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FOUNDATIONS OF Kinesiology

SECOND EDITION





FOUNDATIONS OF Kinesiology

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To the teachers who mentored me, and the students whom I have taught, who form a bridge honoring the past and building for a better future. The shining beauty of this bridge is what motivates me to carry and pass the torch.

—*Carole A. Oglesby*

To the kinesiology students of California State University, Northridge, who inspire and motivate me every day.

—*Kim Henige*

To all the kinesiology students who take seriously the idea that our efforts to promote human flourishing through physical activity are best realized when they are undertaken with a play spirit.

—*Douglas W. McLaughlin*

To all the kinesiology students who appreciate the importance of movement and its lasting benefits.

—*Belinda Stillwell*

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NEW TO THIS EDITION



Foundations of Kinesiology, Second Edition explores the core subdisciplines of kinesiology and allows students to explore the research and physical activity contributions that each has to offer. Using three core approaches—learning-centered, competency, and holistic—it best frames kinesiology for the introductory learner in a concise format.

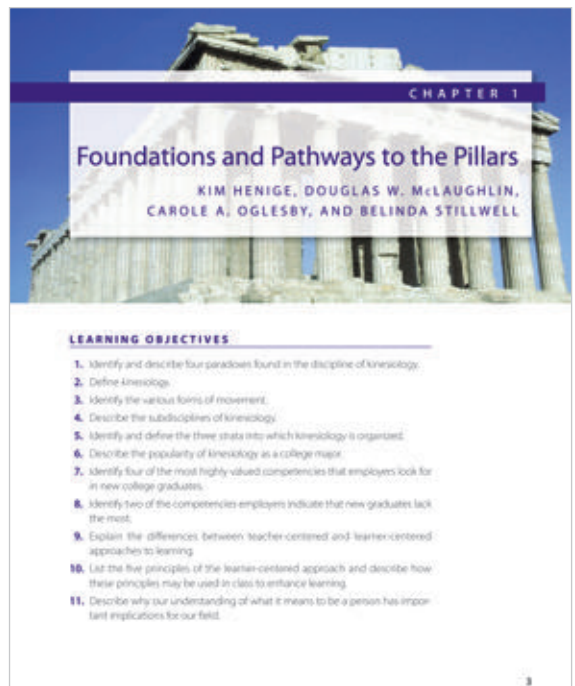
Each chapter uses a competency-based, skills-based, and mentor-like approach, presenting tools to enable the learner to better serve themselves and society through lifelong endeavors.

Two sets of slide presentations are offered—one traditional, one learner-centered—for varied and optimal instructional presentations.

Key Features

This edition includes:

- *Learning Objectives* clearly outline for the learner the desired outcomes of the chapter and provide a basis to gauge learning.



- *Key Terms* are defined in the margins of the text, as well as in the Glossary at the end of the text. Also available in an interactive glossary within the eBook that accompanies this text.



- *Stop and Think* boxes provide questions that will help the learner fully grasp the significance of the content.
- *Discussion Questions* provide a way to apply what has been learned in the chapter.

STOP AND THINK

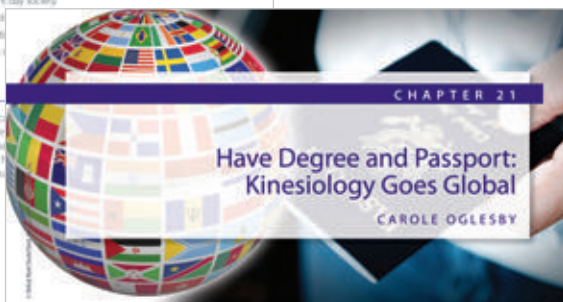
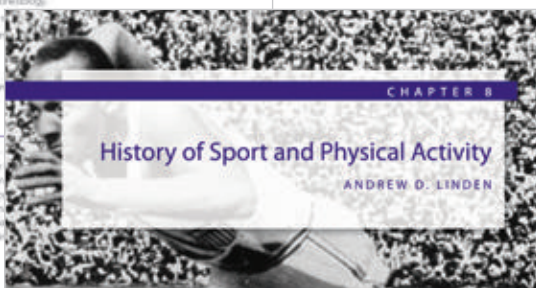


Team A was heavily favored to defeat Team B in an important tournament, but Team B won.

- How would a kinesiology major who focuses on the physiology and biomechanics of performance explain this outcome?
- How would a kinesiology major who focuses on psychology explain this outcome?
- How would a philosophy-oriented kinesiology major explain this outcome?
- What is gained by looking at all of these factors in explaining the outcome?

DISCUSSION QUESTIONS

1. What is kinesiology? Discuss what the concept of kinesiology entails.
2. Describe the paradoxes found in kinesiology. Have you had personal experience with any of these paradoxes?
3. Are you more drawn to the core scientific domains of kinesiology, socio-culturally based forms of movement, or professional (career) applications? What area drew you to the major? What area are you most excited about learning more about?
4. What professional traits and competency skills are necessary for success given your career ambitions? What traits and skills do you already possess? What traits and skills do you need to develop? Identify the benefits of possessing certain traits and skills. Identify the liabilities of not possessing certain traits and skills.
5. What learner-centered strategies do you already utilize? What steps can you take to improve your learner-centered approach? Compare and contrast a student who adopts a learner-centered approach with a student who does not.
6. Does a holistic approach to kinesiology make sense to you? Is it difficult to comprehend? Explain how it can make a difference in a professional setting when addressing a particular problem in the field of kinesiology.
7. What steps will you take to incorporating these approaches? Can you see them becoming guiding principles beyond this course? Are you concerned about your ability to implement these approaches?



Key Updates

- **NEW** chapters include:
 - Chapter 5: Dance and Kinesiology
 - Chapter 8: History of Sport and Physical Activity
 - Chapter 21: Have Degree and Passport: Kinesiology Goes Global

- Chapter-specific updates:
 - Chapter 4, *Biomechanics*, has a sharpened focus on basic mechanical principles.
 - Chapter 9, *Motor Behavior*, includes a new section on Challenge Point Frameworks.
 - Chapter 11, *Sociology of Sport, Exercise, and Physical Activity*, has new sections on climate change effects, intersectionality, and the critique of structural power.
 - Chapter 15, *Diversity: Sport as a Welcoming Space*, added consideration of dealing with deafness challenges and a new section on trauma-inclusive programming.
 - Chapter 16, *Healthy Living*, has been updated to the latest ACSM pre-participation health screening guidelines and revised medical clearance criteria.
- Increased attention to NACE competencies.
- Real-life scenarios are narrated in detail in Part III, *Integration of the Pillars*, showing the importance of kinesiology to a healthy, joyful life for diverse populations.
- Updated references throughout.

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With this book you are beginning an academic journey that is similar to that of my own. In the Fall of 1981, I was a university freshman. One of the courses I was enrolled in that term was “Physical Education Orientation.” It was a 3-credit hour course being taught by the university’s Athletic Director, who also held professorial status in the academic department through which the course was being taught. The Athletic Director took a keen interest in me, as I was a student-athlete (football). At the end of each class period, we would often end up walking down the hallway together. In those moments he would ask me how I was doing or perhaps share a joke. As an 18-year-old freshman, I was both appreciative of the attention and trepidatious; what if I said the wrong thing or responded inappropriately? As the term progressed, his expectations of me grew. During our hallway walks he began to encourage me to share the ideas that had begun to formulate as I engaged with the course material, including the textbook. Yes, we had a textbook and we were tested on the full range of course materials. There was no slouching off!

The book we were assigned to read was quite appropriate for the times. I actually kept it in my personal library for nearly two decades. What I remember most about the course and the book was that they stirred my imagination. I began to envision multiple possible future selves. It was exciting to think in such terms.

My original introductory textbook was eventually replaced by others. Looking at my bookshelf now, I count more than a half-dozen similar books. *Foundations of Kinesiology* is among them. More on that in a moment.

The Athletic Director also insisted that I sit in the front row in his class. “*Our student-athletes sit in the front row,*” he told me. He went on to say,

“There is no hiding when you are sitting up front.” Later, a study-skills counselor shared with us that, *“When you sit in the front row, you can see and hear better. You will also be more engaged with the course material. This simple act is equal to one letter grade!”* I thought to myself, *“I can earn a ‘B’ instead of a ‘C’ by simply sitting in the front row?”* I was all over that strategy, and it seemed to work exceedingly well.

Nobody had ever mentioned anything like that to me before. In fact, because of my relative size, most of my prior, K-12 teachers had assigned me to sit in the back of my classrooms. At the university, I had a choice. For me, it was an easy choice. As time went on, I came to realize that sitting in the proverbial “front row”—in the classroom and in life—was viewed as a sign of leadership.

When I first arrived on campus, I thought I wanted to be an Athletic Trainer. I quickly learned that you cannot simultaneously be a student-athlete and an Athletic Training major. I considered and explored multiple other options. There were so many possibilities, each one intriguing in its own right.

In early November 1983, my collegiate athletic career came to an abrupt end when I experienced a severe injury. Not only would I never play football again, I was in serious jeopardy of having a permanent and lifelong disability. That’s a lot to take in as a 20-year-old, especially one with a strong athletic identity. Of course, as I had learned some years earlier in my “Physical Education Orientation” class, I was a *“student-athlete.”*

To some degree, the injury and rehabilitation process renewed my interest in Athletic Training. Simultaneously, the football coaching staff invited me to stay on as a student-assistant coach. I chose the latter option.

Remaining a part of the team allowed me to stay connected with my teammates, coaches, and the athletic culture I had grown accustomed to. It also afforded me many new opportunities to develop and grow, especially through the application of what I was learning in the classroom. Application is *always* holistic, which, by now in my academic pursuits, was becoming abundantly clear.

After finishing my baccalaureate degree, I was awarded a Graduate Assistantship position, which, in part, included everything I was doing for and with the football team, and assisting in the human performance lab, teaching my own classes, and pursuing a Master of Science degree.

I experienced an array of role conflicts (e.g., student-teacher, teacher-coach), as well as the challenges associated with trying to coach and in some cases teach my former peers. Sometimes it felt like I was in the “School of Hard Knocks.” One thing is for sure: it was a fertile learning environment.

The multiple roles further allowed me to see and experience various connections among the parts, the tapestry of Kinesiology, if you will. Leonardo da Vinci, the Italian sage of the Renaissance period, gave us not only the Sistine Chapel within the Vatican some 500 years ago, but also the following maxim, which I encourage you to commit to memory: *“To develop a complete mind: Study the science of art; Study the art of science. Learn how to see. Realize that everything connects to everything else.”*

The book you are now reading, *Foundations of Kinesiology*, does exactly that. It not only shows you the parts, but it gives you a sense of the whole. Embrace this wisdom with your full effort and develop your own story to share with your future clients, colleagues, family, friends, government officials, neighbors, patients, patrons, players, political leaders, and students. Be enthusiastic in your studies now and let this “part” of your life transfer into the “whole” of your life. You will never regret that.

Something else you will not regret is keeping this book in your personal library. Why do I say this? The various chapters can serve as primers for more advanced study on each topic. This can give you an enormous leg up in your future classes. For example, before you take your full Biomechanics course, reread the Biomechanics chapter. Before you take your full Exercise and Sport Psychology course, reread that chapter. Do this for all of your future Kinesiology classes and you will enter each of those classes with greater confidence and understanding. As you begin to integrate knowledge from multiple “pillars” in your more advanced classes, course papers, and your future life’s work, you will be happy that you have this book to rely on. Trying to reaccumulate and synthesize information such as this will prove to be an enormously difficult task. The chapters in this book were written by eminent academicians, professionals, and scientists in Kinesiology. They each have embraced the task at hand and shared their wisdom with you in earnest. By retaining the book in your private collection, you will have a cogent and reliable source of information conveniently at your disposal for years to come.

This Foreword began with my story. Now it is your turn. Enjoy your academic journey as you enthusiastically explore and learn more about the discipline of Kinesiology.

Bradley J. Cardinal, PhD

Professor

Kinesiology Program

Oregon State University Corvallis, Oregon

Fellow #475 and President (2018-2019)

National Academy of Kinesiology

Chair (2020-2021)

President's Council on Sports, Fitness and Nutrition Science Board

U.S. Department of Health and Human Services



Foundations of Kinesiology provides a guided journey into the discipline and profession of kinesiology. Its learner-centered and holistic approach is designed to give each reader a sense of relationship to the authors, whom you can consider to be mentors caring deeply about the progress of those choosing to enter the field. We have written this text for students in their first year as kinesiology majors or as transfer students who have entered kinesiology following earlier choices that were not the desired match. This text does not merely leave a student as a “beginner.” The consistent focus on National Association of Colleges and Employers (NACE) competencies, found within the curriculum of sound major programs, demonstrates career readiness for a successful graduate.

The number of students choosing to study kinesiology is extraordinary. As just one example, consider that kinesiology is the seventh largest major in the entire California State University system, which numbers hundreds of thousands of students. This growth is nationwide, as the various post-graduate applications of kinesiology have stretched well beyond the traditional paths of teaching and coaching to include health and wellness and professions such as physical therapy, athletic training, physician assistants, fitness specialists, adapted specialists, and administrators. The kinesiology core is also expanding as research and scholarship embraces basic scientific theories and applies research in new areas.

A great challenge has emerged in the necessity to refine and maintain core scientific bases as well as to achieve relevance and cohesion in the emerging applications. The guided journey of this text is designed in four sections: Part I is an initial narrative of definitions, foundational assumptions, and philosophic groundwork; Part II is an introduction to the holistic core features of the discipline of Kinesiology; Part III presents real-life

scenarios that dramatically illustrate ways in which the entire discipline is useful in solving individual and social challenges; Part IV concludes with “valedictory” chapters pointing to actual entry to professional work. We offer evidence-based information utilizing both quantitative and qualitative approaches in the science-based formulations of chapters.

Why This Text?

The editors and authors have years of experience with the teaching of introductory courses, and it was in observation of such experiences that we encountered frustration with other textbooks. While these other options were excellent, lengthy sections invariably went unread and unused in the structure of the course. There was either too much material for a typical introductory course, or the text went into detail about aspects of the discipline that were outside the parameters of particular departmental configurations. We were also dissatisfied with the impersonal, journal-style presentation of these texts that were to serve as a welcome and introduction to a lifetime of disciplinary study. We have sought to create a text that speaks to each student in a more personal, mentor-like fashion. The learner-centered and holistic approach taken completes this picture, as the readings and assignments make it necessary for the student to add her or his personal knowledge, views, and experiences to the content.

Organization of the Text

The content is organized as an exploration of a new cognitive structure—Kinesiology. It is intended consciously to provide a foundation for the knowledge of the discipline to be acquired throughout the length of collegiate studies and a pathway to success through the full journey as a professional.

Part I comprises Chapter 1, an orienting overview of kinesiology and Chapter 2, *A History of Kinesiology*. These chapters serve as a preparation for the course and associated readings ahead. In Chapter 1, students are asked to consider the curiosity of never having encountered the label *kinesiology* in their elementary and secondary school coursework in physical education. Students are encouraged to get comfortable with the unique aspects of their discipline and profession. It is in this chapter also that we,

as authors, give detail and meaning to the three commitments on which the text is based:

1. The holistic view of kinesiology, in which the discipline is seen not as a train with many separate and discrete cars that can be assembled and disassembled without effect, but as a unitary whole.
2. The learner-centered approach, wherein the student-reader is not perceived as an empty vessel into which the wisdom and knowledge of the professor is poured. Rather, ideas are presented for exploration and enhancement through the involvement of all.
3. A competency- and skill-based approach, wherein tools are presented in every chapter to enable the student-reader to be better able to serve themselves and society through lifelong endeavors.

Part II, *Pillars of the Discipline: Kinesiology Subdisciplines*, offers 11 chapters introducing the knowledge base of kinesiology. These chapters illustrate the remarkable reach of kinesiology, from contemplation of the meaning of the body (philosophy and history), to the biomechanical and chemical complexities of the body in motion (biomechanics and exercise physiology), to the behavioral and social realities of play and sport in our world (sociology and psychology of sport, motor behavior), to the complexities of teaching, managing and performing across the movement realm in diverse institutional structures (sport pedagogy, sport management, dance, and adapted physical activity). This breadth and depth of knowledge ends the introduction to kinesiology in most texts.

Our text takes another step in illustrating the holistic nature of our comprehensive discipline in Part III, *Integration of the Pillars*. In these chapters, real-life scenarios are narrated in detail, showing how the totality of kinesiology can be crucial in enabling a healthy and joyful course of life for diverse populations. These scenarios, in six chapters, deal with lifelong active habits, maintaining an active lifestyle while making transitions throughout the life span, overcoming injury and illness challenges in pursuing sport, being inclusive in our individual and community participation patterns, and building enduring excellence in performance. Again, for ease of comprehension, each of these diverse chapters follows a common path in which we find (1) a narrative description of the characters in the story, (2) a description of the situational context, (3) a description

of the challenges, (4) the elements of possible solutions using knowledge from the sub-disciplines, and (5) options for solutions and consequences.

The last two chapters offer viewpoints of innovative, cutting-edge ways a kinesiology professional can carve out exciting careers in broad, public health, activity-based initiatives or by taking one's training "on the road" for international opportunities, especially in development work.

What Is New in the Second Edition?

There are numerous enhancements within this edition. We are grateful to the publishers, reviewers, and professionals who adopted our text for their feedback that informed these enhancements.

- There are five new chapters: dance in kinesiology; history of sport/physical education as a sub-discipline; holistic application that fully defines "learner-centered approaches"; evolution of an "Iron Man"; and internationalism in kinesiology.
- Enhancements to chapters from the first edition: the Motor Behavior chapter has a new section on "Challenge Point Frameworks"; the Sociology of Sport chapter has new sections on climate change effects, intersectionality, and the critique of structural power; the Biomechanics chapter has a reduction in previous detail (which seemed more appropriate for follow-up courses) and a sharpened focus on "basic mechanical principles"; the Healthy Living chapter has been updated to the latest ACSM pre-participation health screening guidelines and revised medical clearance criteria; the Diversity chapter added consideration of dealing with deafness challenges and a new section on trauma-inclusive programming.
- All chapters have updated references, increased attention to NACE competencies, as well as new *Stop and Think* and *Discussion* questions.

Features of the Text

This text has multiple aids and benefits built into its narrative.

Each chapter begins with *Learning Objectives* and *Key Terms* that help orient the reader to the chapter content. Key terms are defined in the margins of the text, as well as in the Glossary at the end of the text.

Within the body of each chapter, *Stop and Think* boxes provide questions that will help the student-reader fully grasp the significance of the content. Additional boxes scattered throughout the text also help to amplify content. Chapters within each part also feature a consistent heading structure designed to aid the acquisition of content.

Each chapter ends with a *Chapter Summary* that recaps the chapter content, along with *Discussion Questions*.

Finally, qualified instructors can receive the full suite of Instructor Resources.

We, the authors, hope this text will have significant meaning to you as a cornerstone foundation to your professional library and the “story” of your career in kinesiology.

Carole A. Oglesby

Kim Henige

Douglas W. McLaughlin

Belinda Stillwell

ABOUT THE AUTHORS



Carole A. Oglesby, PhD, AASP-CC

I have been in the professoriate for 45 years earning a PhD in Kinesiology from Purdue University in 1969 and a PhD in Counseling at Temple University in 1999. I was a department chair at Temple from 1992 to 1995 and at California State University, Northridge, from 2003 to 2009.

My years of service lead to recognitions through the Association for Intercollegiate Athletics for Women (AIAW) Award of Merit; the National Association for Girls and Women in Sport (NAGWS) Honor Fellowship; the Women's Sports Foundation Billie Jean King Award; the American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD) R. Tait McKenzie Award; and the American Psychological Association, Division 47, Lifetime Achievement Award in Public Service, International Olympic Committee Award of Merit 2016.

My publications include more than 65 chapters, articles, and essays, as well as four books/monographs. While at Temple University, I advised 49 successful PhD students. I performed consulting work for Olympic/Pan-American Game rowers and cyclists and for a race car driver, along with years of work with collegiate, high school, and youth teams and participants. It is an honor to have been named a Distinguished Alumna at both Purdue and Temple.

Kim Henige, EdD, CSCS, ACSM-EP

I received my BA (emphasis in Exercise Science) and MA (emphasis in Exercise Physiology) in Physical Education from CSU Northridge and my EdD in Education (emphasis in Learning & Instruction in Science Education) from the University of Southern California. I am a Certified Strength & Conditioning Specialist (National Strength and Conditioning Association) and a

Certified Exercise Physiologist (American College of Sports Medicine) with an additional ACSM Exercise is Medicine Credential.

At CSUN, I am a Professor in the Department of Kinesiology and my specialty areas are exercise physiology and applied fitness. Also within Kinesiology, I developed and I supervise a peer learning facilitator program for exercise physiology courses. In addition, I am the Director of Academic First Year Experiences, which is a part of CSUN's Office for Student Success.

I was inspired to write this book because I feel there is a need to present the “big picture” before students begin taking more in-depth courses within the major. I also recognize the importance of helping students apply coursework to real life in order to make it more meaningful. And finally, I believe strongly in the importance of developing and practicing career competencies during the college years.

Douglas W. McLaughlin, PhD

I am a Professor of Kinesiology at California State University, Northridge. I earned my PhD in Kinesiology from the Pennsylvania State University. My research focuses on ethical issues concerning the Olympic Games and the role of physical activity in promoting the good life. I hold the strong conviction that game playing is the central activity of a life most worth living. Playing Ultimate is my most cherished way to express my play spirit, though an arthritic knee has me considering new alternatives. This transition provides an opportunity to reflect on my own efforts to teach students ways to invite and support people to engage in physical activity in intrinsically meaningful ways.

Belinda Stillwell, PhD

I am a Professor in the Kinesiology Department at California State University, Northridge. I received my PhD from Arizona State University in Physical Education/Curriculum and Instruction/Secondary Education. I work extensively with students who are pursuing their undergraduate degrees in kinesiology/physical education, as well as those going on to earn their Single-Subject Preliminary Teaching Credential in Physical Education. My research interests encompass creating and delivering swimming instruction to those students who are afraid in water. In terms of the material in this text, it is my hope to catch and hold students' interest and motivation to learn about the broad nature of kinesiology as it applies to human movement across diverse populations.



Bradley J. Cardinal, PhD

Bradley J. Cardinal is a Full Professor in the Kinesiology Program at Oregon State University, Corvallis, Oregon where he has served since 1997 and where, in 2009, he was recognized as the university's *Elizabeth P. Ritchie Distinguished Professor*, and, in 2017, as the *Oregon State University Alumni Association Distinguished Professor*. At Oregon State he directs the graduate program in Sport and Exercise Psychology, and he holds an Affiliate appointment in the School of Psychological Science. Prior to his service at Oregon State, he served on the faculties of Wayne State University, Detroit, Michigan and Eastern Washington University, Cheney, Washington. His international experience includes serving as a Visiting Professor in-residence at Kasetsart University (Bangkok, Thailand), a Faculty Scholar in-residence at Hong Kong Baptist University (Kowloon, Hong Kong), and a Delegate of the United States to the International Olympic Academy (Olympia, Greece). During his career, he has authored/coauthored more than 300 scholarly articles, 7 books, and 13 book chapters. He has held numerous elected leadership positions including, most notably, President of the National Academy of Kinesiology; President of the Research Consortium of the American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD); and Chair of the President's Council on Sports, Fitness & Nutrition Science Board. He completed his PhD *with Distinction* at Temple University, Philadelphia, Pennsylvania and is an "ACSM Certified Exercise Physiologist" ([ACSM-CEP®]) through the American College of Sports Medicine. For his work, he has been elected a *Fellow* in the American College of Sports Medicine; the American Psychological Association (including both Division 38, the Society for Health Psychology; and Division 47, the

Society for Sport, Exercise & Performance Psychology); the National Academy of Kinesiology (#475); the National Association for Kinesiology in Higher Education (#33); the North American Society of Health, Physical Education, Recreation, Sport, and Dance Professionals; and the Research Consortium of AAHPERD. The Oregon Academy of Science recognized him in 2020 with their *Outstanding Oregon Scientist Award*.

Sean P. Flanagan, PhD, ATC, CSCS

Sean P. Flanagan is a Professor at California State University, Northridge. He received his BS in exercise science (with an emphasis in athletic training) from the Pennsylvania State University, an MS in exercise and sport science (with an emphasis in exercise physiology) from the University of Dayton, and a PhD in biokinesiology (with an emphasis in biomechanics) from the University of Southern California. He is a certified Athletic Trainer (National Athletic Trainers Association), Strength and Conditioning Specialist (National Strength and Conditioning Association), and Exercise Physiologist (American College of Sports Medicine). Additionally, he is a member of the American Society of Biomechanics. His research interests are in the biomechanics of kinetic chains, compensatory motions as a cause and a result of musculoskeletal injury, and the use of resistance exercise to restore, maintain, or improve human function.

Nancy Getchell, PhD

Nancy Getchell is a Professor at the University of Delaware, where she focuses her research on the development and learning of motor control in children with disabilities not usually associated with motor dysfunction, such as autism spectrum disorder and learning disabilities. Recently, she has begun to use functional near-infrared spectroscopy to better understand brain–behavior connections.

Katherine M. Jamieson, PhD

Katherine M. Jamieson is Professor and Graduate Coordinator in the Department of Kinesiology and Health Science at California State University, Sacramento. Her teaching and research interests are focused on issues related to sport, power, and social stratification, including feminist, post-colonial, and queer analyses of transnational sporting spaces that operate at spectacular and non-spectacular levels. Dr. Jamieson's research has been published in the *Sociology of Sport Journal*, the *Journal of Sport and*

Social Issues, *AVANTE*, the *Women in Sport and Physical Activity Journal*, the *Journal of Lesbian Studies*, the *Journal of Physical Education, Recreation and Dance*, and *Reading Sport: Critical Essays on Power and Representation* (Northeastern, 2000).

Taeyou Jung, PhD, ATC, CAPE

Taeyou Jung is a Professor in the Department of Kinesiology at California State University, Northridge and serves as the executive director at the Center of Achievement through Adapted Physical Activity, which has been providing internationally recognized adapted exercise and aquatic therapy programs since 1971. His research focuses on studying movements of people with neuromuscular disabilities and investigating clinical outcomes after therapeutic exercise. He teaches classes in adapted physical activity and therapeutic exercise.

Rubina Khatchaturian, MS

Rubina Khatchaturian studied kinesiology at California State University, Northridge and graduated in 2018. Her areas of interest are: applying systematic desensitization and mindfulness to individuals who are fearful in water, exercise, and nutrition. Currently, she is studying nutrition to become a registered dietitian.

Shayna Kilpatrick, BS, BASI Pilates Certified

Shayna Kilpatrick received her bachelor's degree from California State University, Northridge in kinesiology with an emphasis in exercise science. Her love for human movement and biomechanics, in general, has pushed her to continuously expand her knowledge in the kinesiology field. Shayna's passion for helping others is seen with her work in the Pilates field and has motivated her to pursue a career as a Physical Therapy Assistant.

Reza Koiler, MSc

Reza Koiler is currently a PhD candidate in Biomechanics and Movement Science at University of Delaware. Reza received his master's degree in Mechanical Engineering developing 3D forward dynamic simulations of stroke gait. Currently his research focuses on development of rehabilitation devices and application of neuroimaging techniques such as functional near-infrared spectroscopy to understand, detect, and harvest neuroplasticity in persons with movement difficulties.

Leslie K. Larsen, PhD, CMPC

Leslie K. Larsen is an Assistant Professor in the Department of Kinesiology at California State University, Sacramento in Sacramento, CA. She holds a PhD in Sport Psychology and Motor Behavior from the University of Tennessee and is a Certified Mental Performance Consultant. Leslie serves on the Diversity Committee of the Association for Applied Sport Psychology and the Executive Board of the Western Society for Physical Education of College Women. She also worked as part of the Institutional Equity Collaborative at Sacramento State to develop equity and inclusion training programs for faculty and staff. Her research interests include cultural sport psychology, women in coaching, and coach development and career pathways in coaching.

Andrew D. Linden, PhD

Andrew D. Linden is an Assistant Professor of Sport Studies in the Department of Kinesiology at the California State University, Northridge. He researches and teaches on the intersections of sport and politics, with a specific focus on the history of social movements and sport. He received his PhD from the Pennsylvania State University and his MA and BA from the Ohio State university. His research has appeared in journals such as the *Journal of Sport History*, *The International Journal of the History of Sport*, and the *Journal of Sport and Social Issues*.

Steven Loy, PhD

Steven Loy has years of experience as an exercise physiologist. In the first decade of his career, he focused on teaching and completing publications based on traditional laboratory research. With the recognition of exercise as a significant part of the solution to many of the diseases that are prevalent in today's society, he shifted his attention to the public health arena, which has been his focus for the last 15 years. His intentions are to have professionals in public health recognize the contributions kinesiology can make to improve population health and the importance of creating jobs for kinesiology professionals. Throughout his career, he has emphasized the importance of experiences gained and professionalism demonstrated by the students he teaches.

Melissa A. Mache, PhD

Melissa A. Mache is an Associate Professor of Kinesiology at California State University, Chico. Her work as an applied biomechanist focuses on enhancing the safety and skill of human movement. In addition, she is interested in developing means of improving student learning in undergraduate biomechanics. She holds a doctorate in Exercise and Sport Sciences from Oregon State University and a Master's degree in kinesiology from California State University, Chico.

Mai Narasaki-Jara, EdD

Mai Narasaki-Jara is an Assistant Professor in the Department of Kinesiology and Health Promotion at California State Polytechnic University, Pomona. Her special areas of interest are movement disabilities, attitudes toward people with disabilities, and service learning program in higher education. She would like to thank Lawrence Fong for agreeing to be part of this book chapter. Because of his contribution, students will have an amazing opportunity to learn. She also would like to thank her co-author, Belinda, for her continuous mentorship. Lastly, she wants to thank her husband Mike for everything, from reading early drafts to keeping little ones out of her lap so she could complete writing the chapter.

Adam G. Pfleegor, PhD

Adam G. Pfleegor is an Associate Professor of sport administration at Belmont University in Nashville, TN. His research expertise centers around the use of ethical and philosophical theory to examine a variety of ethical and social topics in sport management and philosophy. He recently contributed to the newest edition of the textbook, *Ethics and Morality in Sport Management*. Dr. Pfleegor serves on the executive board of the International Association for the Philosophy of Sport (IAPS). He was honored as a Gerald "Gerry" D'Agostino Distinguished Scholar by his alma mater, The College at Brockport, State University of New York.

Ashley Samson, PhD, CMPC

Ashley Samson is an Associate Professor at California State University, Northridge in the Kinesiology department where she teaches courses on sport psychology and sport sociology and conducts research on athletes.

She is also the sport psychology consultant for the Matador Athletics department where she works with athletes at both the team and individual level to maximize the mental side of their performances. Her research primarily focuses on self-perceptions in endurance athletes, and she also has a personal and professional interest in mindfulness and yoga work. Ashley's research has been published in national and international journals and has been featured in *Runner's World*, Yahoo Health, and on NPR's Weekend Edition. She has her CMPC credentials from the Association for Applied Sport Psychology and is listed on the USOPC's Sport Psychology Registry. In her personal time, Ashley trains and competes in the equestrian sport of Three Day Eventing, in addition to trail running and practicing yoga.

Jaime Schultz, PhD

Jaime Schultz is a Professor of Kinesiology at Pennsylvania State University, with an affiliate faculty appointment in Women's, Gender, and Sexuality Studies. She is the author or editor of six books, including *Qualifying Times: Points of Change in U.S. Women's Sport History* (University of Illinois Press, 2014), *Women's Sports: What Everyone Needs to Know* (Oxford University Press, 2018), and *Women and Sports in the United States: A Documentary Reader* (Lebanon, NH: University Press of New England, 2019), co-edited with Jean O'Reilly and Susan K. Cahn. In addition, she has published more than 50 articles and chapters, most of which focus on the history and politics of women's sports. An award-winning teacher and a recipient of the Fulbright Senior Scholar Award, Schultz currently serves as the academic editor of the *International Journal of the History of Sport* and as co-editor for the University of Illinois Sport and Society series.

Maureen Smith, PhD

Maureen Smith teaches sport sociology and sport history at California State University, Sacramento. She is an active member of the North American Society for the Sociology of Sport, as well as the North American Society for Sport History. Her research interests are varied, and include material culture in sport, such as sport statues, African American sporting experiences in the 20th century, as well as topics related to women in sport, including the Olympics and Paralympics.

Paula Thomson, PsyD

Paula Thomson is Professor in the Department of Kinesiology, California State University, Northridge (CSUN). She is a licensed Clinical Psychologist and Professor Emeritus and Senior Scholar at York University (Canada). She is Co-Director of the Performance Psychophysiology Laboratory at CSUN, which focuses on research investigating the psychological and physiologic effects of stress on performers, athletes, and healthy active individuals. She is co-author of two books: *Creativity and the Performing Artist: Behind the Mask* and *Creativity, Trauma, and Resilience*. She has worked professionally in the performing arts, including choreographer at Stratford Shakespearean Festival, Canadian Opera Company, Canadian Stage Company, Artistic Director/Choreographer for Northern Lights Dance Theatre and she continues to work professionally as a choreographer and dance educator. In 2013, she was named one of the top 20 female professors in California.

Teri Todd, PhD

Teri Todd is an Associate Professor in the Department of Kinesiology at California State University, Northridge, as well as the director of clinical operations at the Center of Achievement where she develops and oversees adapted physical activity programs for children. She completed her master's and PhD at McGill University, Montreal, Quebec, in the areas of adapted physical activity and educational psychology. Her passion is working with individuals with developmental disorders. Her research has focused on encouraging physical activity for people with autism spectrum disorder.

William Whiting, PhD, FACSM, CSCS

William Whiting earned a bachelor's degree in mathematical sciences from Stanford University and his master's and PhD degrees in kinesiology from UCLA. He has been a Professor in the Department of Kinesiology at California State University, Northridge, since 1994, and also serves as an Adjunct Professor in the Department of Integrative Biology and Physiology at UCLA. He has numerous journal publications and has coauthored two textbooks. His research interests include the biomechanics of the human musculoskeletal system, with particular interest in performance enhancement and injury reduction.



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Kinesiology: Its Fundamentals and Paradoxes



Foundations and Pathways to the Pillars

KIM HENIGE, DOUGLAS W. McLAUGHLIN,
CAROLE A. OGLESBY, AND BELINDA STILLWELL

LEARNING OBJECTIVES

1. Identify and describe four paradoxes found in the discipline of kinesiology.
2. Define *kinesiology*.
3. Identify the various forms of movement.
4. Describe the subdisciplines of kinesiology.
5. Identify and define the three strata into which kinesiology is organized.
6. Describe the popularity of kinesiology as a college major.
7. Identify four of the most highly valued competencies that employers look for in new college graduates.
8. Identify two of the competencies employers indicate that new graduates lack the most.
9. Explain the differences between teacher-centered and learner-centered approaches to learning.
10. List the five principles of the learner-centered approach and describe how these principles may be used in class to enhance learning.
11. Describe why our understanding of what it means to be a person has important implications for our field.

12. Describe how physical activities, when considered holistically, are informed by all of the subdisciplines of kinesiology.
13. Describe how both “good” and “bad” (pleasant/unpleasant) movement experiences can deepen your commitment to bring kinesiology and movement activity to everyone.

KEY TERMS

American Kinesiology Association (AKA)	interpersonal skills
career readiness	kinesiology
competency approach	learner-centered
competency skills	learner-centered strategies
empowered learner	learning skills
experiences of physical activity	mentor
focus	physical activity
guiding principles	prepared
holistic approach	self-assessment
human movement	subdiscipline

Introduction

What brings you here? We hope that is a question that intrigues you. What brings you to be reading this page right now; to be attending this university; choosing this major? Perhaps there is a “quick and easy” answer that you have found to turn aside the many people who have asked those questions of you since you made the decisions that brought you here. Perhaps there are some deeper aspects to these questions that you would prefer not to face right now because the answers are not that clear. We are writing this text, in large part, because we have taught the “Foundations” courses over many years and witnessed hundreds and hundreds of students who struggled with such questions. Worse yet was the situation of students who shrugged off the questions as “unknowable” and just plowed ahead into a great unknown with nothing on their side but blind trust. We are committed to each of you having much more than blind trust as you go forward with us.

Life’s “big choices” (such as what course of study will be the fundamental grounding of career and life work) tend to be complicated with networks



of explanations running in all directions. Additionally, the explanatory networks may be emotion-based, subjective, and not completely obedient to laws of logic. It is highly probable that one reason for the choice you made to be reading this text is that it is required for a course you are taking. It is also highly likely that the course you are taking is an “introduction” to your choice of major—**kinesiology**.

There are many paradoxes and curiosities to be found in kinesiology and the choice of this area of study as a major. We think it is important to name some of these curiosities right from the start. It is a good first step in knowing and appreciating the path you have chosen. Of course, we think you have made the choice of a lifetime in becoming a kinesiology major (but more about that as we go along).

Paradox 1: If you are new to a college campus, it is quite possible that you have chosen to major in a field in which you have never taken a class. In secondary schools, students

kinesiology

The study of the art and science of human movement.

STOP AND THINK

Divide into groups of three. Describe to your partners your main motivations to major in kinesiology at your institution.

STOP AND THINK

Team A was heavily favored to defeat Team B in an important tournament, but Team B won.

- How would a kinesiology major who focuses on the physiology and biomechanics of performance explain this outcome?
- How would a kinesiology major who focuses on psychology explain this outcome?
- How would a philosophy-oriented kinesiology major explain this outcome?
- What is gained by looking at all of these factors in explaining the outcome?

take courses in “physical education” but not kinesiology. Chemistry is still chemistry in high school and biology is still biology. Why is kinesiology different? Some of your fellow kinesiology majors are extraordinarily fit and athletic; many scholarship athletes. Other students may seem somewhat ungainly and not able to move comfortably for any number of significant reasons. The athletes say they choose the major because of their “love of sport” and they want the opportunity to bring it to everyone. The less-abled say they love sport as well and are committed to bringing sport opportunities to all those who, like themselves, are in danger of missing it completely.

Paradox 2: How can people come to a common mission in kinesiology from vantage points that are as different from one another as chemistry, biology, *psychology* or philosophy? Are there ways to discern commonality in the face of great diversity? We will explore the many meanings of the term “diversity” in kinesiology frequently in later chapters.

Paradox 3: How can a discipline that begins as one apparently limited to the “physical realm” ever be understood as one that is among the most holistic in the academic community?

We will deal more directly with physical education/kinesiology history in later sections but it is important to mention a bit about our history here as an aspect of our definitional complexity. If we could go back to a time as recent as the 1960s, people in our field were very easy to find on a college campus. We were called “PE-Physical Education” and we were usually physically housed in a “gym.” We might have shared the space with the Athletic Department and, in fact, Athletics may have gotten the prime offices and play spaces. Our unit was either put together with Athletics or existed as a small “College” along with professionals in health, recreation and dance or we were included in the College of Education. We were understood to immerse ourselves in “squats” (exercise) and sports. Finally, we existed as two, separated, departments for men and for women and the programs of study for each were different from one another.

Kind of amazing isn’t it? As a consequence of many diverse forces (which will be explored later), men and women professionals merged into one field