Faculty of Kinesiology

Bachelor of Science in Kinesiology Biomechanics BMEC

Unofficial 2025 / 2026

Biomechanics examines the forces acting upon and within a biological structure, as well as the effects produced by these forces. You'll learn how to apply mechanical theories and concepts to living systems with special emphasis on the human body and its movement, structure, and function. *This is a guide to help you navigate your program but does not supersede the Academic Calendar. It is the responsibility of the student to ensure graduation requirements are met per the Academic Calendar*

UCID#_____

UNITS **CORE REQUIREMENTS (54 UNITS)** *Prerequisites follow the title in blue italics*

3 _____	KNES 201	Activity: Essence and Experience *(Bio 30)*
3 _____	KNES 203	Activity: Health, Fitness, and Performance *(Bio 30 & Chem 30)*
3 _____	KNES 213	Introduction to Research in Kinesiology *(Bio 30, Chem 30 & Math 30-1)*
3 _____	KNES 244	Sociology of Movement Cultures *NA*
3 _____	KNES 251	Introduction to Motor Control and Learning *(Bio 30)*
3 _____	KNES 253	Introduction to Exercise and Sport Psychology *NA*
3 _____	KNES 259	Human Anatomy and Physiology I *(Bio 30, Chem 30 & Math 30-1)*
3 _____	KNES 260	Human Anatomy and Physiology II *(KNES 259)*
3 _____	KNES 263	Quantitative Biomechanics *(Bio 30, Chem 30 & Math 30-1)*
3 _____	KNES 323	Integrative Human Physiology *(KNES 260)*
3 _____	KNES 337	Introduction to Nutrition (formerly 237) *(KNES 259)*
3 _____	KNES 344	Gender, Sexuality, and Sport *(KNES 244)*
3 _____	**One of**: _____ KNES 351 Foundations of Neural Control of Movement *(KNES 251 & 260),*	
	_____ KNES 397 Health and Exercise Psychology *(KNES 253)*, or	
	_____ KNES 399 Psychology of Sport *(KNES 253)*	

3 _____	KNES 355	Human Growth and Development *(KNES 260 & Pre or Co-requisite KNES 323)*
3 _____	KNES 363	Biomechanics of Biological Materials *(KNES 263 & STAT 205 or STAT 213)*
3 _____	KNES 372	Foundations of Sport Medicine *(KNES 260)*
3 _____	KNES 373	Exercise Physiology *(KNES 203, 213 & 323)*
3 _____	**One of**: _____ STAT 205 Intro to Statistical Inquiry or _____ STAT 213 Intro to Statistics I	

BIOMECHANICS MAJOR REQUIREMENTS (36 UNITS)

3 _____	MATH 211	Linear Methods I
3 _____	MATH 275	Calculus for Engineers and Scientists
3 _____	MATH 277	Multivariable Calculus for Engineers and Scientists
3 _____	ENGG 212	Fundamentals of Fluid Behaviour (previously ENGG 201)
3 _____	ENGG 202	Engineering Statics
3 _____	ENGG 311	Engineering Thermodynamics
3 _____	ENME 317	Mechanics of Deformable Solids I
3 _____	ENGG 349	Dynamics
3 _____	KNES 396	Research Seminar (previously KNES 393 + 395) *(KNES 213& 263)*
3 _____	KNES 463	Advanced Techniques in Biomechanics *(KNES 363)*

6 _____ **One of**: _____ KNES 566A&B Biomechanics Research Project or _____ KNES 590A&B Honours Project
(Students must be admitted to the Honours program to enroll in KNES 590).

SENIOR KINESIOLOGY OPTIONS (12 UNITS)

3 _____ 3 _____ 3 _____ 3 _____

OPEN OPTIONS – Kinesiology or non-Kinesiology, Junior or Senior (18 UNITS)

3 _____ 3 _____ 3 _____ 3 _____ 3 _____ 3 _____

IMPORTANT DEGREE CHECKS

- ☐ A minimum of 60 units (20 courses) at the senior level are required
- ☐ A maximum of 60 transfer units may be applied to the degree; of those, a max of 27 units may be core courses.
- ☐ A total of 120 units are required to complete the Kinesiology degree.