Goucher College 2022-2023 CTFP Opportunities

Program coordinator: Dr. Judy Levine, Professor of Biological Sciences and Chemistry
jlevin@goucher.edu; 410-337-6525

Goucher College offers unpaid CTFP opportunities across a variety of courses in the sciences and beyond. Graduate student and postdoctoral applicants are welcomed. In their CTFP application, candidates should mention specific courses of interest to them. Commitment is for one semester.

The courses listed below are ones whose instructors have expressed interest in working with a teaching fellow. It is possible that additional instructors would be open to the idea if they knew a candidate was interested in their course. For a full listing of courses, see http://catalog.goucher.edu/.

The class meeting times shown below are for informational purposes only. The type of participation and time commitment by the teaching fellow are negotiable between the fellow and the instructor.

FA22 semester (8/25/22 – 12/9/22):

CENTER FOR NATURAL SCIENCES:

BIO 107 (Nutrition) (meets MWF 8:40-10:30 AM; instructor: Natalie VanBreukelen)
Introduction to the chemical and biological aspects of nutrition, the basic nutrients and their effects on our health and on the environment. Topics such as the energy needs of athletes, weight control, diet fads, supplements and herbs, food safety, and food and drug interactions will be discussed in class, and their understanding will be enhanced through laboratory experiments and fields trips. (This course for nonmajors satisfies a general education requirement in Biological and Physical Science.)

BIO 445 (Seminar in Biochemistry of Gene Expression) (half-semester course starting October 18th; TTh 11:30-1:20) instructor: Judy Levine)
The development of many powerful biotechnologies, such as PCR, RNAi and CRISPR - to name only a few - grew out of basic research into the biochemical mechanisms of gene expression. Many of these technologies have important medical, societal and environmental applications, and furthermore their development has contributed to great advancements in basic research. This seminar will focus on recent scientific progress beyond "textbook" understanding of the machinery of gene expression, and explore the synergistic relationship between basic research and biotechnology, through the study of primary literature, discussions and student presentations. [This course is an elective in the biology and BCMB majors.]

CHE 111 (Principles of Chemistry I) (meets MWF 8:40-10:30 AM or 2:40-4:30 PM; instructors: Jaired Tate; Lisa Gulian; Veronica Segarra)
Introduction to chemistry including atomic structure, molecular structure, bonding, chemical reactions, and states of matter. Taught in studio format with integrated lecture and lab.

CHE 230 (Organic Chemistry I) (lecture MWF 8:15-9:10 AM, labs T or Th 8:30-11:20 AM or T 1:30-4:20 PM; instructor: Kevin Schultz)
Chemistry of the compounds of carbon with emphasis on the relation of molecular structure to chemical and physical behavior. Laboratory work includes appropriate techniques and synthetic and analytical methods.

CPED 208 (Designer Genes: The Brave New World of CRISPR)(lecture MWF 10:40-11:50 AM; instructor: Judy Levine)
Life has evolved during the earth's history through the process of natural selection sculpting organisms' genomes to suit theenvironment. For millennia, humans have influenced evolution through the use of animal and plant husbandry, but recently a new biotechnology called CRISPR has led to an unprecedented ability to make specific, rapid and deliberate changes to our own genomes and those of other organisms. This course will examine how CRISPR works and its many possible applications, and will consider the ethical implications of this technology and how it might be regulated to ensure its use for the betterment, rather than the detriment of global society.[This is a course for nonscience majors that satisfies a general education requirement and does not count toward any major.]

CENTER FOR DATA, MATHEMATICAL AND COMPUTATIONAL SCIENCES:

DMC 106 (Statistical Linear Models) (meets MWF 9:20-10:30 AM or 12:00-1:10 PM; instructor: Tom Narock)
An introduction to basic statistical principles, including basic probability, hypothesis testing and normal distribution. This will culminate in the introduction of linear regression, ANOVA, logistic regression and correlation. The class will focus on the computational and programming aspects of linear regression and model building. Data cleaning and importing, experimental design, model refinement and visualization will be emphasized.

CENTER FOR EDUCATION, BUSINESS & PROFESSIONAL STUDIES:

BUS 229 (Marketing Management) (meets TTh 9:30-11:20 AM; instructor: David Grossman)
A review of the basic concepts and practice in modern marketing. Course demonstrates marketing principles through and projects related to current events in the manufacturing and service sectors; in profit and nonprofit organizations; and domestic, international, and multinational companies. Students are responsible for conducting market research and presenting analysis of real-world marketing problems and situations.

BUS 231 (International Business Environment) (7-wk course; meets MWF 9:20-10:30 AM from Aug. 25th til Oct. 12th; instructor: David Grossman)
An introduction to the economic, political, and legal environment faced by firms engaged in international business and its implications for national economies. Topic areas include international trade, investment, the global monetary system, the competitiveness of U.S. firms in world markets, national industrial policy, and the ethical dilemmas of conducting international business.

CENTER FOR HISPANIC & LATINX STUDIES:

LAM 105 (Intro to Latin American Studies) (meets MWF 8:00-9:10 AM; instructor: Citlali Miranda-Aldaco)
This course will introduce students to many cultural, social, and political aspects of the region of the world known as Latin America. Beginning with the various views of what is meant by "Latin American," the course will give students a more complete picture of the heterogeneous identities of the area. Taking an interdisciplinary, broad approach to regional studies, the course will explore the diverse artistic movements, social organizations, and political institutions that have shaped Latin America in the past and continue to define its present.

CENTER FOR PSYCHOLOGY:

PSY 233 (Sensation and Perception) (meets MWF 12:00-1:10 PM; instructor: Tom Ghirardelli)
This course is a survey of current theory and research in perception. The primary goal is for students to gain an understanding of how people obtain reliable and useful information about the environment around them through their senses. Exploring several perceptual systems, including vision, audition, touch, and smell and taste, we will cover topics such as the physiological structure of sensory systems; how we measure perceptual experience (e.g., psychophysics); the role that attention plays in our perceptual experience; how our overall perceptual experience results from integration across multiple sensory systems; and how our sensory systems and perceptual experience are similar to and different from that of non-human animals. [This course is an elective for psychology majors and minors.]

PSY 244 (Lifespan Developmental Psychology) (meets MWF 12:00-1:10 PM; instructor: Katherine Choe)
A lifespan approach tracing human development from conception through the life cycle until death. Important theoretical contributors are highlighted, including Freud, Erikson, Bowlby, Piaget, Chomsky, Kohlberg, and Kubler-Ross. Topics will include prenatal development, language acquisition, the formation of emotional bonds in relationships, personality and identity development, changes in family and work roles, and the experience of facing one's mortality. [This course is an elective for psychology majors and minors.]

PSY 302 (Quantitative Research Methods in Psychology) (meets MWF 9:20-10:30 AM; instructor: Katherine Choe)
This course will address the overall process of psychological research from the development of a research question to the presentation of research results. Topics to be covered include the role of theory in the scientific method, research design, various collection techniques and analytic strategies for quantitative empirical data, and ethical considerations. Students will develop skills in scientific writing (APA style) and critically reading and reviewing the literature. The course will require statistical analysis of research data and interpretation of the results. [Psychology majors are required to take this course or a course in qualitative research methods.]

SP23 semester (1/30/23 – 5/11/23):

[these are opportunities known as of 6/10/22 – additional opportunities may be listed in late fall 2022]

CENTER FOR NATURAL SCIENCES:

CHE 151 (Principles of Chemistry II) (meeting times TBA; instructor:TBA)
Second semester of introduction to chemistry sequence including kinetics, thermodynamics, equilibrium, acid-base chemistry, redox reactions and electrochemistry. Taught in studio format with integrated lecture and lab.

CHE 235 (Organic Chemistry II) (meeting times TBA; instructor: Ruquia Ahmed-Schofield)
(Continuation of CHE 230.) Chemistry of the compounds of carbon with emphasis on the relation of molecular structure to chemical and physical behavior. Laboratory work includes appropriate techniques and synthetic and analytical methods.

CHE 341 (Biochemistry) (meeting times TBA; instructor: Judy Levine)
Structure and function of biological molecules, chemistry of enzyme-catalyzed reactions, intermediary metabolism. Three hours lecture. Prerequisites: CHE 235 (organic chemistry II) and one college-level general biology course, or permission of the instructor. [This course is typically taken during the junior or senior year; it is required for the BCMB major and may be taken as an upper level elective for the biology or chemistry major.]

CHE 442 (Biochemistry lab) (meeting times TBA; instructor: Judy Levine)
Introduction to the basic techniques for studying the structure and function of biological molecules. Four hours laboratory. Pre- or corequisite: CHE 341. [This course is required for the BCMB major and focuses on enzyme purification and characterization.]