

Genetics of Human Performance

APK5620 | 3 Credits | SPRING 2025

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Course Info

INSTRUCTOR

Basma Yacoubi Keyhani, PhD

Office: 1A FLG

Office Phone: 294-1749

Email: basma@ufl.edu

Preferred Method of Contact: Canvas messaging

OFFICE HOURS

Mondays, 2:00 – 4:00 pm

MEETING TIME/LOCATION

Access course through Canvas on UF e-Learning
(<https://elearning.ufl.edu/>) & the Canvas mobile app by Instructure

COURSE DESCRIPTION

This course will introduce genomics, genetics principals, and technologies relevant to sports and human performance. It will analyze the evidence for the role of genetic variation in power, endurance, trainability, and injury. It will encourage developing analytical skills to critically reflect on the promise and practical applications of sports genetics.

PREREQUISITE KNOWLEDGE AND SKILLS

APK major (MS or BS).

REQUIRED AND RECOMMENDED MATERIALS

There are no required textbooks for this course. In addition to the lectures, research/review articles will be part of the reading assignments and will be provided by the instructor.

COURSE FORMAT

You will watch pre-recorded lecture videos. You can do this at your own pace, however you will take a Quiz every other week, so I encourage you to adhere to the recommended schedule (see at the end of the syllabus). In addition to the pre-recorded lecture videos, you will have scientific articles to read, homework to turn in every other week as well as a group project due at the end of the course. There are two exams for this course.

COURSE LEARNING OBJECTIVES:

By the end of this course, students should be able to:

- Explain and define basic genetics and genomics methods and terminology introduced in the course.
- Analyze and evaluate the quality of research which associates genetic variation (small differences in DNA sequence among individuals) with sports performance and risk of injury traits.
- Use scientific evidence to compare different views on the future of genetics/genomics in sports especially regarding genetic testing, gene doping, and sex/gender differences in sports.

Course & University Policies

ATTENDANCE POLICY

This is a fully online course and physical attendance is not a component of the course. Students can earn extra credit for and are strongly encouraged to engage with peers and the instructor through Discussion Boards. For full credit, students must reply to each Discussion Board posted and attend 2 Zoom help meetings scheduled before each Exam.

PERSONAL CONDUCT POLICY

Students are expected to exhibit behaviors that reflect highly upon themselves and our University. UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions.

Furthermore, you are obliged to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult your instructor.

EXAM MAKE-UP POLICY

Quizzes and Exams may not be submitted late, unless due to illness or emergency. Students will be permitted to access the exams early upon receipt of evidence of a viable explanation for the need for such an accommodation.

There are opportunities for submitting some assignments after the due date for 50% of the grade. These are listed in your Course Schedule (see at the end of the syllabus).

A student experiencing an illness should visit the UF Student Health Care Center or their preferred healthcare provider to seek medical advice and obtain documentation. If you have an illness, family emergency or death, please contact the Dean of Students Office (www.dso.ufl.edu) and follow the DSO Care Team procedures for documentation and submission of a request for make-up assignment (<https://care.dso.ufl.edu/instructor-notifications/>). The DSO will contact the instructor. Do not provide any documentation to the instructor regarding illness or family emergency. This is your personal and protected information. The DSO is qualified to receive and verify the documents you provide. The instructor will follow the recommendations from the DSO. Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found in the online catalog at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

ACCOMMODATING STUDENTS WITH DISABILITIES

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center by visiting their Get Started page at <https://disability.ufl.edu/students/get-started/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

COURSE EVALUATIONS

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://my-ufl.bluera.com/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

Getting Help

HEALTH & WELLNESS

- U Matter, We Care: If you or a friend is in distress, please contact umatter@ufl.edu or 352 392-1575
- Counseling and Wellness Center: <https://counseling.ufl.edu/>, 352-392-1575
- Sexual Assault Recovery Services (SARS) - Student Health Care Center, 392-1161
- University Police Department, 392-1111 (or 9-1-1 for emergencies) <http://www.police.ufl.edu/>

ACADEMIC RESOURCES

- E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu. <https://lss.at.ufl.edu/help.shtml>
- Career Connections Center, Reitz Union, 392-1601. Career assistance and counseling. <https://career.ufl.edu/>
- Library Support, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.
- Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. <http://teachingcenter.ufl.edu/>
- Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. <http://writing.ufl.edu/writing-studio/>
- Student Complaints On-Campus: <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/> On-Line Students Complaints: <http://distance.ufl.edu/student-complaint-process/>

Grading

Quizzes – A quiz pertaining to each module’s material will include up to 20 questions (multiple choice and /or short answers) and will due according to the course schedule. Quizzes are administered through the Honorlock proctoring service in Canvas and require students to use the Google Chrome browser to complete. These quizzes are to be completed within 1 hour, and must be completed in a single sitting while

Evaluation Components (number of each)	Approximate % of Total Grade
Exams (2)	40%
Homework (6)	20%
Quizzes (6)	20%
Presentation (1)	20%
Extra Credit	Possible 2%

Honorlock records the session. Students will not be able to view their responses until after the due date of the quiz.

Homework – There is one homework assignment for each module and may include material from the research/review article readings when applicable. Questions are 1-5 short answer questions related to the content of the lecture or reading. You can work together and use any material available to you for this but the work you turn in should be your own, written in your own words.

Exams – Each exam will cover 3 modules and will include multiple choice and short answer questions. Some questions will be based on analyzing Figures and Tables provided within the question statement. Exams are administered through the Honorlock proctoring service in Canvas and require students to use the Google Chrome browser to complete. These exams are to be completed within 3 hours, and must be completed in a single sitting while Honorlock records the session. Students will not be able to view their responses until after the due date of the quiz.

Extra Credit – Discussion board points with a maximum of 2% of the final grade. For full credit, students must reply to each Discussion Board posted and attend 2 Zoom help meetings scheduled before each Exam.

GRADING SCALE

All course assignments are administered and graded within the Canvas course page, so students will have access to all grades as they submit assignments. Any assignment that requires the instructor to manually grade some aspect of it will be graded within one week of its due date. Final Grades will be rounded up to the nearest one tenth of a percent.

The table on the right provides a reference. More detailed information regarding current UF grading policies can be found here: <https://catalog.ufl.edu/UGRD/academic-regulations/gradesgrading-policies/>.

Any requests for additional extra credit or special exceptions to these grading policies will be interpreted as an honor code violation (i.e. asking for preferential treatment) and will be handled accordingly.

Percent	Grade	Grade Points
90.0 - 100.0	A	4.00
87.0 - 89.9	A-	3.67
84.0 - 86.9	B+	3.33
81.0 – 83.9	B	3.00
78.0 - 80.9	B-	2.67
75.0 - 79.9	C+	2.33
72.0 – 74.9	C	2.00
69.0 - 71.9	C-	1.67
66.0 - 68.9	D+	1.33
63.0 - 65.9	D	1.00
60.0 - 62.9	D-	0.67
0 - 59.9	E	0.00

Schedule

CRITICAL DATES & UF OBSERVED HOLIDAYS

Complete list available here: <https://catalog.ufl.edu/UGRD/dates-deadlines/2021-2022/>

WEEKLY SCHEDULE

H: Homework; Q: Quiz

Week	Dates	Lecture Topic (required reading pages)	Assignments and due dates
1	Jan. 13 Jan. 19	Class introduction and Syllabus	IYF (Introduce Yourself post or Video)
2	Jan. 20 Jan. 26	Module 1-Genetics: Basics and Techniques	
3	Jan. 27 Feb. 2		
4	Feb. 3 Feb. 9	<i>Schedule review for Module 1 with me by canvas messaging me (group or solo) if needed</i>	Q1 and H1 due on Sunday
5	Feb. 10 Feb. 16	Module 2- Performance traits	
6	Feb. 17 Feb. 23		Q2 and H2 due on Sunday
7	Feb. 24 Mar. 2	Module 3-Gene variants associated with sports performance	
8	Mar. 3 Mar. 9		Q3 and H3 due on Sunday
9	Mar. 10 Mar. 16	<i>Schedule review for Exam1 review with me by canvas messaging me (group or solo) if needed</i> Module 4-Gene variants associated with risk of injury	EXAM1 due March 16
10	Mar. 17 Mar. 23		Q4 and H4 due on Sunday
11	Mar. 24 Mar. 30	Module 5-Ethnicity, Sex/Gender considerations in sports performance	
12	Mar. 31 Apr. 6	Presentation outline	Presentation outlines due Apr.6 Q5 and H5 due on Sunday
13	Apr. 7 Apr. 13	Module 6-Genetic testing and gene doping in sports performance	
14	Apr. 14 Apr. 20		Q6 and H6 due on Sunday
15	Apr. 21 Apr. 24	Finalize presentations: slides and video recording <i>If needed schedule review for Exam 2</i>	Upload Presentations Apr.24
	Apr. 26 May 2	Exam week Grades due May5	Presentation Evals due May 1 EXAM 2 due May 2

SUCCESS AND STUDY TIPS

- Complete all assigned requirements. Each one is meant to engage you on a regular basis with the material.
- Re-watching lectures more than once is recommended for studying.
- Reading assigned research papers is integral to the learning process. Only going over the presentations is not enough to achieve the objectives of this course and earn a good grade.
- Read all announcements posted by the instructor.
- Reach out to your instructor.
- Reach out to other students in your class.

Copyright Statement

The materials used in this course are copyrighted. The content presented is the property of UF and may not be duplicated in any format without permission from the College of Health and Human Performance and UF, and may not be used for any commercial purposes.

Content includes but is not limited to syllabi, videos, slides, quizzes, exams, lab problems, in-class materials, review sheets, and additional problem sets. Because these materials are copyrighted, you do not have the right to copy or distribute the course materials, unless permission is expressly granted. Students violating this policy may be subject to disciplinary action under the UF Conduct Code.

Disclaimer

This syllabus represents the objectives and tentative plans for the course. As we go through the semester, those plans may need to change to enhance the class learning opportunity. Such changes, will be communicated clearly, are not unusual, and should be expected.