



ARIZONA STATE UNIVERSITY

GENERAL STUDIES COURSE PROPOSAL COVER FORM

Course information:

Copy and paste current course information from Class Search/Course Catalog.

Academic Unit New College of Interdisciplinary Arts and Sciences Department School of Mathematical and Natural Sciences

Subject BIO Number 431 Title Genes, Development, and Evolution Units: 3

Is this a cross-listed course? No If yes, please identify course(s)

Is this a shared course? Yes If so, list all academic units offering this course College of Liberal Arts and Sciences

Contribution of genes, developmental processes, and evolution to pattern of phenotypic variation, including disease.

Requested designation: Literacy and Critical Inquiry-L Note- a separate proposal is required for each designation requested

Eligibility:

Permanent numbered courses must have completed the university's review and approval process. For the rules governing approval of omnibus courses, contact the General Studies Program Office at (480) 965-0739.

Area(s) proposed course will serve:

A single course may be proposed for more than one core or awareness area. A course may satisfy a core area requirement and more than one awareness area requirements concurrently, but may not satisfy requirements in two core areas simultaneously, even if approved for those areas. With departmental consent, an approved General Studies course may be counted toward both the General Studies requirement and the major program of study.

Checklists for general studies designations:

- Complete and attach the appropriate checklist
Literacy and Critical Inquiry core courses (L)
Mathematics core courses (MA)
Computer/statistics/quantitative applications core courses (CS)
Humanities, Fine Arts and Design core courses (HU)
Social and Behavioral Sciences core courses (SB)
Natural Sciences core courses (SQ/SG)
Global Awareness courses (G)
Historical Awareness courses (H)
Cultural Diversity in the United States courses (C)

A complete proposal should include:

- Signed General Studies Program Course Proposal Cover Form
Criteria Checklist for the area
Course Syllabus
Table of Contents from the textbook and list of required readings/books

Contact information:

Name Daryn Stover Phone 928-854-9723
Mail code MC 4040 E-mail: Daryn.Stover@asu.edu

Department Chair/Director approval: (Required)

Chair/Director name (Typed): Roger L. Berger Date: 1-27-14
Chair/Director (Signature): Roger L Berger



ARIZONA STATE UNIVERSITY

GENERAL STUDIES COURSE PROPOSAL COVER FORM

Course information:

Copy and paste current course information from Class Search/Course Catalog.

Academic Unit College of Liberal Arts and Sciences Department School of Life Sciences

Subject BIO Number 431 Title Genes, Development, and Evolution Units: 3

Is this a cross-listed course? No If yes, please identify course(s)

Is this a shared course? Yes Course description: If so, list all academic units offering this course

New College of Interdisciplinary Arts and Sciences

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Contact information:

Name Daryn Stover Phone 928-854-9723

Mail code MC 4040 E-mail: Daryn.Stover@asu.edu

Department Chair/Director approval: (Required)

Chair/Director name (Typed): Miles Orchinik Date: 1/30/14

Chair/Director (Signature): Miles Orchinik

Arizona State University Criteria Checklist for
LITERACY AND CRITICAL INQUIRY - [L]

Rationale and Objectives

Literacy is here defined broadly as communicative competence in written and oral discourse. **Critical inquiry** involves the gathering, interpretation, and evaluation of evidence. Any field of university study may require unique critical skills which have little to do with language in the usual sense (words), but the analysis of spoken and written evidence pervades university study and everyday life. Thus, the General Studies requirements assume that all undergraduates should develop the ability to reason critically and communicate using the medium of language.

The requirement in Literacy and Critical Inquiry presumes, first, that training in literacy and critical inquiry must be sustained beyond traditional First Year English in order to create a habitual skill in every student; and, second, that the skills become more expert, as well as more secure, as the student learns challenging subject matter. Thus, the Literacy and Critical Inquiry requirement stipulates two courses beyond First Year English.

Most lower-level [L] courses are devoted primarily to the further development of critical skills in reading, writing, listening, speaking, or analysis of discourse. Upper-division [L] courses generally are courses in a particular discipline into which writing and critical thinking have been fully integrated as means of learning the content and, in most cases, demonstrating that it has been learned.

Students must complete six credit hours from courses designated as [L], at least three credit hours of which must be chosen from approved upper-division courses, preferably in their major. Students must have completed ENG 101, 107, or 105 to take an [L] course.

Notes:

1. ENG 101, 107 or ENG 105 must be prerequisites
2. Honors theses, XXX 493 meet [L] requirements
3. The list of criteria that must be satisfied for designation as a Literacy and Critical Inquiry [L] course is presented on the following page. This list will help you determine whether the current version of your course meets all of these requirements. If you decide to apply, please attach a current syllabus, or handouts, or other documentation that will provide sufficient information for the General Studies Council to make an informed decision regarding the status of your proposal.

Proposer: Please complete the following section and attach appropriate documentation.

ASU - [L] CRITERIA			
TO QUALIFY FOR [L] DESIGNATION, THE COURSE DESIGN MUST PLACE A MAJOR EMPHASIS ON COMPLETING CRITICAL DISCOURSE--AS EVIDENCED BY THE FOLLOWING CRITERIA:			
YES	NO		Identify Documentation Submitted
<input checked="" type="checkbox"/>	<input type="checkbox"/>	CRITERION 1: At least 50 percent of the grade in the course should depend upon writing, including prepared essays, speeches, or in-class essay examinations. <i>Group projects are acceptable only if each student gathers, interprets, and evaluates evidence, and prepares a summary report</i>	Course syllabus
1. Please describe the assignments that are considered in the computation of course grades--and indicate the proportion of the final grade that is determined by each assignment.			
2. Also: <div style="border: 1px solid black; border-radius: 50%; padding: 10px; margin: 10px 0;"> <p style="background-color: yellow;">Please circle, underline, or otherwise mark the information presented in the most recent course syllabus (or other material you have submitted) that verifies this description of the grading process--and label this information "C-1".</p> </div> <p style="text-align: center;">C-1</p>			
<input checked="" type="checkbox"/>	<input type="checkbox"/>	CRITERION 2: The composition tasks involve the gathering, interpretation, and evaluation of evidence	Course syllabus
1. Please describe the way(s) in which this criterion is addressed in the course design			
2. Also: <div style="border: 1px solid black; border-radius: 50%; padding: 10px; margin: 10px 0;"> <p style="background-color: yellow;">Please circle, underline, or otherwise mark the information presented in the most recent course syllabus (or other material you have submitted) that verifies this description of the grading process--and label this information "C-2".</p> </div> <p style="text-align: center;">C-2</p>			
<input checked="" type="checkbox"/>	<input type="checkbox"/>	CRITERION 3: The syllabus should include a minimum of two substantial writing or speaking tasks, other than or in addition to in-class essay exams	Course syllabus
1. Please provide relatively detailed descriptions of two or more substantial writing or speaking tasks that are included in the course requirements			
2. Also: <div style="border: 1px solid black; border-radius: 50%; padding: 10px; margin: 10px 0;"> <p style="background-color: yellow;">Please circle, underline, or otherwise mark the information presented in the most recent course syllabus (or other material you have submitted) that verifies this description of the grading process--and label this information "C-3".</p> </div> <p style="text-align: center;">C-3</p>			

ASU - [L] CRITERIA			
<input checked="" type="checkbox"/>	<input type="checkbox"/>	CRITERION 4: These substantial writing or speaking assignments should be arranged so that the students will get timely feedback from the instructor on each assignment in time to help them do better on subsequent assignments. <i>Intervention at earlier stages in the writing process is especially welcomed</i>	Course syllabus
1. Please describe the sequence of course assignments--and the nature of the feedback the current (or most recent) course instructor provides to help students do better on subsequent assignments			
2. Also:			
Please circle, underline, or otherwise mark the information presented in the most recent course syllabus (or other material you have submitted) that verifies this description of the grading process--and label this information " C-4 ".			
C-4			

Course Prefix	Number	Title	Designation
BIO	431	Genes, Development, and Evolution	L

Explain in detail which student activities correspond to the specific designation criteria. Please use the following organizer to explain how the criteria are being met.

Criteria (from checklist)	How course meets spirit (contextualize specific examples in next column)	Please provide detailed evidence of how course meets criteria (i.e., where in syllabus)
1	Assignments for this course are based entirely on writing and oral communication. Written assignments include major essays, short essays, and take-home essay exams. Oral communication is based on participation in discussion groups, particularly leading said discussion groups, which includes delivering a speech summarizing a research article for the class.	Major essays and take-home essay exams each comprise 35% of the total grade for this class, short essays (called “quick questions” in the syllabus) comprise 12%, and the portion of the participation grade that is based on leading discussion group (including speech delivery) is worth 9%. Overall, writing and oral communication (excluding the take-home essay exams) comprises 91% of a student’s total grade. Please refer to the sections of the syllabus highlighted in yellow and labeled “[C-1]” for verification of this description.
2	This course is designed to focus on critical reasoning and communication skills (both written and oral) as they pertain to the sciences (particularly genetic, evolutionary, and developmental fields). This is a discussion-based course where students read contemporary primary and secondary research articles published in peer-reviewed journals, interpret the information presented by the articles, and evaluate the validity of the author’s research design (e.g., hypotheses tested, experimental design, etc.) and interpretation of experimental results. In	Please refer to the sections of the syllabus highlighted in yellow and labeled “[C-2]” for verification of this description.

	<p>addition, the final major essay for this course provides an opportunity for each student to research a topic of interest, which includes gathering information from peer-reviewed journal articles, interpreting this information, and synthesizing it into a well-developed essay.</p>	
3	<p>Students will complete two major essays during the semester. In the first, students will critique a research article as if they were peer-reviewers considering the article for publication. Students will specifically comment on how the authors might improve their research or better communicate their research in the article. In the second essay, students will select a phenotypic trait of interest (e.g., eye color) and investigate the genetic, evolutionary, and developmental origins of variation in this trait using primary and secondary research articles. In addition, six shorter essays (called “quick questions” in the syllabus) will be assigned throughout the semester in order to give the students more immediate feedback on their written communication skills. For example, one such short essay will consist of the students writing a summary of a research article, but geared toward a non-science audience (i.e., a so called “popular science” article).</p>	<p>Please refer to the sections of the syllabus highlighted in yellow and labeled “[C-3]” for verification of this description.</p>
4	<p>Assignment of the short essays (called “quick questions” in the syllabus) is favored at the beginning of the semester in order to provide the students with more immediate feedback on their written communication skills early on in the semester, prior to major essay assignments and take-home essay exams.</p>	<p>Please refer to the sections of the syllabus highlighted in yellow and labeled “[C-4]” for verification of this description.</p>

	<p>Instructor feedback on these short essays (as well as all other written assignments) includes comments on correct interpretation of evidence, insightfulness of information synthesis and criticism, overall organization and readability, sentence structure, grammar, and general scientific writing style. This feedback is tailored specifically for each written assignment from each student by using the “track changes” and “comment” functions available in Microsoft Word. In addition to this regular feedback, the first major essay assignment also includes a required submission of a draft for instructor feedback two weeks prior to the final due date. Students also receive instructor feedback on this first major essay prior to assignment of the second major essay. Although submission of a draft is not required for this second essay, students are encouraged to submit a draft or a detailed outline for review.</p>	
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Course Catalog Description:

BIO 431 – Genes, Development, and Evolution.

“Contribution of genes, developmental processes, and evolution to pattern of phenotypic variation, including disease.”

Course Syllabus:

BIO 431: GENES, DEVELOPMENT, AND EVOLUTION

COURSE SYLLABUS, SPRING 2014

LECTURE: MONDAY 5:15-8:15 PM

Instructor: Daryn Stover

Email: dastover@asu.edu

Office: Palo Verde 112

Office hours: Monday 3:30-4:30; Tuesday and Thursday 1:30-3:00, or by appointment

Course Description: This course focuses on the effects of genes, developmental processes, and evolution on phenotypic variation. Because this course satisfies your upper-division “L: literacy and critical inquiry” general studies requirement (https://catalog.asu.edu/ug_gsr), your grade will be based primarily on written and oral critical analysis of primary research articles. **[C-2]** In other words, we will be discussing the origins of phenotypic variation as a means to focus on enhancing your critical reasoning skills and ability to communicate effectively, including how to write “scientifically.” Because this will be a discussion-based course, you are expected to come prepared to class every day having completed the assigned reading and prepared questions for class discussion. To better prepare for discussion, you are encouraged to do additional reading beyond the assigned reading. By doing additional reading on your own, you can explore specific questions of interest to you and share this information with the rest of the class during discussion.

Blackboard: All readings and handouts will be available on the course Blackboard website accessible via MyASU. Assignments can be downloaded from this website and your answers submitted electronically using the “digital dropbox” (**please name your assignment files according to: “Lastname_Firstname_assignment”**).

Grades: Grades will be based on a combination of exams, essays, short-answer essays (“quick questions”), and class participation (see descriptions below). Final letter grades will be based upon the following scale, which may deviate downward: A+ = $\geq 97\%$, A = 93-96.9%, A- = 90-92.9%, B+ = 87-89.9%, B = 83-86.9%, B- = 80-82.9%, C+ = 77-79.9%, C = 70-76.9%, D = 60-69.9%, E = $\leq 59.9\%$.

[C-1] Quick Questions (10-20 points each)	70 points
[C-1] Essays (100 points each)	200 points
[C-1] Exams (100 points each)	200 points
[C-1] Participation	100 points
Total	570 points

Assignments:

- **[C-2 and C-3]** *Quick Questions* – During the course of the semester, you will be given a series of six questions based on topics discussed in class to which you will provide a short, 1-2 page essay response. Initially, these questions will be designed to assess your

conceptual understanding of course material as an opportunity to provide feedback on your written communication skills prior to the major essays and exams. As the semester progresses, the quick questions will transition to critical analysis of course material, ultimately culminating in writing an essay describing the findings and importance of a research article we've discussed during the semester, but directed to a non-science audience (i.e., a so called "popular science" article). Well-written popular science articles may have the opportunity to be published on our Life Sciences degree website or in the local newspaper.

- **[C-2 and C-3] Essays** – In the first of two essay assignments this semester, you will be asked to act as a peer-reviewer who has been tasked with critiquing a manuscript that has been submitted for publication at a journal. Through this assignment, you will be applying skills that we discuss in lecture concerning critical analysis of experimental design, interpretation of experimental results, and overall scientific writing style. In other words, as part of the review process, you will comment not only on how the authors might improve the quality of their study, but also on how effectively the authors communicate their research. **[C-4]** A portion of the grade for this assignment will include a rough draft; detailed comments concerning the organization, grammar, and overall readability of this draft will be returned two weeks prior to the due date of your final essay. The second essay this semester will be a research paper in which you will select a phenotype and investigate the origins of variation in this phenotype. As such, you will be required to demonstrate mastery in critical evaluation and synthesis of material from various primary and secondary research sources. **[C-4]** While a rough draft of this essay will not be required as part of the assignment, students are encouraged to turn in a rough draft (or a detailed outline) for comments at least two week prior to the due date.
- **[C-2 and C-3] Exams** – The exams for this course will consist of a midterm and a final, both of which will be take-home exams due on the dates and times specified in the schedule listed at the end of the syllabus. Each exam will consist of short-answer essay responses to questions addressing conceptual understanding and critical analysis of a research article selected by the instructor that will not be included as part of the regularly scheduled class readings. Students will have one week to complete the exam and are not permitted to discuss the article, exam questions, or their answers with each other.
- **Participation** – **[C-1]** Your participation grade for this class is designed to hone your verbal communication skills and will be divided into two parts (50 points each): active participation in classroom discussion and effectively leading the discussion. Each week, we will read 1-3 primary or secondary research articles focused on the genetics, evolution, and/or development of a particular phenotypic trait. Initially, these articles will be selected by the instructor; however, students will have an opportunity to select articles/topics at the end of the semester on "wild card" days. Each student is expected to contribute to the discussion of the articles in class. Your participation grade for classroom discussion, however, is not only based on frequency, but rather on the quality of your contribution to the discussion. Specifically, our discussions will not be confined to conceptual understanding of the material described in the article. Instead, classroom discussion will be geared toward synthesizing conceptual material from various sources

(including articles from previous weeks and topics covered in your other classes for the Life Science degree) and applying it to other situations. In addition, we will examine the quality of the research itself and how well it was communicated to the reader. As a result, you will gain experience in interpreting, analyzing, and critiquing contemporary research studies. In addition to your discussion participation grade, each student will be expected to lead discussion of one or more articles during the course of the semester (the exact number of times depends on the total number of students in the class). **[C-1] As leader, you will be required to begin with a summary of your article followed by moderating the discussion of the class, including posing questions and directing the overall conversation.**

Attendance Policy and Late Assignments: Attendance at all scheduled class meetings is essential and required. **If you miss 3 or more classes (excused or unexcused), you may be assigned a failing grade for the entire course regardless of your current grade in the class.**

Excused absences will only be given in the case of (1) a university-sanctioned event (ACD 304-02), (2) an illness requiring seeing a physician, or (3) attending to the needs of an ailing family member. To receive an excused absence for these situations, you must provide written documentation within one week of the absence. **Late assignments will only be accepted for documented excused absences.** In the event of an excused absence, a new due date for the missed assignment will be arranged between the student and the instructor. Failure to meet the new due date will result in a zero for the assignment.

All exam dates are scheduled at the beginning of the semester and included in the course syllabus (see below). Personal travel, work schedules, traffic jams, etc. are not valid reasons to request a substitute exam. If and only if travel for a university-sanctioned event conflicts with an exam date (ACD 304-02) will an alternative exam be administered. If such plans do interfere with an exam date, it is your responsibility to schedule an alternate date prior to the scheduled date. This alternate date must be finalized at least two weeks prior to the scheduled exam. You must provide documentation from the appropriate university official for an early exam to be scheduled. An alternative exam will not be administered after the original exam date. Alternate exams will cover all of the material included in the regularly scheduled exam.

If sudden illness or an unanticipated emergency prevents you from attending a scheduled exam, the missed exam will be excluded from the calculation of your final grade if (1) you notify your instructor of your absence at your earliest opportunity, but prior to the next scheduled class time and (2) provide documentation to receive an excused absence (see above). Please note that this option may only be exercised once. A second missed exam will be scored as a zero.

Academic Integrity: There are severe sanctions for cheating, plagiarizing, and any other form of academic dishonesty. ASU defines plagiarism as “using another’s words, ideas, materials or work without properly acknowledging and documenting the source. Students are responsible for knowing the rules governing the use of another’s work or materials and for acknowledging and documenting the source appropriately.” You can find this definition and additional resources at: <http://provost.asu.edu/academicintegrity>.

Academic dishonesty, including inappropriate collaboration, will not be tolerated. While students are encouraged to work together in the learning process, each student must turn in

his/her own assignments written in his/her own words (note that simply attempting to reword the work of another without proper acknowledgement is still considered cheating/plagiarizing). ***Students who are caught cheating or plagiarizing will FAIL THE ENTIRE COURSE and receive a grade of "XE" indicating failure due to academic dishonesty.*** Serious cases of academic dishonesty may also result in expulsion from the university.

Classroom Etiquette: Group discussion will be a major component of this course. As such please be respectful of fellow classmates at all times. Be aware that other students come from different backgrounds and may hold different beliefs. Please be sensitive to these differences and behave in an inclusive manner.

In the interest of fostering a productive learning environment, disruptive behavior of any kind will not be tolerated. Please turn off/silence cell phones before class. Students are welcome (and will often be required) to use a laptop during class to take notes and participate in other classroom activities; however, use of laptops (or other electronic devices) for activities unrelated to the course (e.g., Facebook, email, YouTube) will not be tolerated.

Students with Disabilities: At ASU, we strive to make class as accessible as possible to all students. If you need accommodations made for a disability, you must be registered with the Disability Resource Center (<http://www.asu.edu/studentaffairs/ed/drc/>). To make arrangements, or to discuss eligibility, please contact Eileen Ostergren (Eileen.Ostergren@asu.edu).

Tentative Schedule*:

Date	Topic	Reading	Leader
Jan. 13	Introduction	-	-
<i>Jan. 20</i>	<i>No class – Martin Luther King Jr. Day</i>		
Jan. 27	Origins of phenotypic variation	Sholtis and Weiss 2005	Stover
Feb. 3	Genetic, phenotypic variation in Africa	Campbell and Tishkoff 2010	
Feb. 10	High altitude adaptation	Simonson et al. 2010; Yi et al. 2010	
Feb. 17	Starch and human diet; bitter taste	Perry et al. 2007; Wooding et al. 2006	
Feb. 24	The thrifty gene hypothesis; diabetes	Gluckman et al. 2007; Vaag et al. 2012	
Mar. 3	Malarial resistance; ABO blood group	Verrelli et al. 2002; Segural et al. 2012	
Mar. 7 (Friday)	Midterm due by 11:59 pm	-	-
<i>Mar. 10</i>	<i>No class – Spring break</i>		
Mar. 17	Color vision evolution	Perry et al. 2007b; Veilleux and Cummings 2012	
Mar. 24	Behavior and behavioral disorders	Latané and Darley 1969; Crespi et al. 2010	Scott, Stover
Mar. 31	Development and mate selection	Puts 2010	Loyd
Apr. 7	Dog breeding and complex phenotypic traits (short vs. long legs)	Schoenebeck and Ostrander 2013; Huson et al. 2012	
Apr. 14	Wild card	TBA	
Apr. 21	Wild card	TBA	
Apr. 28	Wild card, class review	TBA	
May 5	Final exam due by 4:20 pm	-	-

*Please note that the schedule is subject to change with advanced warning to students

Copy of table of contents from the textbook(s) used and list of required readings/books:

All required reading for this course comes from primary and secondary research articles published in peer-reviewed journals available through subscriptions held by ASU's library. Following is a list of the citations for these required readings (excluding the "wild cards" selected by the students as described in the course syllabus above):

Campbell, M. C., Tishkoff, S. A. (2010). The Evolution of Human Genetic and Phenotypic Variation in Africa. *Current Biology*, 20(4), R166-R173.

Crespi, B., Stead, P., Elliot, M. (2010). Comparative genomics of autism and schizophrenia. *Proceedings of the National Academy of Sciences of the United States of America*, 107 (sup. 1), 1736-1741.

Gluckman, P. D., Hanson, M. A., Beedle, A. S. (2007). Early life events and their consequences for later disease: A life history and evolutionary perspective. *American Journal of Human Biology*, 19(1), 1-19.

Huson, H. J., von Holdt, B. M., Rimbault, M., Byers, A. M., Runstadler, J. A., Parker, H. G., Ostrander, E. A. (2012). Breed-specific ancestry studies and genome-wide association analysis highlight an association between the MYH9 gene and heat tolerance in Alaskan sprint racing sled dogs. *Mammalian Genome*, 23(1-2), 178-194.

Latane, B., Darley, J. M. (1969). Bystander Apathy. *American Scientist*, 57(2), 244-268.

Perry, G. H., Dominy, N. J., Claw, K. G. (2007). Diet and the evolution of human amylase gene copy number variation. *Nature Genetics*, 39(10), 1256-1260.

Perry, G. H., Martin, R. D., Verrelli, B. C. (2007). Signatures of functional constraint at aye-aye opsin genes: The potential of adaptive color vision in a nocturnal primate. *Molecular Biology and Evolution*, 24(9), 1963-1970.

Puts, D. A. (2010). Beauty and the beast: mechanisms of sexual selection in humans. *Evolution and Human Behavior*, 31(3), 157-175.

Schoenebeck, J. J., Ostrander, E. A. (2013). The Genetics of Canine Skull Shape Variation. *Genetics*, 193(2), 317-325.

Segurel, L., Thompson, E. E., Flutre, T., et al. (2013). The ABO blood group is a trans-species polymorphism in primates. *Proceedings of the National Academy of Sciences of the United States of America*, 109(45), 18493-18498.

Simonson, T. S., Yang, Y. Z., Huff, C. D., et al. (2010). Genetic Evidence for High-Altitude Adaptation in Tibet. *Science*, 329(5987), 72-75.

Sholtis, S., Weiss, K. M. (2005). Phenogenetics: Genotypes, Phenotypes, and Variation. In B. M. Hall (Eds.), *Variation* (pp. 499-523). Academic Press.

Vaag, A. A., Grunnet, L. G., Arora, G. P., Brons, C. (2012). The thrifty phenotype hypothesis revisited. *Diabetologia*, 55(8), 2085-2088.

Veilleux, C. C, Cummings, M. E. (2012). Nocturnal light environments and species ecology: implications for nocturnal color vision in forests. *Journal of Experimental Biology*, 215(23), 4085-4096.

Verrelli, B. C., McDonald, J. H., Argyropoulos, G., et al. (2002). Evidence for balancing selection from nucleotide sequence analyses of human G6PD. *American Journal of Human Genetics*, 71(5), 1112-1128.

Wooding, S., Bufe, B., Grassi, C., et al. (2006). Independent evolution of bitter-taste sensitivity in humans and chimpanzees. *Nature*, 440(7086), 930-934.

Yi, X., Liang, Y., Huerta-Sanchez, E., et al. (2010). Sequencing of 50 Human Exomes Reveals Adaptation to High Altitude. *Science*, 329(5987), 75-78.