Instructor

Dr. Daniela Valdez-Jasso, Assistant Professor of Bioengineering
Email: dvaldezjasso@ucsd.edu
Powell-Focht Bioengineering Hall (PFBH), room 202.

Office Hours: Monday and Wednesday 3:00pm-4:00pm

in person: PFBH 202

via **zoom:** https://ucsd.zoom.us/j/99081109774, *Password*: **Lagrange**

or by appointment

Graduate Student Instructors

Kristen Garcia, Bioengineering graduate student, k1garcia@eng.ucsd.edu
Kyle Chang, Bioengineering graduate student, kychang@ucsd.edu

Discussion Section

Section	Day	Time	Building & Room & Zoom link
A01	Friday	11:00 - 11:50 am	PFBH 191 https://ucsd.zoom.us/j/91289979656

Online classroom instruction

This course will be taught using live, online audio and visual instruction and will take place during the times indicated in the UCSD Schedule of Classes.

Given the occasional disruptions that inevitably occur when using online conferencing tools (due to WiFi drops, service drops, etc.) we will adhere to the following plan of action for each and every online class meeting.

1. The course will be initiated by the instructor using Zoom. Students can join the meeting by clicking on the link provided in the course schedule in Canvas.
2. If Zoom fails, the backup plan will be to immediately transition to lecturing via Explain Everything. This application can be joined directly through a second link provided in the course schedule in Canvas.

All attempts possible will be made to record lectures and post them to Canvas in a timely manner. However, recorded lectures cannot be guaranteed but you can always count on the lecture notes to be posted.

As we as a campus community transition to online instruction, please be aware that your Professors and Administrators are adapting at the same time that you are. Let us all pledge to remain respectful, supportive, and adaptable to ensure that educational goals are met.

Learning Objectives

To understand, derive and solve systems of differential equations governing biological systems. The methods we will discuss in class will be used for parameter estimation, model robustness, and numerical analysis. You will reinforce your mathematical background while combining numerical analysis. The last assignment of the quarter will be a two-week project.

Course Expectations

What I expect of you	*What you can expect of me*
Be informed. Read this syllabus carefully and completely so you understand the course structure and expectations.	*Enthusiasm*. To be prepared for each class and to bring my enthusiasm for teaching to each lecture, lab, and office hour meeting.
Be attuned. Keep up with readings and class assignments, as each one builds on the previous one. Be attentive and participate in class.	*Responsiveness*. To respond to emails within 32 hours. For those that know me already, you know that I usually respond faster than this. Emails received on weekends may take longer.
Ethical. A good attitude and maintenance of honest and ethical principles towards me, your classmates, and the execution of the course. Please read UC San Diego's <u>Principles of Community</u> and <u>Conduct Code.</u>	*Timely feedback*. To make every effort to return graded assignments within one week of the submission date and to post solutions as soon as is reasonably possible after the submission date.
Integrity. An honest, fair, responsible, respectful, trustworthy, and courageous effort on all academic work and collaboration. Please read UC San Diego's Policy on <u>Integrity of Scholarship</u>. Then, take the <u>integrity pledge</u>!	*Integrity.* To uphold integrity standards and create an atmosphere that fosters active learning, creativity, critical thinking, and honest collaboration.
Be flexible. Sometimes my schedule gets affected by unavoidable work travel, necessitating some office hour rescheduling at the last minute.	Reasonable accommodation and understanding for student situations that arise; however, I will not make exceptions for one person that are not available to every other person in the course.

Learning Management Systems

The TAs will use **Canvas and Gradescope** for grade distribution and course materials, which you can access with your ucsd.edu account. All announcements and homework assignments must be submitted online via Canvas.

Textbooks

The *required* textbook for this course is Dynamic Systems, Biology Modeling, and Simulation. Elsevier 2014, First Edition by Joseph DiStefano III. While lecture notes covering the full scope of the course content are provided, background reading is very helpful to fill in any gaps or and many students find it essential. There are many mathematical modeling textbooks that you are welcome to use and supplement your readings with. Used copies of these books and electronic books are also available (i.e., https://ucsandiegobookstore.redshelf.com/)

Course Material

While I have elected a textbook for the class, I encourage you to complement with additional reference material that will be added throughout the quarter. But please be reassured that you will *only be examined on materials that we cover in lectures, discussion sections and homework assignments.*

Grading

Homework Assignments	50%
Midterm Examination	20%
Individual Class Project	30%

Grading Scale
      A = 90-100%   **B** = 80-89%   **C** = 70-79%   **D**=60-69% **F** = 59%-below

Homework Submission

While students are encouraged to study together, homework turned in <u>must be your own work</u> and must be *<u>handwritten unless otherwise specified</u>*, such as for computing assignments. Homework assignments can <u>only be submitted online</u> via your Canvas account as *<u>a single PDF file scanned or photographed from the original</u>*. Work is only regraded when there is evidence of grading error. We reserve the right to regrade an entire piece of work.

Attendance policy

Live lecture attendance is not required, but is highly encouraged so that questions can be asked and answered during the lecture and interactive discussions can be carried out. Also, when possible, there will be breakout rooms for small group discussions.

Communication

In an online course, the majority of our communication takes place in forums that are visible and/or audible to all. However, when we have a need for communication that is private, whether personal, interpersonal, or professional, we will use individual email. <u>For timely response to course questions, please contact TAs first. As needed, TAs will refer questions that they cannot answer to me.</u>

Netiquette

To minimize background noise and promote clear communications:

1. Use headphones to tune into audio.
2. Keep your microphone on MUTE until you need to ask a question. Then return your microphone to MUTE.

In an online classroom, another major method of communication is written. The written language has many advantages: more opportunity for reasoned thought, more ability to go in-depth, and more time to think through an issue before posting a comment or sending an email. However, written communication also has certain disadvantages, such as lack of the face-to-face signaling that occurs through body language, intonation, pausing, facial expressions, and gestures. As a result, please be aware of the possibility of miscommunication and compose your comments/emails in a professional, respectful, and constructive manner.

Integrity of Scholarship

The Department of Bioengineering adheres to the UCSD Policy on Integrity of Scholarship. This Policy states that "Students are expected to complete the course in compliance with the instructor's standards. No student shall engage in any activity that involves attempting to receive a grade by means other than honest effort ..." The full descriptions of these polices, as well as others regarding acceptable behavior are given in the Student Code of Conduct at http://students.ucsd.edu/student-life/_organizations/student-conduct/regulations/22.00.html. The regulations on exams, grading and integrity of scholarship are also in the General Catalog at http://www.ucsd.edu/catalog/front/AcadRegu.html. Helpful resources on understanding and complying with these regulations can be found at: http://students.ucsd.edu/academics/academic-integrity/index.html

Students are not discouraged from discussing homework assignments among themselves or engaging in group study. However, **individual homework assignments must be the sole work of the submitting student**. Specific guidance will be given in the case of group projects. When submitted coursework incorporates material authored by a third party, the source should always be attributed according to the accepted standards of scholarly endeavor. Material taken from the internet or other forms of electronic media are subject to the same requirements of attribution applicable to printed reference sources or materials. Work suspected of being tainted by plagiarism will receive no credit. **All cases of suspected academic dishonesty** including *collaboration*, *plagiarism* and *cheating* as defined by UCSD regulations **will be referred to the UCSD Academic Integrity Coordinator.**

In cases of suspected academic dishonesty including cheating in an examination or altering graded work and resubmitting it, the student will be handed a copy of the student conduct code, and the case will be referred to the appropriate dean. The academic penalty for serious academic dishonesty will generally be a grade of F.

Computing

Computer and network access will be needed for some assignments in this course. All UCSD engineering students are eligible for computer accounts through Academic Computing Services. You can see what kind of account you have on-line using the Account Lookup Tool at https://sdacs.ucsd.edu/~icc/index.php.

For assistance with UCSD instructional computing facilities, do not come to the instructor or TAs as they are not managed by departmental personnel. You can email questions to acs-consult@ucsd.edu.

ACADEMIC SUPPORT

Geisel Library	Research tools and eReserves
Content Tutoring with the Teaching + Learning Commons	Drop-in and online tutoring through the Academic Achievement Hub
Supplemental Instruction with the Teaching + Learning Commons	Peer-assisted study sessions through the Academic Achievement Hub to improve success in historically challenging courses
Writing Hub Services in the Teaching + Learning Commons	Improve writing skills and connect with a peer writing mentor
Learning Strategies Tutoring	Address learning challenges with a metacognitive approach

OASIS	Intellectual and personal development support
Student Success Coaching Program	Peer mentor program that provides students with information, resources, and support in meeting their goals
Academic Integrity	Policy on Academic Integrity of Scholarship and strategies to excel with integrity
Technical Support	Assistance with accounts, network, and technical issues

STUDENT RESOURCES

UC San Diego (as an institution) and I (as a human being and instructor of this course) are committed to full inclusion in education for all persons. Services and reasonable accommodations are available to students with temporary and permanent disabilities, to students with DACA or undocumented status, to students with health or other personal concerns, and to students with other kinds of support needs. Please feel free to let me know if there are circumstances affecting your ability to participate in class. Some resources that might be of use include:

Basic Needs	Provides access to food, housing, and financial resources
Counseling and Psychological Services (CAPS)	Provides services like confidential counseling and consultations for psychiatric services and mental health programming
Community Centers	As part of the Office of Equity, Diversity, and Inclusion the campus community centers provide programs and resources for students and contribute toward the evolution of a socially just campus
Counseling and Psychological Services	Individual, group, couples, and family psychotherapy services for registered undergraduate and graduate students
Office for Students with Disabilities	Documents student disabilities, provides accessibility resources, and reasonable accommodations
Triton Concern Line	Report students of concern at (858) 246-1111
Undocumented Student Services	Programs and services are designed to help students overcome obstacles that arise from their immigration status and support them through personal and academic excellence

CAMPUS POLICIES

UC San Diego Principles of Community

The University of California, San Diego is dedicated to learning, teaching, and serving society through education, research, and public service. Our international reputation for excellence is due in large part to the cooperative and entrepreneurial nature of the UC San Diego community. UC San Diego faculty, staff, and students are encouraged to be creative and are rewarded for individual as well as collaborative achievements.

To foster the best possible working and learning environment, UC San Diego strives to maintain a climate of fairness, cooperation, and professionalism. These principles of community are vital to the success of

the University and the well being of its constituents. UC San Diego faculty, staff, and students are expected to practice these basic principles as individuals and in groups.

[Click here for the complete UC San Diego Principles of Community in English and Spanish.](#)

Nondiscrimination and Harassment Policy Statement

The University of California, in accordance with applicable federal and state laws and university policies, does not discriminate on the basis of race, color, national origin, religion, sex, gender, gender identity, gender expression, pregnancy, physical or mental disability, medical condition, genetic information, ancestry, marital status, age, sexual orientation, citizenship, or service in the uniformed services. The university also prohibits harassment based on these protected categories, including sexual harassment, as well as sexual assault, domestic violence, dating violence, and stalking. The nondiscrimination policy covers admission, access, and treatment in university programs and activities.

If you have questions about student-related nondiscrimination policies or concerns about possible discrimination or harassment, they should contact the Office for the Prevention of Harassment & Discrimination (OPHD) at (858) 5348298, ophd@ucsd.edu, or [reportbias.ucsd.edu](#).