

**COURSE SYLLABUS**  
**OAKLAND UNIVERSITY, SCHOOL OF HEALTH SCIENCES**  
**DEPARTMENT OF EXERCISE SCIENCE**

**TITLE OF COURSE:** BIOMECHANICS

**COURSE #:** 11529 - EXS 5020 (*formerly EXS 525*)

**DAY/TIME:** WED 6:30pm-9:00pm

**YEAR:** 2018

**PROFESSOR:** Daniel J. Goble, PhD

**CLASS LOCATION:** HHB 5036

**OFFICE PHONE NUMBER:** 248-364-8688

**EMAIL:** dgoble@oakland.edu

**OFFICE:** HHB 3156

**OFFICE HOURS:** MON 12pm-2pm

**CREDITS:** 3

**PRE-REQs:** EXS 3020 (*formerly EXS 350*)

**COURSE DESCRIPTION:**

This course emphasizes the principles of mechanics applied to human movement. Students learn the principles of applied kinesiology for the analysis of exercise, gait and physical activity in recreational and occupational settings. Qualitative and quantitative techniques for human motion analysis are presented.

**LEARNING OUTCOMES:**

Students in this class will learn how to:

1. Provide examples of the fundamental role movement plays in daily life.
2. Describe reasons why it is important to quantify movement for the purposes of improving performance in both healthy and disabled individuals.
3. Present and critically evaluate a research article related to the biomechanical assessment of movement.
4. Develop a biomechanics research question with some application to either sport or clinical settings.
5. Test a biomechanical research question using a fundamental biomechanics technique.
6. Collect and analyze biomechanical data to help answer a biomechanics research question.
7. Demonstrate biomechanical research findings in a clear and convincing manner through written and oral presentation methods.

**REQUIRED TEXT:**

No text required

**COURSE FORMAT:**

Traditional

## **CLASS SCHEDULE:**

### Week 1 (Jan 3)

- Course overview and expectations
- Movement appreciation and biological signals
- Bonus Assignment – How do we assess balance?

### Week 2 (Jan 10)

- Assignment Presentations
- Center or Pressure Force Plate Balance Assessment and BTrackS
- Article discussion assignment overview

### Week 3 (Jan 17)

- Project overview
- Instructor-led article discussion
- Project topic and student-led article discussion development

### Week 4 (Jan 24)

- Student-led article discussions
- Project topic meetings with instructor

### Week 5 (Jan 31)

- Project topic selections
- Overview of project proposal assignment
- Development of project pitch

### Week 6 (Feb 7)

- Bonus Assignment - Project pitches
- Twitter assignment overview
- Development of project proposals

### Week 7 (Feb 14)

- Finalization of project design
- Project pilot testing

### Spring Break (Feb 21)

- No classes

### Week 8 (Feb 28)

- Data collection/analysis

### Week 9 (Mar 7)

- Data collection/analysis

### Week 10 (Mar 14)

- Data collection/analysis
- Discussion of research findings

Week 11 (Mar 21)

- Development of video assignments

Week 12 (Mar 28)

- Video presentations
- Development of poster assignments

Week 13 (Apr 4)

- Poster assignments

Week 14 (Apr 11)

- Course wrap-up
- Twitter assignment grading

**OFFICIAL GRADING SCALE:**

<b>Highest</b>	<b>Lowest</b>	<b>Points</b>	<b>Grade</b>
100%	98%	4.0	A
97.99%	96%	3.9	A
95.99%	94%	3.8	A
93.99%	92%	3.7	A-
91.99%	90%	3.6	A-
89.99%	89%	3.5	A-
88.99%	88%	3.4	A-
87.99%	86%	3.3	B+
85.99%	84%	3.2	B+
83.99%	82%	3.1	B+
81.99%	80%	3.0	B
79.99%	79%	2.9	B
78.99%	78%	2.8	B
77.99%	77%	2.7	B-
76.99%	76%	2.6	B-
75.99%	75%	2.5	B-
74.99%	74%	2.4	B-
73.99%	73%	2.3	C+
72.99%	72%	2.2	C+
71.99%	71%	2.1	C+
70.99%	70%	2.0	C
69.99%	69%	1.9	C
68.99%	68%	1.8	C
67.99%	67%	1.7	C-
66.99%	66%	1.6	C-
65.99%	65%	1.5	C-
64.99%	64%	1.4	C-
63.99%	63%	1.3	D+
62.99%	62%	1.2	D+

61.99%	61%	1.1	D+
60.99%	60%	1.0	D
59.99%	0%	0.0	F

## COURSE EVALUATION

	<u>% of Total Grade</u>
1. Article Discussion (Jan 24)	15%
2. Project Proposal (Feb 11)	10%
3. Project – manuscript assignment (Mar 18)	25%
4. Project – video assignment (Mar 28)	10%
5. Project – poster assignment (Apr 4)	20%
6. Twitter Assignment (Apr 11)	10%
7. Class participation	<u>10%</u>
	<b>100%</b>

## CLASS POLICIES:

1. **Academic conduct policy:** All members of the academic community at Oakland University are expected to practice and uphold standards of academic integrity and honesty. Academic integrity means representing oneself and one's work honestly. Misrepresentation is cheating since it means students are claiming credit for ideas or work not actually theirs and are thereby seeking a grade that is not actually earned. Following are some examples of academic dishonesty:
  - a. **Cheating on examinations.** This includes using materials such as books and/or notes when not authorized by the instructor, copying from someone else's paper, helping someone else copy work, substituting another's work as one's own, theft of exam copies, or other forms of misconduct on exams.
  - b. **Plagiarizing the work of others.** Plagiarism is using someone else's work or ideas without giving that person credit; by doing this students are, in effect, claiming credit for someone else's thinking. Whether students have read or heard the information used, they must document the source of information. When dealing with written sources, a clear distinction should be made between quotations (which reproduce information from the source word-for-word within quotation marks) and paraphrases (which digest the source of information and produce it in the student's own words). Both direct quotations and paraphrases must be documented. Even if students rephrase, condense or select from another person's work, the ideas are still the other person's, and failure to give credit constitutes misrepresentation of the student's actual work and plagiarism of another's ideas. Buying a paper or using information from the World Wide Web or Internet without attribution and handing it in as one's own work is plagiarism.
  - c. **Cheating on lab reports** by falsifying data or submitting data not based on the student's own work.
  - d. **Falsifying records** or providing misinformation regarding one's credentials.
  - e. **Unauthorized collaboration** on computer assignments and unauthorized access to and use of computer programs, including modifying computer files created by others and representing that work as one's own.

2. **Add/Drops:** The university policy will be explicitly followed. It is the student's responsibility to be aware of deadline dates for dropping courses.
3. **Special Considerations:** Students with disabilities who may require special accommodations should make an appointment with campus Disability Support Services, 106 North Foundation Hall, phone 248 370-3266. Students should also bring their needs to the attention of the instructor as soon as possible by providing the "Letter of Accommodations" created by DSS. For academic help, such as study and reading skills, contact the Academic Skills/Tutoring Center, 103 North Foundation Hall, phone 248 370-4215.
4. **Excused Absence Policy:** This policy for university excused absences applies to participation as an athlete, manager or student trainer in NCAA intercollegiate competitions, or participation as a representative of Oakland University at academic events and artistic performances approved by the Provost or designee.

Students shall inform their instructors of dates they will miss class due to an excused absence prior to the date of that anticipated absence. For activities such as athletic competitions who schedules are known prior to the start of a term, students must provide their instructors during the first week of each term a written schedule showing days they expect to miss classes. For other university excused absences students must provide each instructor at the earliest possible time the dates that they will miss.

Make-up work

  - It is the responsibility of the student to request from the instructor an opportunity to complete missed assignments, activities, labs, examinations or other course requirements in a timely manner.
  - Students are responsible for all material covered in classes that they miss, even when their absences are excused, as defined above.
  - Missed classroom activities will be rescheduled at the discretion of the instructor.
5. **Religious Observance Policy:** In accordance with university policy.
6. **Emergency Preparedness:** In the event of an emergency arising on campus, the instructor will notify you of actions that may be required to ensure your safety. It is the responsibility of each student to understand the evacuation and "lockdown" guidelines to follow when an emergency is declared. These simple steps are a good place to start:
  - OU uses an emergency notification system through text, email, and landline. These notifications include campus closures, evacuation, lockdowns and other emergencies. **Register for these notifications at [oakland.edu/uts/emergency\\_notification](http://oakland.edu/uts/emergency_notification)**
  - Based on the **class cellphone policy**, ensure that one cellphone is on in order to receive and share emergency notifications with the instructor in class.
  - If an emergency arises on campus, call the OUPD at **248-370-3331**. Save this number in your phone, and put it in an easy-to-find spot in your contacts.
  - Review protocol for evacuation, lockdown, and other emergencies via the classroom's red books (hanging on the wall) and **[oakland.edu/prepared](http://oakland.edu/prepared)**.
  - Review with the instructor and class what to do in an emergency (evacuation, lockdown, snow emergency).
7. **Faculty Feedback:** As a student in this class, you may receive "Faculty Feedback" in your OU e-mail if your professor identifies areas of concern that may impede your success in the class. Faculty

Feedback typically occurs during weeks 2-5 of the Fall and Winter terms, but may also be given later in the semester and more than once a semester. A “Faculty Feedback” e-mail will specify the area(s) of concern and recommend action(s) you should take. Please remember to check your OU email account regularly as that is where it will appear.