

## Tropical Field Ecology BIEB GS 137

Summer Session I 2022

Guanacaste, Costa Rica

Instructor:

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### **COURSE DESCRIPTION**

The Guanacaste Global Seminar courses in Tropical Field Ecology and Sea Turtle Ecology and Conservation is a unique opportunity for UCSD undergraduates to spend five weeks immersed in one of the world's biodiversity hotspots and a unique culture. Each class is four credits, and the two must be taken concurrently. Costa Rica contains more species of plants, animals, and other organisms per unit area than almost any other part of the globe. It is also unique for having invested in its natural capital as an economic strategy, designating X% of its land surface as protected areas to protect biodiversity, attract eco-tourism and foster agricultural landscapes that coexist with natural ecosystems. The coast of Guanacaste is also the site of a wildlife spectacle- an arribada or mass nesting event where sea turtles come ashore to lay eggs synchronized to the lunar cycle.

Tropical Field Ecology is an undergraduate field program for UCSD students with five weeks of intensive scientific field training. Students conduct research projects informed by classroom and field lectures, group discussions, and hands-on instruction covering techniques and procedures. Students conduct three group research projects during the term, gaining competence in:

Students complete a series of increasingly independent research studies design to:

- Make systematic natural history observations
- Read, comprehend and explain scientific publications
- learn techniques to study different kinds of organisms in the field
- detect patterns in diversity and abundance in natural ecosystems
- Research proposal development and evaluation
- frame scientific questions and formulate hypotheses
- design studies to test hypotheses
- analyze, visualize and interpret data
- communicate scientific results orally and in writing
- Leadership, teamwork and community building

At the conclusion of each project, students analyze their data and present their findings in oral

presentations and written reports. Final research projects culminate in a coauthored paper in the style of a professional journal article and a conference-style research presentation. Students hone their research, public speaking, and scientific writing skills with constant practice and feedback while gaining a working familiarity with Costa Rica’s ecosystems.

Students will live and work side by side with peers, instructors, and the local community, creating a supportive, fun-filled community along the way. Students will need to practice respect, patience, flexibility, good communication, and a positive attitude to keep this community healthy and strong. Although hikes will certainly be a part of the experience, this is not a backpacking trip and students won’t need to carry all of their gear over long distances (see **Appendix: Example Packing List**). Students get weekends off and are required to be engaged in course activities full-time during weekdays.

## Course Schedule

Day	Date	Location	Focus
1	M Jun 27	Liberia	Local culture and natural history
2	Tu Jun 28	Liberia	Local culture and natural history
3	W Jun 29	Ostional	Natural history observation, hypothesis formation, study design
4	Th Jun 30	Farm Visit	Local culture and natural history
5	F Jul 1	Ostional	Data analysis and presentation, Lab 1
6	M July 4	Ostional	Lab 1 write-up, Paper Presentation 1
7	Tu July 5	Ostional	Local culture and natural history, farm visit
8	W July 6	Ostional	Lab 2
9	Th July 7	Ostional	Lab 2 write-up, Paper Presentation 2
10	F July 8	Ostional	Lab 3
11	M July 11	Ostional	Lab 3 write-up, Paper Presentation 3
12	Tu July 12	Playa Nosara	Local culture and natural history
13	W July 13	Ostional	Lab 4, present research project proposals
14	Th July 14	Ostional	Lab 4 write-up, critique written project proposals
15	F July 15	Ostional	Begin work on independent projects
16	M July 18	San Juanillo Bay	Local culture and natural history
17	Tu July 19	Ostional	Independent projects & Paper Presentation 4
18	W July 20	Ostional	Independent projects
19	Th July 21	Ostional	Independent projects & Paper Presentation 5
20	F July 22	Ostional	Independent projects
21	M July 25	Ostional	Independent Project Symposium
22	Tu July 26	Santa Rosa PN	Local culture and natural history
23	W July 27	Rincón de la Vieja PN	Local culture and natural history
24	Th July 28	Rincón de la Vieja PN	Local culture and natural history
25	F July 29	Rincón de la Vieja PN	Local culture and natural history

### WRITING

Writing will be a large portion of your grade. Scientific writing is a genre with specific expectations, and practice is the only way to improve. We will discuss the findings of each activity in class so you're clear on the required content for your lab reports and write-ups, and we will give suggestions to improve your writing clarity in the grading process. Grading expectations will get stricter as the quarter progresses as we expect you to incorporate this feedback. Labs will be graded both on specifics (did you address all the hypotheses?) and on the general qualities (did you convey the information in the clearest, most concise manner possible?). The Teaching + Learning Commons has both tutoring by appointment and walk-in-help available to help you improve your writing, as part of the Writing + Critical Expression Hub (<http://commons.ucsd.edu/students/writing/index.html#For-Undergraduate-Student-Write>). You should schedule an appointment with them to go over your full draft, then revise your draft according to their suggestions before handing it in. You can also ask a friend to read your assignments and give you feedback on clarity. They can't write your report for you, nor can you copy theirs, but they can give you friendly

comments with the goal of improving your writing.

## **GRADING**

Your grade for the course will be based on a total of 1000 points. You will write two lab reports over the quarter, each one worth 125 points. In the weeks when you do not write a lab report you will write one or two “brief write-ups” worth 50 points. For lab reports, content will account for 75% of the grade, the remaining 25% will be based on clarity: writing concisely without unnecessary information, in complete sentences, with proper spelling and grammar. For brief write-ups, there will be a similar breakdown between content and clarity, but the focus will be on completing all of the elements assigned, which may vary by assignment. Brief write-ups are due by the end of the day, ideally by the end of the lab period. Lab reports are due the following Wednesday to give time for students to meet with a writing tutor and revise their draft. Late assignments will lose 5% for each day the assignment is late (ex. 1 day and 1 hour late = 10% reduction in the grade). In week 9 you will make an individual presentation on a species of conservation concern, worth 125 points, and your Natural History Collections assignment is due Week 10 worth 120 points. More information on assignments, including rubrics, will be found on Canvas.

## **LABS**

**Labs 1 – 5%**

**Lab 2 – 5%**

**Lab 3 – 5%**

**Lab 4 – 5%**

**Paper presentations (4) – 10%**

**Natural History Notebook – 10%**

**Written Project Proposal – 10%**

**Oral Proposal Presentation – 10%**

**Final Oral Project Presentation – 15%**

**Final Paper – 15%**

**Participation, effort, responsibility – 10%**

*Note: there will be no extra credit given.*

## **Natural History Readings:**

1. Janzen D, Hallwachs W, Burns J. A tropical horde of counterfeit predator eyes. Proc Natl Acad Sci [Internet]. 2010 Jun 29;107(26):11659–65. Available from: <https://doi.org/10.1073/pnas.0912122107>
2. Dayton, P.K. The Way of Natural History
3. Janzen D, Martin P. Neotropical Anachronisms: The Fruits the Gomphotheres Ate. Science (80- ) [Internet]. 1982 Jan 1;215(4528):19–27. Available from: <https://doi.org/10.1126/science.215.4528.19>
4. Scheffer M, Bascompte J, Bjordam TK, Carpenter SR, Clarke LB, Folke C, et al. Dual thinking for scientists. Ecol Soc [Internet]. 20(2). Available from: <https://www.ecologyandsociety.org/vol20/iss2/art3/>
5. Warkentin KM. Adaptive plasticity in hatching age: a response to predation risk trade-offs. Proc Natl Acad Sci [Internet]. 1995 Apr 11;92(8):3507–10. Available from: <https://doi.org/10.1073/pnas.92.8.3507>

## **Lab 1: vegetation sampling**

### **Papers:**

1. Hubbell SP, Foster RB, O’Brien ST, Harms KE, Condit R, Wechsler B, et al. Light-gap disturbances, recruitment limitation, and tree diversity in a neotropical forest. Science (80- ). 1999;283(5401):554–7.
2. Mangan SA, Schnitzer SA, Herre EA, Mack KML, Valencia MC, Sanchez EI, et al. Negative plant-soil feedback predicts tree-species relative abundance in a tropical forest. Nature. 2010 Aug;466(7307):752–5.
3. Harms KE, Wright SJ, Calderón O, Hernández A, Herre EA. Pervasive density-dependent recruitment enhances seedling diversity in a tropical forest. Nature [Internet]. 2000;404(6777):493–5. Available from: <https://doi.org/10.1038/35006630>
4. Wright SJ, Kitajima K, Kraft NJB, Reich PB, Wright IJ, Bunker DE, et al. Functional traits and the growth–mortality trade-off in tropical trees. Ecology [Internet]. 2010;91(12):3664–74. Available from:

<https://doi.org/10.1890/09-2335.1>

5. Hubbell SP. Tree Dispersion, Abundance, and Diversity in a Tropical Dry Forest. *Science* (80- ) [Internet]. 1979 May 3;203(4387):1299–309. Available from: <http://www.jstor.org/stable/1747305>

### **Lab 2: insect sampling**

1. Tomas R, Bess H, Vojtech N, K. PW, R. AN, Ashley A, et al. Higher predation risk for insect prey at low latitudes and elevations. *Science* (80- ) [Internet]. 2017 May 19;356(6339):742–4. Available from: <https://doi.org/10.1126/science.aaj1631>
2. Colwell RK, Brehm G, Cardelus CL, Gilman AC, Longino JT. Global warming, elevational range shifts, and lowland biotic attrition in the wet tropics. *Science* (80- ). 2008;322(5899):258–61.
3. Novotny V, Drozd P, Miller SE, Kulfan M, Janda M, Basset Y, et al. Why are there so many species of herbivorous insects in tropical rainforests? *Science* (80- ) [Internet]. 2006 Aug 25;313(5790):1115–8. Available from: <https://doi.org/10.1126/science.1129237>
4. Lister BC, Garcia A. Climate-driven declines in arthropod abundance restructure a rainforest food web. *Proc Natl Acad Sci* [Internet]. 2018 Oct 30;115(44):E10397–406. Available from: <https://doi.org/10.1073/pnas.1722477115>
5. Ramírez SR, Eitz T, Fujiwara MK, Gerlach G, Goldman-Huertas B, Tsutsui ND, et al. Asynchronous diversification in a specialized plant-pollinator mutualism. *Science* (80- ). 2011;333(6050):1742–6.

### **Papers**

#### **Lab 3: Terrestrial vertebrate sampling (camera traps and soundscapes)**

1. Terborgh J, Lopez L, Balbas L, Terborgh J, Lopez L, Nuñez P, et al. Ecological Meltdown in Predator-Free Forest Fragments. Vol. 294, *Science*. New York, N.Y. : publisher not identified,; 2001. p. 1923–6.
2. Frishkoff LS, Karp D, M’Gonigle L, Mendenhall C, Jim Z, Claire K, et al. Loss of avian phylogenetic diversity in neotropical agricultural systems. *Science* (80- ) [Internet]. 2014 Sep 12;345(6202):1343–6. Available from: <https://doi.org/10.1126/science.1254610>
3. Robinson S, Thompson F, Donovan T, Whitehead D, John F. Regional. Forest Fragmentation and the Nesting Success of Migratory Birds. *Science* (80- ) [Internet]. 1995 Mar 31;267(5206):1987–90. Available from: <https://doi.org/10.1126/science.267.5206.1987>
4. Hargreaves A, Suárez E, Mehlreter K, Myers-Smith I, Vanderplank S, Slinn H, et al. Seed predation increases from the Arctic to the Equator and from high to low elevations. *Sci Adv* [Internet]. 2022 Apr 28;5(2):eaau4403. Available from: <https://doi.org/10.1126/sciadv.aau4403>
5. Alan Pounds J, Bustamante MR, Coloma LA, Consuegra JA, Fogden MPL, Foster PN, et al. Widespread amphibian extinctions from epidemic disease driven by global warming. *Nature* [Internet]. 2006;439(7073):161–7. Available from: <https://doi.org/10.1038/nature04246>

### **Papers**

(3)

#### **Lab 4; Measuring predation experiment**

### **Ecosystem Services**

1. Gibson L, Lee TM, Koh LP, Brook BW, Gardner TA, Barlow J, et al. Primary forests are irreplaceable for sustaining tropical biodiversity. *Nature* [Internet]. 2011;478(7369):378–81. Available from: <https://doi.org/10.1038/nature10425>
2. Alejandra E, R. SJ, Dylan M-W, S. LK, B. AC, Rafael MV, et al. Biodiversity and infrastructure interact to drive tourism to and within Costa Rica. *Proc Natl Acad Sci* [Internet]. 2022 Mar 15;119(11):e2107662119. Available from: <https://doi.org/10.1073/pnas.2107662119>

3. Ricketts T, Daily G, Ehrlich P, Michener C. Economic value of tropical forest to coffee production. Proc Natl Acad Sci [Internet]. 2004 Aug 24;101(34):12579–82. Available from: <https://doi.org/10.1073/pnas.0405147101>
4. Maas B, Clough Y, Tscharntke T. Bats and birds increase crop yield in tropical agroforestry landscapes. Ecol Lett [Internet]. 2013;16(12):1480–7. Available from: <https://doi.org/10.1111/ele.12194>
5. Aburto-Oropeza O, Ezcurra E, Danemann G, Valdez V, Murray J, Sala E. Mangroves in the Gulf of California increase fishery yields. Proc Natl Acad Sci [Internet]. 2008 Jul 29;105(30):10456–9. Available from: <https://doi.org/10.1073/pnas.0804601105>
6. Ferrario F, Beck MW, Storlazzi CD, Micheli F, Shepard CC, Airoidi L. The effectiveness of coral reefs for coastal hazard risk reduction and adaptation. Nat Commun [Internet]. 2014;5(1):3794. Available from: <https://doi.org/10.1038/ncomms4794>

#### Paper presentations:

## Packing List

Please pack all gear into a **single** large duffel, suitcase, or internal frame backpack, plus a daypack.

### Required Clothing

- Hiking boots or sturdy sneakers with good tread (already broken in)
- Water sandals/shoes that secure firmly to your feet (e.g. Tevas or Chacos)
- 3-5 pairs wool socks (wool stays warm when wet; cotton does not)
- Waterproof rain jacket and pants
- Warm, insulated coat (e.g. puffy jacket)
- Warm wool sweater
- Warm sleeping clothes (e.g. sweat pants and a hoodie)
- Wool hat
- Wide-brimmed sun hat
- Warm gloves
- 2-3 pairs long pants (not jeans)
- 1 pair shorts
- 1 swimsuit
- 2 long-sleeved shirts for warmth
- 1 lightweight long-sleeved shirt for sun protection
- 5 T-shirts/undershirts
- Underwear (budget for up to 10 days between laundry opportunities.)

### Required Personal Items

- At least 2 facemasks made from double-layered cloth or surgical material
- Hand sanitizer
- Sandwich container (e.g. Glad or Tupperware to protect packed lunches)
- Fork and Spoon (or spork)
- Towel
- Sunglasses
- Sunscreen and lip protection with minimum 15 SPF
- Toiletries (e.g. soap, shampoo, toothpaste, etc.)
- Any prescription medicine you might need

- Epi-pen if allergic to bee stings or other allergens
- Personal first-aid items such as band-aids, ibuprofen (we do have a large first aid supply)
- ID/Driver's license
- Money/credit/debit card for personal expense

## Required Equipment

- Laptop computer with wireless connectivity, sufficient battery life, MS Office, and JMP Statistical Software (JMP is available through your home campus, you must have it loaded and tested for functionality before arrival to the course)
- Small tent (1-2 person) with durable rainfly and footprint tarp
- Warm sleeping bag (Temperatures may dip below freezing: if your sleeping bag is not rated at 20° F or colder, you should bring a sleeping bag liner as well.)
- Packable inflatable sleeping pad (e.g. Thermarest or Big Agnes; inflatable will keep you warmer than foam)
- Daypack for carrying your lunch, water, and field supplies every day
- Water bottle(s) (2-quart minimum)
- Headlamp with new batteries
- Field and class notebooks (a small 'rite in the rain' recommended for field)
- Pencils

## Suggested Items

- Work gloves
- Sleeping bag liner
- Packable/ inflatable pillow
- Binoculars (we'll have a few to borrow)
- Camera
- Magnifying loupe
- Multi-tool (Leatherman or similar with locking blades)
- Mesh laundry bag
- Wristwatch
- Comfortable clothes for leisure time
- Flip flop sandals
- Running sneakers and socks
- Camping hammock for leisure time
- Small camp chair (e.g. Crazy Creek or Therma Lounger)
- Musical instruments (can coordinate one or two guitars for collective use)

## Prohibited

- Pets
- Hard alcohol and drugs (including tobacco)

## Packing Tips

- This is not a backpacking trip so you don't need to pack like it (no need for super lightweight gear) but you will need to fit all of your things except your tent and sleeping bag into one large bag and a day pack. You will be staying at field stations—mostly tent camping and other times in rustic indoor accommodations—but you will never need to haul all of your gear long distances.
- There will be laundry at some field stations, but bring a lot of underwear and base layers (as listed in the required clothing) as hand washing is occasionally the only option. People usually run out of clean underwear first, so bring more than you think you'll need! There is no need to bring laundry soap; it will be provided.
- If bringing your own laptop poses a problem for you, please notify us no later than one month before the course start date.
- To get the required JMP statistical software on your laptop, first check with your campus IT services because some campuses offer it to students for free. If your campus doesn't offer it for free, you can get a 6-month license for \$30 from OnTheHub eStore using your UC email address.

## Health and Safety Tips

- Being prepared is key to staying safe and healthy throughout the course. Please refer to and follow all health and safety guidelines identified by your instructors and posted at all course locations.
- Carry plenty of drinking water and regularly apply sunscreen to help you avoid dehydration and sunburn, the most common problems encountered in field work.
- Rain gear and warm layers will keep you comfortable even in inclement weather.
- Poison oak is a common plant that causes itchy, weeping rashes. Learn to identify poison oak and to avoid it. Wearing long sleeves and long pants in brushy areas, and applying preventative lotion, such as Tecnu (provided), to areas of exposed skin may help prevent a rash. Immediately rinse with cold water if you accidentally brush against the oily leaves or twigs.
- Ticks are also common in the areas visited and can carry Lyme disease, so conduct regular tick checks and remove any you see. For more information on tick bite prevention, removal procedures, and Lyme disease, please visit <http://ehs.ucsc.edu/programs/safety-ih/documents/TickInfo.pdf>.

Your instructors are your first resource for all health and safety concerns while in the field; don't hesitate to ask questions or raise any concerns with them.

### ASSIGNMENTS

The labs for the quarter will be posted on Canvas. Please plan to print the instructions for each lab, along with any sheets required to record data in the field. Most of the assignments will be turned in online.

### TEXTBOOK

There is no official textbook, but I'll have a copy of "Ecology" (Cain, Bowman, Hacker Eds) that you're welcome to borrow.

### TESTS

There will be NO final exam or tests in this course, and the lab does not meet during final exam week.

### GROUP WORK

You will often work in groups to collect data. You may analyze data and create graphs and tables as a group, but each individual must do their own writing for brief write ups and lab reports. Working in a group is a great way to practice productive professional relationships. You should treat your fellow students in the same way that you would want to be



treated in a future job. Treat everyone with respect, and ask questions rather than make assumptions about shared views or experience. Put your best effort into group work, including making an effort to listen to everyone's perspectives and ideas. By entering into the class you have agreed to abide by UCSD's Principles of Community: <https://ucsd.edu/about/principles.html>

### **FIELD EXCURSIONS**

We will be spending much of our lab time in the field. You are required to provide your own transportation. Sometimes we will meet in the lab and walk to a field site on campus. You might want to have a bike for those days, or plan to take the bus across campus. We will sometimes meet at off-campus locations, as described in the lab handout for each day. Make sure you have arranged transportation with your lab group in advance of these days. Except for highly unlikely circumstances, we will go on our field excursions rain or shine. Any exceptions will be emailed via your UCSD email account and posted on Canvas – please check if in doubt.

### **FIELD EXCURSION CLOTHING**

For the outdoor field work you must bring water, wear long pants and closed-toe and closed-heel shoes (no sandals, flip-flops, clogs or ballet flats). Hiking boots or old running shoes are advised. You should also wear sunscreen and a hat. You may get muddy, sweaty, rained on, etc. on our field trips, so pick your clothes and shoes accordingly. Shorts and flip flops may be worn only for the intertidal ecology lab at the SIO pier.

### **FIELD SAFETY**

We take your safety in the field very seriously. There may be spiny cacti, ticks, biting ants or spiders, and rattlesnakes at our field sites. Please follow all safety instructions in the lab and in the field, failure to do so will result in loss of participation points.

### **SUPPLIES YOU PROVIDE**

Thumb drive to save data and assignments, pens or pencils, all printed materials (including data collection sheets and labs posted on Canvas). It's helpful if one person per group brings a laptop on days when we are in lab (not field days).

## ATTENDANCE

Attendance at every class meeting is required. Please be on time, as instructions are only given at the start of class. Some of our field sites are behind locked gates, if you are late you will miss the lab entirely. While we may end early, some of the labs last the entire class period. It is not possible to enroll in another class or activity that overlaps our scheduled lab time. However, you should not come to lab if you are ill with a contagious disease, and we understand that situations sometimes arise that require you to miss class. If you are ill or have an unavoidable situation/emergency, please get in touch with Prof. Cleland by email. In this case your final grade will be calculated without those points (so for instance, out of a possible 990 points instead of 1000 points). Please understand that I will ask you to supply some kind of documentation (e.g. doctor's note, email from a Community Center staff member, etc.). If you miss a lab due to unavoidable and excused reasons, it is still your responsibility to get data from your group, and turn in your lab report or brief write up on time (unless a different due date/time is arranged). Veterans and active duty personnel with special circumstances (e.g. upcoming deployments, drill requirements, disabilities) are welcomed and encouraged to communicate these, in advance if possible, to the instructor.

## TIME MANAGEMENT

A 4-credit class is equivalent to 12 hours per week of effort. We have 10 hours scheduled in York Hall each week, but the activities sometimes will not require all 10 hours. The remaining time is scheduled so that you have access to the computer programs you need to analyze your data and prepare your lab write ups or lab reports, and you should be able to complete all activities in this time. You are welcome to work elsewhere, but recognize if you leave early you will need to schedule alternate times in your week to complete your work, or risk falling behind. The faculty and IAs will be present during data collection and initial stages of data analysis. After we discuss our findings as a group the faculty and IAs will leave you to work independently on completion of your lab write ups or lab reports. You should make sure you fully understand the data and assignments by the end of this group discussion each week.

## DROP POLICY / WAIT LIST

The Division of Biological Sciences requires that all students attend the 1<sup>st</sup> meeting of any lab course, otherwise you will be dropped from the course. The drop policy for lab courses is different than for lecture courses. Any student that drops after the end of the second lab meeting will have a "W" on their transcript. The Division of Biology has an automated, first on, first off policy regarding the wait list. If you are on the wait list and hope to add, you should participate in ALL course activities, exactly as if you were enrolled. Additional details: <http://biology.ucsd.edu/go/ug-labs>.

## ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES

Students requesting accommodations for this course due to a disability must provide a current Authorization for Accommodation (AFA) letter issued by the Office for Students with Disabilities (OSD) which is located in University Center 202 behind Center Hall. Students are required to present their AFA letters to Faculty (please make arrangements to contact me privately) and to the OSD Liaison in the department in advance so that accommodations may be arranged. Contact the OSD for further information: 858.534.4382 (phone) [osd@ucsd.edu](mailto:osd@ucsd.edu)(email) <http://disabilities.ucsd.edu>(website)

## ACADEMIC INTEGRITY

Students are expected to do their own work. Cheating will not be tolerated and all suspected cases will be handed over to the Academic Integrity Coordinator. *Any student caught cheating will fail the course.* Submitting any material written by someone else (copied from a lab member, or from any on-line source) is a violation of academic integrity. For information on academic integrity at UCSD: <https://students.ucsd.edu/academics/academic-integrity/index.html>

## RESOURCES FOR STUDENT SUPPORT

A college education teaches you to identify solutions to tough problems. These are skills that future employers will value. University students often encounter non-academic issues as well, and UC San Diego has invested in a variety of resources to help students. It's your job to use these resources to ensure your success, here's a partial list that may be useful to you:

**Basic Needs** refers to the most essential resources required to thrive as a student, which includes access to nutritious food, stable housing, and financial wellness resources. **The Hub** is a new UC San Diego space that offers students the opportunity to engage in and link to Basic Needs resources. This includes the Triton Food Pantry. <https://basicneeds.ucsd.edu/>

The **Campus Community Centers** at UC San Diego build community among our diverse population of students, faculty and staff members. Each provides a forum to increase awareness of social issues, encourage dialogue, build community, improve retention, increase outreach and yield, and foster academic success. For a list of the many campus community centers, as well as other resources to support students, go to: <https://diversity.ucsd.edu/centers/index.html>

**Counseling and Psychological Services (CAPS)** provides free, confidential, psychological counseling and crisis services for registered UCSD students. CAPS also provides a variety of groups, workshops, and drop-in forums. For more information, please visit our Counseling Services page. <https://caps.ucsd.edu/>

**CARE at the Sexual Assault Resource Center** is the UC San Diego confidential advocacy and education office for sexual violence and gender-based violence (dating violence, domestic violence, stalking). CARE provides free and confidential services for students, staff and faculty impacted by sexual assault, relationship violence and stalking.

The **Undocumented Student Services Center** is committed to serving our undocumented students and their families through holistic services. We also advocate for generating a sense of community for all students that are undocumented or come from mixed immigration-status families. <https://students.ucsd.edu/sponsor/undoc/>

The **Student Veterans Resource Center (SVRC)** is committed to ensuring that military affiliated students successfully make the transition from the military environment to campus life, and are assisted in their progress toward completing their academic degree. In collaboration with other University partners, the SVRC seeks to identify and mitigate the barriers to academic success that are specific to the military affiliated student community. <https://students.ucsd.edu/sponsor/veterans/index.html>