

**MASTERS OF SCIENCE IN KINESIOLOGY  
EMPHASIS IN SPORTS PHYSIOLOGY**

05/24/19

The M.S. in Kinesiology, emphasis in *Sports Physiology* is a degree program for students desiring careers in conditioning and training of athletes. The curriculum is designed to provide the scientific background and technical skills necessary to evaluate athletes' performance and design sport-specific conditioning programs. Non-thesis or thesis options may be chosen. The curriculum also may prepare students for National Strength and Conditioning Association and American College of Sports Medicine Certifications.

**NON-THESIS OPTION**

KINE	601	Reading Research Publications in Kinesiology	3
KINE	628	Nutrition in Sport and Exercise	3
KINE	629	Physiology of Strength and Conditioning	3
KINE	637	Exercise Physiology I	3
KINE	638	Exercise Physiology II	3
KINE	639	Exercise Electrocardiograph (or Advisor Directed Elective <sup>3</sup> )	3
KINE	647	Instrumentation and Techniques in Exercise Physiology I	2
KINE	648	Instrumentation and Techniques in Exercise Physiology II	2
KINE	681	Seminar	2
KINE	683 <sup>1</sup>	Practicum I in Kinesiology (Sports Physiology Practicum I)	3
KINE	683 <sup>1</sup>	Practicum II in Kinesiology (Sports Physiology Practicum II)	3
KINE	690 <sup>2</sup>	Theory of Kinesiology Research (Statistics)	3
Electives <sup>3</sup>		Advisor Directed Electives	3
<b>TOTAL</b>			<b>36 SCH</b>

**THESIS OPTION <sup>4</sup>**

KINE	601	Reading Research Publications in Kinesiology	3
KINE	628	Nutrition in Sport and Exercise	3
KINE	629	Physiology of Strength and Conditioning	3
KINE	637	Exercise Physiology I	3
KINE	638	Exercise Physiology II	3
KINE	639	Exercise Electrocardiograph (or Advisor Directed Elective <sup>3</sup> )	3
KINE	647	Instrumentation and Techniques in Exercise Physiology I	2
KINE	648	Instrumentation and Techniques in Exercise Physiology II	2
KINE	681	Seminar	2
KINE	683 <sup>1</sup>	Practicum I in Kinesiology (Sports Physiology Practicum I)	3
KINE	683 <sup>1</sup>	Practicum II in Kinesiology (Sports Physiology Practicum II)	3
KINE	685	Directed Studies: Research Problems in Sports Physiology	3
KINE	690 <sup>2</sup>	Theory of Kinesiology Research (Statistics)	3
KINE	691	Research	6
<b>TOTAL</b>			<b>39 SCH</b>

<sup>1</sup> KINE 683 – Practicum I in Sport Physiology offered fall semester; KINE 683 – Practicum II taken any semester after of Practicum I. **NOTE: Practicum I & II in Sport Physiology enrollment by Athletic Sport Performance staff permission. Experience in collegiate strength and conditioning or as collegiate athlete required.**

<sup>2</sup> May substitute STAT 651- Statistics in Research I for KINE 690 - Theory of Kinesiology Research (Statistics)

<sup>3</sup> Electives must be chosen with advisor approval prior to enrolling in the course(s) and before filing a degree plan. In the event students do not qualify for Practicum I or II in athletics, additional electives allowed.

<sup>4</sup> Thesis option requires admission by research advisor.

## **ADVISOR-DIRECTED ELECTIVE CONSIDERATIONS<sup>1</sup>**

BICH	601	Fundamentals of Biochemistry I	3
BICH	602	Fundamentals of Biochemistry II	3
FSTC	607	Physiology and Biochemistry of Muscle as Food	3
KINE	606	Motor Neuroscience I	3
KINE	626	Exercise for Clinical Populations	3
KINE	630	Periodized Models	3
KINE	631	Specialized Strength & Conditioning Techniques	3
KINE	640	Motor Neuroscience II	3
KINE	641	Motor Neuroscience: Development Issues	3
KINE	649	Applied Exercise Physiology	3
KINE	684 <sup>2</sup>	Professional Internship in Sports Physiology (1-6 variable credit course)	4
KINE	685	Directed Studies: Research Problem (1-12 variable credit course)	3
KINE	689	Special Topics in Applied Exercise Physiology	3
NFSC	301	Nutrition through Life	3
NFSC	405	Nutritional Treatment of Disease	3
NFSC	613	Protein Metabolism	3
NFSC	617	Experimental Techniques in Meat Science	3
NFSC	618	Lipids and Lipid Metabolism	3
NFSC	632	Nutrition in Disease	3
NFSC	641	Nutritional Biochemistry I (fall only)	3
NFSC	642	Nutritional Biochemistry II	3
VTPP	605	Systemic Veterinary Physiology I (fall only)	5
VTPP	606	Systemic Veterinary Physiology II (spring only)	5

## **REQUIRED UNDERGRADUATE COMPETENCIES:**

Courses completed at Texas A&M University or their equivalents taken from another accredited undergraduate institution as verified by transcript. Courses taken on-line or at distance will not be accepted for laboratory-enhanced courses.

BIOL	319 & 320	Human Anatomy and Physiology I & II
CHEM	119 & 120	Fundamentals of Chemistry I & II with laboratories
KINE	433	Physiology of Exercise
MATH	142	Business Calculus or equivalent
PHYS	201	College Physics
	<i>or</i>	
KINE	426	Exercise Biomechanics

<sup>1</sup> Course electives must be chosen with prior advisor approval before the student enrolls in the course or includes it on their degree plan. Other courses not on this list may be chosen with prior advisor approval.

<sup>2</sup> KINE 684 - Professional Internship may be chosen by Thesis students as an elective, but the course hours *cannot* count toward the degree plan minimal credit hour requirements. Up to four credit hours of KINE 684 - Professional Internship credits *can* be used by Non-Thesis students to count toward the minimal credit hours required for the degree.

**Possible Course Sequence for Non-Thesis M.S. Degree in Sports Physiology**

Fall	Spring	Summer	Fall 2
KINE 601 3 KINE 638 3 KINE 648 2 KINE 681 1 KINE 683 (I) <sup>1</sup> 3 <u>OR</u> KINE 690 <sup>2</sup> 3	KINE 629 3 KINE 637 3 KINE 647 2 KINE 681 1 KINE 639 3 <u>OR</u> KINE 683(II) <sup>1</sup> 3	KINE 628 3 KINE 690 <sup>2</sup> 3 <u>OR</u> Elective <sup>4</sup> 3	KINE 683(II) <sup>1</sup> 3 (if not taken spring)  Elective <sup>4</sup> 3-6  NOTE: KINE 684 – Professional Internship <u>may</u> be taken as elective credit for non-thesis M.S. degree only.
<b>12 SCH</b>	<b>12 SCH</b>	<b>6 SCH</b>	<b>Degree ≥ 36 SCH</b>

**Possible Course Sequence for Thesis M.S. Degree in Sports Physiology**

Fall	Spring	Summer	Fall 2
KINE 601 3 KINE 638 3 KINE 648 2 KINE 681 1 KINE 683 (I) <sup>1</sup> 3 <u>OR</u> KINE 690 <sup>2</sup> 3	KINE 629 3 KINE 637 3 KINE 647 2 KINE 681 1 KINE 639 3 <u>OR</u> KINE 683(II) <sup>1</sup> 3	KINE 628 3 KINE 690 <sup>2</sup> 3 <u>KINE 685 3</u>	<u>KINE 691 6</u>  NOTE: KINE 684 – Professional Internship <u>may not</u> be taken for credit for thesis M.S. degree
<b>12 SCH</b>	<b>12 SCH</b>	<b>9 SCH</b>	<b>Degree = 39 SCH</b>

NOTE: Course sequence will vary with individual student requirements and course scheduling by the HLKN department. Total degree hours are approximate. It generally takes a student two years to complete this program.

<sup>1</sup> KINE 683 – Practicum I in Kinesiology (Sports Physiology Practicum I) is offered fall semester only, and is required prior to Practicum II. KINE 683 – Practicum II in Kinesiology (Sports Physiology Practicum II) may be taken any semester after completion of Practicum I depending on student objectives and advisor approval. **IMPORTANT NOTE: Practicum I & II enrollment is by Athletic Sport Performance staff permission and selection. Experience in collegiate strength and conditioning or as collegiate athlete required.**

<sup>2</sup> May substitute STAT 651 – Statistics in Research I for KINE 690 – Theory of Research (Statistics)

<sup>3</sup> KINE 683 may be taken Fall 2 semester, otherwise Electives = 6 SCH.

<sup>4</sup> Course electives must be chosen with prior advisor approval before the student enrolls in the course or includes it on their degree plan. In the event students do not qualify for Practicum I or II in athletics, additional electives allowed.