

## New Program Proposal

**Overview:** The proposed Program in Human Biology is to be administered jointly by the Department of Anthropology and the School of Biological Sciences in the College of Arts and Sciences. The Program in Human Biology will offer a Bachelor of Arts degree in Human Biology. This expressly interdisciplinary program will meld approaches and content from social and biological sciences to provide students with a vibrant, synthetic understanding of the roles of culture, the dynamics of natural and social systems, and biological attributes responsible for shaping the human being. Our aim is to prepare students to be creative, insightful, and skillful in professions that encompass especially the arenas of health sciences, environment, societal support (such as family planning, forensics, food safety, and medical ethics), and public policy that influence the welfare of humans.

### Basic characteristics

**Program Title: Human Biology**

Degree: **B.A. of Human Biology**

In **Human Biology**

**Are you proposing a program new to WSU or extending an existing program to a new site or medium?**

XXX New to WSU

Extending Existing Program

**CIP Code (consult registrar):** 30.27  
(Classification of Instructional Programs)

Department: **Joint Supervision by Biological Sciences and Anthropology** College: **CAS**

Departmental Contact: **Anthropology**

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Campus of Origin: **Pullman**

Starting Date: **August 2019**

### Method of course delivery: (check all that apply)

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Classroom           | <input checked="" type="checkbox"/> WHETS or Video-conferencing System |
| <input checked="" type="checkbox"/> Pullman             | <input type="checkbox"/> On-line                                       |
| <input checked="" type="checkbox"/> Vancouver           | <input type="checkbox"/> Videotape                                     |
| <input type="checkbox"/> Tri-Cities                     | <input type="checkbox"/> Flexible Enrollment (with e-mail)             |
| <input type="checkbox"/> Spokane                        | <input type="checkbox"/> Correspondence (Paper only)                   |
| <input type="checkbox"/> Spokane - ICN                  | <input type="checkbox"/> Other (please describe) _____                 |
| <input type="checkbox"/> WSU Learning Centers at: _____ |  |

## **Section I. Mission Statements**

### **A) Washington State University**

#### **Vision**

Washington State University will be recognized as one of the nation's leading land-grant research universities.

#### **Mission**

Washington State University is a public research university committed to its land-grant heritage and tradition of service to society. Our mission is threefold:

- To **advance** knowledge through creative research and scholarship across a wide range of academic disciplines.
- To **extend** knowledge through innovative educational programs in which emerging scholars are mentored to realize their highest potential and assume roles of leadership, responsibility, and service to society.
- To **apply** knowledge through local and global engagement that will improve quality of life and enhance the economy of the state, nation, and world.

### **B) Mission of the College of Arts and Sciences**

The College of Arts and Sciences (CAS) fosters excellence in the arts, humanities, and social and natural sciences and provides a foundation for intellectual and creative experiences across Washington State University. We apply diverse perspectives to understand and transform the world, enrich lives, and meet societal needs.

Inquiry is central to our work. We address fundamental questions through research, scholarship, and creative activity. Our efforts advance the frontiers of knowledge and artistic expression, as well as the mission and strategic goals of the University.

The College is uniquely positioned to pursue liberal, broad-based learning, in which inquiry and teaching proceed in tandem. We challenge our students and ourselves to think rationally, critically, and creatively for life-long engagement in our human and natural worlds.

We are committed to outreach that promotes the common good and that empowers local, state, national, and global communities.

### **C) Department/School Missions**

#### Department of Anthropology Mission

We ask and attempt to address the most basic questions about the nature of culture, its evolutionary history, and human variability by studying the interactions between our biological and our learned cultural heritages; we use this knowledge to better understand both our past and present. Through world class research, our goal is to pursue an understanding of the complex human condition in all of its diversity. The Department of Anthropology at Washington State University informs the public, students, and the profession about anthropological insights and contributes to understanding critical aspects of the human condition.

### School of Biological Sciences Mission

The mission of the School of Biological Sciences is to advance and convey fundamental biological knowledge about how organisms function, interact, and evolve in a changing world—information that is critical to confront pressing problems facing our society. Faculty, students, and staff in the School are involved in this mission, which is achieved through effort in education, research, and public outreach.

### **D) How the Proposed Program Will Complement or Reflect These Missions**

The proposed Program in Human Biology will meet the missions of the University, College of Arts and Sciences, Department of Anthropology, and School of Biological Sciences by offering an innovative, interdisciplinary educational program that focuses on the biology of human life. The College of Arts and Sciences in Pullman and Vancouver enthusiastically supports the BA in Human Biology (Attachments C and D). The Program in Human Biology will offer students an opportunity to explore how human biology influences and is influenced by the environment, cultural and social structures, and economic and political policies. Our program will foster in students a holistic sense of the complexities of the human condition in all of its diversity in our changing world. The goals of the program meet the mission of the School of Biological Sciences to expand knowledge about how organisms function, interact, and evolve in a changing world and the mission of the Department of Anthropology to address the most basic questions about the nature of culture, its evolutionary history, and human variability by studying the interactions between our biological and our learned cultural heritages.

### **Section II. Program Description**

The late President Floyd's call in 2011 for a new College of Arts and Sciences emphasized the importance to "enrich instruction" and "promote interdisciplinary cooperation." The proposed Program in Human Biology, which will be administered jointly by the Department of Anthropology and the School of Biological Sciences in the College of Arts and Sciences, is an important step toward the enrichment and interdisciplinarity envisioned by President Floyd. Similarly, the 2014-2019 Washington State University Strategic Plan seeks to "foster greater collaboration across colleges, campuses, and disciplines" and calls for a "transformative student experience" in which students gain "university experience centered on student engagement, development, and success, which prepares graduates to lead and excel in a diverse United States and global society." The Human Biology major is designed to help achieve these objectives.

The Program in Human Biology aims to offer a Bachelor of Arts degree in Human Biology. The Human Biology degree program will provide a biological science underpinning for a degree program that emphasizes cultural and social science coursework (Table 1). It will offer students a vibrant, synthetic understanding of the roles of culture, the dynamics of natural and social systems, and biological attributes responsible for shaping the human being. This expressly interdisciplinary program will meld approaches and content from social and biological sciences to provide students with critical skills and knowledge to achieve professional goals in human biology. Students will gain important insights into the interplay among biology, socio-cultural structures and dynamics, and environmental forces through this program. Our aim is to prepare students to be creative, insightful, and skillful in professions, especially in the arenas of environment, health, society, and public policy that influence the welfare of humans.

## Section III. Need and Student Demand for the Program

### A) Need and Demand

This degree program aims to bridge a disconnect that lies between the social and biological sciences to provide students with a more direct avenue to address the biological basis of problems faced by human populations, cultures, and societies. The interdisciplinary Human Biology program aims to attract prospective students through its strong science foundation and focus on socio-cultural contexts. It will assist students toward careers in health, policy, and novel career tracks in sustainability that address the problems we face from climate change, emerging diseases, and other challenges at the interface of cultures and environments.

Based on the Bureau of Labor Statistics' *Occupational Outlook Handbook* (<http://stats.bls.gov/ooh/home.htm>), health care is expected to provide about 28% of all new jobs in the US economy in the interval to 2020. Projections for Washington State (<https://fortress.wa.gov/esd/employmentdata/reports-publications/industry-reports/employment-projections>) indicate that numbers of jobs in diverse areas of health care will increase by 1.75-2.40% between now and 2023. Well over 7,000 open jobs for diverse kinds of healthcare practitioners are anticipated in that period in Washington State, including over 2000 jobs for health technologists and about 4000 in healthcare support positions. A BA in Human Biology will provide an important avenue to the knowledge base and skills that are essential for these jobs in health care. Social science-, anthropology-, and environment-related jobs in Washington State are projected to grow by approximately 1.5% between now and 2023, and students graduating with the Human Biology degree will be prepared for many of these jobs as well as others in health-related fields.

We perceive a strong demand for an alternative to the majors that exist currently at WSU Pullman among students seeking to develop an independent, interdisciplinary program of study. The Human Biology degree provides a structured degree program, yet one that still permits students to tailor their programs. We anticipate that the Program in Human Biology will be attractive to students who come to WSU with an interest in social sciences or a major with a human focus, but who also want more natural science or more interdisciplinary science opportunity in their programs of study than are currently available. For example, several students each year inquire about possible majors in biological or medical anthropology, and the major in Human Biology would support their goals.

We anticipate that Human Biology will attract new students to WSU on both the Pullman and Vancouver campuses because of the program's uniqueness and interdisciplinarity. We foresee considerable interest among potential students for a degree program that melds biological and socio-cultural studies. For example, the Biology degree has seen phenomenal growth on the Vancouver campus in recent years, and we anticipate that WSU Vancouver students will be attracted to an interdisciplinary program that includes the biological sciences. Human Biology will provide a new and distinctive degree option for students interested in a broad-based approach to understanding human beings. The degree will also appeal to students because it offers multiple pathways towards jobs, including innovative careers in areas such as global change, health policy, and sustainability that address the significant problems that lie ahead for human populations.

The potential for our proposed major can be seen nationally in the development of several programs in human biology in the past 40 years. Human biology programs exist at public research universities, such as Indiana University, University of California-San Diego, University of California-Santa Cruz, University of Texas, University of Virginia, and our peer institution Michigan State University. A very successful Program in Human Biology has been in place at Stanford University

for over 40 years. Most human biology programs are interdisciplinary, and most apply faculty and courses from various departments. The University at Albany-SUNY uses an approach similar to that proposed here in having their human biology program and shared human biology degree centered jointly in the departments of anthropology and biology.

## **B) Relationships to Current WSU Programs**

The internal programs most likely to be challenged by competition from a degree in Human Biology are the two degrees, Biology and Zoology, offered by the School of Biological Sciences. Currently, the Biology and Zoology degrees are common majors for students interested in careers in health care, including those that require entry into the professional medical schools. We anticipate that certain students will be attracted to the greater emphasis on humans – both biologically and sociologically – offered by the Human Biology degree in contrast to broader training in biology and absence of sociological emphasis characteristic of current Biology and Zoology degrees. Similarly, Human Biology may attract some students seeking a firmer grounding in the sciences from Anthropology.

The Human Biology major is well differentiated from the Human Development degree. Human Development studies how children, youth, adults, and families develop, change, and face challenges throughout the lifespan (childhood, adolescence, adulthood). Human Development is devoted to understanding the nature of human development within the context of families, schools, and communities using an integrated “biopsychosocial” framework. Human Biology will focus on the biology of humans, including genetic diversity, physiology, ecology, and evolution, in cultural and social contexts. Human Biology will address questions such as why cultural and social frameworks influence, for example, practices of nutrition, emerging infectious diseases, and human ecology, including problems we face with creating sustainable human environments. The curriculum of Human Biology is distinct from that of Human Development, addressing different student interests and serving student audiences. Please see Appendix A for a statement from the Chair of Human Development attesting to this.

Majors offered by the School of Molecular Biosciences, including Biochemistry, Genetics and Cell Biology, and Microbiology, are more focused on subdisciplinary areas of biology than is the Human Biology major. The majors in School of Molecular Biosciences do not emphasize the cultural and social frameworks that are central to Human Biology. We foresee no negative impact on the number of students who will select majors in School of Molecular Biosciences caused by implementation of the Human Biology degree.

## **C) Regional Competitors**

Notably, no other universities in the Pacific Northwest offer undergraduate degrees in human biology, although both the University of Oregon and Boise State University have areas of emphasis in human biology as a part of their biology Bachelor of Science degrees. The University of Washington (UW) offers students a track in biocultural anthropology as part of the Anthropology degree options. The website of the Department of Anthropology at UW describes the biocultural track as emphasizing “the integration of multidisciplinary approaches to the study of biological and behavioral diversity in modern humans and their closest living relatives . . .” In contrast, the Human Biology major at WSU is more broadly designed to address relationships among human biology, socio-cultural dynamics, and the environment. The Human Biology major at WSU will provide a very strong scientific underpinning, including a series of required courses in biology and chemistry. We believe students will be drawn more strongly to a major in Human Biology than a track in biocultural anthropology, and this will open recruiting opportunities.

Our interdisciplinary Program in Human Biology will be unique in the Pacific Northwest and serve to attract students who seek to apply biological knowledge to human problems in environmental, health, and societal realms.

#### **D) Recruitment**

Recruitment of students to the Program in Human Biology will proceed along many avenues, including each of the following:

1. We will use standard recruitment processes ongoing on both campuses in the College of Arts and Sciences, School of Biological Sciences, and Department of Anthropology. For example at campus recruitment events, we anticipate that the Program in Human Biology will have its own “table” and “poster” to call attention to the Human Biology major, its curriculum, and program opportunities. We will develop material used by the College of Arts and Sciences, Admissions, and Marketing, such as career cards and a program slide show, to present to prospective parents and students when they visit campus.
2. A website for the Human Biology major will be developed for both campuses and linked to WSU Admissions, Anthropology, Biological Sciences and College of Arts and Sciences sites in Pullman and Vancouver.
3. The Program in Human Biology will use Facebook and/or other social media tools to connect with potential students and share information about the program.
4. Posters about the Program in Human Biology will be sent to Washington community colleges to describe opportunities of the major. Vancouver representatives from Human Biology will work directly with local community college partners to provide information about the major and to recruit students.
5. Faculty from the School of Biological Sciences regularly participate in high school visits and recruitment events in Seattle and other parts of the state, and we will include Human Biology in presentations at these events that occur outside of Pullman and Vancouver. In Vancouver, representatives from Human Biology will engage with local high schools to promote the program.
6. Representatives from Human Biology will attend *Imagine U at WSU* and other WSU recruitment activities on both campuses that target underrepresented students, such as such as MOSAIC, MESA, GEAR-UP, and Noche de Familia in Vancouver. We will offer to participate in parent-information nights as a means to demonstrate our commitment to student success and the opportunities available to families of prospective students.
7. Representatives from human biology will attend the Washington Science Teachers Association conference to present information about the Program in Human Biology and to talk with teachers about their top students. This will help to develop a network of colleagues among K-12 teachers for recruitment purposes.
8. We will include fliers on the Program in Human Biology for distribution with materials shipped to K-12 schools in Washington by the Equipment Loan Program, a popular and heavily used out-reach program through the School of Biological Sciences that loans equipment for biological studies to schools around the state. The Equipment Loan Program

has been very successful in creating strong relationships between WSU and K-12 science teachers in Washington.

We address below under **Diversity** in **Section VIII** additional recruitment approaches that will be applied to diversify the body of students who major in Human Biology.

## **Section IV. Goals, Objectives, and Student Learning Outcomes**

### **A) Goals and Objectives**

Our primary goal is to offer a program that will provide students a **Bachelor of Arts degree in Human Biology**. Students in this degree program will learn about the biology of humans by melding knowledge and approaches from social sciences and biology. The program aims to create opportunities for students to address problems faced by humanity by developing skills and a knowledge base that spans both biological and social sciences. Our program will meet the educational needs of students who are specifically interested in diverse health careers, and biological, evolutionary, and medical anthropology; however, our interdisciplinary curriculum aims to provide students with a springboard toward novel careers that will address sustainability concerns that face human populations, such as those that result from global climate change, emerging infectious diseases, environmental degradation, and the healthcare needs of an expanding, aging, and economically poorer population.

We aim to provide a robust curriculum in the sciences and cultural studies in which students will gain a unique interdisciplinary perspective. Our programs of study will also facilitate mentoring opportunities that include research, internships, and study abroad. We will encourage experiential learning opportunities in courses that support the program.

During the first five years of the program we will conduct annual, anonymous surveys and face-to-face interviews with each student who majors in Human Biology to examine whether we are meeting our goals and the aspirations of our students. We will share results of these surveys and interviews with leadership and faculty in the Department of Anthropology and School of Biological Sciences, and instructors of our courses to assess whether changes are appropriate to better achieve our goals. Modifications to the degree program will be evaluated by the Human Biology Curriculum and Assessment Committee (see **Section IX** below) and recommended for approval to the faculty of both the Department of Anthropology and School of Biological Sciences.

### **B) Student Learning Outcomes**

The major learning outcomes that we expect for students in the Human Biology major include the following:

1. **Attain synthetic knowledge** from biology, social sciences, human ecology, and human cultures that shapes an understanding of human beings, our diversity, our socio-cultural systems, and our influence on environments.
2. **Effectively communicate** issues of human biology, human social and ecological dynamics, and human cultures to both the scientific community and the public at large in writing, discussion, and other communication formats.

3. **Achieve scientific and cultural literacy** to analyze contemporary social, environmental, and biological issues and contribute to informed opinion about their relationship to human biology and human populations.
4. **Demonstrate critical thinking skills** to formulate logical hypotheses that address problems of humanity.
5. Demonstrate scientific **skills to design experiments or observational tests** of hypotheses and **analytical skills** to obtain robust interpretations of data.

We will use **three primary means to assess** how students meet our learning outcome expectations.

1. **Exit surveys** with seniors will be conducted prior to graduation. Graduating seniors will be asked to “self-assess” their capabilities in the learning outcomes and to identify how they developed sophistication in each outcome.
2. We will make direct measures of student success in meeting our learning outcomes by using a set of questions that will be embedded in exams taken by Human Biology majors. These questions will target specific learning outcomes, providing us with a means to assess student competence. Knowledge from the direct measures will allow us to make modifications, such as improving courses or modifying the curriculum, to meet better our outcome goals. We plan to embed questions into courses taken by majors early in their degree trajectory in core Anthropology and Biology courses, such as Anthropology 260 and Biology 106/107.
3. Each student will be directly assessed on the degree learning outcomes in the CAPSTONE course taken to satisfy degree requirements during her/his senior year. All CAPSTONE courses have substantive written assignments that will be collected and assessed using a degree-specific rubric. Assessments will be performed by the Human Biology Curriculum and Assessment Committee.

A curriculum map for the Human Biology major (Table 3) outlines the skill level development projected for the core, writing in the major, and capstone courses. Table 3 also notes where within the degree assessment activities occur.

The Human Biology Curriculum and Assessment Committee (see **Section IX** below) will be responsible for assessment activities. This committee, which will include faculty from both campuses, will coordinate collection of materials to be assessed from instructors of courses in Anthropology and Biological Sciences. They will also review materials from the CAPSTONE courses, using an assessment rubric. This committee will be responsible for the regular review of assessment approaches and implementation of improved approaches, preparation of assessment questions for exams, and evaluation of student outcomes registered through the self-assessments and exams. The program’s assessment archive will remain available to faculty on both campuses where the degree is offered.

## Section V. Curriculum

The curriculum of the Program in Human Biology is grounded in the University Common Requirements (UCORE) to address WSU's Seven Learning Goals of the Baccalaureate, provide a foundation in core areas of concern (including roots of contemporary issues, quantitative reasoning, communication, global diversity, and creative arts), allow students to engage early in human biology interests, and pursue this discipline throughout four years of study in a vertical progression of more sophisticated courses during their undergraduate programs.

The human biology program aims especially to use courses from the life, physical, and social sciences to provide students with an interdisciplinary curriculum (Table 1). Our curriculum integrates across biological and social science knowledge domains during each year of study (Table 2).

The major in Human Biology is designed to be accomplished in a period of four years, and we provide a plan to demonstrate how students can obtain degrees in that time frame. The major builds on a common set of core courses that will provide a foundation in anthropology, biology, and statistics. The common core will also require students to complete a senior portfolio. The remaining requirements will assist students in developing breadth, expertise, and skills. The Human Biology major will be offered to students on the Pullman campus and the Vancouver campus. Both campuses currently support successful anthropology (BA) and biology (BS) undergraduate degrees; the suite of courses that support these majors enhances the ability to simultaneously offer this degree on both campuses.

The Human Biology degree (Tables 1, 2) will guide students to explore especially how humans as biological beings are influenced by socio-cultural dynamics. Students will ultimately come to appreciate the immense cultural variation (e.g. customs, languages, and beliefs) exhibited around the world and explore its interplay with the genes we inherited from our ancestors. To ensure a firm grounding in the core disciplines associated with the Human Biology degree, Human Biology majors will be required to take at least 20 credits of both Anthropology and Biology courses, a total that includes requirements; many majors will take more than this required minimum. This will prepare students aimed for advanced degrees in biological and medical anthropology and other areas of social or biological science. They will also be prepared for diverse careers in forensic science, human ecology and sustainability, and physiological psychology among others.

**Table 1. Curriculum for the Human Biology Major**

<b><u>Major Requirements<sup>1</sup></u></b>				
<b><u>Course</u></b>		<b><u>Title</u></b>	<b><u>UCORE</u></b>	<b><u>Credits</u></b>
<b>ANTH</b>	<b>203</b>	Global Cultural Diversity	[DIVR]	3
	<b>260</b>	Introduction to Biological Anthropology	[BSCI]	4
<b>BIOLOGY</b>	<b>106</b>	Introductory Biology: Organismal Biology	[BSCI]	4
	<b>107</b>	Introductory Biology: Cell Biology and Genetics	[BSCI]	4
	<b>301</b>	General Genetics (also offered as MBIOS 301)		4
<b>STAT</b>	<b>212</b>	Introduction to Statistical Methods (also offered as MATH 212)	[QUAN]	4
<b>CHEM</b>	<b>101</b>	Introduction to Chemistry	[PSCI]	4
	<i>AND</i>			
	<b>102</b>	Chemistry Related to Life Sciences		4
	<i>OR</i>			
	<b>105</b>	Principles of Chemistry I	[PSCI]	4
	<i>AND</i>			
	<b>106</b>	Principles of Chemistry II		4
<b><u>CAPSTONE: 3 credits from the following</u></b>				
<b>ANTH</b>	<b>473</b>	Evolution and Society (also offered as BIOLOGY 473)	[CAPS] [M]	3
	<b>490</b>	Integrative Themes in Anthropology	[CAPS][M]	3
<b>BIOLOGY</b>	<b>401</b>	Plants and People	[CAPS]	3
	<b>408</b>	Contemporary Genetics	[CAPS]	3
	<b>473</b>	Evolution and Society (also offered as ANTH 473)	[CAPS] [M]	3
	<b>483</b>	Organisms and Global Change	[CAPS] [M]	3
<b><u>Science and Society: 3 credits from the following<sup>2</sup></u></b>				
<b>ANTH</b>	<b>309</b>	Cultural Ecology	[SSCI]	3
<b>BIOLOGY</b>	<b>330</b>	Principles of Conservation		3
<b>ENVR_</b> <b>SCI</b>	<b>402</b>	Human Health & the Environment		3

<sup>1</sup> Human Biology Majors must take at least 20 credits of ANTH and 20 credits of BIOLOGY, a total that includes requirements

<sup>2</sup> Any ANTH or BIOLOGY course listed in the Science and Society, Genetics and Evolution, Human Behavior and Human Cultural Diversity sections that is not used to satisfy section requirements can be taken as an elective.

<b>GEOL</b>	<b>390</b>	Living on the Edge: Global Climate Change and Earth History		3
<b>PHIL</b>	<b>350</b>	Philosophy of Science		3
	<b>365</b>	Biomedical Ethics	[HUM]	3
	<b>370</b>	Environmental Ethics	[HUM]	3
<b>SOC</b>	<b>331</b>	Population, Resources, and the Future		3
	<b>332</b>	Society and Environment	[SSCI]	3
<b><u>Genetics and Evolution: 6 credits from the following<sup>2</sup></u></b>				
<b>ANTH</b>	<b>302</b>	Childhood and Culture	[SSCI]	3
	<b>463</b>	Introduction to Anthropological Demography and Epidemiology (title change submitted 6/2018)		3
	<b>465</b>	Human Evolution		3
	<b>469</b>	Genes, Culture and Human Diversity		3
<b>BIOLOGY</b>	<b>335</b>	Genome Biology	[M]	3
	<b>395</b>	Evolutionary Medicine		3
	<b>OR</b>			
	<b>403</b>	Evolutionary Biology		3
	<b>OR</b>			
	<b>405</b>	Principles of Organic Evolution		3
<b>MBIOS</b>	<b>423</b>	Human Genetics		4
<b><u>Human Behavior: 6 credits from the following<sup>2</sup></u></b>				
<b>ANTH</b>	<b>268</b>	Sex, Evolution, and Human Nature	[BSCI]	3
	<b>381</b>	Primate Behavioral Ecology	[BSCI]	3
<b>BIOLOGY</b>	<b>307</b>	Biology of Women	[DIVR]	3
	<b>438</b>	Animal Behavior	[M]	3
<b>PSYCH</b>	<b>230</b>	Human Sexuality (also offered as WOMEN_ST 230)		3
	<b>321</b>	Introduction to Personality		3
	<b>324</b>	Psychology of Gender (also offered as WOMEN_ST 324)		3
	<b>372</b>	Biological Basis of Behavior	[BSCI]	3
<b><u>Human Cultural Diversity: 3 credits from the following<sup>2</sup></u></b>				
<b>ANTH</b>	<b>201</b>	Art and Society	[HUM]	3

	<b>307</b>	Contemporary Cultures and Peoples of Africa	[DIVR]	3
	<b>316</b>	Gender in Cross Cultural Perspective (also offered as WOMEN_ST 316)	[DIVR]	3
	<b>320</b>	Native Peoples of North America (also offered as CES 377)	[DIVR]	3
	<b>327</b>	Contemporary Native Peoples of the Americas (also offered as CES 378)	[DIVR]	3
<b><u>Electives: at least 18 credits from the following<sup>2</sup></u></b>				
<b>ANTH</b>	<b>301</b>	Arts and Media in Global Perspective	[ARTS]	3
	<b>303</b>	The Anthropology of Religious Experience		3
	<b>304</b>	Cross Cultural Perspectives of Mental Health and Illness	[SSCI]	3
	<b>305</b>	Anthropology of Epidemic Disease and Bioterrorism	[SSCI]	3
	<b>330</b>	Origins of Culture and Civilization		3
	<b>331</b>	Archaeology of the Americas	[SSCI]	3
	<b>340</b>	Maya, Aztec and Inca Civilizations	[M]	3
	<b>380</b>	Human Osteology		3
	<b>404</b>	Self in Culture	[CAPS]	3
	<b>405</b>	Medical Anthropology		3
	<b>495</b>	Research Practicum		v 1-6
	<b>498</b>	Anthropology Internship		v 1-15
	<b>499</b>	Special Problems		v 1-4
<b>BIOLOGY</b>	<b>251</b>	Introductory Human Physiology		4
	<i>OR</i>			
	<b>353</b>	Advanced Human Physiology		4
	<b>315</b>	Gross and Microanatomy		4
	<b>321</b>	Principles of Animal Development	[M]	4
	<b>333</b>	Human Nutrition and Health	[BSCI]	3
	<b>340</b>	Mathematical Biology (also offered as MATH 340)		3
	<b>354</b>	Human Anatomy for the Health Occupations		4
	<b>372</b>	General Ecology	[M]	4
	<b>476</b>	Epigenetics and Systems Biology		3
	<b>495</b>	Internship in Biology, Botany, or Zoology		v 1-4
	<b>499</b>	Special Problems		v 1-4
<b>H_D</b>	<b>220</b>	Human Development Theories		3
<b>MBIOS</b>	<b>303</b>	Introductory Biochemistry		4
	<b>305</b>	General Microbiology		3
	<b>405</b>	Cell Biology of Disease		3
	<b>446</b>	Epidemiology		3

<b>PSYCH</b>	<b>320</b>	Health Psychology	3
	<b>361</b>	Principles of Developmental Psychology	3
	<b>363</b>	Psychology of Aging	3

<b>Table 2. Four-year plan for the Human Biology Major</b>	
<b>First Year</b>	
First Term	Hours
BIOLOGY 106 [BSCI]	4
CHEM 101 or 105 [PSCI]	4
Written Communication [WRTG]	3
HISTORY 105 [ROOT]	3
Second Term	Hours
BIOLOGY 107	4
CHEM 102 or 106	4
ANTH 203 [DIVR]	3
STAT 212 [QUAN]	4
<b>Second Year</b>	
First Term	Hours
ANTH 260	4
Communication OR Written Communication [COMM][WRTG]	3
Creative and Professional Arts [ARTS]	3
Social Sciences [SSCI]	3
Elective <sup>1,9</sup>	3
Second Term	Hours
BIOLOGY 301	4
[SSCI], [HUM], OR [ARTS] CAS additional requirement <sup>6</sup>	3
Science and Society Requirement <sup>2</sup>	3
Human Behavior Requirement <sup>3</sup>	3
Electives <sup>1,9</sup>	3
Complete Writing Portfolio	
<b>Third Year</b>	
First Term	Hours
Genetics and Evolution Requirement <sup>4</sup>	3
Humanities [HUM]	3
Human Behavior Requirement <sup>3</sup>	3

Electives <sup>1,9</sup>	6
Second Term	Hours
Genetics and Evolution Requirement <sup>4</sup>	3
Electives <sup>1,9</sup> and/or Foreign Language	7-8
Electives	2-6
[M] Course <sup>7</sup>	3-4
<b>Fourth Year</b>	
First Term	Hours
Human Cultural Diversity Requirement <sup>5</sup>	3
[M] Course <sup>7</sup>	4
Electives <sup>1,9</sup>	4
Integrative Capstone [CAPS] <sup>8</sup>	4
Second Term	Hours
Electives <sup>1,9</sup> or Electives	13
<p><sup>1</sup>Electives include: ANTH 301, 303, 304, 305, 330, 331, 340, 380, 404, 405, 495, 498, 499; BIOLOGY 251 or 353, 315, 321, 333, 340, 354, 372, 476, 495, 499; H_D 220; MBIOS 303, 305, 405, 446; PSYCH 320, 361, 363; and any ANTH or BIOLOGY course listed in the Science and Society, Genetics and Evolution, Human Behavior and Human Cultural Diversity modules above that <i>were not</i> taken to satisfy the requirement in those areas.</p> <p><sup>2</sup>Science and Society Requirements include: ANTH 309; BIOLOGY 330; ENVR_SCI 402, 444; GEOL 390; PHIL 350, 365, 370; SOC 331, 332.</p> <p><sup>3</sup>Human Behavior Requirements include: ANTH 268, 381; BIOLOGY 307, 438; PSYCH 230, 321, 324, 372.</p> <p><sup>4</sup>Genetics and Evolution Requirements include: ANTH 302, 463, 465, 469; BIOLOGY 335; 395 OR 403 OR 405; MBIOS 423.</p> <p><sup>5</sup>Human Cultural Diversity Requirements include: ANTH 201, 307, 316, 320, or 327.</p> <p><sup>6</sup>An additional [SSCI], [ARTS], or [HUM] course is required by the CAS.</p> <p><sup>7</sup> [M] Courses must be chosen from either ANTH or BIOLOGY.</p> <p><sup>8</sup> [CAPS] course must be chosen from either ANTH or BIOLOGY.</p> <p><sup>9</sup>A maximum of 4 credits of coursework that are graded S, F (491, 495, 499) may be used toward fulfilling departmental or program option requirements.</p>	

**Table 3. Human Biology Curriculum Map**

COURSE #	CORE COURSES							WRITING IN THE MAJOR COURSES [M] - Two Required	CAPSTONE
	Anth 203	Anth 260	Biology 106	Biology 107	Math/Stat 212 OR Stat 412	Biology 301	Biology 493		
COURSE TITLE or #	Global Cultural Diversity	Introduction to Biological Anthropology	Introductory Biology: Organismal Biology	Introductory Biology: Cell Biology and Genetics	Introduction to Statistical Methods/Statistical Methods in Research I	General Genetics	Senior Portfolio	Anth 340, 473, 490; Biology 321, 335, 372, 438, 473	Anth 473, 490; Biology 401, 408, 411, 473, 483
Student Learning Outcomes									
Attain synthetic knowledge	B	D/A	B	B		D	M/A	D [Anth 340, Biology 321, 335]; M [Anth 473, 490, Biology 372, 438, 473]	M/A
Effectively communicate issues	B	D/A	B	B		D	M/A	D [Anth 340, Biology 321, 335]; M [Anth 473, 490, Biology 372, 438, 473]	M/A
Achieve Scientific and cultural literacy	B	B	B	B	D	D	M/A	D [Anth 340, Biology 321, 335]; M [Anth 473, 490, Biology 372, 438, 473]	M/A
Demonstrate critical thinking skills	B	B	B	B	B [212] D/M [412]	D	M/A	D [Anth 340, Biology 321, 335]; M [Anth 473, 490, Biology 372, 438, 473]	M/A
Demonstrate scientific skills		D	B	B	B [212] D/M [412]	D	M/A	D [Anth 340, Biology 321, 335]; M [Anth 473, 490, Biology 372, 438, 473]	M/A

KEY: B = beginning mastery; D = developing mastery; M = mastery at senior level; A = Assessed

## **Section VI. Uses of Technology**

### **A) Technologies Used in Teaching**

Computer technologies will be used widely in teaching the curriculum for Human Biology. Many of the courses required for the degree currently use computers for data acquisition and analysis and for simulations. The classes also use online materials including databases and maps on human genetic diseases, health, nutrition, demography, and economy from the Centers for Disease Control and Prevention, World Health Organization, United Nations and other organizations, for student assignments and projects to achieve learning goals.

### **B. Technologies to be Learned by Students**

Students will learn methods of data acquisition used in biological sciences, ranging from molecular biological to ecological techniques, and social sciences, ranging from interviews, observation, and assembly of meta-datasets from existing sources. Analytical tools, especially using computer technologies, data analysis, statistical tests, and modelling will be central to the program.

## **Section VII. Delivery Methods**

This program will be available on the Pullman and Vancouver campuses, where it will be conducted in face-to-face and blended classes, and in AMS coursework that may originate from either Pullman or Vancouver.

## **Section VIII. Students**

### **A) Numbers to be Served**

The projected number of student majors and FTE (Table 4) are based on attracting newly recruited students to the degree program each year for the Pullman campus, with modest annual growth anticipated once the degree has been established. For Vancouver (Table 4), we project that the program will see steady growth of newly recruited students from a modest beginning. Community college students likely to transfer to WSU Vancouver are especially interested in the biological sciences and careers in health fields – this is projected to be one of the strongest growth areas for the Vancouver campus.

### **B) Admission Requirements**

Students can begin working toward certification upon entry to WSU and can certify as soon as they are eligible to do so (at 24 semester credit hours with a minimum 2.0 GPA).

<b>Table 4. Projected number of student majors and FTE in the early years of the Program in Human Biology for the Pullman and Vancouver campuses.</b>					
<b>Pullman</b>					
<b>Number of Students</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
<b>Headcount</b>	8	17	26	37	50
<b>FTE</b>	8	17	26	37	50
<b>Vancouver</b>					
<b>Number of Students</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
<b>Headcount</b>	5	12	22	30	40
<b>FTE<sup>1</sup></b>	3.75	9	16.5	22.5	30

<sup>1</sup> Vancouver FTE numbers based on approximately 75% of students being full time students.

### **C) Expected Time for Program Completion**

We anticipate that most Human Biology majors on the Pullman campus will be full time. In Vancouver, we expect that one-quarter of the majors will be part-time students. The enrollment projections (Table 4) for both campuses reflect expectations based on the strong student interest and demand for students selecting Biology and our assessment that some students may find the Human Biology an attractive program; thus, we predict it will attract new students and grow modestly. As indicated in the four-year plan for the Human Biology major, the full time students should be able to complete the degree requirements in four years (Table 2).

Transfer students who select this major are likely to have had biology or social sciences coursework at other universities or colleges. If these students transfer following their freshman year, they should be able to complete the degree in four years; transfers following their sophomore year may require 4.5-5.0 years total; and transfers following the junior year or later may require a total of five or more years total to complete the degree.

### **D) Advising**

Students who major in human biology will be assigned a professional advisor in the College of Arts and Sciences. These students will also be assigned faculty mentors to assist with career and professional planning and to learn about disciplinary training opportunities. Faculty mentors will be members of either the Department of Anthropology or School of Biological Sciences. Student interests will be assessed by the program coordinator (or equivalent on the Vancouver campus) prior to the assignment of a mentor, and an attempt will be made to find a mentor with knowledge relevant to the professional aspirations of the student. Faculty mentor assignments in Pullman will be made by the Director of the Program in Human Biology in consultation with the Chair of the Department of Anthropology and the Director of the School of Biological Sciences, and in Vancouver by the Human Biology Program Leader.

## **E) Diversity**

Because an understanding of human diversity is one of the outcome goals of our program, we anticipate that it will attract diverse students as majors.

Our strategy to recruit diverse students, including minorities and underrepresented groups, includes the following:

1. Representatives from Human Biology will attend *Imagine U at WSU* and other WSU recruitment activities on both campuses that target underrepresented students, such as MOSAIC, MESA, GEAR-UP, and Noche de Familia in Vancouver. We will offer to participate in parent-information nights as a means to demonstrate our commitment to student success and the opportunities available to families of prospective students.
2. Representatives from Human Biology will attend the Washington Science Teachers Association conference to present information about the Program in Human Biology and to talk with teachers about their top diverse students. This will help to develop a network of colleagues among K-12 teachers for recruitment purposes.
3. The Human Biology Program will use Facebook and/or other social media tools to reach outward and address specifically the diversity aspects of the Human Biology major to reach potential students from underrepresented groups.
4. As often as possible, we will post job opportunities in the Program in Human Biology in WSU's Office of Financial Aid Spanish website (available on both campuses).
5. We will work with Marcela Pattinson to discuss the Program in Human Biology on her Spanish-language radio show, "WSU Conectándote!" ("Get Connected with WSU!"), which is carried on stations in Centralia, Skagit Valley, Seattle, and Yakima Valley. We will also contact radio programs hosted by stations that target specific underrepresented groups, such as the Spanish language radio program "Aquí en confianza" hosted by Sandra Maqueda on KXPA 1540 AM in Seattle and local radio stations in the Portland-Vancouver metropolitan area.
6. The Human Biology Program will identify a set of community colleges that have significant enrollments of ethnically and racially diverse students and work to have representatives visit these schools to develop faculty and student contacts.

The Program in Human Biology will investigate avenues to communicate with military veterans about the opportunities of our program.

## **Section IX. Faculty and Administrative Support**

### **A) Administration and Management**

The Program in Human Biology will be administered jointly by the Department of Anthropology and the School of Biological Sciences.

We recommend the appointment of a Director of the Program in Human Biology, who will be supervised jointly by the Chair of the Department of Anthropology and the Director of the School of Biological Sciences. The Director of the Program in Human Biology will be responsible for

administration of daily needs, program assessment, and strategic planning. We envision this Director will have a faculty position in the Department of Anthropology and/or School of Biological Sciences. The effort commitment of the Director to the Program in Human Biology should be expected to increase during the first years of its existence. By year five of the program, we anticipate that the duties of the Director will be roughly comparable to those currently held by the Associate Director the Undergraduate Program in the School of Biological Sciences, and similar compensation should be provided by the College of Arts and Sciences.

Oversight of the program in Vancouver will be provided by a faculty member in the Department of Anthropology or the School of Biological Sciences. The Vancouver program leader will work directly with the Director of the Program in Human Biology to ensure coordinated efforts related to planning, assessment, recruiting, etc.

We will establish a Human Biology Curriculum and Assessment Committee that will consist of three faculty from Anthropology and three faculty from Biological Sciences (and will include representation from both the Pullman and Vancouver campuses) to assist and advise the Director on needs that will include assessment activities and curriculum planning. One position on the Curriculum and Assessment Committee will be reserved for the Human Biology program leader in Vancouver.

The program will also require staff to accomplish program plans and paperwork for undergraduate majors. Funds will need to be provided to support the work of a part-time academic coordinator to accomplish these tasks. This coordinator could be centered either in the Department of Anthropology or School of Biological Sciences. During at least the first five years of the program, the academic coordinator tasks might be accomplished by increasing the appointment of existing staff in either Anthropology or Biological Sciences. Clerical support and academic advising in Vancouver will be provided by College of Arts and Sciences personnel.

## B) Faculty

The faculty of the program will consist of all tenure track and clinical faculty of the Department of Anthropology (Table 5) and the School of Biological Sciences (Table 6). The administrative and support staff for the program will consist of those staff currently in the Department of Anthropology and the School of Biological Sciences, and selected staff in the College of Arts and Sciences on the Vancouver campus (Table 7).

<b>PULLMAN CAMPUS</b>			
<b>Name</b>	<b>Rank</b>	<b>Status</b>	<b>% Effort in Program</b>
Kohler, Tim	Regents' Professor	T	1.5%
Duff, Andrew	Professor	T	3%
Mageo, Jeannette	Professor	T	3%
Quinlan, Robert	Professor	T	3%
Blackwell, Aaron	Associate Professor	T	3%
Cassaniti, Julia	Associate Professor	T	3%
Grier, Colin	Associate Professor	T	3%
Meehan, Courtney	Associate Professor	T	3%

Premo, Luke	Associate Professor	T	3%
Quinlan, Marsha	Associate Professor	T	3%
Pisor, Anne	Assistant Professor	T	3%
Thornton, Erin	Assistant Professor	T	3%
Tushingham, Shannon	Assistant Professor	T	1.5%
<b>Total Pullman FTE Faculty in Program:</b>			<b>0.36</b>
<b>VANCOUVER CAMPUS</b>			
<b>Name</b>	<b>Rank</b>	<b>Status</b>	<b>% Effort in Program</b>
Hagen, Edward	Professor	T	3%
Hewlett, Barry	Professor	T	3%
Weber, Steven	Professor	T	3%
Wilkinson, Clare	Associate Professor	T	3%
Bonnie Hewlett	Clinical Assistant Professor	N	3%
Nichole Hess	Instructor	N	3%
<b>Total Vancouver FTE Faculty in Program:</b>			<b>0.18</b>
Abbreviations: T = Tenured/Tenure track; N = Not tenure track			

**Table 6. Faculty Committed to Human Biology Program  
in the School of Biological Sciences**

<b>PULLMAN CAMPUS</b>			
<b>Name</b>	<b>Rank</b>	<b>Status</b>	<b>% Effort in Program</b>
Beerman, Kathy	Professor	T	3%
Carter, Patrick	Professor	T	3%
Cousins, Asaph	Professor	T	3%
Evans, R. Dave	Professor	T	3%
Gomulkiewicz, Richard	Professor	T	3%
Hufford, Larry	Professor	T	0%
Knoblauch, Michael	Professor	T	3%
Roalson, Eric	Professor	T	3%
Schwabl, Hubert	Professor	T	3%
Skinner, Michael	Professor	T	3%
Storfer, Andrew	Professor	T	3%
Tegeder, Mechthild	Professor	T	3%
Busch, Jeremiah	Associate Professor	T	3%
Cavagnetto, Andy	Associate Professor	T	0.45%
Dybdahl, Mark	Associate Professor	T	3%
Hellmann, Hanjo	Associate Professor	T	3%
Kelley, Joanna	Associate Professor	T	3%
Lee, Ray	Associate Professor	T	3%
McCubbin, Andrew	Associate Professor	T	3%
Schwartz, Elissa	Associate Professor	T	3%
Verrell, Paul	Associate Professor	T	3%

Brunner, Jesse	Assistant Professor	T	3%
Cornejo, Omar	Assistant Professor	T	3%
Crespi, Erica	Assistant Professor	T	3%
Kunz, Hans-Henning	Assistant Professor	T	3%
Carloye, Lisa	Clinical Associate Professor	N	3%
Ankrah, Nii	Clinical Assistant Professor	N	3%
Johnson, Ed	Clinical Assistant Professor	N	3%
Monk, Daniela	Clinical Assistant Professor	N	3%
Ritchie, Sian	Clinical Assistant Professor	N	3%
<b>Total Pullman FTE Faculty in Program:</b>			<b>0.845</b>
<b>VANCOUVER CAMPUS</b>			
Bishop, John	Professor	T	10% (year 5)
Bollens, Stephen	Professor	T	0%
Portfors, Christine	Professor	T	0%
Rollwagen-Bollens, Gretchen	Associate Professor	T	10% (year 5)
Schultz, Cheryl	Associate Professor	T	0%
Piovia-Scott, Jonah	Assistant Professor	T	10% (year 5)
Porter, Stephanie	Assistant Professor	T	10% (year 5)
Mike Berger	Clinical Professor	N	10% (year 5)
Wilmington, Deb	Instructor	N	10% (year 5)
Sayer, Pat	Instructor	N	10% (year 5)
Thomas, Duncan	Instructor	N	10% (year 5)
<b>Total Vancouver FTE Faculty in Program:</b>			<b>0.80</b>
Abbreviations: T = Tenured/Tenure-track; N = Not tenure-track clinical appointment			

**Table 7. Administrative and Support staff in the Department of Anthropology and School of Biological Sciences**

<b><u>Pullman</u></b>			
<b><u>Department of Anthropology</u></b>			
<u>Name</u>	<u>Title</u>	<u>Responsibilities</u>	<u>% Effort in Program</u>
Kam Spelman	Academic Coordinator	Program support	5% (year 5)
Jo Bonner	Office Assistant	Program support	2% (year 5)
Erin Collins	Finance/Budget Manager	Program support	2% (year 5)
Annette Bednar	Manager	Program support	2% (year 5)
<b><u>School of Biological Sciences</u></b>			
<u>Name</u>	<u>Title</u>	<u>Responsibilities</u>	<u>% Effort in Program</u>
TBD	Academic Coordinator	Scheduling and program coordination	5% (year 5)
Kara McClanahan	Instructional Lab Supervisor	Lab support	8% (year 5)

Ed Johnson	Clinical Assistant Professor	Lab support for physiology labs that involve living animals	2% (year 5)
<b><u>New</u></b>			
<u>Name</u>	<u>Title</u>	<u>Responsibilities</u>	<u>% Effort in Program</u>
Not Yet Appointed	Director	Oversight & planning; instruction	11% (year 5)
TBD (year 3)	Program assistant	Clerical support	10% (year 5)
TBD	Fiscal specialist	Budget management	5% (year 5)
TBD	Advisor	Academic advising	20% (year 5)
<b><u>Vancouver</u></b>			
<b>College of Arts and Sciences</b>			
<u>Name</u>	<u>Title</u>	<u>Responsibilities</u>	<u>% Effort in Program</u>
Not Yet Appointed	Program Leader	Oversight & planning; instruction	10% (year 5)
Emily Earhart	Academic Coordinator	Academic Advising	15% (year 5)
Josh Olson	Technician	Lab support	8% (year 5)
Various	Program Assistant	Clerical support	8% (year 5)
Min Kuang	Fiscal Analyst	Budget management	8% (year 5)

## Section X. Facilities

### A) Teaching and Research

The Program in Human Biology is not anticipated to require any new teaching or research facilities, or to have any upfront costs to equip new laboratories or facilities. Because the program will consist of faculty in the Department of Anthropology and the School of Biological Sciences, and will use existing courses to achieve the goals of the degree, we do not anticipate that new faculty will be hired specifically for the program at its inception. We do not anticipate needs for research laboratories or office space for faculty assigned only to the Program in Human Biology. No new tenure-line faculty are needed to offer the Human Biology major in Vancouver.

Because some majors in Human Biology are anticipated to transition from existing degrees where these students are already enrolled in most of the science courses associated with Human Biology, we project that most courses to be used in the program have the capacity to meet enrollment needs. With the projected increase in newly recruited students per year in the first five years, the upper division courses have the capacity to meet enrollment needs in existing sections.

Human Biology majors in Vancouver are likely to come initially from related majors offered on campus. However, the program is expected increasingly to attract new students to the campus. For the first three years, new enrollments can be absorbed into existing course sections.

Selected courses on both campuses will be impacted by the increased enrollment from Human Biology and may require additional laboratory and lecture sections to be taught in about three

years after the inception of the program. In Pullman, both Anthropology 260 and Biology 251 are heavily enrolled and would likely need additional laboratory sections. Biology 106 may be one of the most impacted courses on both campuses. Vancouver may need to add an additional laboratory section for this course in Year 3 of the major. In Pullman, recent enrollment increases have filled Biology 106 to capacity in the one lecture section of the course that is offered in fall and spring semesters (summer session continues to have enrollment capacity). To better facilitate enrollment in Biology 106 to meet needs of recent enrollment increases and also the addition of Human Biology, we recommend that an additional lecture section of the course be taught each fall semester in Pullman. In Pullman the addition of new laboratory sections in courses such as Anthropology 260, Biology 106, and Biology 251 will require additional teaching assistants and funding to support these students. In Vancouver, Biology 354 is currently close to capacity and its enrollment will likely increase with the addition of Human Biology.

A potential impact of the Program in Human Biology may be that the frequency at which some courses are offered currently would need to increase. For example, some courses may need to shift from being offered only in alternate years to being offered every year to accommodate student needs as the number of student majors increases, or that effort assigned in Tables 5-7 may need to be redistributed to other faculty and staff. This change would likely require that additional faculty be hired to accommodate the increased teaching need. We anticipate this need may be realized after the first three years of the program.

## **B) Library**

As an interdisciplinary major, Human Biology, can be adequately served by existing library resources that facilitate teaching need in core disciplines of the new major—biology and anthropology—and the supplemental disciplines including environmental science, human health, psychology, and sociology. Please see attached letter of support from the libraries on the Pullman and Vancouver campuses (Appendix B) that indicates the libraries will not need to acquire new serials, monographs, media, technology, or personnel to support the Human Biology degree.

## **Section XI. Finances**

The program will generate revenues through tuition and course fees paid by students. Costs of the program are estimated in Table 8 for Pullman and Table 9 for Vancouver. These tables assume no salary increases for faculty or staff during the five years (as we were advised to assume by the University's Budget Office). At full enrollment on the Pullman campus, estimated to be 50 students in year five. We estimate the Program in Human Biology will generate \$187,500 in Pullman in year five, using the average of current revenue shared to the College of Arts and Sciences for Sciences (\$4000/FTE) and Liberal Arts (\$3500 FTE), or \$3750 per FTE, above the established baseline. There is no baseline for the Human Biology degree; thus, we are assuming a zero baseline in these revenue calculations. For Vancouver, with a different tuition revenue model, we have used the figure of \$7633/FTE (calculated from \$8980 [operating revenue only portion of tuition] less central financial aid, student services and institutional funding of 15% [ $8980 \cdot .85$ ] = \$7633/FTE). In year 5 at Vancouver, the estimated revenue from tuition is \$228,990 for the 30 FTE students.

**Table 8. Pullman Financial Data**  
**Human Biology WSU Pullman 7/28/2018**

		1st	2nd	5th	1st	2nd	5th
		FTE	FTE	FTE	Academi c Year	Academi c Year	Academi c Year
Total Student HDC					8	17	50
Total Student AAFTE					8	17	50
					↑Enrollment values linked to Table 1↑		
<b>Personnel</b>	Annual						
<b>Faculty</b>	rate	↓Insert employee FTE by job title↓			↓Insert annual salaries by job title↓		
Professor, Anthropology	129,313	0.015	0.015	0.015	1,940	1,940	1,940
Professor, Anthropology	92,524	0.03	0.03	0.03	2,776	2,776	2,776
Professor, Anthropology	89,057	0.03	0.03	0.03	2,672	2,672	2,672
Professor, Anthropology	85,536	0.03	0.03	0.03	2,566	2,566	2,566
Associate Professor, Anthropology	77,000	0.03	0.03	0.03	2,310	2,310	2,310
Associate Professor, Anthropology	73,977	0.03	0.03	0.03	2,219	2,219	2,219
Associate Professor, Anthropology	76,007	0.03	0.03	0.03	2,280	2,280	2,280
Associate Professor, Anthropology	81,362	0.03	0.03	0.03	2,441	2,441	2,441
Associate Professor, Anthropology	71,118	0.03	0.03	0.03	2,134	2,134	2,134
Associate Professor, Anthropology	72,187	0.03	0.03	0.03	2,166	2,166	2,166
Assistant Professor, Anthopology	64,000	0.03	0.03	0.03	1,920	1,920	1,920
Assistant Professor, Anthopology	67,097	0.015	0.015	0.015	1,006	1,006	1,006
Assistant Professor, Anthopology	66,660	0.03	0.03	0.03	2,000	2,000	2,000
Professor, SBS	84,776	0.03	0.03	0.03	2,543	2,543	2,543
Professor, SBS	97,945	0.03	0.03	0.03	2,938	2,938	2,938
Professor, SBS	99,317	0.03	0.03	0.03	2,980	2,980	2,980
Professor, SBS	100,221	0.03	0.03	0.03	3,007	3,007	3,007
Professor, SBS	97,672	0.03	0.03	0.03	2,930	2,930	2,930
Professor, SBS	103,680	0	0	0	0	0	0
Professor, SBS	104,718	0.03	0.03	0.03	3,142	3,142	3,142
Professor, SBS	99,258	0.03	0.03	0.03	2,978	2,978	2,978
Professor, SBS	89,324	0.03	0.03	0.03	2,680	2,680	2,680
Professor, SBS	166,544	0.03	0.03	0.03	4,996	4,996	4,996
Professor, SBS	110,270	0.03	0.03	0.03	3,308	3,308	3,308
Professor, SBS	133,519	0.03	0.03	0.03	4,006	4,006	4,006
Associate Professor, SBS	80,934	0.03	0.03	0.03	2,428	2,428	2,428
Associate Professor, SBS	86,570	0.005	0.005	0.005	390	390	390
Associate Professor, SBS	72,271	0.03	0.03	0.03	2,168	2,168	2,168
Associate Professor, SBS	87,964	0.03	0.03	0.03	2,639	2,639	2,639

Associate Professor, SBS	82,592	0.03	0.03	0.03	2,478	2,478	2,478
Associate Professor, SBS	79,404	0.03	0.03	0.03	2,382	2,382	2,382
Associate Professor, SBS	77,478	0.015	0.015	0.015	1,162	1,162	1,162
Associate Professor, SBS	73,037	0.03	0.03	0.03	2,191	2,191	2,191
Associate Professor, SBS	73,209	0.03	0.03	0.03	2,196	2,196	2,196
Assistant Professor, SBS	76,815	0.03	0.03	0.03	2,304	2,304	2,304
Assistant Professor, SBS	80,156	0.03	0.03	0.03	2,405	2,405	2,405
Assistant Professor, SBS	89,408	0.03	0.03	0.03	2,682	2,682	2,682
Assistant Professor, SBS	81,096	0.03	0.03	0.03	2,433	2,433	2,433
Clinical Associate Professor, SBS	61,183	0.03	0.03	0.03	1,835	1,835	1,835
Clinical Assistant Professor, SBS	54,944	0.03	0.03	0.03	1,648	1,648	1,648
Clinical Assistant Professor, SBS	45,492	0.03	0.03	0.03	1,365	1,365	1,365
Clinical Assistant Professor, SBS	49,486	0.03	0.03	0.03	1,485	1,485	1,485
Clinical Assistant Professor, SBS	58,808	0.03	0.03	0.03	1,764	1,764	1,764
Subtotal		1.19	1.19	1.19	99,892	99,892	99,892
<b><u>Exempt</u></b>							
Manager	70,700	0.02	0.02	0.02	1,414	1,414	1,414
Academic Coordinator	45,000	0.02	0.03	0.05	900	1,350	2,250
Subtotal		0.04	0.05	0.07	2,314	2,764	3,664
<b><u>Classified</u></b>							
Instructional Lab Tech	54,170	0.02	0.04	0.08	1,083	2,167	4,334
Academic Advising	45,000	0.01	0.02	0.20	450	900	9,000
Lab Support	60,656	0.01	0.01	0.02	607	607	1,213
Program Coordinator	41,232	0.01	0.01	0.05	412	412	2,062
Program Assistant (new)	32,000	0.01	0.02	0.10	320	640	3,200
Office Assistant III	27,486	0.01	0.02	0.02	275	550	550
Fiscal Specialist 1 (new)	42,000	0.01	0.02	0.05	420	840	2,100
Fiscal Tech 2	45,540	0.02	0.02	0.04	911	640	1,822
Subtotal		0.10	0.16	0.56	4,478	6,755	24,280
<b><u>Graduate</u></b>							
Teaching Assistants	34,930	0.50	1.00	3.00	17,465	34,930	104,790
Subtotal		0.50	1.00	3.00	17,465	34,930	104,790
Total Personnel		1.83	2.40	4.82	124,149	144,341	232,625
					<i>↓ Insert benefits based on current benefit rates ↓</i>		
<b>Benefits</b>							
Faculty					29,268	29,268	29,268
Exempt					789	943	1,249
Classified					2,140	3,229	11,606
Graduate					2,288	4,576	13,727

Total Benefits			34,486	38,015	55,851
<a href="#">Link to current benefits model rates</a>					
<b>Goods and Services</b>			0	0	0
<b>Travel</b>			1,500	1,500	4,000
<b>Equipment (Instructional)</b>			0	0	0
Total Direct Costs			160,134	183,856	292,476
Total Indirect Costs	35%		86,226	98,999	157,487
Total Costs			<b>246,360</b>	<b>282,856</b>	<b>449,963</b>
One-Time Costs		User inputs one-time costs→	0	0	0
Recurring Costs		Formula calculates recurring costs→	246,360	282,856	449,963
Total Costs			<b>246,360</b>	<b>282,856</b>	<b>449,963</b>
<b>Calculated total cost per student AAFTE:</b>			<b>30,795</b>	<b>16,639</b>	<b>8,999</b>
<b>Calculated direct cost per student AAFTE:</b>			<b>20,017</b>	<b>10,815</b>	<b>5,850</b>
<b>Revenue</b>					
Internal Departmental /Area Reallocation			130,134	120,106	104,976
Enrollment Funding (estimated at \$3750/AAFTE)			30,000	63,750	187,500
New State Funds			0	0	0
WSU Allocation (Institutional reallocation)			0	0	0
Indirect Allocation (Central reallocation for support services)			86,226	98,999	157,487
Other <>			0	0	0
Total Revenue			<b>246,360</b>	<b>282,856</b>	<b>449,963</b>
			TRUE	TRUE	TRUE
			↑Total costs must equal total revenue↑		
*Note on Year "N": Please replace the letter "N" with the year in which you expect the program to reach full enrollment.					

**Table 9. Vancouver Financial Data**  
**Human Biology WSU Vancouver 7/28/2018**

		1st	2nd	5th	1st	2nd	5th
		FTE	FTE	FTE	Academi c Year	Academi c Year	Academi c Year
Total Student HDC					5	12	40
Total Student AAFTE					3.75	9	30
					↑Enrollment values linked to Table 1↑		
<b>Personnel</b>	Annual						
<b>Faculty</b>	rate	↓Insert employee FTE by job title↓			↓Insert annual salaries by job title↓		
Professor, Anthropology (.80 FTE)	76,109	0.03	0.03	0.03	2,283	2,283	2,283
Professor, Anthropology	79,713	0.03	0.03	0.03	2,391	2,391	2,391
Professor, Anthropology	80,545	0.03	0.03	0.03	2,416	2,416	2,416
Associate Professor, Anthropology	72,837	0.03	0.03	0.03	2,185	2,185	2,185
Clinical Assistant Professor, Anthropology	61,364	0.03	0.03	0.03	1,841	1,841	1,841
Instructor, Anthropology	50,043	0.03	0.03	0.03	1,501	1,501	1,501
Assistant Professor, Psychology	72,837	0.015	0.03	0.1	1,093	2,185	7,284
Assistant Professor, Psychology	72,630	0.015	0.03	0.1	1,089	2,179	7,263
Professor, SBS	89,118	0	0	0.1	0	0	8,912
Professor, SBS	144,769	0	0	0	0	0	0
Professor, SBS	129,753	0	0	0	0	0	0
Associate Professor, SBS	79,101	0	0	0	0	0	0
Associate Professor, SBS	86,400	0.015	0.03	0.1	1,296	2,592	8,640
Assistant Professor, SBS	80,514	0.015	0.03	0.1	1,208	2,415	8,051
Assistant Professor, SBS	80,199	0.015	0.03	0.1	1,203	2,406	8,020
Clinical Professor, SBS	52,236	0.015	0.03	0.1	784	1,567	5,224
Instructor, SBS	45,126	0.02	0.04	0.1	903	1,805	4,513
Instructor, SBS	47,259	0.02	0.04	0.1	945	1,890	4,726
Instructor, SBS	45,243	0.02	0.04	0.1	905	1,810	4,524
Instructor, Psych	49,095	0.02	0.04	0.1	982	1,964	4,910
Clinical Asst. Professor, Chem	49,104	0.02	0.04	0.1	982	1,964	4,910
Adjunct	28,200	0.02	0.04	0.1	564	1,128	2,820
	Subtotal	0.39	0.60	1.48	24,571	36,524	92,414
<b>Exempt</b>							
Academic Coordinator	46,260	0.03	0.05	0.15	1,388	2,082	6,939
	Subtotal	0.03	0.05	0.15	1,388	2,082	6,939
<b>Classified</b>							

Instructional Lab Tech	37,680	0.02	0.03	0.08	565	1,130	3,014
Clerical	35,050	0.02	0.03	0.08	701	1,052	2,804
Fiscal analyst	32,100	0.02	0.03	0.08	642	963	2,568
Subtotal		0.06	0.09	0.24	1908	3145	8386
<b>Graduate</b>							
Teaching Assistants	34,930	0.50	1.00	1.50	17,465	34,930	52,395
Subtotal		0.50	1.00	1.50	17,465	34,930	52,395
Total Personnel		0.98	1.74	3.37	45,332	76,680	160,135
<b>Benefits</b>					<i>↓Insert benefits based on current benefit rates↓</i>		
Faculty					7,199	10,701	27,077
Exempt					473	710	2,366
Classified					912	1,503	4,009
Graduate					2,288	4,576	6,864
Total Benefits					10,873	17,490	40,316
<a href="#">Link to current benefits model rates</a>							
<b>Goods and Services</b>					5,000	5,000	5,000
<b>Travel</b>					1,000	1,000	1,000
<b>Equipment (Instructional)</b>					5,000	5,000	5,000
Total Direct Costs					67,205	105,171	211,451
Total Indirect Costs	35%				36,187	56,631	113,858
Total Costs					<b>103,392</b>	<b>161,801</b>	<b>325,309</b>
One-Time Costs				<i>User inputs one-time costs→</i>	2,000	0	0
Recurring Costs				<i>Formula calculates recurring costs→</i>	101,392	161,801	325,309
Total Costs					<b>103,392</b>	<b>161,801</b>	<b>325,309</b>
<b>Calculated total cost per student AAFTE:</b>					<b>27,571</b>	<b>17,978</b>	<b>10,844</b>
<b>Calculated direct cost per student AAFTE:</b>					<b>17,921</b>	<b>11,686</b>	<b>7,048</b>
<b>Revenue</b>							
Internal Departmental /Area Reallocation					49,490		
Enrollment Funding					28,624	68,697	228,990
New State Funds					0	0	0
WSU Allocation (Institutional reallocation)					0	0	0
Indirect Allocation (Central reallocation for support services)**					25,278	93,104	96,319
<i>Other &lt;WSU Vancouver Funds&gt;</i>							
Total Revenue					<b>103,392</b>	<b>161,801</b>	<b>325,309</b>

\*\*By Year 5, tuition revenue will allow us to redirect most indirect costs to other campus areas

*\*Note on Year "N": Please replace the letter "N" with the year in which you expect the program to reach full enrollment.*

TRUE TRUE TRUE  
↑ *Total costs must equal total revenue* ↑

## Section XII. External Reviews

Potential external reviewers for the Program in Human Biology at WSU include the following individuals:

Klaus Kaltoff, Professor of Molecular Cell and Developmental Biology  
Department of Molecular Cell and Developmental Biology  
University of Texas at Austin - ICMB  
1 University Station A6700  
205 W. 24th St.  
Austin, TX 78712-1095  
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Katherine Preston, Associate Director, Program in Human Biology  
Program in Human Biology  
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Lawrence M. Schell, Professor of Anthropology  
Department of Anthropology  
University at Albany  
Arts & Sciences Room 116  
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Albany, New York 12222  
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Andrea Wiley, Professor of Anthropology and Director, Human Biology  
Department of Anthropology  
Indiana University  
Student Building 130  
701 E. Kirkwood Avenue  
Bloomington, IN 47405-7100  
wileya@indiana.edu

## APPENDIX A

### Statement from Chair of Human Development (E-mailed letter)

**From:** [Hill, Laura Grner](#)  
**To:** [Duff, Andrew](#)  
**Subject:** RE: For our call  
**Date:** Wednesday, October 19, 2016 4:31:46 PM

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Hi Andrew,

The Human Biology major sounds great, and I don't see any significant overlap or competition with our major in Human Development. Your proposed emphasis on biology, physiology, and ecology is rarely a primary interest of our majors, and although some of our courses touch on those topics, they are not a primary focus in any of our classes. I wish you luck with the proposal; it will be a good addition to the WSU undergraduate offerings.

Best wishes,  
Laura

\*\*\*\*\*

**Laura G. Hill**  
Washington State University  
Professor and Chair, Human Development  
Prevention Science Graduate Faculty  
Johnson Tower 501  
Pullman, WA 99164-4852  
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[laurahill@wsu.edu](mailto:laurahill@wsu.edu)

## APPENDIX B

### Statement of Library Support

We are writing to state that the existing collections and services of the WSU Libraries are able to fully support the proposed Program in Human Biology as put forward by the School of Biological Sciences and the Department of Anthropology. Because the program mainly uses existing courses from the life, physical, and social sciences and the humanities (courses already supported by the libraries), any impact of the new program on WSU Libraries' collections, services and personnel should be minimal and existing personnel and services can support the program.

The focus of this program is well in keeping with areas of research and teaching in the biological sciences and in anthropology currently supported by the Libraries' collection policies (<http://www.libraries.wsu.edu/sites/default/files/cd-biological-sciences.docx>, <http://www.libraries.wsu.edu/sites/default/files/cd-anthropology.docx>). Again, because of the program's focus and emphasis on classes already being offered at WSU, existing library collections – both physical and digital – are currently able to support the program's research and teaching without additional funding.

As stated above because the program mainly uses existing courses, the impact on the WSU Vancouver Library will be minimal. Most access to journals and all access to databases needed to support this program are licensed system-wide so that Vancouver students and faculty have immediate access to the needed electronic resources. WSU and the other members of the Orbis-Cascade Alliance (NW consortium of academic libraries) have courier and electronic delivery programs in place to provide timely access to materials not owned by the Vancouver Library. The Vancouver Library has an active library liaison program and has librarians already designated to provide support in Biology and Anthropology.

Should students take WSU Online classes to fulfill program requirements in Human Biology, those students would have access to databases in the WSU Libraries collections as well as to book delivery and other library services available to all WSU Online students (for more information, see the Library Services for WSU Global Campus website, here: <http://libguides.libraries.wsu.edu/global>).

The WSU Libraries are currently well able to support the proposed BA in Human Biology, and we wish to convey our thanks and appreciation to Larry Hufford of the School of Biological Sciences and to Andrew Duff of the Department of Anthropology for their mindful consultation with the Libraries during the process of proposing this program.

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Pullman  
509.335.8614  
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Betty Galbraith  
Science Librarian  
Owen Science Library  
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Karen Diller  
Library Director  
WSU Vancouver Library  
360.546.9179  
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**APPENDIX C**

**Letter in Support of Human Biology degree,  
College of Arts and Sciences, Vancouver**



**APPENDIX D**

**Letter in Support of Human Biology Degree,  
College of Arts and Sciences, Pullman**

