

**FACULTY OF HEALTH
KINESIOLOGY AND HEALTH SCIENCE**

Course HH/AS/SC/KINE 4590 6.0 Advanced Athletic Therapy Assessment and Rehabilitation

Course Webpage Moodle

Term Full year 2016-17

Prerequisite HH/AS/SC 2490 3.0 Athletic Therapy I
HH/AS/SC 3450 3.0 Athletic Injuries
HH/AS/SC 3600 3.0 Athletic Therapy II (or Co-requisite)
HH/AS/SC 4570 3.0 Sport Injury Assessment
HH/AS/SC 4580 3.0 Treatment and Rehabilitation
HH/PKIN 8020 4.0 Athletic Therapy Clinical Skills
HH/AS/SC 3460 3.0 Human Regional Anatomy I (required) and HH/AS/SC 3465 3.0 Human Regional Anatomy II are also considered essential for this course.

Course Instructors

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Email: please use the Moodle email

Time and Location

In Class Meeting Times – Tuesdays and Thursdays 9:00-10:50am -114 SC

Expanded Course Description

This course will provide students the opportunity to review concepts and practice clinical skills for assessment and rehabilitation of musculoskeletal conditions. The focus will be on challenging students to integrate and apply previously learned knowledge and skills to assess and rehabilitate musculoskeletal conditions for the upper and lower quadrant regions. Various learning approaches such as lecture, group discussion, demonstration, presentations; application of skills, case studies, clinical reasoning exercises and online interaction will be incorporated.

Students are expected to come prepared for each class by reviewing appropriate content. Musculoskeletal anatomy is especially important to review prior to each section. Resources will be provided through Moodle and students are expected to research any other related content not provided. Students must ensure they have an active York email account for Moodle to access course material. Students should be appropriately dressed for class participation.

University Undergraduate Degree Level Expectations (UUDLEs)

- Describe the complexity and diversity of the structure and function of the human body
- Work individually or in a group to obtain, record, collate and analyze data using techniques appropriate to the Athletic Therapy
- Apply subject-based theories, concepts or principles to solve problems related to Athletic Therapy
- Use appropriate academic terminology and notation when preparing and presenting information
- Be aware of the limits in knowledge and methodologies when analyzing, evaluating, interpreting and disseminating information
- Be able to think independently, problem solve and set tasks

Course Learning Objectives

(1) Purpose of the course:

The purpose of the course is to provide students the opportunity to learn and review concepts; and practice clinical skills for assessment and rehabilitation of musculoskeletal conditions. Students are expected to think critically with respect to the research and clinical aspects of Athletic Therapy.

(2) By the end of this course students will be able to:

- Review and apply principles of assessment to evaluate upper and lower quadrant musculoskeletal conditions
- Review and apply principles of rehabilitation to manage upper and lower quadrant musculoskeletal conditions
- Apply differential diagnosis in the assessment of musculoskeletal conditions
- Use clinical reasoning skills to critically approach assessment and rehabilitation of sport injury
- Present case studies from a verbal and written perspective
- Experience a mock written and clinical practical exam in preparation for the CATA exam

Suggested Resources:

The following is a list of suggested resources to consult throughout the course topics:

Broksner, P., and Kahn, K. 2007. Clinical Sports Medicine. McGrawHill. An e-book version may be available from the publisher.

Houglum, P.A. (2010). Therapeutic Exercise for Musculoskeletal Injuries. 3rd Edition. Champaign, IL: Human Kinetics. E-book is available

Biel, A. (2005). Trail Guide to the Body. 3rd. Ed. www.booksofdiscovery.com ISBN 0-9658534-5-4

Kendall, F. P., McCreary, E. K., & Provance, P. G. (2005). Muscles: Testing and Function, 5th Edition. Philadelphia: Williams and Wilkins.

Kisner, C. & Colby, L.A.(2007). Therapeutic Exercise. 5th Edition. Philadelphia, PA: F.A. Davis. ISBN-13: 978-0-8036-1584-7

Hoppenfeld, S. (1976). Physical Examination of the Spine and Extremities. Norwalk, CO: Appleton & Lange.

Magee, D. (2008). Orthopedic Physical Assessment. St. Louis: MO: Elsevier.

Muscolino, J.E. (2002). The Muscular System Manual: The Skeletal Muscles of the Human Body. Mosby. ISBN 0971775001

Chandler & Brown. (2008). Conditioning for Strength and Human Performance. Philadelphia, PA: Lippincott, Williams &Wilkins. ISBN 978-0-7817-4594-9

Ylinen, J. (2008). Stretching Therapy for Sport and Manual Therapies. St. Louis, MO: Churchill Livingstone (Elsevier). ISBN 978-0-443-10127-4

Zachazewski, J.E. , Magee, D.J., & Quillen, W.S. (1996). Athletic Injuries and Rehabilitation. Philadelphia: W.B. Saunders. Out of print but pertinent chapters are on Moodle.

Starkey, C., & Ryan, J. (2003). Orthopedic and Athletic Injury Evaluation Handbook. F.A.Davis. – highly recommended

Starkey, C., & Ryan, J. (2002). Evaluation of Orthopedic and Athletic Injuries. F.A.Davis.

Loudon, J., Bell, S., and Johnston, J. (1998). The Clinical Orthopedic Assessment Guide. Champaign, IL: Human Kinetics.

Delavier, F. (2001). Strength Training Anatomy. Champaign, IL: Human Kinetics.

Cook C, & Hegedus E. (2011) Orthopedic Physical Examination Tests, An Evidence Based Approach. Second Edition. Pearson.

******* Students are expected to review the literature on specified topics as appropriate*******

Evaluation

The final grade for the course will be based on the following items weighted as indicated:

| | | |
|---|-------|------------|
| a) Multiple Choice Assignment – Due Oct 4, 2016 | | 10% |
| b) Quizzes | | 20% |
| Fall Session Quiz – during exam period | (10%) | |
| Winter Session Quiz – during exam period | (10%) | |
| c) Task Oriented Evaluation | | 20% |
| LQ Ax and Rehab Practical Tasks – December 2016 | (10%) | |
| UQ Ax and Rehab Practical Tasks – March 2017 | (10%) | |
| d) Case Study (Assessment & Rehabilitation) | | 30% |
| Lower Quadrant Case Due Nov 1, 2016 | (15%) | |
| Upper Quadrant Case Due March 2, 2017 | (15%) | |
| e) Oral / Practical Exam – during exam period in 2017 | | 20% |

Multiple Choice Assignment (10%)– (work with your respective partner listed below)

Please create ten **multiple choice** questions per topic (4 answer choices per question) and put into a Word file using the numbers by your name. Put the questions in scenario format and make them applied or practical in nature. Please add (on a separate page) the answers using the same numbers and provide the reference and page number for each question/answer. Please **do not** take your questions from any books/texts/other exams/other lists. This will be submitted on-line (through discussion on Moodle) and then will be available on-line to everyone in the class for study purposes.

| NAME | AREA | QUESTION NUMBERS |
|-----------------------|---|------------------|
| Kristy and Richard | Therapeutic modalities | 1 - 10 |
| Kristy and Richard | Emergency care | 11-20 |
| Kristy and Richard | Pharmacology | 21-30 |
| Andy and George | Inflammation process and phases of healing | 31-40 |
| Andy and George | Muscle testing - upper extremity | 41-50 |
| Andy and George | Muscle testing - lower extremity | 51-60 |
| Rotem and Sawyer | Human physiology | 61-70 |
| Rotem and Sawyer | Physiology of exercise/CV training | 71-80 |
| Rotem and Sawyer | Assessment - upper quadrant | 81-90 |
| Emily and Thomas | Assessment – lower quadrant | 91-100 |
| Emily and Thomas | Anatomy - upper extremity | 101-110 |
| Emily and Thomas | Anatomy - lower extremity | 111-120 |
| Rebecca and Alessia | Anatomy - head and neck | 121-130 |
| Rebecca and Alessia | Anatomy – spine/trunk/abdomen | 131-140 |
| Rebecca and Alessia | Injury prevention: protective equipment, bracing and support techniques | 141-150 |
| Christina and Aleisha | Gait | 151-160 |
| Christina and Aleisha | Legality/pre-participation exams/administration | 161-170 |
| Christina and Aleisha | Medical conditions related to sport | 171-180 |

Quiz Information (20%)

A multiple-choice quiz will be administered during fall and winter exam periods on topics related to Athletic Therapy. The instructors as indicated will provide further details in class.

Task Oriented Evaluation Information (20%)

This will be an oral/practical evaluation of a specified task or tasks. This will occur towards the end of the fall and winter semesters. Each student will be expected to perform an oral/practical task that will be evaluated by the course instructors. The student will be given a mini-scenario related to the lower quadrant (fall) and upper quadrant (winter). Components of assessment and rehabilitation will be evaluated and may include but is not limited to; differential assessment of contractile and inert tissue, identify a rehab phase/aim/goal/how to achieve that goal followed by a demonstration.

The evaluation will occur over a 30-minute period with two students at a time. One student will serve as a model and the other will be evaluated, then the process is flipped. Students will have approximately 10 minutes for their evaluation.

Case Study Information (30%)

The Case Study Approach will be used to facilitate a practical learning experience through assessing and treating a client, as you would do in the clinic.

Each student therapist will perform a full initial assessment of their respective client and then implement a rehabilitation program for them. Please choose a client that you are working with during your clinical placement.

You must inspire your client to carry out the treatment plan that you have implemented and you will follow-up with them as needed (a minimum of 4 treatment sessions after the initial assessment must be included) to help them resolve their problem.

An outcome measure (ie. ROM using goniometry, strength using manual muscle testing or cybex or other, pain rating scale, neck disability index, etc.) **Must** be used at initial assessment and on discharge or final treatment session to determine clinically significant change over time.

During the FALL semester you are required to pick one area and problem of the LOWER QUADRANT and in the WINTER semester you are required to pick one area and problem of the UPPER QUADRANT.

Please use the **CASE STUDY SAMPLE** (provided on moodle) to write up the case for the **UPPER** and **LOWER QUADRANTS**. **The completed Case Study must be handed electronically via MOODLE in WORD FORMAT by the due date.**

Please note that the sections that are listed in the sample may or may not apply to your client's case scenario. If they do not apply, simply fill in not applicable.

For both the **FALL SESSION** and **WINTER SESSION** you will also be required to present your

respective case study in class along with handing in the paper case document. The paper document as well as the 10-minute oral synopsis of your case will be evaluated as per the course outline dates. The **synopsis must include** the key problem, key assessment findings, key treatment goals and strategies and outcome. The grade will be broken down as follows: written paper (10%) and oral presentation (peer evaluation 2.5%, instructor evaluation 2.5%)

Oral/Practical Exam (20%)

A comprehensive 1 hours oral/practical exam will be administered during the winter session exam period. The student will be expected to perform a full assessment and rehabilitation of a mock scenario. Further details will be provided in class.

Grading, Assignment Submission, Lateness Penalties and Missed Tests

Grading: The grading scheme for the course conforms to the 9-point grading system used in undergraduate programs at York (e.g., A+ = 9, A = 8, B+ = 7, C+ = 5, etc.). Assignments and tests will bear either a letter grade designation or a corresponding number grade (e.g. A+ = 90 to 100, A = 80 to 90, B+ = 75 to 79, etc.)

(For a full description of York grading system see the York University Undergraduate Calendar - http://calendars.registrar.yorku.ca/pdfs/ug2004cal/calug04_5_acadinfo.pdf)

Assignment Submission: Proper academic performance depends on students doing their work not only well, but on time. Accordingly, assignments for this course must be received on the due date specified for the assignment.

Lateness Penalty: Assignments received later than the due date will be penalized 10% per business day that assignment is late. Assignments will not be accepted past 7 business days. Exceptions to the lateness penalty for valid reasons such as illness, compassionate grounds, etc., should be discussed with the course director.

Missed Tests: Students with a documented reason for missing a course test, such as illness, compassionate grounds, etc., which is confirmed by supporting documentation (e.g., attending physician statement, doctor's letter) may request accommodation from the Course Instructor. Where possible, these requests will be accommodated.

IMPORTANT COURSE INFORMATION FOR STUDENTS

All students are expected to familiarize themselves with the following information, available on the Senate Committee on Curriculum & Academic Standards webpage (see Reports, Initiatives, Documents) - http://www.yorku.ca/secretariat/senate_cte_main_pages/ccas.htm

York's Academic Honesty Policy and Procedures/Academic Integrity Website

<http://secretariat-policies.info.yorku.ca/policies/academic-honesty-senate-policy-on/>

Ethics Review Process for research involving human participants

Course requirement accommodation for students with disabilities, including physical, medical, systemic, learning and psychiatric disabilities

Student Conduct Standards & Religious Observance Accommodation

Topic 5 Oct 18 - 25 – Knee Assessment with Anatomy/Biomechanics Review
 – Knee Injuries and Conditions Rehabilitation
 Resources: B: Chp 6 (review)
 B/K: Chp 27-29
 H: Chp 23
 K/C: Chp 21

Topic 6 Nov 1 – 10 – Ankle Assessment with Anatomy/Biomechanics Review
 – Ankle Injuries and Conditions Rehabilitation
 – Foot Assessment with Anatomy/Biomechanics Review
 – Foot Injuries and Conditions Rehabilitation
 Resources: B: Chp 7
 B/K: Chp 32-35
 H: Chp 22
 K/C: Chp 22

Topic 7 Nov 15 – 17 – Case Study 10 min Synopsis Presentations (Peer Reviewed)

Topic 8 Nov 22 – December 1 – Lower Quadrant Task Oriented Evaluations

Winter Session - Upper Quadrant

Topic 1 Jan 5 - Intro / Upper Quadrant Scan
 Resources: B: 13-39
 B/K: 108-157, 174-197
 H: Chp.1, 2, 4, 6
 K/C: 295-307, 883-887

Topic 2 Jan 10 - 19 - Cervical Spine Assessment with Anatomy/Biomechanics Review
 - Cervical Spine Injuries and Conditions Rehabilitation
 Resources: B: Chp. 4, 5
 B/K: Chp 16
 H: Chp 18 (only neck related info)
 K/C: Chp 15 & 16 (only neck related material)

Topic 3 Jan 24 – Feb 2 - Thoracic Spine Assessment with Anatomy/Biomechanics Review
 - Thoracic Spine Injuries and Conditions Rehabilitation
 Resources: B: Chp 4
 B/K: Chp 20, 158-167
 H: Chp 18 (only Tspine related material)
 K/C: Chp 15 & 16 (only Tspine related material)

- Topic 4 Feb 7 – 16 - Shoulder Girdle Assessment with Anatomy/Biomechanics Review
- Shoulder Girdle Injuries and Conditions Rehabilitation
- Including Throwing Athlete
Resources: B: Chp 2
B/K: Chp 17, 61-69 (throwing biomechanics)
H: Chp 19
K/C: Chp 17
- Topic 5 Feb 28 – Mar 2 – Elbow Assessment with Anatomy/Biomechanics Review
– Elbow Injuries & Conditions Rehabilitation
Resources: B: Chp 3
B/K: Chp 18
H: Chp 20
K/C: Chp 18
- Topic 6 Mar 7 – 14 – Wrist & Hand Assessment with Anatomy/Biomechanics Review
- Wrist & Hand Injuries and Conditions Rehabilitation
Resources: B: Chp 3
B/K: Chp 19
H: Chp 21
K/C: Chp 19
- Topic 7 Mar 16 – 21 - Neurodynamics – Anatomy and Neurobiomechanics
- Neurodynamics – Assessment and Treatment Techniques
Resources: B/K: 113-119
K/C: 366-370
H: Chp 6 (Neural Mobilization only)
- Topic 8 Mar 23 – 28 – Case Study 10 min Synopsis Presentations (Peer Reviewed)
- Topic 9 Mar 30 – April 4 – Upper Quadrant Task Oriented Evaluations

Comprehensive Exam Studying

Be sure to include all of these references in your studying. Use study groups. Start in the fall.

Written:

1. Brukner and Kahn - Review all of the chapters for the written comprehensive exam that relate to the areas covered in KINE 2490 and 3600.
2. Prentice - Rehabilitation Techniques
3. Prentice/Starkey - Therapeutic Modalities
4. Athletic Therapy I and II notes (Anderson, Hall and Martin)
5. Review all other pertinent courses (i.e., physiology of exercise, nutrition, biomechanics)
6. Magee/Starkey and Ryan
7. Houglum

Oral

1. Magee and Brukner and Kahn - Assessment
2. Zachazewski et al. (1996) - Assessment and Rehabilitation
3. Hoppenfeld (1976) and Reese (2005) - Assessment
4. Prentice - Rehabilitation
5. Kendall et al. (1993) - Assessment
6. Kisner and Colby - Rehabilitation
7. Starkey and Ryan - Assessment
8. Starkey - Modalities
9. Houglum - Rehabilitation

All other anatomy, muscle testing, assessment, modality, and rehabilitation books you may have

Use study groups to help with your studying, but do not rely entirely on other students' review notes - do your own work as well. **Start NOW with your study groups.**