

## UNIVERSITY OF CALGARY FACULTY OF ARTS SCHOOL OF CREATIVE AND PERFORMING ARTS DNCE 363 Dance Science Winter 2018

Instructor	Sarah Kanny DhD					
	Sarah Kenny PhD					
Office	KNB 246; CHD 529					
Email	kennys@ucalgary.ca					
Office Hours	By appointment					
Day(s), time(s) and	Tuesdays and Thursdays, 8:00 – 9:50am					
location of class	CHE 011 and CHE 012					
Learning resources:	DNCE 363 Course Blog					
required readings,	https://library.ucalgary.ca/guides/dance/courseblog/dnce-363-dance-science					
textbooks and materials	Marc Stoeckle, Dance Librarian mstoeckle@ucalgary.ca					
	Required Texts (available for purchase at Campus Bookstore)					
	1. Simmel, L. (2014). Dance medicine in practice. London: Routledge.					
	2. Clippinger, K. (2015). Dance anatomy and kinesiology (2 <sup>nd</sup> ed.). Champaign: Human					
	Kinetics.					
	Recommended Texts					
	1. Calais-Germain, B. (1993). Anatomy of movement. Seattle: Eastland Press.					
	2. Farhi, D. (1996). The breathing book. New York: Henry Holt.					
	3. Grossman, G. (2015). Dance science: Anatomy, movement analysis, conditioning.					
	Hightstown: Princeton Book Company.					
	4. Haas, J. (2010). Dance anatomy. Champaign: Human Kinetics.					
	5. Howse, J., & McCormack, M. (2009). Anatomy, dance technique and injury					
	prevention (4th ed.). London: Bloomsbury Publishing PLC.					
	6. Koutedakis, Y., & Sharp, N. C. C. (1999). The fit and healthy dancer. Chichester:					
	Wiley.					
	<ol> <li>Krasnow, D., &amp; Wilmerding, M. V. (2015). Motor learning and control for dancers. Champaign: Human Kinetics.</li> </ol>					
	8. Laws, K., & Sugano, A. (2008). Physics and the art of dance: Understanding					
	movement (2nd ed.). New York: Oxford University Press, Inc.					
	9. Olsen, A. (1998). Body stories: A guide to experiential anatomy. New York: Station Hill Openings.					
	10. Quin, E., Rafferty, S., & Tomlinson, C. (2015). Safe dance practice. Champaign:					
	Human Kinetics.					
	11. Solomon, R., Solomon, J., & Micheli, L. J. (Eds.) (2017). Prevention of injuries in the					
	young dancer. Cham: Springer.					
	12. Taylor, J., & Estanol, E. (2015). Dance psychology for artistic and performance					
	excellence (2nd ed). Champaign: Human Kinetics.					
	13. Thomas, J., Nelson, J., Silverman, S. (2015). Research methods in physical activity					
	(7th ed). Champaign: Human Kinetics.					
	14. Wilmerding, M. V., & Krasnow, D. (2017). Dancer wellness. Champaign: Human					
	Kinetics.					

	Dance Science Journals
	Journal of Dance Medicine and Science
	Medical Problems of Performing Artists
	IADMS Resource Papers, Bulletins for Teachers
	IADMS Online Bibliography: http://www.iadms.org/?page=bibliographyonline
	Dance Health Blogs
	http://www.iadms.org/blogpost/1177934/General
	http://www.4dancers.org/category/4dancers/dance-wellness/
Prerequisites	Dance 235; and Kinesiology 259/Dance 359; and two of Dance 205, 207, 209, 211, 221.
Supplementary fees	None.
Course description	The scientific study of dance and dancers, and the practical application of scientific
	principles to dance practice.
	This course will develop knowledge, comprehension, application and evaluation of:
	dance movement analysis (i.e. structure, function, role of gravity)
	biomechanics (i.e. terminology, musculoskeletal system, postural assessment)
	physiology (i.e. neuromuscular system, respiratory system, energy system)
	nutrition (i.e. energy sources, hydration, somatotypes, female athlete triad)
	psychology (i.e. motivation, confidence, psychological skills)
	somatics (i.e. kinaesthetic awareness, movement efficiency, breath patterns)
	• safe dance practice (i.e. risk identification, injury prevention, injury management)
	• scientific research strategies (i.e. design, methodology, quantitative, qualitative)
	All classes will involve lecture and studio activities. In each class, we will be moving,
	talking, and/or taking notes. Observation and hands on work will facilitate the
	exploration of ideas. Please take care of your own comfort and dress appropriately.
Course learning	By the completion of this course, successful students will be able to:
outcomes	1. explain the principles of kinesiology (i.e. anatomical and biomechanical
	organization) that underline the performance of human movement
	2. conduct a comprehensive movement analysis of a dance phrase
	3. reflect on the application of kinesiology to their own dance practice
	4. integrate issues of health and safety into their own dance practice
	5. describe physiological, biomechanical, and psychological processes relevant to
	dance
	6. compare different research designs and scientific methodologies
	7. present a dance science research proposal (literature review, objective, research
	plan, significance)
	8. defend the importance of scientific research and its application to a dancer's
	training, performance enhancement, health and wellness, and injury prevention
Course schedule	See below.
Assessment	Assignment 1: Participation
components	Value: 10% of final grade
	Description: A participation grade will be awarded for arriving to class on time, being
	prepared to work, and being fully engaged in class (e.g. involvement in experiential
	work, note taking, and engaging in discussions during lectures). The completion of
	various weekly tasks (e.g. keeping a food diary, sharing journal articles, contributing to
	various weekly tasks (e.g. keeping a lood dialy, sharing journal articles, contributing to

forums on D2L) is also included. Marks will be deducted if you miss more than one
week of class (i.e. 2 classes) – see Assessment Expectations below.
Assignment 2: Movement Analysis Exam
Value: 20% of final grade
Due Date: Tuesday January 30, 2018 at 8:00am
Type: Written exam
Description: Short-answer questions will assess your knowledge of material covered in
class and weekly readings from weeks 1 – 3. You will conduct a series of kinesiological
analyses (e.g. movement planes, major joints, primary muscles) of simple dance
movements.
Assignment 3: Self Profile Essay
Value: 30% of final grade
Due Date: Thursday March 22, 2018 at 8:00am
Type: Written essay
Description: The Self Profile Essay will address a personal observation(s) made on at
least one of the following topics: nutrition, psychology, biomechanics, somatics, or
physiology. Rather than try to change anything, you will simply observe and reflect
upon the impact that your observation(s) has had on your current dance training. To
conclude, recommendations for continued personal improvement in your dance practice, specific to your observation, will be made. Relevant literature will support
your essay and a bibliography will be included. Referencing will follow the format of
the Journal of Dance Medicine and Science (JDMS).
Assessment Criteria
By the completion of this assessment, successful students will be able to:
• describe and analyze a personal observation(s) using appropriate scientific
terminology
• discuss the impact of this personal observation(s) on your current dance training
• formulate recommendations for an improved, injury free dance practice in relation
to personal observation(s)
• support all discussion points with relevant, current dance science literature
• write a clear and coherent 5-page essay with an introduction, body, and conclusion
that is free from grammatical and spelling errors
Assignment 4: Research Proposal
Value: 40% of final grade
Due Date: Tuesday April 10, 2018 at 8:00am
Type: Individual Written Paper (20%); Group Oral Presentation (20%)
Description: You will be required to work together in partners to propose a specific dance science research project. The proposal will be referred to in future tense (i.e.
dance science research project. The proposal will be referred to in future tense (i.e. will, will be). With reference to material covered in class, current dance science
literature and an understanding of scientific methodology, you will discuss why you
think this particular research project is necessary (background, objective) and how it
could be implemented (research plan – participants, procedures, analysis). The
conclusion (significance) will explain the impact that your project will have on future
dance practice and dance science research as a whole.
Your research proposal will be assessed in two ways:

	1. Individually, each student will write and submit a 5-page written paper of the proposal.
	2. Together, the group will deliver an oral presentation of the research proposal.
	Assessment Criteria
	By the completion of this assessment, successful students will be able to:
	<ul> <li>describe the relevance of the proposed dance science research project to dance practice</li> </ul>
	design an appropriate research plan to execute the proposed project
	<ul> <li>explain how the proposed project will impact dance science research on the whole</li> <li>follow standard scientific framework</li> </ul>
	Specific to individual written paper
	• write a clear and coherent 5-page research proposal that is free from grammatical and spelling errors
	Specific to group oral presentation
	<ul> <li>present effectively (i.e. coherent PowerPoint slides (or equivalent), clear speaking, eye contact, easeful transitions between group members)</li> </ul>
	answer questions and expand ideas as required
Assessment	Guidelines for Submitting Assignments
expectations	Movement Analysis Exam: The exam will take place during class time (8:00 – 9:50am).
	Self Profile Essay: A hard copy of your essay will be handed in at the beginning of class (8:00am).
	Research Proposal: A hard copy of the written paper, as well as all PowerPoint (or equivalent) slides for the oral presentation will be handed in at the beginning of class (8:00am). If anyone is absent on the day of presentation, your group will be expected to continue without that person.
	Criteria That Must Be Met to Pass
	See Assessment Criteria for each Assignment above. In order to achieve a passing grade in the course, the minimum requirement is D.
	Expectations for Writing Writing skills are important to academic study across all disciplines. Consequently, instructors may use their assessment of writing quality as a factor in the evaluation of student work. Please refer to the Undergraduate Calendar E.2 Writing Across the
	Curriculum policy for details. Guidelines for Formatting Assignments
	Self Profile Essay: You will put a title, your name and UCID on a cover sheet. The body of the essay will be at maximum 5 pages, typed, single sided, double spaced, 12 point font, with default margins. A separate reference page will complete the essay with a minimum of 4 references that follow the formatting structure of the Journal of Dance Medicine and Science (on D2L).

Grading scale	For the course as a whole, letter grades should be understood as follows, as outlined in the section F.1.1 Undergraduate Grading System of the Undergraduate Calendar for 2017-2018:
	<ul> <li>If you miss more than two weeks of classes (i.e. 4 classes), you have the potential to fail the course.</li> <li>If you show up late for or leave early from class, this will be counted as half an absence.</li> <li>If for some reason you are feeling unwell during class time, a substitute form of participation may be arranged; however, you may not obtain this privilege more than once and you will receive half an absence.</li> <li>For studio courses, if you opt out of full participation and choose to sit for a portion of the class, this will be counted as non-participation and will be marked as half an absence.</li> <li>Students are responsible for any and all material missed during an absence.</li> <li>If you sustain a significant injury during the term that will impact your participation for longer than a week's worth of classes and if this injury is verified by a medical practitioner's note, your case will be submitted to the Dance Division Committee to address your situation.</li> </ul>
	<ul> <li>A significant part of your grade is based on participation. Participation means not only showing up for class, but also attending to the material at hand with effort and engagement.</li> <li>With regard to participation, classes are considered equivalent to assignments. Thus, more than 2 absences per term will have an adverse effect on your final grade.</li> <li>If you miss more than one week of classes (i.e. 2 classes), your final grade will begin to drop by as much as 10% per missed class.</li> </ul>
	objective, research plan – participants, procedures, analysis, and significance).         Late Assignments         The Self Profile Essay will not be accepted beyond the day that it is due: Thursday         March 22, 2018. If it is submitted after 8:00am, then your grade will be affected by as much as 10%.         Expectations for Attendance and Participation:         Please refer to the Undergraduate Calendar E.3 Attendance for details.         FOR GRADED DANCE STUDIO COURSES
	<ul> <li>Research Proposal:</li> <li>Individual Written Paper – You will put a title, your name and UCID on a cover sheet.</li> <li>The body of the written paper will follow standard scientific framework (i.e.</li> <li>background, objective, research plan – participants, procedures, analysis, and</li> <li>significance). It will be at maximum 5 pages, typed, single sided, double spaced, 12</li> <li>point font, with default margins. A separate reference page will complete the essay</li> <li>with a minimum of 4 references that follow the formatting structure of the Journal of</li> <li>Dance Medicine and Science (on D2L).</li> <li>Group Oral Presentation – Your 10-minute oral presentation of a potential dance</li> <li>science research project will follow standard scientific framework (i.e. background,</li> </ul>

	Grade	Percent	GPA	Description	
	A+	96-100	4.00	Outstanding.	
	A	91-95	4.00	Excellent-superior performance, showing comprehensive	
		51 55	4.00	understanding of subject matter.	
	A-	86-90	3.70		
	B+	81-85	3.30		
	B	76-80	3.00	Good - clearly above average performance with knowledge	
		,000	5.00	of subject matter generally complete.	
	B-	71-75	2.70		
	C+	66-70	2.30		
	C	61-65	2.00	Satisfactory - basic understanding of the subject matter.	
	C-	56-60	1.70	Receipt of a grade point average of 1.70 may not be	
		50 00	1.70	sufficient for promotion or graduation. (See individual	
				undergraduate faculty regulations.)	
	D+	51-55	1.30		
	D	46-50	1.00	Minimal pass - marginal performance; generally insufficient	
				preparation for subsequent courses in the same subject.	
	F	45 and	0	Fail - unsatisfactory performance or failure to meet course	
		below		requirements.	
	Notes:			· · · · · · · · · · · · · · · · · · ·	
	-			nay not be sufficient for promotion or graduation, see specific	
	faculty	regulations	s.		
	The nu	mber of "D	" and "D	+" grades acceptable for credit is subject to specific	
	undergraduate faculty promotional policy.				
Academic	Students se	eeking an ac	commo	dation based on disability or medical concerns should contact	
accommodation	Student Ac	cessibility S	ervices (	SAS); SAS will process the request and issue letters of	
	accommod	ation to ins	tructors.	For additional information on support services and	
	accommodations for students with disabilities,				
		visit ucalgary.ca/access/accommodations/policy. Students who require an accommodation in			
		relation to their coursework based on a protected ground other than disability should			
		communicate this need in writing to their Instructor.			
		-		mmodations is available	
				licies/student-accommodation-policy.pdf	
Academic integrity,		The University of Calgary is committed to the highest standards of academic integrity and			
plagiarism		honesty. Students are expected to be familiar with these standards regarding academic honesty			
		-		ne University in this respect. Students are referred to the section	
	. –	on plagiarism in the University Calendar ( <u>ucalgary.ca/pubs/calendar/current/k-5.html</u> ) and are			
	reminded that plagiarism—using any source whatsoever without clearly documenting it—is a extremely serious academic offence. Consequences include failure on the assignment, failure the course and possibly suspension or expulsion from the university. You must document not only direct quotations but also paraphrases and ideas where they appear in your text. A reference list at the end is insufficient by itself. Readers must be able to tell exactly where you words and ideas end and other people's words and ideas begin. This includes assignments submitted in non-traditional formats such as Web pages or visual media, and material taken from such sources. Please consult your instructor or the Student Success Centre (TEDL 3rd				
	from such sources. Please consult your instructor or the Student Success Centre (TFDL				
CCDA Librarian	Floor) if you have any questions regarding how to document sources.				
SCPA Librarian	Marc Stoeckle, MLIS, BA				
	Learning & Services Librarian for School of Creative & Performing Arts and School of Languages, Linguistics, Literatures & Cultures   Libraries & Cultural Resources, University of Calgary				
	Ph: 403.220.6777, Email: <u>mstoeckle@ucalgary.ca</u> , Office: TFDL 160D				
Student misconduct					
FOIP	ucalgary.ca/pubs/calendar/current/k-3.html				
Emergency evacuation	ucalgary.ca/legalservices/foip				
Emergency evacuation					
	POINT FOR CRAIGIE HALL IS THE PROFESSIONAL FACULTIES FOOD COURT.				

	For more information, see the University of Calgary's Emergency Management website:				
	ucalgary.ca/emergencyplan/assemblypoints				
Internet and electronic	elearn.ucalgary.ca/category/d2l/				
communication device	ucalgary.ca/emergencyplan/emergency-instructions/uc-emergency-app				
	The in-class use of computers may be approved by your Instructor. Cell phones and other				
	electronic communication devices should be silenced or turned off upon entering the				
	classroom. If you violate the Instructor's policy regarding the use of electronic communication				
	devices in the classroom, you may be asked to leave the classroom; repeated abuse may result				
	in a charge of misconduct. No audio or video recording of any kind is allowed in class without				
	explicit permission of the Instructor.				
Safewalk	220-5333 anytime. ucalgary.ca/security/safewalk				
Students' union and	Student Union: <a href="mailto:suucalgary.ca/about/who-we-are/elected-officials/">suucalgary.ca/about/who-we-are/elected-officials/</a>				
ombudsperson	Faculty of Arts reps: arts1@su.ucalgary.ca; arts2@su.ucalgary.ca; arts3@su.ucalgary.ca;				
contacts	arts4@su.ucalgary.ca				
	Graduate Student's Association: ucalgary.ca/pubs/calendar/grad/current/graduate-students-				
	association-gsa-grad.html				
	Student Ombudsman: ucalgary.ca/ombuds/contact				
Midterm and final	Final examinations may be scheduled at any time during the examination period (Dec. 11-21				
examination scheduling	for Fall 2017 term; Apr. 16-26 for Winter 2018 term; June 28-30 for Spring 2018 term; Aug. 17-				
	20 for Summer 2018 term); students should therefore avoid making prior travel,				
	employment, or other commitments for this period. If a student is unable to write an exam				
	through no fault of his or her own for medical or other valid reasons, documentation must be				
	provided and an opportunity to write the missed exam may be given. Students are encouraged				
	to review all examination policies and procedures: <u>ucalgary.ca/registrar/exams/deferred_final</u>				
Deferrals of	It is possible to request a deferral of term work or final examinations for reasons of illness,				
exams/term work	accident, family or domestic affliction, or religious obligations. Please check with your advisor if				
	any of these issues make it impossible for you to sit an exam or finish term work by stated				
	deadlines. ucalgary.ca/registrar/exams/deferred_final				
	ucalgary.ca/pubs/calendar/current/g-6.html				
	ucalgary.ca/pubs/calendar/current/g-7.html				
SCPA Claim Your Seat	1. The Claim Your Seat (CYS) program allows all University of Calgary students to attend on-				
Program: Student	campus School of Creative and Performing Arts (Dance, Drama and Music) events free of				
Guidelines	charge.				
	2. Depending on the performance, there is a limited number of seats available for CYS. There				
	is not a guarantee that tickets will be available for all CYS patrons for every performance,				
	based on audience size, demand, etc.				
	3. CYS tickets are a privilege. If a student receives a ticket to attend a performance, it is				
	expected that they will respect the value of the admission and attend the performance.				
	4. Process for students: On the date of the performance, from the time the Box Office opens				
	until 15 minutes prior to the performance start time, they arrive to the CYS table next to				
	the Box Office and show their Unicard. If students arrive after 15 minutes prior to the				
	performance start time, they can go to the Box Office and purchase a ticket at the student				
	rate. Students should not go to the Box Office unless they are purchasing a ticket.				
	5. If students have a course requirement to attend a performance for a specific date, access				
	to the tickets will be communicated by the instructor to University Theatre Services prior to				
	the event. The best guarantee for a free ticket is to arrive early, up to 45 minutes prior to				
	the performance start time.				
	6. Respect for the Front of House and theatre staff, performers and fellow patrons is an				
	absolute requirement. Failure to comply with this will lead to being asked to leave the				
	venue and could result in the revoking of CYS privileges.				
Academic standing	ucalgary.ca/pubs/calendar/current/f.html				
Campus security	220-5333. Help phones: located throughout campus, parking lots, and elevators. They connect				
	directly to Campus Security; in case of emergency, press the red button.				

Copyright	It is the responsibility of students and professors to ensure that materials they post or distribute			
	to others comply with the Copyright Act and the University's Fair Dealing Guidance for			
	Students. Further copyright information for students is available on the Copyright Office web			
	page ( <u>library.ucalgary.ca/copyright</u> ).			
Faculty of Arts program	For academic advising, visit the Arts Students' Centre (ASC) for answers about course			
advising and student	registration, graduation checks, and the 'big picture' on programs and majors. Drop in at SS102,			
information resources	email at ascarts@ucalgary.ca or call at 403-220-3580. You can also visit the Faculty of Arts			
	website at <u>arts.ucalgary.ca/undergraduate</u> which has detailed information on common academic concerns.			
	For academic success support, such as writing support, peer support, success seminars, and			
	learning support, visit the Student Success Centre on the third floor of the Taylor Family Digital			
	Library (TFDL), email them at <u>success@ucalgary.ca</u> or visit their website at <u>ucalgary.ca/ssc/</u> for			
	more information or to book an appointment.			
	For enrolment assistance, including registration (add/drop/swap) changes, paying fees, and			
	navigating your Student Centre, contact Enrolment Services at 403-210-ROCK [7625], by email			
	at <u>futurestudents@ucalgary.ca</u> or visit them at the MacKimmie Block 117.			
Course outlines for	It is possible that you will be asked for copies of this outline for credit transfers to other			
transfer credit	institutions or for proof of work done. It is the student's responsibility to keep these outlines			
	and provide them to employers or other universities when requested. Please ensure that			
	outlines of all the courses you take are kept in a safe place for your future reference.			
	Departments/Programs do not guarantee that they will provide copies.			
Letter of permission	If you wish to study at another institution while registered at the U of C, you must have a letter			
	of permission. You can submit your request through your Student Centre at MyUofC. Students			
	must have the Letter of Permission before they take the course at another school. Failure to			
	prepare may result in no credit awarded and could result in suspension from the faculty.			
Undergraduate	DUS: Drama Undergraduate Society, CHC 005 uofcdus@gmail.com			
associations	MUS: Music Undergraduate Society, CHF 219 undmusic@ucalgary.ca			

## DNCE 363: Dance Science Course Schedule

Week	Dates	Tuesday. 800 – 950	Thursday. 800 – 950				
		Introduction to course: Why is science	Movement Analysis: muscular function,				
1	Jan 9 + 11	important for dance?	role of gravity, postural assessment				
			Reading Clippinger Ch 8				
<b>2</b> Jan 16 + 18		Lower Limbs: foot, ankle, knee	Body Center: hip, spine				
Z	Jan 16 + 18	Reading Simmel Ch 5-6, Clippinger Ch 5-6	Reading Simmel Ch 2-4, Clippinger Ch 3-4				
3	Jan 23 + 25	Upper Limbs: shoulder, elbow	Review				
5	Jan 25 + 25	Reading Simmel Ch 7, Clippinger Ch 7					
4	Jan 30 + Feb 1	Due Movement Analysis Exam	Nutrition: energy sources, somatotypes Reading Simmel Ch 9, Yannakoulia 2002				
		Nutrition: specific needs of the dancer	Motor Learning: applications of sport				
-	Fab C + O	Guest Kim Wagner Jones, RD	technology to dance movement				
5	Feb 6 + 8	Hand-in 3-day Food Diary	Guest Dr. Larry Katz				
		Applied Psychology: motivation, self-	Applied Psychology: self-care, stress				
		confidence, psychological skills	management				
6	Feb 13 + 15	<b>Reading</b> Simmel Ch 8, Nordin-Bates 2014	Guest Dr. Angela Grace				
	Feb 20 + 22	READING WEEK					
		Applied Biomechanics: physics of dance	Applied Biomechanics				
7	Fab 27 + Mar 1	Reading Simmel p3-10, Clippinger Ch 1-2,	Field trip to Human Performance Lab (HPL)				
7	Feb 27 + Mar 1	Krasnow 2011	Guest Jordyn Vienneau MSc				
		Applied Physiology: energy systems,	Article Sharing: class discussion of articles				
0	Marcia	components of fitness, fatigue	to support Self Profile Essay				
8	Mar 6 + 8	Reading Simmel Ch 12; p19-23, Bronner	Post abstract, summary, link to D2L				
		2016					
		Somatic Practice: nervous system,					
9	Mar 13 + 15	kinaesthetic awareness, breath patterns	No class: Mainstage opens				
		Reading Batson 2009					
		Research Methods: qualitative and	Research Methods: literature search and				
10	Mar 20 + 22	quantitative, study design	retrieval strategies				
		Guest Alyssa Perron MSc	Guest Marc Stoeckle				
		Due General topic for research proposal	Due Self Profile Essay				
		Research Methods: principles of	Research Methods: structure of a scientific				
11	Mar 27 + 29	critical appraisal	study, oral presentation skills				
		Reading Ekegren 2014					
12	Apr 3 + 5	Group Tutorials; Guided study time	Group Tutorials; Guided study time				
13	Apr 10 + 12	Due Group Presentations	Reflection and Evaluation				