

# Biology of Plagues

**BILD 30**

**Summer 2022**

**Instructor** Cindy Gustafson-Brown (Dr. Gus)  
email: [cgb@ucsd.edu](mailto:cgb@ucsd.edu) (Put **BILD 30** in the subject line!)  
**office hours:** Tuesdays, 12:30-1:20, on zoom (link will be posted on Canvas)  
**EXCEPT** for week 1, when my office hours will be Wed at 12:30

Please present your questions about course material during online office hours, not by email. I cannot guarantee an answer to your email, unless it is an urgent issue.

## Welcome to BILD 30!

An introduction to diseases caused by viruses, bacteria, and parasites, and the impact of these diseases on human society. Topics include the biology of infectious disease, epidemiology, and promising new methods to fight disease. Open to non-biology majors only.

## My goals for this class

- Provide you with a foundation of basic biology principles, necessary to understand infections.
- Provide you with an appreciation of the diversity of microbial life.
- Provide you with an appreciation of the significant influence of disease on human history.
- Convince you microbiology is relevant to your life.
- Convince you that microbiology is FUN and interesting!
- Empower you to understand and think critically about infectious disease issues that come up.
- Empower you to learn on your own, so that you will be ready to educate yourself and your friends about the next pandemic.

### COVID-19-related impacts on the course

Any schedule changes will be posted on the course website on Canvas. Make sure to frequently check the website to keep updated. Also, adjust your settings in Canvas to ensure you receive notifications (announcements) by email. There will frequently be announcements sent out, so you will want to receive them!

You may find general COVID-19 information for UCSD here:

<https://vcsa.ucsd.edu/news/covid-19/>

Be sure to check out this UCSD website for resources on how to learn remotely:

<https://digitalllearning.ucsd.edu/learners/learning-remote.html>

All lectures will be pre-recorded and posted on Canvas. There will be two timed midterms and one timed final exam proctored on Canvas. Instructions for the online exams will be posted on Canvas shortly before the exams. There will be a short, practice exam (no credit) posted during week 1, so you can see how the system works.

You can find important dates for summer session here:

<https://blink.ucsd.edu/instructors/courses/enrollment/calendars/2021.html>

**Textbook** (required)

*Get Well Soon* (2017) by Jennifer Wright, published by Henry Holt and Company

**Course website**     <https://canvas.ucsd.edu/>

If you are a concurrent enrollment student (taking the course through UCSD extension), you can get access to Canvas right away. You must inquire at the Extension office. It is critical to do this as soon as possible!

**IA office hours**

Name	Day	Time	Location
Elena Lozano	Wed	10-11 AM	Zoom

**Discussion sections**

*Discussion sections will start on Thurs, Aug 4.*

In section you will review the lecture material, discuss the readings, and prepare for exams.

Section	Days	Time	Location	IA	Email
A01	Tu/Th	9-9:50 A	zoom	Elena Lozano	eilozano@ucsd.edu

**Note that summer session is DOUBLE-TIME.** That means we cover a 10-week course in 5 weeks. It is the equivalent of two courses. That’s intense! Twice as many lectures per week. Twice as much reading per week. Twice the discussion sections. Summer session is not for the faint of heart. During summer session, a **four-unit** course is meant to be 24 hours of work per week:

- 6 hours lecture
- 2 hours discussion section
- 16 hours of reading/studying outside class

**How will this online class work??? What do I do???**

*We will be sticking to this plan as much as possible, but there may be times when the plan needs an adjustment. Any and all changes will be clearly communicated to the class.*

**1. Reading**

- Textbook:** Students will read portions from the textbook, indicated on the class schedule on page 10.
  - The first three assigned chapters (not in order) will NOT be reviewed during lecture, but students should read them prior to Aug 10. They will be covered on Midterm 1.
  - The subsequent assigned readings will correspond to lectures on the same topic.
  - There are three chapters in the textbook, “The Dancing Plague,” “Encephalitis lethargica,” and “Lobotomies,” which will NOT be required in this course. They are very interesting, and you are encouraged to read them for your own curiosity! But I will not hold you responsible for that material.
- Articles:** In addition, there may be articles posted on Canvas to be read in conjunction with particular lectures. Look for these in the module called “Lecture materials,” which will be updated regularly. This is where you will also find the recorded lectures. Any additional reading will be posted at least a few days prior to the corresponding lecture.

## 2. Animations, tutorials, and short videos

These will also be posted in the module “Lecture materials,” and will be assigned to particular lectures to help you learn the relevant topic. They will be posted prior to the corresponding lecture.

(Note that there are MANY of these resources already posted in the module called, “Study aids and useful information.” This module is provided for your benefit. You may use the contents to strengthen your understanding of topics as you choose.)

## 3. Films

Many films on infectious disease can be found on Canvas, however, there are **TWO** films that are required in this course:

- a. *Ebola in Congo* (23 minutes) should be watched in conjunction with lecture 9. This material will be covered on the 2<sup>nd</sup> midterm. The film is available free on the internet. See the link on Canvas.
- b. *The Great Fever* (54 minutes) should be watched in conjunction with lecture 17. This material will be covered on the final exam. This film is only available through UCSD library digital reserves. Be sure you watch the correct film. Once you access our films page through the library, you have to scroll through the list at the bottom of the page (under the viewer window) to see the different films available.
- c. In addition, all students may choose a **third** film from those linked on Canvas. You may choose one that is of interest to you, and write a short **paper** on the film. Instructions will be posted on Canvas.
- d. When using UCSD library reserves, you *must* access the films from within the UCSD protected network or use a VPN if you are off campus.

**How to study the films:** The exams will test you on material from two of the films. You should take notes when you watch them, and review your notes before the exams. Do NOT worry about *exact* dates, numbers statistics, or names of characters in the films. Instead, focus on the stories, history (major events and general time frame), arguments of different stakeholders, policy issues, causes of controversies, impact of the situations described on individuals and society, appropriate and inappropriate responses, biological bases for understanding the situations, etc. For each part, or chapter, of the film you should be able to say something intelligent about what the message was. *Do NOT wait to the last minute to watch the films, in case there is a technical glitch.*

## 4. Lectures

Pre-recorded lectures will be posted in the “Lecture materials” module on Canvas, by the date in the schedule (page 10). Overall, there will be about six hours of lectures posted per week, but they may not always be arranged in four 1.5-hour segments (corresponding with the class schedule). Some may be longer or shorter than others.

## 5. Office hours

Students are encouraged to come to **Dr. Gus’ office hours**, which will be on zoom Tuesdays 12:30-1:20. The link will be posted on Canvas. Even if you don’t have questions prepared in advance, do come! If you are struggling or you don’t know where to start, do come! I’m happy to tutor you. Even if you want to talk about *other* things, like grad school or career options, do come! I also make appointments for private zoom calls or meetings.

Students are also encouraged to attend the office hours of **the IA, Elena**, on Wednesdays.

## 6. Discussion section

Students are encouraged to come to the online discussion sections, which will be live, on zoom, Tues and Thurs mornings. We appreciate it if you keep your video on during the discussion section, as it is better to interact with a live person, than a black screen or a photo! Your instructional assistant, Elena, would like to get to know you! You will work on activities to help you learn more and prepare for exams. Discussion sections will not be recorded.

## 7. Submission of potential exam questions

Students will submit (via Canvas) two potential exam questions for each exam. Watch for the due dates! IF the questions are good (criteria to be posted), the student will earn 10 points per question for a total of 60 points during the quarter. Further, IF a question is selected for inclusion on an exam, there will be 10 more points of extra credit awarded!

## 8. Exams

The three exams will be on Canvas and will be timed. They will include short answer with a few true/false, multiple choice, and short essay questions. You will be accountable for **all material covered in lecture, PowerPoint slides, assigned reading, assigned films, and any other material posted in the “Lecture Materials” module.**

**Old exams** will be posted in the “Study aids” module on Canvas.

**Review sheets** will be posted in the “Study aids” module on Canvas shortly before each exam.

### a. Midterms

There will be two online midterms. They will be during the normally scheduled lecture time. You may do the exam any time during 12:30-1:50 PM, but once you start you will have 65 minutes to finish. **The lowest exam score will be dropped.**

### b. Final exam

The final exam will be comprehensive, with emphasis on the last part of the course. It will be Fri, Sept 2, 11:30-2:00. Once you start you will have 2 hours to finish the exam.

## Missed exams

There are NO alternate exams. **If you miss a midterm for ANY reason, excused or not, that exam will be the one that is dropped.** The remaining midterm grade will count toward your grade. Take this seriously. If you blow off the first midterm, and then get sick during the second exam, you could fail the class.

Regarding the **final exam**, make sure your class schedule has NO exam conflicts. If you know in advance that you must miss the final due to an unavoidable situation (e.g. surgery), it is your responsibility to clear it with Dr. Gus as soon as the conflict becomes apparent. If a spontaneous emergency (e.g. serious illness or accident) arises, you must contact Dr. Gus within 24 hours of the missed final exam to determine if you are eligible for a make-up exam. Do not ask to reschedule a final exam for any reason other than a *dire emergency*.

## Letter grades

A	82-100%	C	62-71%	F	below 50%
B	72-81%	D	50-61%		

## **Course grade breakdown**

There are 1000 points possible in the quarter.

6%	60 points	submission of potential exam questions
20%	200 points	paper written on one of the films of your choice
32%	320 points	Midterm 1 or 2, whichever is higher
42%	420 points	Final exam
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	1000 points	Total

## **How can I succeed in BILD 30?**

1. **Keep up with the reading.** Pace yourself. Complete the assigned reading before lecture. You will understand the lectures better and learn more. The assigned reading will be covered on the exams, even if it was not covered in lecture.
  - a. **Outline** the important points as you read. This will help you remember the flow of information and contextualize the details. Use index cards, or a notebook, to summarize the important points.
2. **Look up words** you don't understand in the glossary, a dictionary, or online.
3. Study the **animations/tutorials/short videos** which accompany particular lectures in the "Lecture materials" module. If it is posted there, you are expected to be familiar with it.
4. **Listen** to the recorded lectures, and take notes. There will be material presented in lecture that is not in the textbook. You are accountable for all lecture material.
  - a. Download the **PowerPoint slides** and make notes on them while you watch the lecture. The slides will not contain all the instructor's notes. They will contain announcements, illustrations, graphs, diagrams, and photos which augment the lecture. You are accountable for everything in the PowerPoint slides.
5. **Review** your notes within 24 hours of the lecture. You will remember more long-term. Even more effective: rewrite (outline) your notes within 24 hour of the lecture.
6. **Study** frequently. Repetition over time is the key to retaining information. Your goal is to establish new neural pathways in your memory and fire them often! Cramming does not accomplish this.
7. **Make up questions**, and quiz yourself or a study partner. Anticipate potential exam questions. This is a strategy that has been demonstrated to increase student learning.
  - a. As you are studying, when you think of a good **potential exam question**, make a note of it right away! You may earn credit by posting these on Canvas.
8. **Take notes** during the films. If you have time, you may watch a film twice! Do not wait until the last minute. (There can be technical glitches.)
9. **Go** to your online discussion section. There will be opportunities to review the material, ask questions, and prepare for the exams.
10. **Go** to the office hours of the IA and the instructor. Office hours are a time to ask questions, or just ask for help or advice. It is also a time for you and your instructor or IA to get to know one another in an informal setting. Please come!
11. Utilize **study aids** provided on the course web site.

12. If you are having personal difficulties, do not hesitate to seek help at Counseling and Psychological Services (which is free to students). They can help you get over many types of hurdles. <http://caps.ucsd.edu/>

Their self-help library of resources covers many relevant topics, and can be accessed at <http://caps.ucsd.edu/selfhelp.html>

**Academic integrity**

**Integrity of scholarship** is essential for an academic community. The University expects that both students and faculty will honor this principle and in so doing protect the validity of University intellectual work. For students, this means that all academic work will be done by the individual(s) to whom it is assigned, without unauthorized aid of any kind. **Academic misconduct** is defined as any prohibited and dishonest means to receive course credit, a higher grade, or avoid a lower grade. Academic misconduct misrepresents your knowledge and abilities, which undermines the instructor’s ability to determine how well you’re doing in the course.

Remote learning is challenging for educators (instructors & IAs) and students alike. Remote assessments can increase the temptations and opportunities for integrity violations. **This means that even good students - even you - might be tempted to cheat during this unique situation** in which we all find ourselves. Just ask the **1888 students** who were reported for cheating at UCSD in 2019-2020 and the **1700** who were reported in 2020-2021. Many of these came from my courses, in fact **fifty were from one class alone!** Regrettably, those students cheated on an online exam. I care about this issue, because it is not fair to disadvantage students who work ethically.

BILD 30 students are expected to do their own work, as outlined in the UCSD Policy on Academic Integrity. Because all exams are required for satisfactory completion of this course, any student caught engaging in academic dishonesty may receive a failing grade for the course. The student may also be suspended from UCSD. *Please* do not risk your future by cheating!

The Office of Academic Integrity has compiled a useful list of tips here:

<https://academicintegrity.ucsd.edu/take-action/covid-19-students.html>

All course materials are the property of the instructor, the course, and the University of California, San Diego and **may not** be posted online, submitted to private or public repositories, or distributed to unauthorized people outside of the course.

In BILD 30, we need to establish a set of shared values. Following are values\* adopted from the [International Center for Academic Integrity](#), which serve as the foundation for academic integrity.

*\* This class statement of values is adapted with permission from Tricia Bertram Gallant Ph.D.*

	As students we will.....	As the teaching team we will.....
<b>Honesty</b>	<ul style="list-style-type: none"> <li>Honestly demonstrate your knowledge and abilities according to expectations listed in the syllabus or in relation to specific assignments and exams</li> <li>Communicate openly without using deception, including citing appropriate sources</li> </ul>	<ul style="list-style-type: none"> <li>Give you honest feedback on your demonstration of knowledge and abilities on assignments and exams</li> <li>Communicate openly and honestly about the expectations and standards of the course through the syllabus and in relation to assignments and exams</li> </ul>

<b>Responsibility</b>	<ul style="list-style-type: none"> <li>• Complete assignments on time and in full preparation for class</li> <li>• Show up to class on time and be mentally and physically present</li> <li>• Participate fully and contribute to team learning and activities</li> </ul>	<ul style="list-style-type: none"> <li>• Give you timely feedback on your assignments and exams</li> <li>• Show up to class on time and be mentally and physically present</li> <li>• Create relevant assessments and class activities</li> </ul>
<b>Respect</b>	<ul style="list-style-type: none"> <li>• Speak openly with one another while respecting diverse viewpoints and perspectives</li> <li>• Provide sufficient space for others to voice their ideas</li> </ul>	<ul style="list-style-type: none"> <li>• Respect your perspectives even while we challenge you to think more deeply and critically</li> <li>• Help facilitate respectful exchange of ideas</li> </ul>
<b>Fairness</b>	<ul style="list-style-type: none"> <li>• Contribute fully and equally to collaborative work, so that we are not freeloading off of others on our teams</li> <li>• Not seek unfair advantage over fellow students in the course</li> </ul>	<ul style="list-style-type: none"> <li>• Create fair assignments and exams and grade them in a fair and timely manner</li> <li>• Treat all students and collaborative teams equally</li> </ul>
<b>Trustworthiness</b>	<ul style="list-style-type: none"> <li>• Not engage in personal affairs while on class time</li> <li>• Be open and transparent about what we are doing in class Not distribute course materials to others in an unauthorized fashion</li> </ul>	<ul style="list-style-type: none"> <li>• Be available to all students when we say we will be</li> <li>• Follow through on our promises</li> <li>• Not modify the expectations or standards without communicating with everyone in the course</li> </ul>
<b>Courage</b>	<ul style="list-style-type: none"> <li>• Say or do something when we see actions that undermine any of the above values</li> <li>• Accept the consequences of upholding and protecting the above values</li> </ul>	<ul style="list-style-type: none"> <li>• Say or do something when we see actions that undermine any of the above values</li> <li>• Accept the consequences of upholding and protecting the above values</li> </ul>

## ACADEMIC SUPPORT

<a href="#">Geisel Library</a>	Research tools and eReserves
<a href="#">Content Tutoring with the Teaching + Learning Commons</a>	Drop-in and online tutoring through the Academic Achievement Hub
<a href="#">Supplemental Instruction with the Teaching + Learning Commons</a>	Peer-assisted study sessions through the Academic Achievement Hub to improve success in historically challenging courses
<a href="#">Writing Hub Services in the Teaching + Learning Commons</a>	Improve writing skills and connect with a peer writing mentor
<a href="#">Learning Strategies Tutoring</a>	Address learning challenges with a metacognitive approach
<a href="#">OASIS</a>	Intellectual and personal development support
<a href="#">Student Success Coaching Program</a>	Peer mentor program that provides students with information, resources, and support in meeting their goals



## TECHNICAL SUPPORT

<a href="#">Technical Support</a>	Assistance with accounts, network, and technical issues (not MindTap)
<a href="#">Connect from Off-Campus</a>	Help connecting to electronic library resources such as eReserves and e-journals

## STUDENT RESOURCES

<a href="#">Basic Needs</a>	Provides access to food, housing, and financial resources
<a href="#">Counseling and Psychological Services (CAPS)</a>	Provides confidential counseling and consultations for psychiatric services and mental health programming
<a href="#">Community Centers</a>	As part of the <a href="#">Office of Equity, Diversity, and Inclusion</a> the campus community centers provide programs and resources for students and contribute toward the evolution of a socially just campus
<a href="#">Office for Students with Disabilities</a>	Documents students disabilities, provides accessibility resources, and reasonable accommodations
<a href="#">Triton Concern Line</a>	Report students of concern at (858) 246-1111
<a href="#">CARE at the Sexual Assault Resource Center</a>	Support for victims of sexual assault 858.534.5793

### **Inclusion**

If you have feedback on how to make the class more inclusive, please get in touch!

Office of Equity, Diversity, and Inclusion:

858.822.3542 | [diversity@ucsd.edu](mailto:diversity@ucsd.edu) | <https://diversity.ucsd.edu/>

<https://students.ucsd.edu/student-life/diversity/index.html>

### **Accessibility**

<http://disabilities.ucsd.edu> | [osd@ucsd.edu](mailto:osd@ucsd.edu) | 858-534-4382 (UCSD campus contact)

<https://biology.ucsd.edu/education/undergrad/osd.html> | [bioosd@ucsd.edu](mailto:bioosd@ucsd.edu) (UCSD Biology)

Any student with a disability is welcome to contact me **early** in the quarter to work out reasonable accommodations to support their success in this course. Students requesting accommodations should provide a current Authorization for Accommodation (AFA) letter issued by the Office for Students with Disabilities (OSD), prior to eligibility for requests. Receipt of AFAs in advance is necessary for appropriate planning for the provision of reasonable accommodations. Instructors are unable to provide accommodations unless they are first authorized by OSD. For more information, contact the OSD at (858) 534-4382 (voice), [osd@ucsd.edu](mailto:osd@ucsd.edu), or visit [osd.ucsd.edu](http://osd.ucsd.edu)



## **Discrimination and Harassment**

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 (including pregnancy, childbirth, and medical conditions related to pregnancy or childbirth), physical or mental disability, medical condition, genetic information, ancestry, marital status, age, sexual orientation, citizenship, or service in the uniformed services (including membership, application for membership, performance of service, application for service, or obligation for 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 students 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) 534-8298, <https://ophd.ucsd.edu/>, or <http://ophd.ucsd.edu/report-bias/index.html>

Campus policies provide for a prompt and effective response to student complaints. This response may include alternative resolution procedures or formal investigation. Students will be informed about complaint resolution options. A student who chooses not to report may still contact CARE at the Sexual Assault Resource Center for more information, emotional support, individual and group counseling, and/or assistance with obtaining a medical exam. For off-campus support services, a student may contact the Center for Community Solutions. Other confidential resources on campus include Counseling and Psychological Services, Office of the Ombuds, and Student Health Services.

## **Subject to change policy**

The information contained in the course syllabus, other than the grade and absence policies, may be – under certain circumstances (*e.g.* to enhance student learning) – subject to change with reasonable advance notice, as deemed appropriate by the instructor.

**Class schedule** is on the next page → → →

## Tentative Class Schedule

Date	Lecture	Lecture topic	Reading in <i>Get Well Soon</i> , or film to watch on your own
Mon, Aug 1	1	Intro to class	
Tues, Aug 2	2	Basic biology	<i>Get Well Soon: Leprosy</i>
Wed, Aug 3	3	Basic biology	<i>Get Well Soon: Typhoid</i>
Thurs, Aug 4	4	Microbial diversity	
Mon, Aug 8	5	Immune system	<i>Get Well Soon: Syphilis</i>
Tues, Aug 9	6	Biology review day (live on zoom, 12:30-1:30)	
Wed, Aug 10	7	<b>MIDTERM 1</b> (on Canvas, 12:30-1:50)	
Thurs, Aug 11	8	Bubonic Plague	<i>Get Well Soon: Bubonic Plague</i>
Mon, Aug 15	9	Ebola	<b>Film: <i>Ebola in Congo</i> (23 min)</b>
Tues, Aug 16	10	Smallpox	<i>Get Well Soon: Antonine Plague</i>
Wed, Aug 17	11	Smallpox	<i>Get Well Soon: Smallpox</i>
Thurs, Aug 18	12	Tuberculosis	<i>Get Well Soon: Tuberculosis</i>
Mon, Aug 22	13	Cholera	<i>Get Well Soon: Cholera</i>
Tues, Aug 23	14	Influenza	<i>Get Well Soon: Spanish Flu</i>
Wed, Aug 24	15	<b>MIDTERM 2</b> (on Canvas, 12:30-1:50)	
Thurs, Aug 25	16	Covid	
Sat, Aug 27		<b>PAPER DUE at 11:59 PM</b>	
Mon, Aug 29	17	Yellow Fever	<b>Film: <i>The Great Fever</i> (54 minutes)</b>
Tues, Aug 30	18	Polio	<i>Get Well Soon: Polio</i>
Wed, Aug 31	19	HIV	<i>Get Well Soon: Epilogue</i>
Thurs, Sept 1	20	Vaccines	
Fri, Sept 2		<b>FINAL EXAM</b> (on Canvas)	<b>11:30 A - 2:30 P</b>

Films are indicated in purple text.