

STUDY GUIDE

EUROPEAN SCHOOL OF PHYSIOTHERAPY
COURSE CATALOGUE
CLASS 2021



PREFACE

This is the study guide of the European School of Physiotherapy (ESP), which contains curriculum design, policy, rules and regulations as updated and upgraded each academic year. The cohort specific “course catalogue” will contain all course (and subject) descriptions, organized per semester. This document serves our current students with course information that is required for study and career planning but also for the registration process after graduation. If you have any questions, please discuss them with your mentor during Study and Career Planning (SCP) classes or contact the ESP Programme Coordinator.

We wish you all the best of luck and success during your studies in Amsterdam!

Faculty and staff of the ESP programme

COURSE CATALOGUE
EUROPEAN SCHOOL OF PHYSIOTHERAPY

Semester 1

The central theme of the first semester is the “Musculoskeletal Patient”. This is the first patient category that will be discussed in our curriculum. This means that in most courses, theory and practice will be related to patients with these kinds of problems. In some courses, the other patient categories, e.g. cardiopulmonary and neurological pathologies, will be discussed as an introduction.

For the student the main aims of this semester are orientation and selection. Students are offered a complete overview of the professional roles of a physiotherapist at school and in clinical practice. The pages that follow give detailed descriptions of each of these courses.

Anatomy 1

Description

This *Basics* course covers the basic anatomical knowledge a physiotherapist needs. In this intensive course the terminology, histology, osteology, arthrology and myology of the lower and upper extremity will be discussed and studied. This anatomical knowledge finds its direct application in Applied Anatomy (In vivo anatomy). These two courses relate directly to all the skills courses: Physiotherapy Assessment, Interventions and Clinimetrics. In addition these courses will serve the student in his professional role as a healthcare worker.

Credit load

- 5 credits

Topics

- Anatomy of lower and upper extremity
- Terminology: Nomina Anatomica,
- Histology and osteology
- Arthrology and myology

Learning goals

With regard to general anatomical concepts, the student can:

- Name and apply most elementary concepts, terms, planes, axes and movements from the anatomical terminology according to the Nomina Anatomica (PNA, 1955).
- Describe development, composition and function of the different types of tissue.
- Describe development, architecture, shape and function of bone and bones.
- Identify and name most important bones in the skeleton.
- Describe and discuss the architecture and function of the different types of joints.
- Describe architecture, shape and function of skeletal muscles.
- Give a biomechanical explanation of the function of muscles.

With regard to the lower and upper extremity, the student can:

- Identify the bones and parts of the bones.
- Identify the attachments of muscles, ligaments and capsules on the bones.
- Discuss the relationship between form and function of the joints.
- Describe the function of the ligaments in relation to their position to the joint axis.
- Describe and explain the ROMs (ranges of movement) and the limiting factors of the joints.
- Identify the origin, course and insertion of the muscles.
- Describe the function of the muscles in relation to their position to the joint axis.
- Recognise anatomical structures in their spatial relation to each other in cross-section and other anatomical figures.

Teaching methods

- Lectures (2 x 2 hours per week)
- Optional: Online diagnostic test

Study hours

- | | | |
|---------------|-----------------|--------|
| • Lectures | 22 x 2 = 44 hrs | |
| • Preparation | | 92 hrs |
| • Examination | 2 x 2 = | 4 hrs |

Time frame

- Semester 1: week 1-10
 - Two lectures per week (2 hrs per lecture)
 - in weeks 1-6
 - in weeks 8-13
 - Examination (2 hrs per exam)
 - Exam A in week 7
 - Exam B in week 14

Prerequisites

- Background in biology and chemistry is preferred.

Examination

- Written exam
 - Multiple-choice questions
 - Short answer

Passing requirements

- Average grade of 5.5 or higher for A and B examinations combined
- Both Exam A and B must be graded 5.5 or higher

Study material

- Neumann DA. Kinesiology of the musculoskeletal system. Foundations for Physical Rehabilitation. 3rd ed. St. Louis, Missouri: Mosby; 2016
- Schuenke M, Schulte E, Schumacher U. Thieme atlas of anatomy. 2nd ed. Stuttgart - New York: Thieme; 2014

Contact person

- Bastian Stocker, MSc

Applied Anatomy 1

Description

This *Skills* course is strongly connected to the Anatomy course in the Basics line. The course will start with the application of basic massage techniques in order to become familiar with the human body and with close personal contact. Afterwards, the focus will be on the palpation of the structures of the body. Skin, tendon, muscles and bones will be palpated.

Credit load

- 2 credits

Topics

- History of massage
- Massage techniques
- Palpation techniques
- Applied anatomy of lower extremity
- Applied anatomy of upper extremity

Learning goals

- Is able to understand the general aims and effects of the various massage techniques regarding muscle tonus, pain and circulation.
- Is able to find the most important markers of the lower and upper extremity in a systematic manner.
- Is able to connect the theoretical anatomical knowledge with the human body.
- Is able to demonstrate acquired skills in the palpation of relevant anatomical structures.

Teaching methods

- Lab classes
- Seminars (2 hours per week, with lecturer and student-assistant)

Study hours

- Lab classes (30 hrs)
- Self-study (20 hrs)
- Examination (6 hrs)

Time frame

- Lab classes in weeks 1-16
- Practical exam in week 8 and week 16
- Retakes in week 19 or 20

Study material

- Kendall F P. Muscles; testing and function with posture and pain. 5th ed. Lippincott Williams & Wilkins; 2005.

Prerequisites examination

- Active participation during all lab classes and a minimum attendance of 75%.

Examination

- Practical exam A (Massage), in total 20 min (50%)
- Practical exam B (Applied Anatomy), in total 20 min (50%)

Passing requirements

- Grade 5.5 or above for both exams.
- Final course grade is calculated as the average according to the percentages listed above.

Contact person

- J.J. Voigt, MSc

Biomechanics 1

Description

This *Basics* course is the first course in biomechanics in which the concepts of force and moments will be discussed regarding human postures. This course serves the student in his professional role as a healthcare worker and directly relates to all the skills courses, Physiotherapy Assessment, Interventions and Clinimetrics.

Credit load

- 2 credits

Topics

- Introduction to biomechanics
- Forces and moments
- Statics
- Human posture analysis

Learning goals

- Knowledge of biomechanical approach
- Understanding approach in clinical setting
- Application of knowledge to human postures
- Application of knowledge to human body (related to cases)

Teaching methods

- Lectures (1 hour per week)
- Seminars (2 hours per week, with lecturer and student-assistant)

Study hours

- Lectures 6 x 1 = 6 hrs
- Seminars 6 x 2=12 hrs
- Examination 1 x 2 = 2 hrs

Time frame

- Semester 1: weeks 11-16
 - Lectures (1 hour per week) and seminars (2 hours per week)
 - Weeks 11-15
 - Examination
 - Week 16

Study material

- Neumann DA. Kinesiology of the musculoskeletal system. Foundations for Physical Rehabilitation. 3rd ed. St. Louis, Missouri: Mosby; 2016

Examination

- Written exam
 - Multiple-choice questions (70%)
 - Short answer questions (30%)

Passing requirements

- Average grade of 5.5 or higher for the exam.
- Minimum attendance 75% of classes.

Contact person

- B. Moed, MSc

Case Study 1

Description

This course is part of the *Clinical Reasoning* line of courses. The case study classes (seminars) will be used to apply physiotherapeutic skills such as psychomotor, cognitive, interactive and reactive skills to case studies. This is practiced through the method of discussing specific paper patient cases and performing case-related physiotherapeutic skills. During practice students will be asked to reflect upon their actions with the aim of promoting self-insight (reflection in action). They will receive feedback on the skills demonstrated in class. In some cases the lecturer will present the correct manner of conducting diagnostics, intervention and design of treatment goals. During the “Case Study” courses in the first year, emphasis will be placed on acquiring the competencies that belong to the professional competency of ‘physical therapy activities’, ‘communicating’ and ‘professional conduct’.

Credit load

- 2 credits

Topics

- Introduction to Case Study
- Lower extremity (muscular, arthrogenic)
- Upper extremity (muscular, arthrogenic)

Learning goals

- Integration of knowledge, attitude and skills.
- Being able to apply concepts of clinical reasoning in a case study.
- Being able to use ‘evidence based practice’ in a case study.

Teaching methods

- Practical seminars, based on paper patient cases.

Study hours

- Seminars (2 hours, every other week, with lecturer).
- Preparation of class assignments and practical exam / self-study.

Time frame

- Semester 1:
 - 8 Seminars
 - Practical case-based exam:
 - Calendar week 1
 - Retake: Calendar week 2

Study material

- See course manual Case Study 1.

Examination

- Practical Case Study exam (in student pairs).

Passing requirements

- A minimum grade of 5.5 for the practical Case Study exam.
- Minimum attendance 80% of classes

Contact person

- M.A. van Egmond, MSc

Clinimetrics 1

Description

This *Skills* course is an introduction to the measurement tools used in physiotherapy. Students will learn how to use measurement tools during an assessment, as well as during the evaluation of treatment. Execution, documentation and interpretation of measurement outcomes will be addressed in this course.

Credit load

- 1 credit

Topics

- Application of measurement tools
- Measurement skills
- Introduction to statistics
- Spreadsheets (Excel and Google Sheets)
- Standard Operating Procedures (SOP)

Learning goals

At the end of this module the student:

- Is able to use appropriate tools to execute reliable measurements.
- Shows responsibility towards accurate data collection in a spreadsheet.
- Is able to present measurement outcomes to students and lecturers.
- Understands simple statistics.

Teaching Methods

- Lab classes
- Excel and Google Sheets tutorials
- Self-study

Study Hours

- Lectures (20 hrs)
- Self-study (4 hrs)
- Examination (4 hrs)

Time frame

- Practical (lab) classes: weeks 2, 6, 9, 13 and 15
- Practical exam: week 16

Prerequisites

- Basic knowledge on spreadsheets is required.
- Active participation during all lab classes and a minimum attendance of 80%.

Examination

- Practical exam in week 50
- Retake in week 20

Passing requirements

- A minimum grade of 5.5 for the exam.

Study material

- Thomas JR, Nelson JK, Silverman SJ. Research methods in physical activity. 6th ed. Champaign: Human Kinetics; 2011.

Contact person

- J.J. Voigt, MSc

Clinical Sessions 1

Description

During the clinical sessions, which are part of the *Clinical Reasoning* line, you will be given the opportunity to develop your PT skills with “real” patients, presenting progressively difficult conditions. The Clinical Sessions course is primarily focused on the ability to gather and organise relevant patient information through history taking and physiotherapeutic assessment. Thus, the focus will be on the proficiency in information gathering, the ability to structure and prioritise, and stimulating conscious, logical and goal-oriented decision-making. Furthermore, formulation of a physiotherapeutic diagnosis and prioritising short term and long-term treatment goals will be an important part of these sessions. Finally, basic treatment strategies will be reviewed and practiced. The patient categories of the clinical sessions coincide with the topics of clinical reasoning classes as much as possible, so that the learning experience from the clinical sessions can be further explored during these classes. In the first year, emphasis of the Clinical Sessions will be placed on acquiring the competencies belonging to the professional role of ‘competency of ‘physical therapy activities’, ‘communicating’ and ‘professional conduct’.

Credit load

- 1 credit over the first year (semesters 1+2)

Topics

- Lower extremity injuries (muscular, arthrogenic)
- Upper extremity injuries (muscular, arthrogenic)
- Decreased aerobic capacity
- Peripheral neurological problems

Learning goals

- Identify and analyse the client’s needs and associated clinical problems.
- Assimilate and critically evaluate the information from the patient’s history.
- Examine and assess the problems in a methodical manner.
- Develop a treatment strategy based on your findings.

Teaching methods

- 6 Clinical sessions (of approximately 2-3 hours each).
- Self-study (preparation time).

Study hours

- Seminars (including travel time to location).
- Self-study / preparation time.
- Digital portfolio.

Time frame

- Semester 1: 3-4 Clinical Sessions
 - Introduction week
 - Week 4
 - Week 8/9
 - Week 12/13
- Semester 2: 3 Clinical Sessions
 - Week 4

- o Week 8/9
- o Week 12/13

Study material

- None.

Examination

- Attendance of clinical sessions.
- 1 Mini Clinical Evaluation Exercise (Mini-CEX).

Passing requirements

- 1 individual Mini-Clinical Evaluation Exercise.
- Reflection report.
- Minimum attendance 80% of clinical sessions.

Contact person

- M.A. van Egmond, MSc

Concepts in Clinical Reasoning 1

Description

This course is the theoretical course in the curriculum line Clinical Reasoning. During the seminars different existing models on clinical reasoning will be introduced, discussed (via written cases) and applied to clinical practice. Reasoning behind choices for certain diagnostic tests and physiotherapeutic interventions as well as setting up treatment goals, will be taught with the aid of paper patients or reflecting on clinical sessions. During the “Concepts in Clinical Reasoning” courses in the first year, emphasis will be laid on acquiring the competencies that belong to the professional competency of ‘physical therapy activities’, ‘communicating’ and ‘professional conduct’.

Credit load

- 2 credits.

Topics

- Introduction into clinical reasoning.
- Formulating assessment and treatment goals.
- Concepts and models: ICF, MDLC-model, RPS-form.
- Screening and Direct Accessibility in physiotherapy.
- Electronic patient records.

Learning goals

- Understanding the systems of clinical reasoning.
- Approaching every problem through clinical reasoning.
- Knowledge of the different models for clinical reasoning within physiotherapy.
- Organising information according the ICF by using the RPS-form.
- Summarising data obtained from the patient history.
- Formulating a preliminary conclusion based on the patient history.
- Setting goals for the assessment execution plan.
- Converting data from the assessment to clinically relevant conclusions.
- Setting short term and long term therapeutic goals relevant to each individual patient.
- Executing a screening process related to Direct Accessibility.
- Being able to use electronic patient records.

Teaching methods

- Seminars (2 hours every other week).
- Lectures (twice per semester).

Study hours

- Lectures (2x 2 hours)
- Seminars (6x 2 hours)
- Class assignments
- Preparation / self-study time
- Examination

Time frame

- Semester 1, weeks 1-20:
 - Lectures
 - Weeks 1 and 8
 - Seminars
 - Weeks 3, 5, 7, 9 and 11
 - Workshop 'Electronic patient records'
 - Week 15
 - Exam
 - Week 12

Study material

- None.

Examination

- Theoretical case-based exam.
 - Short answer questions, multiple-choice questions

Passing requirements

- A minimum grade of 5.5 for the written exam
- Minimum attendance 80% of classes

Contact person

- M.A. van Egmond, MSc

Evidence Based Practice 1

Description

This *Basics* course is the first course of Evidence Based Practice, which is one of the fundamental values of our curriculum. In this course, the different aspects of Evidence Based Practice will be discussed. The starting point is use of evidence in daily life, both as a student and as a professional. Focus will be on the fundamental concepts in research methodology. This course serves the student in his or her professional role as a profession developer and relates to all courses, but in particular to clinical reasoning.

Credit load

- 2 credits.
- Semester 1: weeks 1-15.
- Exam week 17.

Topics

- Definition of Evidence Based Practice.
- Searching for evidence
 - Books
 - Guidelines
 - Research
- Overview of overall research process.
- Structure of literature reviews and randomized controlled trials
- Basic research methodology
- Basic statistics (descriptive vs inferential)
- Qualitative analysis of literature through tools, such as PEDro and Cochrane Tool
- Formulating appropriate research questions

Learning goals

- Knowledge of the concept of Evidence Based Practice.
- Understanding of relevance of evidence.
- Ability to search for guidelines, scientific research and reviews.
- Understanding of relevance in daily practice.
- Acquire knowledge on basic research.
- Basic statistics (descriptive statistics, average, variance, normal distribution etc.).
- Research methodology (design, types of research, how a review is written, referencing).
- Read and understand an article on RCT).

Teaching methods

- Seminars (7x2 hours)

Study hours

- Seminars 7x2=14 hrs
- Preparation 40 hrs
- Exam 2 hrs

Time frame

- Lectures and seminars in semester week 1-15
- Exam at end of semester

Prerequisites

- None.

Examination

- Theory: combination of multiple-choice questions and essay.

Passing requirements

- Minimum grade of 5.5 for the exam.

Study material

- Thomas JR, Nelson JK, Silverman SJ. Research methods in physical activity. 6th ed. Champaign: Human Kinetics; 2011.
- Southon NT. The student's companion to physiotherapy. A survival guide. Edinburgh: Elsevier; 2010

Contact person

- B. Stocker, MSc

Pathology 1

Description

This course is part of the Basics line. Pathology is the branch of medicine that is concerned with the study of disease processes, using macroscopic and microscopic methods (autopsy, resp. inspection by microscope of tissue samples). As a subject in the ESP curriculum, Pathology can be described as 'the science of disease'. This module is about general disease processes. During the second year Pathology will continue with description of diseases of some specific organ systems such as heart and lungs. These courses will serve the student in his or her professional role as a healthcare worker and directly relates to all the skills courses and clinical reasoning.

Credit load

- 2 credits

Topics

- Introduction to pathophysiology.
- Inflammation and healing.
- Immunity and abnormal responses.
- Infection.
- Neoplasms.
- Fluid and acid-base imbalances.

Learning goals

On completion of this module, the student will be able to describe and explain:

- basic pathophysiological terminology.
- cellular changes as a basis for disease.
- the mechanisms of inflammation, healing processes and immunity.
- the origin and course of infections, neoplasms, and fluid and acid-base imbalances.

Teaching methods

- Lectures (3 hours per week)
- Self-study

Time frame

- Semester 1: weeks 7-12
 - Lectures in weeks 7–11, week 12 is a buffer week
 - Examination in week 13

Examination

- Written exam with approximately 10 short answer questions.
- Retake according to schedule.
- Evaluation after publication of results, in a specially arranged session.

Passing requirements

- Minimum grade of 5.5 for the exam

Study material

- VanMeter KC, Hubert RJ. Gould's Pathophysiology for the health professions. 5th ed. St. Louis: Saunders Elsevier; 2014
- Widmaier EP, Raff H, Strang KT. Vander's Human Physiology: The Mechanisms of Body Function. 13th ed. Boston: McGraw-Hill; 2014

Contact person

- J.J. Bakker, MSc

Physiology 1

Description

This *Basics* course is the first course of physiology in which the concepts of cells, metabolism and muscle physiology will be discussed. This course serves the student in his professional role as a healthcare worker and directly relates to all the skills courses, Physiotherapy Assessment, Interventions and Clinimetrics.

Credit load

- 3 credits

Topics

- Cell.
- Action potentials.
- Metabolism.
- Skeletal muscle.
- Autonomic nervous system.
- Endocrine system.

Learning goals

- Knowledge of organs, systems and cells.
- Knowledge of cell physiology and metabolism
- Understanding of muscle function
- Understanding of nervous and endocrine system

Teaching methods

- Lectures (2 hours per week).
- Question hour on study questions (1 hour per week).
- Online diagnostic test or interactive quiz in lecture.

Study hours

- Lectures 7x 2hrs = 14
- Question hours 7x1 hr = 7
- Preparation = 51 hr
- Examination 1 x 2 hr = 2 hr

Time frame

- Semester 1:
 - Two lectures per week (2 hrs followed by 1 hr)
 - Weeks 1-7
 - Examination (2 hrs)
 - Week 8

Prerequisites

- Basic knowledge on human biology, chemistry and physics is strongly recommended.

Examination

- Written exam
 - Multiple-choice questions (50%)
 - Essay questions (50%)

Passing requirements

- Average grade of 5.5 or higher for the exam

Study material

- Widmaier EP, Raff H, Strang KT. Vander's Human Physiology: The Mechanisms of Body Function. 13th ed. Boston: McGraw-Hill; 2014

Contact person

- B. Stocker, MSc

Physiotherapy Assessment 1

Description

Physiotherapy Assessment 1 (Assessment 1 for short) is a *Skills* course and offers an introduction to the general structure and implementation of a physiotherapeutic assessment, mostly seen in patients with orthopaedic problems. Students will learn how to take a detailed patient history, followed by the basic, subjective, objective and special testing of the lower and upper extremity. Gait and postural analysis will also be addressed. The focus will be on developing students' assessment skills. The subject matter will move from theory, into practical (patient orientated) application.

Credit load:

- 4 credits

Topics

- History Taking for the Lower/Upper Extremities
- Active, Passive and Resistance Testing
- Functional Testing
- Special Testing
- Joint Play Movements
- Gait
- Posture

Learning goals

At the end of this module the student:

- Is able to describe clearly the components of a physiotherapy assessment.
- Is able to perform a consistent, structured, and organised assessment.
- Is able to make an informed diagnosis.
- Is able to demonstrate, on a fellow-student, basic testing skills for the lower and upper extremity.
- Is able to demonstrate clinical reasoning through the application of theory to practice.
- Is able to demonstrate the assessment of posture and gait.

Teaching Methods

- Lab classes (4 hours per week)
- Self-study (4 hours per week)
- Student led tutorials

Study Hours

- Lectures
- Assignments
- Practical Examinations

Time frame

- Practical class: weeks 1-6 and 9-14
- Examination: weeks 7 and 15
- Retakes: week 20

Prerequisites

- Basic knowledge of anatomy is strongly recommended.

Prerequisites examination

- Active participation during all lab classes.
- Minimum attendance of 75% of classes.

Examination

- Practical Exam A, 40 min in total (50%).
- Practical Exam B, 40 min in total (50%).

Passing requirements

- Grade of 5.5 or higher for exam A.
- Grade of 5.5 or higher for exam B.

Study Material

- Magee JD. Orthopedic Physical Assessment. 6th ed. Elsevier: W.B. Saunders; 2014.

Contact person

- J.J. Voigt, MSc

Physiotherapy Interventions 1

Description

Physiotherapy Interventions (Interventions for short) 1 is a *Skills* course and covers various treatment techniques mainly for orthopaedic injuries. Students will learn how to create, plan and implement interventions specific to healthy and injured people.

Credit load

- 3 credits

Topics

- Communication Skills.
- Principles of Training: Strength/Stability/Flexibility/Speed/Endurance.
- Adaptation, Load and Carriability, Healing Process.
- Designing and Implementing Exercise Programs.
- Core Stability Training.

Learning goals

At the end of this module the student:

- Is able to observe and analyse fundamental skills and patterns of movement.
- Is able to communicate effectively with peers, lecturers and patients.
- Is able to adapt tasks, movements and exercises to the individual condition of an orthopaedic patient.
- Is able to create a conducive environment for enhanced instruction, feedback and exercise correction.
- Is able to reflect critically upon his or her own level of skills and to accept constructive feedback.

Teaching Methods

- Lab Classes.
- Self-study.

Study Hours

- Lab classes (14 hrs)
- Assignments (14 hrs)
- Self-study (50 hrs)
- Practical examination (6 hrs)

Time frame

- Practical class: weeks 2-8 and 10-15
- Examination: weeks 9 and 16
- Retakes: week 20

Prerequisites

- Being able to participate in (intense) exercise.

Prerequisites examination

- Active participation during all lab classes.
- Minimum attendance of 75% of classes.

Examination

- Practical exam A, in total 40 min (40%).
- Practical exam B, in total 40 min (60%).

Passing requirements

- Grade 5.5 or above for all exams.
- Final course grade is calculated as the average according to the percentages listed above.

Study Material

- Brody L T, Hall C M. Therapeutic exercise; moving toward function. 3th ed. Lippincott Williams & Wilkins; 2011.

Contact person

- J.J. Voigt, MSc

Psychology 1

Description

This *Basics* course discusses the concepts of health psychology. Cultural and psychosocial aspects of health, illness and health care in an international context will be studied.

This course serves the student in his or her professional role as healthcare worker and directly relates to all the skills courses, most specifically Physiotherapy Assessment and Interventions.

Credit load

- 2 credits
- Semester 1: weeks 8 – 14
- Exam week 15

Topics

- Social, cultural and demographic aspects of health.
- Psychological models of health.
- Health promotion and illness prevention.
- Illness behaviour.
- Stress and illness.
- Diagnostic Statistical Manual of Mental Disorders
- Mood disorders, dementia and anxiety disorders

Learning goals

- Basic knowledge of health psychology.
- Understanding of different ways of dealing with illness and health.
- Understanding of different ways of dealing with the psychological impact of illness by patients and healthcare workers.

Teaching methods

- Lectures (6 x 2 hours per week).

Study hours

- Lectures 6 x 2 = 12hr
- Preparation = 42 hr
- Examination = 2 hrs

Time frame

- Lectures in weeks 8-13 week 14 is a buffer week
- Examination in week 15

Prerequisites

- None.

Examination

- Written exam

Passing requirements

- Grade of 5.5 or higher for the exam.

Study material

- Fish Ragin, D. Health psychology. An interdisciplinary approach to health. International edition. Pearson; 2011.

Contact information

- Drs. M.J.L. Hermans

Study and Career Planning 1

Description

Study and career planning as part of the *Professional* line will start during introduction week with the formation of groups and an introduction to the ESP programme and the background of all students. Group meetings as well as individual meetings with your mentor will serve to reflect on and develop your personal study skills. Furthermore it will help familiarise you with the ESP organisation and its aims and goals. This on-going guidance by a mentor serves the student in his or her personal and professional development in all competency roles.

Credit load

- 2 credits

Topics

- Introduction week.
- Organisation ESP programme.
- Study skills and learning styles.
- Digital Portfolio.
- Meet & Greet.

Learning goals

- Knowledge of content of programme (first semester).
- Knowledge of rules and regulations within ESP.
- Obtain basic skills in IT (work with digital environment as used during programme).
- Reflection on personal learning styles and study skills.
- Guidance in building up of a personal digital portfolio.

Teaching methods

- Lectures
- Practical classes .
- Group activities during introduction week and Meet & Greet.
- Individual mentor meetings.

Study hours

- | | |
|--------------------------------|---------|
| • Lectures | 9 hours |
| • Practical classes | 6 |
| • Attendance introduction week | 28 |
| • Assignments | 10 |
| • Individual mentor meetings | 3 |

Time frame

- Semester 1: weeks 0-20

Prerequisites

- None.

Study material

- Recommended: McMillan K. Weyers J. The smarter student. Study skills and strategies for success at university. Essex: Pearson Education Limited; 2006

Examination

- Student presentation during introduction week.
- Reflection, proactivity and professional conduct judged by: student (SWOT analysis), mentor and lecturers
- Retake: January

Passing requirements

- Minimum of 80% attendance of classes/activities.
- Active participation in class.
- 100% attendance and a thorough preparation for the personal meetings with the mentor.
- Grade: 5,5 or higher for reflection, 5,5 or higher for proactivity and 5,5 or higher for professional conduct

Contact information

- Drs. M.J.L. Hermans

Semester 2

The central theme of the second semester is the “Cardiopulmonary patient”. Through this patient category, the student will acquire a broad view on the profession, from a multi-professional perspective. In the *Case line*, the clinical cases discussed will reflect this focus population of patients, i.e. 20% orthopaedic cases, 60% cardio respiratory cases and 20% neurological cases.

The main aim of this semester is to provide the student with a solid base of knowledge and skills. Students are offered a complete overview of the professional roles of a physiotherapist both at school and in clinical practice. Furthermore, upon completion of all listed courses in the propaedeutic phase, the propaedeutic certificate will be obtained. The pages that follow give detailed descriptions of each of these courses.

Anatomy 2

Description

Upon completion of this *Basics* course, the student should possess the basic anatomical knowledge a physiotherapist requires. It builds upon Anatomy 1 in which the upper and lower extremity was discussed. In this course, the anatomy of the trunk, spine, neck and head are discussed and the bones, muscles, ligaments and nerves will be studied. This course serves the student in his or her professional role as a healthcare worker and directly relates to all the skills courses, Physiotherapy Assessment, Interventions and Clinimetrics.

Credit load

- 5 credits

Topics

- Innervations of lower and upper extremity.
- Anatomy of the spine and thorax.
- Innervations and vascularisation of head, neck and trunk.

Learning goals

- Knowledge of international anatomical terminology (Nomina Anatomica).
- Knowledge of major bones, muscles, ligaments, nerves, arteries and veins.
- Identify major bones, muscles, ligaments and nerves.
- Understand differences in structure and function of muscles and joints.
- Understand innervations of structures.

Teaching methods

- Lectures.
- Self-study.

Study hours

- Lectures 22x2=44 hrs
- Preparation 92 hrs
- Examination 2x2= 4 hrs

Time frame

- Semester 2: weeks 1-17
 - Two lectures per week (2 hrs per lecture)
 - in weeks 1-6
 - in weeks 8-13
 - Examination (2 hrs per exam)
 - Exam A in week 7
 - Exam B in week 14

Prerequisites

- Sufficient knowledge of Anatomy 1.
- Sufficient knowledge of Applied Anatomy 1.

Examination

- Written exam
 - Multiple-choice questions
 - Short answer

Passing requirements

- Average grade of 5.5 or higher for A and B examinations combined
- Both Exam A and B must be graded 5.5 or higher

Study material

- Neumann DA. Kinesiology of the musculoskeletal system. Foundations for Physical Rehabilitation. 3rd ed. St. Louis, Missouri: Mosby; 2016
- Schuenke M, Schulte E, Schumacher U. Thieme atlas of anatomy. 2nd ed. Stuttgart - New York: Thieme; 2014

Contact information

- B. Stocker, MSc

Biomechanics 2

Description

This *Basics* course is the second course on biomechanics in which the concepts of (muscle) force and moments regarding the human gait are discussed. This course serves the student in his professional role as a healthcare worker and directly relates to all the skills courses, Physiotherapy Assessment, Interventions and Clinimetrics.

Credit load

- 2 credits
- Semester 2: weeks 10-16 (6 weeks due to May holiday), week 17 is a buffer week.

Topics

- Introduction to human gait analysis.
- Kinematics.
- Kinetics.
- Muscle activity.
- Pathological gait analysis.

Learning goals

- Knowledge of biomechanical approach of gait analysis.
- Understanding biomechanical approach in clinical setting.
- Application of knowledge to human gait.

Teaching methods

- Seminars (2 hours per week).
- Practical classes (1 hour per week, with lecturer and student-assistant).

Study hours

- Seminar $6 \times 2 \text{ hr} = 12 \text{ hr}$
- Practical classes $6 \times 1 \text{ hr} = 6 \text{ hr}$
- Examination 2 hr

Time frame

- Lectures (1 hour per week) and seminars (2 hours per week) in semester 2, weeks 10-17.
- Examination in week 17
- Retake in week 21

Study material

- Neumann DA. Kinesiology of the musculoskeletal system. Foundations for Physical Rehabilitation. 3rd ed. St. Louis, Missouri: Mosby; 2016

Prerequisites

- None

Examination

- Written exam
 - Multiple-choice questions (70%)
 - Short answer questions (30%)

Passing requirements

- Grade of 5.5 or higher for the exam.

Contact information

- B. Moed, MSc

Case Study 2

Description

The case study classes are part of the *Clinical Reasoning* line and are used to integrate and apply physiotherapeutic skills such as psychomotor, cognitive, interactive and reactive skills. This is practiced through the method of discussing specific paper patients in both an inpatient and outpatient hospital-based setting and practicing related skills in class.

During this practice, students will be asked to reflect on their actions, with the aim of promoting self-insight (reflection in action). They will receive feedback on their demonstrated skills. In some cases the lecturer will present the correct manner of conducting diagnostics, interventions and setting treatment goals. During the “Case study” courses in the first year, emphasis will be placed on acquiring the competencies that are part of the professional competency of ‘physical therapy activities’, ‘communicating’ and ‘professional conduct’.

Credit load

- 2 credits

Topics

- Cases:
 - Cervical/ thoracic spine.
 - Lower back pain/ lumbar spine/ HNP.
 - Orthopaedic pathologies: upper extremity.
 - Orthopaedic pathologies: lower extremity.
 - Chest- and/or abdominal surgery.
 - Cardiac Rehabilitation (guidelines).
 - Chronic Obstructive Pulmonary Disease (COPD guidelines).
 - Whiplash Associated Disorders (WAD guidelines).

Learning goals

- Integration of knowledge, attitude and skills.
- Being able to apply concepts of clinical reasoning in a case study.
- Being able to use ‘evidence based practice’ in a case study.
- Knowledge of the (background of the) ITE-form for clinical reasoning.
- Applying the ITE-form to individual case studies.
- Organising information according to the ICF by using the RPS- and ITE-form.
- Generating hypotheses, based on relation of signs, symptoms and diagnosis.
- Applying guidelines to an individual case study.

Teaching methods

- Practical seminars, based on paper patient cases.

Study hours

- Seminars (7x 2 hours).
- Class assignments.
- Self-study / preparation time.
- Exam.

Time frame

- Semester 2, weeks 1-20:
 - Seminars
 - Weeks 1, 3, 5, 7, 9, 11 and 13
 - Exam
 - Week 15
 - Retake
 - Week 17

Study material

- Shumway-Cook A, Woolacott MH. Motor Control; translating research into clinical practice. 5th ed. Lippincott Williams and Wilkins; 2016

Prerequisites

- None.

Examination

- Practical case-based assessment, with emphasis on clinical reasoning.

Passing requirements

- Grade of 5.5 or higher for the exam.
- Minimum attendance 80% of classes.

Contact information

- M.A. van Egmond, MSc

Clinimetrics 2

Description

This *Skills* course is a continuation of Clinimetrics 1. Measurement tools used in a hospital setting will be the main focus. Students will learn how to use measurement tools during an assessment, as well as during the evaluation of treatment. Execution, documentation and interpretation of measurement outcomes will be addressed in this course.

Credit load

- 1 credit.

Topics

- Application of Measurement Tools.
- Measurement skills.
- Concepts of validity, reliability and responsiveness.
- Spreadsheets (Excel and Google Sheets).
- Standard Operating Procedures (SOP).

Learning goals

By the end of this course the student:

- Is able to use appropriate tools to execute reliable measurements.
- Is able to manage a combination of measurements in a structured manner.
- Shows responsibility towards accurate data collection in a spreadsheet.
- Is able to organise small databases.
- Can explain the choice of measurement tools used.
- Is able to present simple statistics on paper.
- Can make a standard analysis of results and interpret outcomes of his or her own database.
- Can write a paper with logical arguments.

Teaching Methods

- Lab classes.
- Measurement day at an external location.
- Self-study.

Time frame

- Semester 2: semester weeks 1-24.
- Practical class: semester weeks 2, 5, 8, 11 and 14.
- Report deadline: semester week 15
- Retake deadline: semester week 20

Study material

- Thomas JR, Nelson JK, Silverman SJ. Research methods in physical activity. 7th ed. Champaign: Human Kinetics; 2015.

Examination

- Report.

Prerequisites

- None

Passing requirements

- Grade higher than 5.5.
- Minimum attendance 80% of classes.

Contact person

- J.J. Voigt, MSc

Clinical Sessions 1

See: Semester 1 for full description

Concepts in Clinical Reasoning 2

Description

During the seminars the additional existing models on clinical reasoning are discussed through written cases and applied to the clinical practice of a hospital setting. Reasoning behind choices for certain diagnostic tests and physiotherapeutic interventions as well as setting up treatment goals are taught with the aid of paper patients or clinical sessions. Protocols and Clinical Guidelines will also be introduced, as they are often used in a hospital setting. Clinical guidelines are of main importance to/in the clinical reasoning process. The ITE-form (Individual, Task, Environment) will also be introduced. The ITE-form is a way of constructing your physiotherapy treatment plan into concrete short-term goals that your patient should achieve in a hospital setting, taking into account the factors within the individual, the environmental constraints and the attributes of the task. During the 'Concepts in clinical reasoning' courses in the first year, emphasis is placed on acquiring the competencies that are part of the professional competency of 'physical therapy activities', 'communicating' and 'professional conduct'.

Credit load

- 2 credits

Topics

- ICF, RPS and ITE-models.
- Hypothetico-deductive reasoning.
- Use of guidelines in clinical reasoning.

Learning goals

- Knowledge of the ITE for clinical reasoning within physiotherapy.
- Using the ITE-form in clinical reasoning.
- Organising information according to the ICF by using the RPS and ITE-form.
- Generate hypothesis based on relation between signs and symptoms and diagnosis.
- Using guidelines in clinical reasoning.

Teaching methods

- Seminars (2 hours, every other week).
- Lectures (twice per semester).

Study hours

- Lectures (2x 2 hours).
- Seminars (6x 2 hours).
- Class assignments.
- Self-study / Preparation time.
- Examination.

Time frame

- Semester 2, weeks 1-20:
 - Lectures
 - Weeks 1 and 7
 - Seminars
 - Weeks 2, 4, 6, 8, 10 and 12
 - Exam
 - Week 15
 - Retake
 - Week 18

Study material

- Shumway-Cook A, Woolacott MH. Motor Control; translating research into clinical practice. 5th ed. Lippincott Williams and Wilkins; 2016

Prerequisites

- None

Examination

- Theoretical, case-based exam
 - Short answer questions, multiple choice questions.

Passing requirements

- A minimum grade of 5.5 for the written exam is required.
- Active participation and minimum attendance 75% of classes.

Contact person

- M.A. van Egmond, MSc

Elective Credits 2

See: Elective Credits 1 (Semester 1) for full description

Evidence Based Practice 2

Description

This *Basics* course is the second course of Evidence Based Practice, which is one of the fundamental values in our curriculum. In this course students will learn

- Further basic statistics.
- Search strategy and methods of finding articles.
- The content of a good project plan.
- How to formulate a project plan for literature review in EBP 3.

This course serves the student in his or her professional role as a profession developer and relates to all courses, but especially to clinical reasoning. A basic understanding of an RCT is the overall goal of this course of EBP.

Credit load

- 2 credits

Topics

- Interpretation of an RCT is an overall goal of EBP.
- Descriptive vs Inferential statistics.
- Introduction of SPSS.
- Basic Statistics (Correlation, sensitivity/specificity, validity, reliability, t-test, ANOVA)
- Project Planning: Literature Review.
- Creating your own research question.
- Search strategy.

Learning goals

- Collaboration in scientific writing.
- Understanding of relevance of evidence.
- Knowledge of basic statistics, basic concepts such as specificity/sensitivity, assessment of scientific literature.
- How to formulate research questions and PICOT variables.
- Knowledge of searching for scientific research and reviews.
- Understanding of relevance in daily practice.

Teaching methods

- Seminars (11x1 hr).
- Seminars/coaching project plan (3 x 1 hr).

Study hours

- Seminars 6 x 2= 12 hrs
- Assignments 20 hrs
- Preparation 22 hrs
- Exam 2 hrs

Time frame

- Semester 2: weeks 1-11
 - seminars in weeks 1-11
 - theory exam week 12
 - group work on project plan literature review weeks 13-18

Prerequisites

- Passing grade for EBP 1 is recommended.

Examination

- Written theoretical exam (60% of average grade), with a combination of
 - Multiple-choice questions
 - Essay questions
- Project plan (3 weeks, with 1x retake) (40% of average grade).

Passing requirements

- Weighted average grade of 5.5 or higher for Exam (60%) and Project Plan (40%) combined
- Both Exam and Project Plan must be graded 5.5 or higher

Study material

- Thomas JR, Nelson JK, Silverman SJ. Research methods in physical activity. 7th ed. Champaign: Human Kinetics; 2015.

Contact information

- B. Stocker, MSc

International Physiotherapy

Description

This *Skills* course is a course that is adapted to the international student population in our programme. This course contains modalities that are not covered in the 'basic' curriculum, but are needed for working in an international context. The content of the course is diverse as it will be a combination of electrotherapy and wound and burn care.

Credit load

- 3 credits
 - Electrotherapy
 - Wound and burn care

Topics

- Electrotherapy theory and practice.
- Wound and burn care.

Learning goals

- Knowledge of the theoretical background of noxious stimuli.
- Knowledge of pain.
- Practical skills for using electrotherapy.
- Practical skills on wound and burn care.

Teaching methods

- Lectures (electrotherapy).
- Practical classes (electrotherapy, wound and burn care).
- Self-study.

Study hours

- Lectures
- Assignments
- Preparation
- Presentation
- Examination

Time frame

- Lectures and practical classes in calendar weeks 6-17
- Exams in weeks 11/12 and 19
- Retakes in week 23 and 35

Prerequisites

- None

Examination

- Practical exam for electrotherapy (67%).
- Written exam for wound and burn care (33%).

Passing requirements

- Both exam grades should be 5.5 or higher
- The final course grade will be calculated according to the percentages listed above.

Study material

- Butler DS, Moseley GL. Explain Pain. Orthopedic Physical Therapy Products; 2003

Contact information

- J.J. Voigt, MSc

Neurology 1

Description

This course is part of the *Basics* line. Neurology is the branch of medicine that is concerned with diseases of the brain, the spinal cord, the nerves and the muscles. It is firmly grounded in the neurosciences. This introductory module offers a systematic insight into the nervous system. Functions and dysfunctions will be set in a coherent framework, so the student acquires a thorough understanding of the signs and symptoms of neurological disease.

The aim of this module is to give the student a general idea of the problems encountered by neurological patients, and to provide you with sufficient knowledge of neurological terms and concepts to extract relevant information from neurological texts.

In order to make the theory more concrete, we have programmed seminars for smaller groups (30 students), which are devoted to anatomy, neurological examination, and discussions of cases of increasing complexity.

Credit load

- 2 credits

Topics

- Gross anatomy of the nervous system.
- Properties of neural tissue.
- The motor system; upper and lower motor neuron.
- Aspects of motor function: strength, tone, reflexes, and muscle volume.
- Signs of upper and lower motor neuron lesions.
- Somatosensation and its disorders.
- Spinal cord syndromes.

Learning goals

On completion of this module, the student will be able to:

- Describe the functions of the main central and peripheral components of motor and sensory systems, and their functional connections.
- Describe the principal motor and sensory signs and symptoms.
- Describe and explain the relationship between neuropathological processes and neurological symptomatology.

Teaching methods

- Lectures (2 hours per week)
- Seminars (1 hour per week)
- Self-study

Study hours

- Lectures: 5 x 2 = 10 hrs
- Seminars 5 x 1 = 5 hrs
- Preparation 10 x 1 = 10 hrs
- Self-study = 29 hrs
- Examination = 2 hrs
- Total = 56 hrs

Time frame

- Semester 2: weeks 10-17
 - Lectures and seminars in semester weeks 10-15, week 16 is a buffer week
 - Examination in week 17

Prerequisites

- None

Examination

- Written exam, with a mixture of:
 - Multiple-choice questions
 - Short answer questions
- Retake according to schedule.
- Evaluation after publication of results, in a separately arranged session.

Passing requirements

- Grade of 5.5 or higher for the exam.

Study material

- Widmaier EP, Raff H, Strang KT. Vander's Human Physiology: The Mechanisms of Body Function. 13th ed. Boston: McGraw-Hill; 2014

Contact person

- J.J. Bakker, MSc

Physiology 2

Description

The *Basics* course is the second course of physiology, which builds upon Physiology 1. In this course, the respiratory system and cardiovascular system will be discussed. The focus will be on the healthy physiological processes of the intake, transport and consumption of oxygen. This course serves the student in his or her professional role as a healthcare worker and directly relates to all the skills courses, and the clinical reasoning.

Credit load

- 3 credits
- Semester 2: weeks 2-9 week 10 is a buffer week, exam week 11

Topics

- Anatomy of the respiratory system.
- Physiology of the respiratory system.
- Anatomy of the cardiovascular system.
- Physiology of the cardiovascular system.

Learning goals

- Knowledge of anatomy of pulmonary system
- Understanding and application of pulmonary physiology
- Knowledge of anatomy of cardiovascular system
- Understanding and application of cardiovascular physiology
- Understanding and application of physiology during exercise

Teaching methods

- Lectures (2 hours per week).
- Self-study (one hour after lecture with student-assistant).
- Online diagnostic test (mid-term) or interactive quiz in lecture.

Study hours

- | | | |
|---------------|------------|-------|
| • Lectures | 8 x 2 hr = | 16 hr |
| • Preparation | | 66 hr |
| • Examination | | 2 hr |

Time frame

- Lectures and seminars in weeks 2-9 (week 10 is a buffer week).
- Examination in week 11.

Prerequisites

- Sufficient knowledge of Physiology 1 is strongly recommended.

Examination

- Written exam (at the end of the course)
 - Multiple-choice questions
 - Essay questions

Passing requirements

- Grade of 5.5 or higher for the exam.

Study material

- Widmaier EP, Raff H, Strang KT. Vander's Human Physiology: The Mechanisms of Body Function. 13th ed. Boston: McGraw-Hill; 2014

Contact person

- B. Moed, MSc

Physiotherapy Assessment 2

Description

This *Skills* course, Assessment 2, is a continuation of Assessment 1. The basic concepts and structure of an assessment taught previously will now be adapted to (mainly) cardiopulmonary patients (often in a hospital setting). Students will learn how to perform assessments of a physical problem in (acute) hospitalised patients, for example problems with the focus on spine, chest, and abdomen orientated surgeries/pathologies, as well as orthopaedic surgeries specific to this setting. Students will develop assessment skills, and be exposed to post-operative protocols and guidelines necessary for optimal patient care.

Credit load

- 3 credits
- Semester 2: semester weeks 1-24

Topics

- Transfers
- Spine Assessment
- Orthopaedic Assessment
- Cardiac/Chest/ Abdominal Assessment
- Pathologies and Post-Operation Protocols
- Effective use of Guidelines

Learning goals

By the end of this module the student:

- Is able to perform a spinal assessment.
- Is able to perform a cardiac/chest/ abdominal assessment.
- Is able to perform an orthopaedic assessment.
- Is able to demonstrate assessment skills based on postoperative protocols and practice guidelines.
- Is able to demonstrate professionalism through communication, appearance and competency.

Teaching Methods

- Lab classes.
- Self-study.

Time frame

- Practical class: weeks 1-20
- Exam: semester weeks 8 and 17
- Retake: semester week 21

Prerequisites

- Basic knowledge of anatomy, physiology is strongly recommended.

Prerequisites examination

- Active participation during all lab classes and a minimum attendance of 75% of classes.

Examination

- Practical Exam (exam A and B), 2 x 20 min.

Passing requirements

- Grade 5.5 or above for both exams.
- Final course grade is calculated as the average according to the following percentages
 - Exam A (50%)
 - Exam B (50%)

Study Material

- Magee JD. Orthopedic physical assessment. 6th ed. Elsevier: W.B. Saunders; 2014.

Contact person

- J.J. Voigt, MSc

Physiotherapy Interventions 2

Description

In this *Skills* course, relevant Interventions applied in a hospital setting are addressed. Students will learn how to perform bed transfers, fit mobility aids, and create exercise programs for this patient population. This course also deals with electro-physical modalities and introduces different possibilities of controlling pain in various groups of patients. Emphasis is placed on the effect of electrotherapy on the spine and the spinal modulating systems.

Credit load

- 4 credits.
- Semester 2: semester weeks 1-24.

Topics

- Interventions for Spinal Conditions.
- Exercise Planning Specific to Orthopaedic Illness.
- COPD/Chest Interventions.
- Abdominal Interventions.
- Application of Practical Guidelines.
- Electro Physical Modalities.

Learning goals

By the end of this module the student:

- Is able to demonstrate interventions specific to spine, chest and abdominal conditions.
- Is able to plan, implement, and correct an exercise programme specific to the hospital setting.
- Is able to demonstrate thorough knowledge of the physiological backgrounds, mechanisms and effects of different applications of electro physical agents.
- Is able to demonstrate skills in the examination of the skin and other relevant tissues for hyperalgesia and hyperesthesia.
- Is able to use/apply intervention skills based on practice guidelines.
- Is able to adjust mobility aids to an individual patient as well as instruct the correct use of this aid.

Teaching Methods

- Lab classes.
- Self-study.

Time frame

- Practical class: weeks 1-20
- Examination: semester weeks 9 and 19
- Retake semester week 21

Prerequisites

- Basic knowledge of Interventions 1 is strongly recommended.

Examination

- Practical Exam (Exam A and B), 2 x 20 min.

Passing requirements

- Grade 5.5 or above for both exams.
- Final course grade is calculated as the average according to the following percentages:
 - Exam A (40%)
 - Exam B (60%)

Study Material

- Brody LT, Hall CM. Therapeutic Exercise; Moving Toward Function. 3th Edition. Lippincott Williams & Wilkins.2011

Contact person

- J.J. Voigt, MSc

Study and Career Planning 2

Description

This *Professional* course continues during the second semester, now that the groups have formed and the outlines of the ESP programme have become more familiar. Group meetings as well as individual meetings with the student's mentor will serve to reflect on and evaluate the student's personal development, in relation to the various competency roles.

Credit load

- 1 credit
- Semester 2: weeks 1-21

Topics

- Professional Attitude.
- SWOT analysis
- Study goals and internship goals
- Study skills (exam training and time management).
- Group work.
- Dealing with feedback.
- Evaluation exams and assessments.
- Preparation internship
- Rules and regulations regarding Negative Binding Study Advice.

Learning goals

- Knowledge of content of degree programme
- Applying knowledge of rules and regulations within ESP.
- Reflection on personal learning objectives and study skills.
- Reflection on competency development.

Teaching methods

- Lectures
- Lab classes
- Individual mentor meetings
- Group activities during Meet & Greet.

Study hours

- | | |
|------------------------------|---------|
| • Lectures | 9 hours |
| • Practical classes | 6 |
| • Assignments | 10 |
| • Individual mentor meetings | 3 |

Time frame

- Semester 2: week 1-20

Study material

- Recommended: Cowen M, Maier P, Price G. Study Skills for Nursing & Healthcare Students. Essex: Pearson Education Limited; 2009.

Prerequisites

- None.

Examination

- Reflection, proactivity and professional conduct judged by: student (SWOT analysis), mentor and lecturers

Passing requirements

- Minimum of 80% attendance of classes/activities.
- Active participation in class.
- 100% attendance and a thorough preparation for the personal meetings with the mentor.
- Grade: 5,5 or higher for reflection, 5,5 or higher for proactivity and 5,5 or higher for professional conduct

Contact information

- Drs. M.J.L. Hermans

Summer 1

In the first summer, only the first clinical internship is scheduled. It will allow students to get the first clinical experience in an international setting.

Clinical Internship 1

See: Chapter “Internships” for full description and internship comparison tables

Semester 3

The central theme of the second semester is the “Neurological patient”. This patient category will constantly be referred to in most. It allows the student to get a clear idea about the role of a physiotherapist as health care worker. In the *Case line*, the majority (80%) of the clinical cases discussed will therefore reflect the “standard” neurological patient, while the remaining case (20%) will be complex patients. The main aim of this semester is to provide the student with a solid base of knowledge and skills, mainly in the field of neurology, both also in the field of research. On the next pages, the different courses of the third semester are listed in alphabetical order

Applied Anatomy 2

Description

This *Skills* course is strongly connected to the Anatomy courses in the basics line and is the follow-up of Applied Anatomy 1. The focus will be on the palpation of the structures of the body. Skin, tendon, muscles and bones will be palpated.

Volume

- 1 credits

Topics

- Palpation
- Applied anatomy of lower extremity
- Applied anatomy of upper extremity
- Dermatomes
- Myotomes

Learning goals

- Able to find the most important markers of the entire body in a systematic way
- Connect the theoretical anatomical knowledge to the human body

Teaching methods

- Lab classes (3 hours per week)
- Self study

Study hours

- Lab classes
- Self study
- Student tutorials
- Examination

Time frame

- Lab classes in semester week 1-4
- Practical exam in semester week 5
- Retake in semester week 10

Study material

- Kendall F P. *Muscles; testing and function with posture and pain*. 5th ed. Lippincott Williams & Wilkins; 2005.

Prerequisites examination

- Active participation during all lab classes and a minimum attendance 75%.

Examination

- Practical exam

Passing requirements

- Grade of 5.5 or higher

Contact person

- J.J. Voigt, MSc

Case Study 3

Description

The case study classes in the third semester are mostly centered on preparation and evaluation of the clinical sessions. This will be done by discussing the specific patient information of the clinical sessions in Neurological disorders and applying existing models on clinical reasoning and/or information from guidelines to these cases, in order to structure the approach.

Small group assignments will be graded. During practical classes, clinical reasoning skills and the subsequent physiotherapeutic actions should be demonstrated, based on the patient information from the clinical sessions. During short peer presentations students will be asked to reflect on their actions with the aim to promote self insight (reflection in action). Giving and receiving feedback is trained in relation to presentation skills that are demonstrated. In some cases the lecturer will demonstrate the correct manner of conducting diagnostics, interventions and setting treatment goals.

Volume 2 credits

Topics

- HOAC II
- ITE
- ICF-RPS
- Spinal Cord Injury
- Parkinson's Disease
- Stroke
- Cardiac rehabilitation
- Trauma

Learning goals

- Integration of knowledge, attitude and skills
- Being able to apply concepts of clinical reasoning in a case study
- Being able to use Evidence based practice in a case study
- Knowledge of the ITE for clinical reasoning within physiotherapy
- Using the ITE-form in clinical reasoning
- Organizing information according to the ICF by using the RPS and ITE form
- Generate hypothesis based on relation of signs and symptoms and diagnosis
- Applying the HOAC II in clinical reasoning
- Using guidelines in clinical reasoning

Teaching methods

- Seminars (2 hours every week, with lecturer)
- Self-study
- Peer presentations

Time frame

- Semester 3: week 1-8: weekly seminars
 - Practical exam in week 9 (calendar week 44)
 - Retake week 1 – Semester 2 (calendar week 4)

Study material

- Shumway-Cook A, Woolacott MH. Motor Control; translating research into clinical practice. 5th ed. Lippincott Williams and Wilkins; 2016

- Harvey L. Management of Spinal Cord Injuries: A Guide for Physiotherapists. London: Elsevier; 2008.

Examination

- Individual learning goals based on received peer feedback during presentations
- Case based practical exam

Passing requirements

- Sufficient assignment (learning goals), based on minimally 3 feedback forms
- Minimum attendance 80% of classes
- Minimum grade of 5.5 for practical exam

Contact information

- Miriam Wijbenga, PT, MSc.

Clinical Internship 2

See: Chapter “Internships” for full description and internship comparison tables

Clinical Sessions 2

Description

During the clinical sessions, you will be given the opportunity to develop your skills with “real” patients presenting with neurological, cardiac and orthopedic deficits. The Clinical Sessions course is primarily focused on the manner and the ability to elicit information through the physiotherapy assessment. Thus, the focus will be on the proficiency of information gathering, the ability to structure and prioritize, and stimulating conscious, logical and goal-oriented decision-making. Furthermore, formulation of a physiotherapeutic diagnosis and prioritizing short term and long-term treatment goals will be an important part of these sessions. Finally, basic treatment strategies will be reviewed and practiced. The clinical sessions coincide with the “Concepts in Clinical Reasoning” classes, in which the clinical session will be prepared and with case study classes, in which the clinical sessions will be evaluated and graded via a presentation.

Volume

- 1 credit per 2 semesters (semester 3 + 4)

Topics

- Spinal Cord Injury
- Parkinson's disease
- Stroke
- Cardiac rehabilitation
- (multi)Trauma
- Geriatric patients

Learning goals

- Identify and analyze the client's needs and associated clinical problems
- Assimilate and critically evaluate the information from the patient's history
- Examine and assess individual patient problems in a methodical way
- Develop a treatment strategy based on assessment outcomes

Teaching methods

- Clinical session 3x 3 hours per semester
- Self-study
(preparation before session; writing individual patient report)

Time frame

- Organized during semester 3 and 4

Study material

- None

Examination

- Individual contribution to written patient report
- Mini Clinical Evaluation Exercise, evaluated and signed by PT and/or lecturer

Passing requirements

- Written patient report of one clinical session
- Mini Clinical Evaluation Exercise, evaluated and signed by PT and/or lecturer
- Minimum attendance 80% of clinical sessions

Contact person

- M.A. van Egmond, PT, MSc.

Clinimetrics 3

Description

This *Skills* course is a continuation of Clinimetrics 1 and 2. Neurological measurement tools as advised in international guidelines and applied in rehabilitation center-settings will have the focus. Students will learn how to use these measurement tools during assessment, as well as during the evaluation of treatment (with the use of RPS and ITE forms). All quality domains of measurement instruments will be taught and during this semester students will be evaluating their own skills within these domains. Quality execution, documentation and interpretation of measurement outcomes will also be addressed in this course.

Volume

- 1 credit

Topics

- Application of Measurement Tools
- Measurement skills
- Concepts of validity, reliability and responsiveness
- Spreadsheets (Excel and Google Sheets)
- Standard Operating Procedures (SOP)

Learning goals

By the end of this course the student:

- Is able to use appropriate tools to execute reliable measurements
- Is able to manage a combination of measurements in a structured manner
- Shows responsibility towards accurate data collection in a spreadsheet
- Is able to organize small databases
- Can explain the choice of measurement tools used
- Can explain basic statistics
- Can categorize measurement tools in relation to all ICF domains

Teaching Methods

- Lab classes (4 x 4 hours)
- Self-study

Time frame

- Semester 3: semester 3 week 1-7
 - o Practical class: semester 3 week 2, 3, 5, 7
 - o Practical exam: semester 3 week 9
 - o Retake: semester 4 week 2

Prerequisites

- Active participation during all Clinimetrics 3 lab classes
- Minimum attendance 75%.

Examination

- Practical exam.

Passing requirements

- Grade 5.5 or higher

Contact person

- J.J. Voigt, MSc

Evidence Based Practice 3

Description

The course is the third course of Evidence Based Practice, which is one of the fundamental values in our curriculum. In this course students will learn to develop their own research and how to write their own (systematic) literature review results. This course serves the student in his professional role as a profession developer and relates to all courses, but especially to clinical reasoning. In this course students will learn:

- Search strategy to find articles
- How to write a scientific literature review
- How to systematically search and report results
- How to collaborate in a group for scientific writing
- To be independent in statistical analysis

Volume

- 4 credits

Topics

- Methodology for RCT evaluation
- Statistics SPSS (T-test, ANOVA, Repeated measures, Correlation)
- Writing the review
- Writing the project plan for the experiment of EBP 4

Learning goals

- Collaboration in scientific writing
- Understanding of relevance of evidence
- Knowledge of statistics, basic concepts like specificity/sensitivity, assessment of scientific literature
- How to formulate research questions and PICOT variables
- Knowledge to search for scientific research and reviews
- Understanding of relevance in daily practice

Prerequisites

- Successful completion of EBP1 and 2 are required

Teaching methods

- Seminars (2 x 1 hr)
- Seminars/coaching project plan (5 x 1 hr)

Study hours

- Seminars 2 x 1= 2 hr

- Assignments 20 hr
- Preparation 23 hr
- Exam 2 hr

Time frame

- Semester 3: week 1-10
 - seminars in semester week 8-9
 - theory exam week 2
 - group work on literature review 1-6
 - group work on project plan research 4-10

Examination

- Written theoretical exam evaluation of an article (20%)
- Project plan (40%)
- Literature review (40%)

Passing requirements

- All exams have to be of 5,5 and above in order for the student to pass the course
- The final grade is the average of the 3 items according to the percentages above
- Active participation in the group meetings and the meetings with the coach

Study material

- Thomas JR, Nelson JK, Silverman SJ. Research methods in physical activity. 7th ed. Champaign: Human Kinetics; 2015.

Contact information

- B. Stocker, MSc

Neurology 2

Description

This second course of Neurology finalizes the coverage of the motor system and introduces the cranial nerves. Moreover, much attention is devoted to the higher cerebral (perceptive/ cognitive) functions, which are the topic of behavioral neurology. These subjects are necessary for the understanding of neurological conditions. Under the heading of 'Clinical Neurology', several of the most relevant diseases and traumas of the central nervous system will be highlighted. Where appropriate, aspects of pharmacology will be included.

The course is strongly connected, both in content and in organization, with the Skills and Clinical Reasoning courses, where the assessment and treatment of neurological patient will be taught.

Volume

- 4 credits

Topics

- Basic Neurology
 - Cranial nerves
 - Cerebellum
 - Basal ganglia
- Behavioral Neurology
- Clinical Neurology
 - Spinal cord injury
 - Parkinson's disease
 - Multiple sclerosis
 - Brain injury
 - Stroke

Learning goals

On completion of this module, the student will be able to:

- Describe the functions and dysfunctions of the motor system, the somatosensory system, the cranial nerves, and the brain areas involved in perception and cognition
- Describe and explain the aetiology, pathogenesis, symptomatology, diagnosis, treatment (pharmacological and otherwise) and complications of the neurological conditions that are most frequent in physiotherapeutic practice
- Describe and explain the relationship between neuropathological processes, neurological symptoms, and problems in mobility and daily life activity

Teaching methods

- Lectures (2 hours per week)
- Seminar and lab classes (1 hour per week)
- Self-study

Time frame

- Semester 3: week 1-10
 - Lectures and classes in semester weeks 1-5 and 7-11
 - Examination in semester week 10

Prerequisites

- Having attended the course Neurology 1

Examination

- Written exams, with a mixture of:
 - Multiple choice questions
 - Short answer questions
- Retake according to schedule
- Evaluation after publication of results, in a seminar class or a specially arranged session

Study material

- Stokes M, Stack E (editors). Physical management for neurological conditions. 3rd ed. Elsevier Churchill Livingstone; 2011
- VanMeter KC, Hubert RJ. Gould's Pathophysiology for the health professions. 5th ed. St. Louis: Saunders Elsevier; 2014
- Widmaier EP, Raff H, Strang KT. Vander's Human Physiology: The Mechanisms of Body Function. 13th ed. Boston: McGraw-Hill; 2014

Contact person

- J.J. Bakker, MSc

Pathology 2

Description

In this *Basics* course, two main pathologies will be further studied: cardiopulmonary pathologies and orthopedic or trauma related pathologies. The course builds upon Pathology 1 and will now go deeper into pathologies related to very crucial organs such as our lungs and our heart. In the second part various orthopedic problems and surgeries will be discussed to give more insight into the rehabilitation of these patients.

Volume

- 2 credits

Topics

- Cardiac pathologies
- Pulmonary pathologies
- Orthopedic surgery
- Trauma

Learning goals

- Knowledge of cardiac pathologies, such myocardial infarction, valve problems and heart failure
- Knowledge of pulmonary pathologies, such as Asthma and COPD
- Knowledge of major international guidelines on rehabilitation
- Understanding of orthopedic surgical interventions

Teaching methods

- Lectures (2 hours per week)

Study hours

- Lectures
- Self-study
- Examination

Time frame

- Semester 3
 - Lectures in semester 3 week 1-7
 - Written exam in semester week 8
 - Retake in semester 4 week 1

Prerequisites

- None

Examination

- Written exam with multiple choice questions

Passing requirements

- Grade 5.5 or higher

Study material

- VanMeter KC, Hubert RJ. Gould's Pathophysiology for the health professions. 5th ed. St. Louis: Saunders Elsevier; 2014

Contact person

- B. Stocker, MSc
- J.J. Bakker, MSc

Physiology 3

Description

This *Basics* course is the third course of physiology, which will integrate the content of Physiology 1 and 2. This course will be about exercise physiology which will first be studied in aerobic, anaerobic and resistance training of healthy people. This course serves the student in his professional role as a healthcare worker and directly relates to all the Clinimetrics 3, in which various exercise tests will be performed as well as Physiotherapy Intervention in which the theoretical knowledge of the current course will be applied in practice.

Volume

- 3 credits

Topics

- Training principles
- Aerobic training effects
- Aerobic testing
- Aerobic training
- Anaerobic training, effects and testing
- Resistance training, effects and testing

Learning goals

- Knowledge of main training principles
- Knowledge of normal training effects
- Understanding of exercise physiology

Teaching methods

- Seminars (8 x 2 hours per week)
- Self-study

Study hours

- Lectures
- Assignments
- Preparation
- Examination

Time frame

- Semester 3: semester week 3-10
 - Seminars in semester week 3-10
 - Examination in week 10 and 16

Prerequisites

- None

Examination

- Written exam, split up into 3 parts with a combination of essay questions.

Study material

- Durstine JL, Moore EM, Painter PL, Scott OR. ACSM's Exercise Management for Persons With Chronic Diseases and Disabilities. 3rd ed. Champaign: Human Kinetics; 2009
- Kenney WL, Wilmore JH, Costill DL. Physiology of Sport and Exercise. 6th ed. Champaign, IL: Human Kinetics; 2015

Contact person

- B. Stocker, MSc

Physiotherapy Assessment 3

Description

During Assessment 3 the students have to integrate the different curriculum lines into assessment. During this semester Assessment 3, Intervention 3 and Clinical Reasoning 3 will be closely integrated in both lectures as exams. The basic concepts and structure of an assessment taught previously will now be transferred to patients with neurological problems as often seen in rehabilitation centers. Students will develop Neurological Assessment skills, and be exposed to protocols and International guidelines necessary for optimal patient care. And applied anatomy will be rehearsed, new content taught/practiced and examined. Students will learn how to perform neurological assessments of the physical conditions specific to this setting, first in class and also with neurological patients in clinical settings. Students are expected to be critical in the analysis of their own and their peer's performance.

Volume

- 4 credits

Topics

- Spinal Cord Injury
- M. Parkinson
- Stroke

Learning goals

By the end of this module the student:

- Is able to perform a neurological assessment on fellow students and clinical (neurological) patients
- Is able to argue transparently and convincing why he/she did what during assessment using available evidence, patient's values and own found assessment outcomes.
- Is able to demonstrate good assessment skills based on International guidelines
- Is able to demonstrate professionalism through communication, appearance and competence

Teaching Methods

- Lab classes
- Self-study

Time frame

- Semester 3 and 4: semester 3 week 1-10
 - Lab classes: semester 3 week 1-9 (2 hours per week)
 - Exam: semester 3 week 10
 - Retake: semester 4 week 1

Prerequisites

- None

Examination

- Case based practical exam, combined with Interventions 3; 50 min in total.

Passing requirements

- Active participation during all lab classes and a minimum attendance 75%.
- Grade 5,5 or above for the exam

Study Material

- Harvey L. Management of Spinal Cord Injuries: A Guide for Physiotherapists. London: Elsevier; 2008.
- Magee JD. Orthopedic physical assessment. 6th ed. Elsevier: W.B. Saunders; 2014.
- Shumway-Cook A, Woolacott MH. Motor Control; translating research into clinical practice. 5th ed. Lippincott Williams and Wilkins; 2016
- Stokes M, Stack E (editors). Physical management for neurological conditions. 3rd ed. Elsevier Churchill Livingstone; 2011

Contact person

- J.J. Voigt, MSc

Physiotherapy Interventions 3

Description

In this *Skills* course, relevant Physiotherapy Interventions will be transferred to patients with neurological problems as often seen in rehabilitation centers. Students will learn how to design, perform, evaluate and adjust (multi-disciplinary) intervention programs for patients seen in a rehabilitation center. Several different intervention skills will first be taught in lab class, based on international practical guidelines for (neurological) pathologies and then these skills will also be evaluated in several clinical sessions in rehab centers, theoretical and practical.

Volume

- 4 credits

Topics

- Spinal Cord Injury
- M. Parkinson
- Stroke

Learning goals

By the end of this module the student:

- Is able to demonstrate interventions specific the abovementioned pathologies
- Is able to plan, implement, evaluate and correct an exercise program specific (neurological and/or multidisciplinary) rehabilitation center-settings
- Is able to apply theories of Motor Control from Shumway-Cook during every intervention session in this semester, lab class and clinical session
- Is able to choose/apply appropriate intervention skills
- Is able to adjust mobility aids to an individual patient as well as instruct the correct use of this aid
- Is able to demonstrate professionalism through communication, appearance and competence
- Is able to evaluate and show appropriate feedback skills about performed intervention skills

Teaching Methods

- Lab classes
- Self-study

Time frame

- Semester 3 and 4: semester 3 week 1-10
 - Lab classes: semester 3 week 1-9 (2 hours per week)
 - Exam: semester 3 week 10
 - Retake: semester 4 week 1

Prerequisites

- None

Examination

- Case based practical exam, combined with Interventions 3; 50 min in total.

Passing requirements

- Active participation during all lab classes and a minimum attendance 75%.
- Grade 5,5 or above for the exam

Study Material

- Harvey L. Management of Spinal Cord Injuries: A Guide for Physiotherapists. London: Elsevier; 2008.
- Magee JD. Orthopedic physical assessment. 6th ed. Elsevier: W.B. Saunders; 2014.
- Shumway-Cook A, Woolacott MH. Motor Control; translating research into clinical practice. 5th ed. Lippincott Williams and Wilkins; 2016
- Stokes M, Stack E (editors). Physical management for neurological conditions. 3rd ed. Elsevier Churchill Livingstone; 2011

Contact person

- J.J. Voigt, MSc

Semester 4

The central theme of the second semester is the “Complex patient”. In most courses, patients with either multiple (complex) pathologies or complex care pathways are used as cases. It allows the student to get a clear idea about the role of a physiotherapist as health care worker and give the student a broad view on the profession, from a multi professional perspective. On the next pages, the different courses of the fourth semester are listed and explained in alphabetical order

Anatomy 3

Description

At the completion of this course, the student should possess all the anatomical knowledge a physiotherapist needs. It will build upon previous Anatomy courses and will make sure the student will understand the special anatomy of different structures and also give an insight into real anatomy by having dissection room lab classes. It obviously relates directly to all Applied Anatomy and other Skills courses.

Volume

- 1 credit

Topics

- Special anatomy of head, neck and trunk
- Special anatomy
- Imaging techniques
- Anatomical dissection

Learning goals

- Knowledge of international anatomical terminology (Nomina Anatomica)
- Knowledge of different imaging techniques
- Experience real anatomy in dissection room lab classes.
- Understand the difference between real anatomy and textbook anatomy

Teaching methods

- Lectures (3 hours per week)
- Dissection room practical lab (3 hours per week)

Study hours

- Lectures
- Lab classes
- Assignments
- Preparation

Time frame

- Semester 4 week 1-6
 - Lectures and lab classes in week 1-6
 - Deadline in week 6

Prerequisites

- Sufficient knowledge of previous Anatomy courses
- Sufficient knowledge of previous Applied Anatomy courses

Examination

- Report, based on assignments in lectures and lab classes

Study material

- Neumann DA. Kinesiology of the musculoskeletal system. Foundations for Physical Rehabilitation. 3rd ed. St. Louis, Missouri: Mosby; 2016
- Schuenke M, Schulte E, Schumacher U. Thieme atlas of anatomy. Stuttgart - New York: Thieme; 2006

Contact information

- B. Stocker, MSc

Case Study 4

Description

The case study classes will be used to apply physiotherapeutic skills such as psychomotor, cognitive, interactive and reactive skills. This is practiced through the method of discussing specific paper cases of patients residing in a nursing home with multi morbidities and complex pathologies. During practice students will be asked to reflect on their actions with the aim to promote self-insight (reflection in action) and will receive feedback on the skills demonstrated. In some cases, the lecturer will present the correct manner of conducting diagnostics, interventions and setting treatment goals. During Case Study 4 the integration with other curriculum lines, especially Assessment 4 and Interventions 4 will be continued content wise and will result in an integrated exam at the end of the semester where assessment, intervention and clinical reasoning will be assessed.

Volume

- 1 credit

Topics

Practical application of principles, methods and concepts of clinical reasoning in practice, based on the following cases:

- Geriatrics; the elderly patient
- Multiple Pathology; osteoarthritis and pain • Osteoporosis and balance/ visual/ hearing problems
- Stroke and muscular atrophy
- Dementia and unexpected hospital admission
- Diabetes Mellitus, amputation and pain
- Parkinson's disease and social isolation
- Alzheimer, MMSE, nutrition and dehydration

Learning goals

- Integration of knowledge, attitude and skills
- Be able to apply concepts of clinical reasoning in a case study
- Be able to use Evidence based practice in a case study
- Organize information according to the ICF by using the RPS form
- Knowledge of ITE for clinical reasoning within physiotherapy practice
- Use of ITE-form in clinical reasoning
- Generate hypothesis based on relation of signs and symptoms and diagnosis
- Application of HOAC II in clinical reasoning
- Use of guidelines in clinical reasoning

Teaching methods and study hours

- Lab classes (2 hours once per week, with lecturer)
- Self-study

Time frame

- Semester week 1-7: weekly seminar (2 hours per class, with lecturer)
 - Exam in semester week 8
 - Retake: in semester week 1 or 2 in next academic year

Study material

- Shumway-Cook A, Woolacott MH. Motor Control; translating research into clinical practice. 5th ed. Lippincott Williams and Wilkins; 2016

Examination

The examination consists of:

- Active participation and contributions to classroom discussions
- Minimum attendance 75% of classes
- Practical exam, combined with Interventions 4 and Case Study 4, in total 60 minutes per student
- The retake will be conducted once in the end of the course and consists of a practical case based exam.

Passing requirements

- Active Participation
- Minimum attendance 75% of classes
- Minimum grade of 5.5 for the practical exam

Contact person

- Miriam Wijbenga, PT, MSc

Clinical Internship 3

See: Chapter “Internships” for full description and internship comparison tables

Clinical Sessions 2

See: Semester 3 for full description

Clinimetrics 4

Description

This course is a continuation of Clinimetrics 1, 2 and 3. Students will learn how to use these measurement tools during according to standard operation procedures. The final aim is to apply all tools learned before in a nursing home with elderly people. The visit to the nursing home is the final project of the entire line of Clinimetrics courses.

Volume

- 1 credit

Topics

- Standard Operating Procedures (SOP)

Learning goals

By the end of this module students are able to:

- Apply all skills and knowledge of previous Clinimetrics courses in a clinical setting (Nursing home) with elderly people
- Analyze the quality (according COSMIN) of the measurements done
- Write a report on the measurement outcomes from the test battery done at nursing home

Teaching Methods

- Lab classes (3 x 4 hours)
- Measurement session at nursing home (4 hours)
- Self-study

Time frame

- Semester 4: semester week 1-6
 - Practical class: semester week 3, 4, 5
 - Measurement session: semester week 7

Prerequisites

- Active participation during all Clinimetrics 4 lab classes
- Attendance at measurement session in nursing home is mandatory
- Minimum attendance 75% of lab classes at school

Examination

- Report, with deadline according to course manual.

Passing requirements

- Grade 5.5 or higher for the report

Contact person

- J.J. Voigt, MSc

Elective Credits 3

See: Elective Credits 1 (Semester 1) for full description

Ethics

Description

The everyday work of physiotherapists involves decisions and actions which have wide-ranging implications for the welfare, dignity and independence of their patients. These are fundamentally moral issues. Additionally, in order to explore the conceptual and philosophical foundations of physiotherapy one has to analyze the moral basis of professional practice. Meanwhile, there has been a call for a greater focus on medical ethics within health care. Therefore, it is important that students have insight in the fundamental concepts and principles of ethics. It is also important to gain insight in one's own ethical attitude.

Volume

- 1 credit

Topics

- Fundamentals of moral-decision-making
- Moral decision-making in a physiotherapy context
- Codes of conduct in the physiotherapy profession
- Patient autonomy and the ethics of responsibility
- Case studies

Learning goals

- Knowledge of the different schools of ethics
- Knowledge of the legal and professional rules in the Netherlands and in your home country
- Understanding the implication of your own moral standard for your work as physiotherapist
- Understanding of the implication of patient autonomy for your work as physiotherapist

Teaching methods

- Lectures
- Self study

Time frame

- Semester 4: semester week 11-15
 - Lectures in semester weeks 11-4
 - Examination in semester week 15
 - Retake in week 0 of next academic year

Prerequisites

- An open mind
- Willingness to discuss ethical issues in an open and respectful way

Examination

- Written exam

Study material

Course manual with

- Reading references
- Assignments
- Test exam

Contact person

- Drs. M.J.L. Hermans

Evidence Based Practice 4

Description

The course is the final course of Evidence Based Practice. In this course students will learn to develop their own research and how to write and present the results of their own research experiment. This course serves the student in his professional role as a profession developer and relates to all courses, but especially to clinical reasoning. In this course students will learn:

- Organize their own research
- To write their own research paper and present their own research
- How to systematically search and report results
- How to collaborate in a group for scientific writing
- To be independent in statistical analysis

Volume

- 5 credits

Topics

- Methodology for RCT evaluation
- Statistics SPSS (T-test, ANOVA, Repeated measures, Correlation)
- Writing the research paper
- Run the research

Learning goals

- Collaboration in scientific writing
- Understanding of relevance of evidence
- Knowledge of statistics, basic concepts like specificity/sensitivity, assessment of scientific literature
- How to formulate research questions and PICOT variables
- Knowledge to search for scientific research
- Understanding of relevance in daily practice

Teaching methods

- Seminars (1 x 1 hr)
- Seminars/coaching project plan (4 x 1 hr)

Study hours

- Seminars 2 x 1= 2 hr
- Assignments 30 hr
- Preparation 23 hr

Time frame

- Semester 4: week 1-10
 - seminars in semester week 1 and 4
 - group work on research paper 1-7
 - presentation week 10

Prerequisites

- Successful completion of EBP1, 2 and 3 are required

Examination

- Research paper (70%)
- Presentation (30%)

Passing requirements

- A 5.5 of above for each of the items above
- The final grade is the average of the 2 exams according to the percentages listed above

Study material

- Thomas JR, Nelson JK, Silverman SJ. Research methods in physical activity. 7th ed. Champaign: Human Kinetics; 2015

Contact information

- B. Stocker, MSc

Pharmacology

Description

Many clients of the physiotherapist use drugs: medications prescribed by a doctor, over-the-counter preparations for minor ailments, or addictive substances. These drugs, alone or in combination, may have a profound impact upon a person's health status and physical performance. That is why basic knowledge of pharmacology is important for a physiotherapist – just as important as knowledge of pathophysiology.

Volume

- 2 credits

Topics

- Basic biochemistry
- Principles of pharmacology: drug administration, pharmacokinetics, pharmacodynamics
- Drugs affecting the autonomic nervous system: sympathomimetics, anti-adrenergics, cholinomimetics, cholinergic antagonists, neuromuscular blockers
- Drugs affecting the central nervous system: antidepressants, antipsychotics, anti-parkinson drugs, analgesics, sedatives
- Cardiovascular drugs: heart failure drugs, antihypertensives, anti-anginal agents, lipid-lowering agents
- Hematology drugs: anticoagulants, antiplatelet agents, thrombolytics
- Respiratory drugs: bronchodilators, antiinflammatory agents

Learning goals

- The student understands the principles of pharmacokinetics and pharmacodynamics, including the mechanisms of drug interactions and the development of tolerance, dependence and withdrawal
- The student understands the rationale of dosing regimens and routes of drug administration
- The student has knowledge of the main categories of drugs that may impact upon the client's motor performance, mental status, exercise tolerance, and/or safety. Given the client's medication, the student is able to:
 - express a hypothesis regarding the client's medical condition(s)
 - predict the wanted and unwanted effects of this medication, to be verified in anamnesis and assessment
 - correctly interpret data from anamnesis and assessment
 - draw an appropriate and effective treatment plan
 - anticipate peculiarities in physical performance, behaviour or communication in the therapeutic process

Study hours

- Lectures (5 x 2) = 10 hrs
- Self-study = 44 hrs
- Exam = 2 hrs
- Total =56 hrs

Time frame

- Semester 4 week 1-7:
 - Lectures in calendar weeks 1-5
 - Examination in calendar week 7
 - Retake in week 0 of next academic year

Prerequisites

- Having attended all previous Neurology and Pathology courses

Examination

- Written exam, with ± 10 short answer questions (sample questions will be provided in the course of the module)
- Retake according to schedule
- Evaluation after publication of results

Study material

- Olson JM. Clinical pharmacology made ridiculously simple. 4th ed. Miami: MedMaster; 2011

Contact person

- J.J. Bakker, MSc

Physiology 4

Description

The course is the last course of Physiology, which will integrate the content of Physiology 1, 2 and 3. This course will be about exercise physiology and rehabilitation of cardiac and pulmonary patients.

Volume

- 2 credits

Topics

- Cardiac pathologies
- Pulmonary pathologies
- Training and testing in cardiac rehabilitation
- Training and testing in pulmonary rehabilitation

Learning goals

- Knowledge of main training principles
- Knowledge of normal training effects
- Understanding of exercise physiology in cardiac and pulmonary patients
- Understand the role of physiology in rehabilitation

Teaching methods

- Lectures (2 hours per week)
- Theory classes (3 hours per week)
- Labs

Study hours

- Lectures
- Assignments
- Preparation
- Examination

Time frame

- Semester 4: semester week 1-10
 - Lectures and classes in semester week 1-8
 - Examination in week 1-8
 - Retake in week 10

Prerequisites

- None

Examination

- Written exam with short answer questions divided in three parts

Study material

- Durstine JL, Moore EM, Painter PL, Scott OR. ACSM's Exercise Management for Persons With Chronic Diseases and Disabilities. 3rd ed. Champaign: Human Kinetics; 2009
- Kenney WL, Wilmore JH, Costill DL. Physiology of Sport and Exercise. 6th ed. Champaign, IL: Human Kinetics; 2015

Contact person

- B. Moed, MSc

Physiotherapy Assessment 4

Description

During Assessment 4 the integration with other curriculum lines especially; Intervention 4 and Clinical Reasoning 4 will be continued, content wise and resulting in an integrated exam. In assessment 4 the focus will be how to gather information or assessment all necessary things to find treatable items. "Complex patients" are mainly used in the cases that are used, often these are weak elderly patients or elderly with different (multiple) pathologies and patients often seen in a nursing or elderly home.

Volume

- 3 credits

Topics

- Elderly
- Training versus re-activating low level patients
- Multiple Pathologies in different combinations (e.g. Osteoporosis, Social Isolation, Dementia, Alzheimer, Nutrition, Dehydration, Amputation, Diabetes Mellitus, Balance/Visual/Hearing problems)
- Multi-Disciplinary Meetings

Learning goals

By the end of this module students are able to:

- find treatable items (assessment).
- use methods like Good Clinical Practice and Evidence Based Practice.
- choose a tailored fit assessment specific to one low level or multiple pathology patient

Teaching methods

- Practical classes (4 hours per week)
- Self-study

Time frame

- Semester 4: semester 4 week 1-9
 - Lab classes: 1-8
 - Practical exam, combined with Interventions 4 and Case Study 4, in semester week 9
 - Retake in semester week 10

Study material

- Shumway-Cook A, Woolacott MH. Motor Control; translating research into clinical practice. 5th ed. Lippincott Williams and Wilkins; 2016
- Butler DS, Moseley GL. Explain Pain. Orthopedic Physical Therapy Products; 2003

Examination

- Practical exam, combined with Interventions 4 and Case Study 4, in total 60 minutes per student

Passing requirements

- Active preparation and participation of all practical classes.
- A minimal attendance of 75% of the practical classes.
- Grade 5.5 or higher for the exam

Contact person

- J.J. Voigt, MSc

Physiotherapy Interventions 4

Description

During Interventions 4 the integration with other curriculum lines, especially Assessment 4 and Clinical Reasoning 4 will be continued, content wise and results in an integrated exam. In the “standard” interventions classes, short-term and long-term treatment plans need to be developed and carried out. “Complex patients” are mainly used in the cases that are used, often these are weak elderly patients or elderly with different (multiple) pathologies and patients often seen in a nursing or elderly home. Besides this integrated program, also hands-on “Arthrokinematics” classes will be taught for improving the manual skills.

Volume

- 3 credits

Topics

- Elderly
- Training versus re-activating low level patients
- Intervention programs for Multiple Pathologies in different combinations (e.g. Osteoporosis, Social Isolation, Dementia, Alzheimer, Nutrition, Dehydration, Amputation, Diabetes Mellitus, Balance/Visual/Hearing problems)
- Multi-Disciplinary Meetings
- Arthrokinematics

Learning goals

By the end of this module students are able to:

- make tailored-fit intervention programs for low level and/or complex (multiple pathologies) patients.
- use methods like Good Clinical Practice and Evidence Based Practice.
- show good manual skills based on received arthrokinematics-program

Teaching methods

- Lab classes (2 hours per week) on “Exercise
- Lab classes (3 hours per week) on Arthrokinematics
- Self-study

Time frame

- Interventions 4 ‘Exercise’ in semester 4 week 1-9
 - Lab classes: 1-8
 - Practical exam, combined with Interventions 4 and Case Study 4, in semester week 9
 - Retake in semester week 10
- Interventions 4 ‘Arthrokinematics’ in semester 4 week 1-8
 - Lab classes: 1-6
 - Practical exam in semester week 7
 - Retake in semester week 8

Study material

- Shumway-Cook A, Woolacott MH. Motor Control; translating research into clinical practice. 5th ed. Lippincott Williams and Wilkins; 2016
- Butler DS, Moseley GL. Explain Pain. Orthopedic Physical Therapy Products; 2003
- Brody L T, Hall C M. Therapeutic exercise; moving toward function. 3th ed. Lippincott Williams & Wilkins; 2011.

Examination

- The examination of the whole course consists of two parts
 - Practical exam, combined with Interventions 4 and Case Study 4, in total 60 minutes per student (50%)
 - Practical exam of “Arthrokinematics” (50%)

Passing requirements

- Active preparation and participation of all practical classes.
- A minimal attendance of 75% of the practical classes.
- Grade 5.5 or higher for both parts
- Final grade will be calculated according to the percentages listed above

Contact person

- J.J. Voigt, MSc

Professional Assignment Project 1

See chapter: Professional Assignment Project

Psychology 2

Description

This course consists of two parts:

1. Psychopathology
Students need knowledge of the most common psychopathologies seen in physiotherapy practice; depression, anxiety disorders, personality disorders, psychosomatic disorders and somatoform disorders.
2. Counselling
At the completion of this course the students must be able to integrate Cognitive-Behavioral Therapy in physiotherapy practices. Cognitive-Behavioral Therapy has proven efficacy in the management of mental health problems such as anxiety and depression. It is also effective in the mediation of pain and in aiding interventions with people with chronic conditions such as chronic pain, fibromyalgia and chronic fatigue syndrome. It is a powerful tool which can be integrated as part of physiotherapy interventions. This course will serve the student in his professional role as a healthcare worker and directly relates to all the skills courses, Physiotherapy Assessment, Interventions and Clinimetrics.

Volume

- 2 credits

Topics

- Psychopathology
- Counseling
- Cognitive-Behavioral Counseling
- The application of Cognitive-Behavioral Interventions

Learning goals

- Knowledge of the most common psychopathologies
- Knowledge of the biomedical links between cognition and behavior.
- Knowledge and understanding of counseling and the benefits of counseling for the physiotherapy practice.
- Ability to apply basic counseling skills

Teaching methods

- Lectures about psychopathology
- Lab classes about counseling(2x2 hours per week)

Study hours

- Lectures
- Lab classes
- Assignments
- Preparation
- Examination

Time frame

- Semester 4: week 1-6
 - Lectures and seminars in week 1-5
 - Examination in semester week 6
 - Retake in semester week 14

Prerequisites

- Sufficient knowledge of Psychology 1, the communication skills and the ACT workshop in semester 1.

Examination

- Written exam

Study material

- Psychopathology part:
Will be announced /provided by lecturer
- Counseling part:
Donaghy M, Nicol M. & Davidson K. Cognitive-Behavioural Interventions in Physiotherapy and Occupational Therapy. Elsevier Ltd; 2008

Contact person

- Drs. M.J.L. Hermans

Summer 2

In the second summer, only online courses are offered, allowing students to be flexible with their time and place. After this summer, the student must have all basic knowledge and skills to move into the final year. The student should then be ready to act as a professional, both academically (in professional assignment project) and clinically (in final internship)

Concepts in Clinical Reasoning 3

Description

The content of the course on Concepts in Clinical Reasoning 3 (CCR3) will be addressed in an online summer course. In this course different models that exist on clinical reasoning are applied to (written) patient cases with multiple and/or complex pathologies. Reasoning behind choices for certain diagnostic tests and physiotherapeutic interventions as well as setting up treatment goals will be discussed with the aid of different models of clinical reasoning. During the course you are expected to work out the diagnostic and therapeutic process of an individual patient case and motivate the choices you made, based on evidence-based practice. This will have to be presented in the final assignment of the online part.

Students will also learn how to apply the Hypothesis-Oriented Algorithm for Clinicians II (HOAC II). The HOAC II requires the therapist to develop an evidence-based strategy for the examination that is based on initial hypotheses developed from the medical history and other data obtained prior to the examination. The physiotherapeutic examination is tailored to identify and quantify activity limitations and participation restrictions that could help to explain why a patient has a certain health problem. Also, practical use of clinical guidelines is part of the course. Clinical guidelines are of main importance in the clinical reasoning process. The ITE form will be further discussed in constructing an exercise treatment in the rehabilitation setting.

Volume

- 3 credits

Topics

- Geriatrics (elderly patients)
- Complex care in multiple pathologies / comorbidities
- Neurological patients (Spinal Cord Injury, Parkinson's Disease, Stroke, MS)

Learning goals

- ICF, RPS and ITE-models
- Hypothetico-deductive reasoning
- Use of guidelines in clinical reasoning learning goals
- Knowledge of theory and application of Hypothesis-Oriented Algorithm for Clinicians (HOAC II)
- Knowledge of ITE applied to clinical reasoning within physiotherapy practice
- Use of ITE-form in clinical reasoning
- Organizing information according to the ICF by using the RPS and ITE form
- Use of guidelines in clinical reasoning

Teaching methods

- Online seminars, (practical) assignments, video lectures, discussion board, self-study

Time frame

- 8 weeks of online activities, deadline assignment in week 9. Retake is done in the first semester week of the next academic year.

Study material

- Harvey L. Management of Spinal Cord Injuries: A Guide for Physiotherapists. London: Elsevier; 2008.
- Shumway-Cook A, Woolacott MH. Motor Control; translating research into clinical practice. 5th ed. Lippincott Williams and Wilkins; 2016

Examination

- Online assignments as part of the course
- Written case based exam (theory)

Passing requirements

- Completion of all assignments during the online course with sufficient individual results (PASS)
- Minimum grade of 5.5 for the theory exam
- *Retake*: The theoretical retake will be conducted once in week 1 or 2 of the next academic year

Contact person

- Miriam Wijbenga, PT, MSc

Elective Credits 4

See: Elective Credits 1 (Semester 1) for full description

Physiotherapy in the Intensive Care

Description

An introduction to the specialist field of evidence based physiotherapy in the intensive care unit (ICU), is taught during this course. The course content is offered through an e-learning module, which is to be completed during summer of the second year of study.

Volume

- 2 credits

Topics

- Introduction to the ICU environment
- Common pathologies, medication and underlying physiology
- Screening and safety criteria
- Physiotherapeutic assessment
- Physiotherapeutic intervention
- Introduction to early mobilization
- Long-term complications of ICU admission
- Post-operative pulmonary complications
- Multidisciplinary collaboration and SOAP notes

Learning goals

- The student has knowledge of common pathologies in ICU, medications used and physiological underpinnings of the critically ill patient
- The student gets insight in safety criteria in the intensive care setting and can determine and justify a GO or NO GO for physiotherapy.
- The student has understanding of the place and content of physiotherapeutic screening and assessment within the ICU.
- The student has insight in evidence based physiotherapeutic interventions in the intensive care unit for both conscious and unconscious patients.
- The student applies clinical reasoning skills within the complex environment of the ICU patient.
- The student understands the importance of multidisciplinary collaboration with regards to the ICU patient.

Teaching methods

- E-learning module and (web)lecture(s)
- Written exam

Study hours

- E-learning module: 40 hours
- Exam preparation: 14 hours
- Written exam 100 minutes

Time frame

- E-learning module in summer at the end of year 2
- Written exam in calendar week 35

Prerequisites

- Internship 1 completed, subjects from foundation year completed

Examination

- Written exam at school

Passing requirements

- Passing the e-learning module: written exam with multiple choice questions
- Grade of 5.5 or higher for the written exam

Study material

- VanMeter KC, Hubert RJ. Gould's Pathophysiology for the health professions. 5th ed. St. Louis: Saunders Elsevier; 2014
- Kenney WL, Wilmore JH, Costill DL. Physiology of Sport and Exercise. 6th ed. Champaign, IL: Human Kinetics; 2015
- Widmaier EP, Raff H, Strang KT. Vander's Human Physiology: The Mechanisms of Body Function. 13th ed. Boston: McGraw-Hill; 2014
- Paz JC, West MP. Acute care handbook for physical therapists. : Elsevier Health Sciences; 2013.
- A variety of scientific articles included in the e-learning module

Contact person

- Mel Major, MSc

Note: Course Descriptions of SM5 until SM6 will be published here from August 2020. Until then, please refer to the course descriptions of class 2020 for more information

Special courses

Some of the ESP courses are not limited to one semester or are actually one “package” with other courses. For that reason, the following course descriptions are included in this separate chapter, and the course manuals on intranet can also be found in a separate folder for a better overview.

Courses

- Elective Credits
- Clinical Internships
- Multi Professional Healthcare
- Professional Assignment Project

Elective Credits

Description

Students are expected to individualise their degree programme by means of the minor, internships, thesis and Elective Credits (EC). The Elective Credits are meant as a way of offering students extra freedom in making choices for specialisation in the broad field of physiotherapy. It is a chance to add extra courses, fieldwork or other experience/skills to your professional CV. As the elective credits allow for very flexible use, the description below includes all semesters and the requirements per semester are identical.

Credit load

- 10 credits.

Learning goal

- The goal of the Elective Credits (EC) is to make possible a start for each student to individualize her/his study program. All EC must therefore contribute to the core of the physiotherapy and be on Bachelor of Science level.
- Individual learning goals vary per student and per elective course

Timeframe

- Elective Credits 1: Semester 1 (2 credits).
- Elective Credits 2: Semester 2 (2 credits).
- Elective Credits 3: Semester 4 (1 credit).
- Elective Credits 4: Summer 2 (5 credits).

Prerequisites and criteria

- Dutch Bachelor level
- No subjects that are in standard ESP curriculum.
- It must be possible to validate whether the activities have actually taken place.
- A minimum of 28 working hours spent per credit.
- Within the total number of EC there must be enough variety (3 separate subjects), including at least "Community work" and "Basic Life Support".
- A reflection report must be made, including all necessary addresses, phone numbers, etc. (max. 2 A4 + appendices).

Note: The calculation of credits is not simple mathematics. Especially if what the student is claiming is job-related we will estimate how many credits are involved in the learning activities. 'Routine hours' are not rewarded with credits.

Elective credit examples

- Class representative (entire year).
- ESP programme education development activities (such as OC committee).
- Student-assistant/peer tutor.
- Paramedical assistant of a sport's team (in Dutch: "verzorger").
- Educational/PR activities in introduction week, on open days, student marketing, etc.
- Working in health care, such as home care ("thuiszorg").
- Language courses related to your internship career (such as Dutch courses).
- First aid (with diploma), or paramedic service Germany.
- Special activities with the physically or mentally challenged.
- Economical management courses related to setting up your own practice (entrepreneurship, business management).
- All AUAS and other university courses related to your PT career, such as: hydrotherapy, special massage, shiatsu, TCM, acupuncture, taping, prosthetics, etc.

Examination

- The requested Elective Credits are awarded if the following conditions are met:
 - All general criteria for Elective Credits are met.
 - Request, reflection report and proof are submitted before deadline.
 - Individual reflection report shows:
 - Proof that you are able to reason out loud (reflect) on how the activity contributes to your career in PT.
 - Dutch bachelor level.
 - A clear specification of hours, together with contact info and proof.

Contact person

- S. Thomas, MSc