; evaluate the fit and function of the device; adjust as necessary to obtain optimal function for the specific patient; educate the patient regarding to use and care of orthotic devices

SIPO 449 Custom Silicone in Prosthetic Science 2 (1-2-3)

Prerequisite: -

Overview of silicone elastomers; basic silicone chemistry, types, mold manufacturing; prosthetic application, prescription considerations, assessment, design; molding machines, manufacturing processes; fabrication techniques; fitting and problem solving

