NC STATE UNIVERSITY Humanities and Social Sciences

APPLICATION FOR ADMISSION

Interdisciplinary Self-Design Major, Bachelor of Science (B.S.)
Major/Curriculum Code: 16IDSBS-16IDSSDM
Interdisciplinary Studies (IDS), College of Humanities and Social Sciences
North Carolina State University, Raleigh, NC 27695-7107

X Mark ("X") if applying to *change* your major to IDS Self-Design B.S.

___ Mark ("X") if applying to *add* IDS Self-Design B.S. as an additional major.

Printed name of Student: _____

Student ID Number: _____ Phone number: _____

Email address. _____

Present curriculum: Industrial Engineering and Psychology Class: 2022

Proposed title of IDS concentration: Global Public Health and Social Sciences

_____

Signature of Student: _____ Date: _____

Printed name of Faculty Sponsor: Dr. _____

Sponsor's department: Biological Sciences

Sponsor's campus address: _____ Box #: _____

Sponsor's phone: _____ Email: _____

Signature of Sponsor: _____ Date: _____

Sponsor's responsibilities are listed on the IDS Self-Design FAQ webpage #11:
https://ids.chass.ncsu.edu/studies/selfdesign/FAQ.php

Mark ("X") if the student applicant is in one of these dual-degree programs

___ Thomas Jefferson Scholars
X Benjamin Franklin Scholars
___ Alexander Hamilton Scholars

Required application materials

- A completed application form.
- A description of your concentration. Explain how you became interested in the concentration and why you want to incorporate courses from different disciplines.
- A list of courses in your concentration. Include course numbers, titles, catalog descriptions.
- A list of learning outcomes with identification of the courses you will take to help you achieve the outcomes. Courses representing different disciples will confirm the interdisciplinary approach to your learning.
- A semester-by-semester plan showing how you expect to complete all of the courses required for your Interdisciplinary Studies Self-Design degree.
- A copy of your degree audit.
- A copy of your unofficial transcript.

CONCENTRATION TITLE Global Public Health and Social Sciences

I. MAJOR CONCENTRATION – DEPARTMENTAL REQUIREMENTS (24 credit hours and IDS 490*)

Number	Course Title	Hours	Grade**
GPH 201	Fundamentals of Global Public Health	3	IP
PSY 230	Introduction to Psychological Research	3	
PHI 325	Biomedical Ethics	3	A
SOC 381	Sociology of Medicine	3	
GPH/ST 404	Epidemiology and Stats in GPH	3	
SOC 429	Quantitative Data Analysis in Sociology	3	
PSY 431	Health Psychology	3	IP
PSY 499	Individual Study in Psychology	3	

400-level required on above line (at least two 400-level courses required)

IDS 490	**Interdisciplinary Methods and Issues (Capstone)**	3	

* In addition to IDS 490, 24 hours of courses with no more than 15 credit hours from a single discipline required (C- or better in each course). No more than 12 transfer hours allowed. At least 5 courses must be from the humanities and social sciences, including economics courses, courses on the General Education Program (GEP) Humanities and Social Sciences lists, with at least 3 courses offered by the College of Humanities & Social Sciences (H&SS). At least 2 of the courses must be at the 400 level. The Bachelor of Science degree also includes a 15-hour Advanced Science/Technology requirement (page 5). Proposals will be reviewed by a faculty sponsor and approved by the IDS Self-Design committee.

**If you are currently enrolled in the course, put IP (In Progress) in this column. If you have not taken or are not taking the course now, leave this line blank.

II. COLLEGE OF HUMANITIES AND SOCIAL SCIENCES ("H&SS") REQUIREMENTS

Students are responsible for selecting courses required by the College of Humanities and Social Sciences. Courses should be carefully selected to meet each of the requirements listed below. While the major concentration courses listed above cannot be changed without written approval, you can make changes to the college and university required courses below as long as they meet the requirements. Please also keep in mind that the Committee's approval of your major does not constitute approval of your selection of courses to meet the College of Humanities and Social Sciences or General Education Program (GEP) requirements.

For more information see Key Points, scroll to the Student Resources section. Also, on your online degree audit click on "Rqmnt Details" links to verify approved courses for each category.

Please put a course number on every line below. If you are now taking the course, put "IP" in the "Grade" column. If you have not yet taken the course, leave a blank in the grade column.

A. Mathematics (9 hours)

Calculus (3 credit hours)

Math Electives (6 credit hours)

Course	Hours	Grade
MA 141	4	A+
MA 241	4	
MA 242	4	

B. Basic (Natural) Science (16 hours)

Basic/Natural Sciences: 12 credit hours from three different areas (4 hours each from Physics, Biological Sciences, Chemistry, or Earth Sciences)

Basic Science Elective (4 credit hours)

Course	Hours	Grade
CH 101/102	4	
MEA 100	4	CR
PY 205/206	4	
PY 208/209	4	A/A

C. Advanced Science/Technology (15 hours)

See required, separate form for all H&SS Bachelor of Science majors (page 5)

D. Humanities and Social Sciences* (28 hours)

ENG 101: Academic Writing and Research

History (one course)

Literature (one course)

Philosophy (one course)

Arts & Letters (one course)

Writing and Communication (one course)

Social Sciences: 9 credit hours from three different areas (anthropology, economics, political science, psychology, sociology, or multidisciplinary)

Course	Hours	Grade
ENG 101	4	
HI 232	3	
ENG 208	3	
PHI 320	3	
WGS 473	3	
ENG 331	3	
PSY 200	3	CR
EC 201	3	
SOC 202	3	A

E. Free Electives (optional to list specific courses here; limit of 12 credit hours of S/U; may include courses for academic minors or other majors; approximately 15 hours required in order to reach 120 total degree hours required for this major)

Course number	Course title	Hours	Grade
HI 233	The World Since 1750	3	
HI 251	American History I	3	CR
HI 252	American History II	3	CR
E 101	Intro to Engineering	1	A+
E 115	Computing Environments	1	S
HON 295	Winners and Losers of U.S. Ag Policy	3	
CH 202	Quantitative Chem Lab	1	

III. GEP REQUIREMENTS* (NCSU General Education Program, 10 hours)

	Course	Hours	Grade
GEP Health & Exercise Studies (2 units)	HESF 103	1	S
At least one 100-level fitness course required	GEP 209	1	
GEP Additional Breadth MSNSE (3 units)	CH 201	3	
GEP Interdisciplinary Perspectives (5 units)	STS 302	3	
Possible waiver(s) if taken as a major/dept req	E 102	2	A
GEP US Diversity (0 units) [verify requirement met] Must be taken if not met elsewhere in degree	HON 295		MET
GEP Global Knowledge (0 units) [verify req met] Must be taken if not met elsewhere in degree	HI 232		MET
Foreign Language Proficiency (0 units) [verify req met] See Key Points* for more information	FLS 100		PF

*Key Points Curriculum Guide: scroll down to "Student Resources." Also, on your online degree audit, click "Rqmnt Details" links to verify approved courses for each category.

REQUIRED TOTAL DEGREE CREDIT HOURS **120.00 units/credit hours**

IV. APPROVAL

Signature of IDS Self-Design Program Coordinator & Academic Advisor Date

Additional information can be obtained from the student's MyPack online degree audit, NCSU Registration & Records Degree Requirements (choose Humanities & Social Sciences and scroll to Interdisciplinary Studies-16LSMBS), and the IDS B.S. Self-Design Semester-by-Semester Plan, which provides more details for this major with its footnotes.

NC STATE UNIVERSITY Humanities and Social Sciences

ADVANCED SCIENCE/TECHNOLOGY REQUIREMENT FOR BACHELOR OF SCIENCE (B.S.) DEGREES

A 15-hour concentration in ONE area of science, technology, or mathematics is required. A minimum GPA of 2.0 is required in this group of courses. Approval of the selected courses will be indicated by the signatures of the student, his/her advisor, the department's B.S. program coordinator (if different from the advisor), and the College of Humanities & Social Sciences Associate/Assistant Dean.

Student's Name Printed: _____

Student's Identification Number: _____

This concentration is being met by: ____ Second Major __X__ Minor ____ Thematic Focus*

*Courses for a proposed Thematic Focus should be selected in consultation with the student's advisor and should demonstrate coherence and progression in the area of study. It is expected that at least one course will be at the 300-level or higher. The following courses should not be included in a Thematic Focus: BIO < 181, CH 100, MA < 114, MEA 100, PY < 201, or ST < 300. Submissions containing a Thematic Focus that consists of courses with more than one course prefix must be accompanied by a statement from the student providing a justification for how the courses meet the requirement.

Name of 2nd Major, Minor, or Thematic Focus: Statistics

**Course number	Course title	Hours	Grade
ST 371	Intro to Probability and Distribution Theories	3	IP
ST 372	Intro to Infinite Regression	3	
ST 380	Probability & Statistical Physical Science	3	
ST 430	Intro to Regression Analysis	3	
ST 432	Intro to Survey Sampling	3	

Student's signature: _____ Date: _____

** Students may NOT double count courses towards the Advanced Science/Technology Requirement and any other requirement. Courses on this list will be moved to the Advanced Science/Technology section of your degree audit upon Dean's Office approval of this form.

Approval:

Faculty Sponsor/Mentor: _____ Date: _____

Program Advisor/Coordinator: _____ Date: _____

H&SS Assistant /Associate Dean: _____ Date: _____

Description of Concentration: Essay

It has taken a long time for me to settle on what I want out of college. I entered college to study computer and electrical engineering because that is all I had known in high school. After taking some eye-opening courses in technology studies, psychology, biomedical ethics, and joining a research lab in my sophomore year of college, I realized that I wanted to pursue a career where my primary concentration would be working with people and health, rather than things and manufacturing.

Working with Dr. _____ in the Health Lab and taking Biomedical Ethics have been the two most impactful experiences in this process. In both of these experiences, I have had the opportunity to think about some of the most challenging healthcare topics, such as ethical dilemmas of patient vs. family, and the ever-present harm brought to minoritized groups due to racism and other social determinants of health. These classes showed me that healthcare reaches beyond the biology of the human body and that we cannot provide equitable healthcare if we do not look beyond the biological experience of illness. This drive to study medicine from a perspective other than a biological one pushed me to the field of public health, where an interdisciplinary approach to care is commonplace as professionals consider everything from the individual behaviors in a family to the culture of an entire population when making decisions about treatment, interventions, and policy.

The human body is not just a thing. I want to leave engineering because I am tired of always observing problems from the perspective of fixing something. Yes, a human body can be fixed, but settling for a fix does not resolve the issue. Addressing why the body needs to be fixed in the first place is where attention needs to be focused, and where I want to operate as a researcher and professional.

My perspective on this form of service has been influenced by being a part of the Caldwell Fellows, a group dedicated to service-learning. When I traveled to Mexico as part of a Summer service opportunity with other fellows, I was not going to fix a community. Instead, I was going to learn about them and engage with them to break down cultural barriers that had been thrust up by politics, society, and personal ignorance. I also worked with Neighbor-to-Neighbor as part of our service-learning seminar, where once again, the goal was not to fix, but to learn about, and to serve a community that had invited us in. These experiences have allowed me to work across cultures, whether they are international or regional differences, and have shown me both the challenge and importance of this kind of work.

Pursuing a self-designed major in interdisciplinary studies is the next step in my college career. The field of public health is inherently interdisciplinary and requires knowledge of and collaboration with many different disciplines, including but not limited to psychology, sociology, ethics, statistics, biology, and law. I do not have the time to pursue each of these disciplines in-depth, but I can construct a degree that will allow me to focus on honing the skills from experiences I've already had, such as service-learning, data science, and mathematics, investigating health disparities, and critical problem-solving.

I want to make myself a competitive candidate for the workplace upon graduation to get the experience I need to specialize in a field and pursue more rigorous academic levels. This degree will give me the learning experience I want out of my college career. By earning this degree, I will be able to pursue professional work after graduation in the field of health data analysis and construction of public health policy. I will also have had the experiences and learned the skills necessary to apply for graduate school, either for a Masters in Public Health or other academic degree so that I may pursue my own research in a lab or as part of a government organization.

Concentration Course Descriptions, Justification, and Timeline

Concentration Title: Global Public Health and Data Science

Description: Global Public Health has become one of the most important fields of study in our globalized environment, as demonstrated recently with the outbreak and worldwide pandemic of SARS-CoV-2. The notion that only a single nation, or collection of countries, has the capability to solve health problems that exist on a global scale is absurd. A few nations commanding other nations to commit to specific programs or practices is also unrealistic. Global issues require global cooperation, and to cooperate effectively, a country. Therefore, its healthcare workers must have a global awareness and understanding of the differences presented by the unique cultures, practices, and ideologies of various countries. It is by these qualities that global public health demands an interdisciplinary approach to healthcare in a manner not commonly practiced among physicians in the United States. A western focus on the biological determinants of health is pervasive in the U.S. healthcare system. For our country to participate in the world stage of healthcare, a shift in perspective is needed; incorporating the social, environmental, behavioral, and political determinants of health is the next step. This educational experience will provide me with a background in several perspectives of healthcare, as well as the training in applicable skills such as data analysis, research collaboration, and critical problem-solving that are demanded in today's global healthcare fields.

PSY 230: Intro to Psychological Research

Description: This course is an introduction to the principles of scientific research. Students will develop and test research hypotheses in accordance with methods approved by the American Psychological Association. Methods of analyzing data and the interpretation of research findings will be stressed. Students will work in teams to collect, analyze, report, and provide a professional presentation of a group research project. Psychology majors and minors must take the course under the graded option.

PSY 499: Individual Study in Psychology with the Black Health Lab

Description: Work conducted as a research assistant in the NCSU Black Health Lab. Examination and discussion of scholarly articles and current research. Examination of one's own racial identity, and of the social determinants of health that result in privilege and health disparities. Practice with academic writing, data collection and analysis, and conducting research in-person and virtually.

PHI 325: Biomedical Ethics

Description: Interdisciplinary examination and appraisal of emerging ethical and social issues resulting from recent advances in the biological and medical sciences. Abortion, euthanasia, physician-assisted suicide, compromised infants, aids, reproductive technologies, and health care. Focus on factual details and value questions, fact-value questions, fact-value interplay, and questions of impact assessment and policy formulation.

PSY 431: Health Psychology

Description: Introduction to health psychology. This course provides an overview of the field of health psychology, which is concerned with how behavior and psychological states influence physical health (i.e., how people stay healthy, why people become ill, and how people respond to illness). Application of psychological theory and research methods to such topics as: pain, stress and coping, helplessness and control, reactivity to stress, the effectiveness of behavioral interventions in health, illness prevention, health maintenance, recovery from injury and chronic pain, adjustment to chronic illness, treatment compliance.

SOC 381: Sociology of Medicine

Description: Use of theory and empirical studies to understand the social etiology of disease health practices, practitioners, and institutions, and the special area of mental health. Historical as well as contemporary examples of social influences on, and effects of, health throughout the world, but especially in the United States. Core sociological concepts, methods, theories.

GPH 201: Fundamentals of Global Public Health

Description: Introduction to Public Health, providing a population-based perspective on disease and injury causation and prevention. Environmental, social, behavioral, and biological determinants of health and disease. Access to health services from a global perspective. Selected tools of disease control and health promotion and problems related to health-care delivery to society as a whole and to vulnerable populations.

GPH/ST 404: Epidemiology and Stats in GPH

Description: This course will provide a general introduction to the quantitative methods used in global health, combining elements of epidemiology and biostatistics. The course will focus on linear and logistic regression, survival analysis, traditional study designs, and modern study designs. Students will learn fundamental principles in epidemiology, including statistical approaches, and apply them to topics in global public health. The course prerequisite is a B- or better in one of these courses: ST 305, ST 311, ST 350, ST 370, or ST 371. In addition, a B- or better in GPH 201 is strongly recommended.

SOC 429: Quantitative Data Analysis in Sociology

Analysis of quantitative data in sociology, including relationship between theory and research, operationalization and measurement of concepts, descriptive and inferential statistics using computer statistical software, interpreting statistical findings and writing research papers.

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Learning Objectives for Self-Designed Degree

Concentration Title: Global Public Health and Data Science

Student will be able to:

- Employ multiple perspectives when examining public health issues and public health research.
    - GPH 201 Fundamentals of Global Public Health: This course will provide foundational knowledge on the biological, social, environmental, and behavioral determinants of disease and public health concerns. These determinants pertain to multiple fields of health, such as biological science, health psychology, and medical sociology.
    - SOC 381 Sociology of Medicine: This course will teach the student about social determinants of health and allow the student to pursue an examination of health disparities from a societal lens.
    - PSY 431 Health Psychology: This course will provide a detailed introduction to the behavioral and environmental determinants of health and explore the biopsychosocial perspective on health outcomes and intervention.
    - PHI 325 Biomedical Ethics: This course will give the student experience with current ethical dilemmas in medicine and teach the student how to use evidence and reason-based approaches to solving complicated moral and personal issues regarding patient and population health.

- Collect and analyze data to determine a health outcome and answer questions regarding samples of the population.
    - GPH/ST 404 Epidemiology and Stats in GPH: This course will provide a background in data analysis pertaining to epidemiology and public health. The student will learn the history of traditional and modern study methods, which can then be applied to the student's own research and career.
    - PSY 499 Individual Study in Psychology with BHL: This research experience will allow the student to have hands-on experience with statistical software such as R and SPSS as well as experiences writing up reports on what has been analyzed.

- Apply current research on the topics of global public health, disease, and medicine.
    - PSY 499 Individual Study in Psychology with BHL: This research experience will allow the student to read, present, and develop research. The Black Health Lab is on the cutting edge of examining how populations protect themselves in discriminative health systems and how social factors determine health outcomes.
    - PSY 230 Introduction to Psychological Research: This course provides foundational knowledge of and experience with research methods in the forms of article analysis and study design. Students will read psychological research and immerse themselves in recent research and the current problems faced in research.
    - PSY 431 Health Psychology: Students will read and discuss current research in behavioral health and health psychology, which can be applied to public health policy and the context for changing behaviors in "at-risk" populations and communities.
    - SOC 381 Sociology of Medicine: This course consists of various academic readings discussed in class. The discussion will help students understand the relevance of said research and let them apply the findings to real-world problems in healthcare.

- Develop skills that can be applied to a professional pursuit of public health after completing their degree.
    - PSY 431 Health Psychology: This course will teach students about the varied careers and professional pathways in health academia and public health. Students will also learn how to have difficult discussions regarding health and health disparities, which are essential skills for workers in the field of global public health.
    - ST/GPH 404 Epidemiology and Stats in GPH: This course will teach students how to use statistical software and models prevalent in the majority of professional public health settings, preparing students for the workplace and future research.
    - PSY 499 Individual Studies in Psychology with BHL: This research experience will inform students about the various socio-political constructs and factors that affect health and give students the information and resources to correctly and appropriately address and have conversations concerning these issues. This experience will also allow students to engage in professional development by presenting research findings, authorship on papers, forming relationships with faculty and staff, and lab experience.
    - PSY 230 Introduction to Psychological Research: This course will teach students how to create effective surveys and recognize bias in academic research. It will

also teach students about the strengths and weaknesses of different research methods used in the professional and academic environments.
    - SOC 429 Quantitative Data Analysis in Sociology: Students will get hands on practice with statistical software and analysis tools that are used in the academic and professional fields of/related to Sociology and the Social Sciences.

- Make connections between theory and real-world statistical models.
    - PSY 499 Individual Study in Psychology with BHL: This research experience will explore the theories of health disparities and health inequalities, all while research assistants aid in the creation and implementation of studies to generate evidence and models for those theories.
    - ST/GPH 404 Epidemiology and Stats in GPH: This course will explain how data can be presented to show themes of Global Public Health and how different collection and analysis methods generate different statistical models.
    - SOC 381 Sociology of Medicine: This course will introduce students to the theory of social determinants of health while teaching students how they quantitatively affect health outcomes in different populations. These quantitative effects can be modeled using mediators, moderators, and spurious effects, all of which students will use in their papers and exercises.
    - SOC 429 Quantitative Data Analysis in Sociology: One objective of this course is to analyze the relationship between sociological theory and research, and students will gain practice developing their own relationships between theory and practice in the work they do.

- Employ a global perspective on emerging health issues and health policy.
    - GPH 201 Fundamentals of Global Public Health: This course will introduce students to global health challenges and the universal measures of health, disease, and wellness. Students will also learn about another country's health standards, history, and culture, and how each of these relates to global public health.
    - ST/GPH 404 Epidemiology and Stats in GPH: This course will expand the student's experience with data analysis to incorporate global data and trends. The student will gain insight into contemporary global data surrounding health and illness and construct interpretations and meaning from said data.
    - SOC 381 Sociology and Medicine: This course will engage students with research from around the world and readings that examine cultural differences in healthcare and health policy between countries.

- Employ critical thinking and problem-solving skills when addressing problems of public health, individual health, and research.
    - PSY 499 Individual Study in Psychology BHL: This research experience will force students to operate and solve problems independently so that research is conducted efficiently and without excessive assistance from graduate students. Students will also be asked to explore why they hold certain biases and perspectives on society's health issues and how they can deconstruct those biases.
    - SOC 381 Sociology of Medicine: Students in this course are expected to discuss the themes of scholarly articles in class without assistance from the professor and make individual connections between population factors and health outcomes using the model of social determinants.
    - PHI 325 Biomedical Ethics: Students will be asked to examine arguments for and against controversial medical practices critically and then take a stance on their own controversial medical topic. They will then create a defense that will be presented to the class. Students will also be asked to determine the implicit premises made in common moral arguments and critique other students' work for faulty reasoning and proper evidence.
    - SOC 429: Quantitative Data Analysis in Sociology: Students will be asked to develop their own analyses of data and employ empirical evidence to support their conclusions about data and research. Students will also be asked to use skills learned in previous statistics classes to solve problems with minimal help or direction.

Junior Year			
Fall Semester	Credit	Spring Semester	Credit
GPH 201	3	BIO 183	4
PSY 499	3	MA 305	3
PSY 431	3	PSY 499	3
SOC 381	3	ST 372	3
ST 371	3	ST 307	1
		ST 308	1
Total Credits	**15**		**15**
Senior Year			
Fall Semester	Credit	Spring Semester	Credit
GEP 209	1	IDS 490	3
GPH 404	3	PHI 320	3
PSY 499	3	PSY 499	3
SOC 429	3	ST 432	3
ST 380	3	WGS 473	3
ST 430	3		
Total Credits	**16**		**15**