

SUBJECT OUTLINE



Subject Name:

Exercise Therapy and Rehabilitation

Subject Code:

MSTE311

SECTION 1 – GENERAL INFORMATION

Award/s:

Bachelor of Health Science (Myotherapy)

Total course credit points:

96

Level:

3rd Year

Duration:

1 Semester

Subject Coordinator: Brent Cunningham (Brisbane campus)

Subject is: Core

Subject Credit Points: 4

Student Workload:

No. timetabled hours per week:

6

No. personal study hours per week:

4

Total hours per week:

10

Delivery Mode:

Face to face

2 x 3 hours practical

Intensive Delivery

Details:

Summer School - contact hours are delivered over 4 weeks with 3 x 6 hour days delivered per week.

Assessment: Mid-Semester and Final Practical assessments for the Summer School are completed in additional sessions in weeks 3 & 4 of the intensive.

Mid-Semester quiz conducted in additional session at the end of Week 2.

Full Time

Part Time

Pre-requisites: MSTT223, MSTT224

Co-requisites: MSTS221

SECTION 2 – ACADEMIC DETAILS

Subject Rationale

On the completion of this subject students will be able to develop rehabilitation plans that encompass a broad range of rehabilitation protocols designed to improve proprioception and prescribe the safe strengthening of musculature effected by injuries caused by misuse, underuse and overuse. These exercises will address the client's ability to maintain form and balance, coordination, flexibility, mobility, muscle performance, neuromuscular control, postural control and cardiopulmonary fitness.

Learning Outcomes

1. Design appropriate exercise therapy interventions for conditions of the upper and lower body.
2. Implement appropriate exercise therapy interventions for conditions of the upper and lower body.
3. Develop a prognosis and plan of care based on stabilisation and strength training.
4. Compare and contrast various exercise therapy programs for relevance and suitability to the client's needs.
5. Modify and improve exercise therapy outcomes in relation to patient needs and abilities.
6. Assess client needs and design injury prevention and rehabilitation plans based on relevant case studies.

Assessment Tasks				
Type	Learning Outcomes Assessed	Session Content Delivered	Due	Weighting
Attendance (80% attendance is required)	N/A	1-25	Sessions 1-25	Pass/Fail
Mid-semester Practical Exam (30 mins)	1-6	1-14	Session 15	30%
Final Practical Assessment (30 mins)	1-6	1-24	Session 26	40%
Final Written Exam (2 hours)	1,3-6	1-25	Final Exam Period	30%

Prescribed readings:

1. Kisner, C., & Colby, L. A. (2012). *Therapeutic exercise: Foundations and techniques* (6th ed.). Philadelphia, PA: F. A. Davis Company. [ebook available]
2. Sahrman, S. A. (2002). *Diagnosis and treatment of movement impairment syndromes*. St. Louis, MO: Mosby.

Recommended readings:

1. Boyle, M., Verstegen, M., & Cosgrove, A. (2015). *Advances in functional training: training techniques for coaches, personal trainers and athletes*. Santa Cruz, CA: On Target Publications.
2. Chaitow, L., Gilbert, C., Bradley, D., & Chaitow, L. (2014). *Recognizing and treating breathing disorders: a multidisciplinary approach*. Edinburgh: Churchill Livingstone.
3. Comerford, M., & Mottram, S. (2013). *Kinetic control: the management of uncontrolled movement*. Chatswood: Elsevier Australia.
4. Cook, G., Burton, L., Kiesel, K., Bryant, M., & Torine, J. (2015). *Movement: functional movement systems: screening, assessment, and corrective strategies*. Aptos, CA: On Target Publications.
5. Houglum, P. A. (2016). *Therapeutic exercise for musculoskeletal injuries*. Champaign, IL: Human Kinetics.
6. Neumann, D. A. (2010). *Kinesiology of the musculoskeletal system: Foundations for rehabilitation* (2nd ed.). St. Louis, MO: Mosby Elsevier.
7. Sahrman, S. A. (Ed.). (2011). *Movement system impairment syndromes of the extremities, cervical and thoracic spines*. St. Louis, MO: Elsevier Mosby. [ebook available]
8. Shumway-Cook, A., & Woollacott, M. H. (2012). *Motor control: translating research into clinical practice*. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins.

Subject Content	
Week	Practical
1.	Session 1 Subject introduction – assessment, topics to be covered during semester Foundational Concepts <ul style="list-style-type: none"> • Therapeutic exercise: Impact on physical function • Patient management and clinical decision-making • What is motor control, motor control vs. strengthening, clinical application of motor control • Strategies for effective exercise and task-specific instruction

	<p>Session 2</p> <p>Range of Motion</p> <ul style="list-style-type: none"> • Indications and goals for range of motion techniques <p>Stretching for Impaired Mobility</p> <ul style="list-style-type: none"> • Indications, contraindications and potential outcomes of stretching exercises <p>Diaphragmatic breathing</p> <ul style="list-style-type: none"> • Re-training diaphragmatic breathing • Diaphragmatic breathing exercises and clinical application <p>Neurodevelopmental rolling patterns</p> <ul style="list-style-type: none"> • Clinical application of neurodevelopmental rolling patterns • Progressions and regressions of rolling exercises
2.	<p>Session 3</p> <p>General Principles of Resistance Training</p> <ul style="list-style-type: none"> • Muscle performance and resistance exercise • Skeletal muscle function and adaptation to resistance exercise • Determinants to resistance exercise • Types of resistance exercise • General principles of resistance exercise • Precautions and contraindications for resistance exercise • Clinical application of program design for resistance training • Clinical application of program design for motor control
	<p>Session 4</p> <p>Resistance Exercise for Impaired Muscle Performance</p> <ul style="list-style-type: none"> • Manual resistance exercise • Proprioceptive neuromuscular facilitation • Equipment for resistance training • Application in rehabilitation programs • Resistance training programs
3.	<p>Session 5</p> <p>Principles of Aerobic Exercise</p> <ul style="list-style-type: none"> • Key terms and concepts • Energy systems, energy expenditure and efficiency • Physiological response to aerobic exercise • Testing as a base for exercise programs • Determinants of an exercise program • Exercise programming • Physiological changes that occur with training • Practical applications
	<p>Session 6</p> <p>Exercise for Impaired Balance</p> <ul style="list-style-type: none"> • Background and concepts • Physiology of impaired balance • Management of impaired balance • Balance exercises – progressions and regressions
4.	<p>Session 7</p> <p>The Spine: Management and Motor Control Guidelines</p>

	<ul style="list-style-type: none"> • Management of lower thoracic and lumbopelvic region • Management of cervical and upper thoracic region • Motor control exercises for the spine
	<p>Session 8</p> <p>The Spine: Resistance Exercise Interventions</p> <ul style="list-style-type: none"> • Basic concepts • Functional activities • Resistance exercise progressions and regressions for the spine
5.	<p>Session 9</p> <p>The Shoulder</p> <ul style="list-style-type: none"> • Exercise interventions for the shoulder girdle – Motor Control and Resistance Exercises
	<p>Session 10</p> <p>The Elbow and Forearm</p> <ul style="list-style-type: none"> • Exercise interventions for the elbow and forearm <p>The Wrist and Hand</p> <ul style="list-style-type: none"> • Exercise interventions for the wrist and hand
6.	<p>Session 11</p> <p>The Hip</p> <ul style="list-style-type: none"> • Exercise interventions for the hip – Motor Control and Resistance Exercises
	<p>Session 12</p> <p>The Knee</p> <ul style="list-style-type: none"> • Exercise interventions for the knee – Motor Control and Resistance Exercises
7.	<p>Session 13</p> <p>The Ankle and Foot</p> <ul style="list-style-type: none"> • Exercise interventions for the ankle and foot – Motor Control and Resistance Exercises
	<p>Session 14</p> <p>Advanced Functional Training</p> <ul style="list-style-type: none"> • Integrated exercises for stability and balance • Integrated exercises for strength and power
	<p>NON-TEACHING WEEK</p> <p>Semester 1 - This aligns with the week after Easter so it may fall between weeks 6 to 8.</p> <p>Semester 2 - The break week falls between Weeks 7 and 8.</p>
8.	<p>Session 15</p> <p>Mid-Semester Practical Exam</p>
	<p>Session 16</p> <p>Women's Health: Obstetrics and Pelvic Floor</p> <ul style="list-style-type: none"> • Pregnancy and labour • Pelvic floor anatomy and biomechanics • Pregnancy induced pathology • Exercise for the uncomplicated pregnancy and post-partum • Management and rehabilitation
9.	<p>Session 17</p> <p>Gerontological Health</p> <ul style="list-style-type: none"> • The aging process • Resistance training for the older adult

	<ul style="list-style-type: none"> • Osteoporosis • Arthritis • Diabetes • Falls prevention • Contraindications and cautions
	<p>Session 18</p> <p>Introduction to Movement Impairment Syndromes</p> <p>Movement Impairment Syndromes of the Lumbar Spine</p> <ul style="list-style-type: none"> • Lumbar flexion syndrome • Lumbar rotation syndrome • Lumbar rotation and extension syndrome • Lumbar rotation and flexion syndrome
10.	<p>Session 19</p> <p>Movement Impairment Syndromes of the Hip</p> <ul style="list-style-type: none"> • Femoral anterior glide syndrome • Hip adduction without medial rotation • Hip adduction with medial rotation • Femoral lateral glide syndrome • Hip extension with knee extension • Hip extension with medial rotation • Femoral hypomobility syndrome with superior glide • Femoral accessory hypermobility syndrome
	<p>Session 20</p> <p>Movement Impairment Syndromes of the Shoulder</p> <ul style="list-style-type: none"> • Scapular downwards rotation syndrome • Scapular depression • Scapular abduction syndrome
11.	<p>Session 21</p> <p>Movement Impairment Syndromes of the Shoulder</p> <ul style="list-style-type: none"> • Scapular winging and tilting syndrome • Humeral anterior glide syndrome • Humeral superior glide syndrome • Shoulder medial rotation syndrome • Glenohumeral hypomobility syndrome
	<p>Session 22</p> <p>Movement Impairment Syndromes of the Cervical Spine</p> <ul style="list-style-type: none"> • Cervical flexion-rotation syndrome • Cervical flexion syndrome • Cervical extension-rotation syndrome • Cervical extension syndrome
12.	<p>Session 23</p> <p>Movement Impairment Syndromes of the Thoracic Spine</p> <ul style="list-style-type: none"> • Thoracic rotation-flexion syndrome • Thoracic flexion syndrome • Thoracic extension syndrome • Thoracic rotation-extension syndrome

	Movement Impairment Syndromes of the Elbow, Hand and Wrist Session 24 Movement Impairment Syndromes of the Knee <ul style="list-style-type: none"> • Tibiofemoral rotation syndrome • Tibiofemoral hypomobility syndrome • Knee extension syndrome • Patellar lateral glide syndrome Movement Impairment Syndromes of the Ankle and Foot <ul style="list-style-type: none"> • Pronation syndrome • Supination syndrome • Insufficient dorsiflexion syndrome
13.	Session 25 <ul style="list-style-type: none"> • Review of motor control exercises and resistance exercises • Mock practical exam
	Session 26 Final Practical Exam
14.	Study Week/Practical Exam Week 1. Note that make-up classes may be scheduled in this week.
15.	Study Week/Practical Exam Week 2. Note that make-up classes may be scheduled in this week.
16.	Final Exam Week 1 Please refer to the Exam Timetable for your local campus for the exact day and time of exam.
17.	Final Exam Week 2 Please refer to the Exam Timetable for your local campus for the exact day and time of exam.