

Queen's University
School of Kinesiology and Health Studies

<p>Course Name: KNPE 345/3.0</p> <p>The Science and Methodology of Sport Training Conditioning Programs.</p>	<p>Course Instructor:</p> <p>Mr. Colin McAuslan Mr. Evan Karagiozov</p>	<p>Contact Hours: Lecture 2 x 1.5 hours/wk / 12 weeks Lab 1 x 1.5 hours/wk / 12 weeks</p> <hr/> <p>Prerequisite:</p> <p>Level 3 or above in a KINE Plan and KNPE 227/3.0</p> <p>Corequisite: KNPE 254/3.0</p> <hr/> <p>Exclusion:</p>								
<p>Course Description:</p> <p>This course is designed to be a practical application of anatomy, physiology and biomechanics for a sporting population. Students will learn the fundamentals of the coaching landscape, program design, physical preparation principles, high performance planning strategies, testing and evaluation, the use of technology in the training, and the application of a variety of training modalities. This course will adequately prepare the student to become professionally certified as a personal trainer or strength and conditioning coach upon graduation.</p>		<p>Course Texts:</p> <p>Essentials of Strength and Conditioning: 4th Edition. National Strength and Conditioning Association. G.G. Haff and N.T. Triplett. ISBN-13:9781492514152</p> <p>Materials will be available through onQ.</p>								
<p>Learning Outcomes:</p> <ul style="list-style-type: none"> • Apply the basic applications of the exercise sciences (Musculoskeletal, Neuromuscular, Cardiorespiratory, Bioenergetics, Endocrine and Biomechanics) within the context of a physical training program • Recognize professional pathways into the fields of personal training and strength and conditioning • Coach progressions and regressions of movement patterns and properly cue exercises to develop appropriate movement patterns. • Describe and administer the principles of sport testing, warmups, mobility, resistance training, energy system development and recovery modalities • Apply programming periodization models that allow for performance planning and yearly/monthly/weekly training planning • Apply the principles of velocity-based training, using the GymAware technology. This technology will allow students to bridge the gap between research and 		<p>Course Evaluation:</p> <table> <tr> <td>Readings and Quizzes</td> <td>20%</td> </tr> <tr> <td>Assignment #1</td> <td>30%</td> </tr> <tr> <td>Online Final Exam</td> <td>30%</td> </tr> <tr> <td>Practical Assessment</td> <td>20%</td> </tr> </table>	Readings and Quizzes	20%	Assignment #1	30%	Online Final Exam	30%	Practical Assessment	20%
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<ul style="list-style-type: none"> practical training with real time measurement Integrate all components of a sport training program to produce an effective and multifaceted yearly training plan. 	
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Course Outline	
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Introduction, Course Outline, Expectations, Group Assignments, Professional Pathways	Anaerobic Training: Acceleration and Sprinting
Applications of the Exercise Sciences	Anaerobic Training: Change of Direction and Agility
Warmups: RAMP Warmup	Periodization Models
Stretching and Mobilization	Building a Training Program
Client Pre-Screening, Assessments	Yearly Training Plans and Performance Planning
Testing Parameters	Mobility, Flexibility, and The RAMP Warmup System
Sport Specific Testing and Normative Data	The Functional Movement Screen / Sport Testing
Resistance Training Principles: Movement Patterns, Spotting, Exercise Selection	Knee Dominant Movement Patterns
Resistance Training: Putting It Into Practice	Push and Pull Movement Patterns
Power Development Principles, Plyometrics, and Non-traditional Power Development Modalities	Hip Dominant Movement Patterns
Olympic Lifting	Olympic Lifting, Power Development, and Velocity Based Training
Velocity Based Training: The Force Velocity Curve, Exercise Selection and Technology	Aerobic and Anaerobic Energy System Development
Energy System Development	Practical Assessments
Aerobic and Anaerobic Energy System Development	