DEPARTMENT OF GEOGRAPHY & THE ENVIRONMENT

PROGRAM REVIEW 2021

FC Geographers at Channel Islands, as part of a field trip experience for the California Higher Education Sustainability Conference (CHESC) in UC Santa Barbara, 2018.

FULLERTON COLLEGE

Fullerton College Program Review and Planning
Self-Study for Instructional Programs
Fall 2021

Statement of collaboration

The program faculty members listed below collaborated in an open and forthright dialogue to prepare this Self Study. Statements included herein accurately reflect the conclusions and opinions by consensus of the program faculty involved in the comprehensive self-study.

Participants in the self-study

Aline Gregorio & Ruben Lopez
With input from adjunct faculty:
Lisa Pitts
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Authorization

After the document is complete, it must be signed by the Principal Author, the Department Coordinator, and the Dean prior to submission to the Program Review and Planning Committee.

Aline Gregorio & Ruben Lopez

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Printed name of principal author	Signature	Date

Aline Gregorio

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Printed name of department coordinator	Signature	Date

Jorge Gamboa

_____	_____	_____
Printed name of Dean	Signature	Date

1.0 EXECUTIVE SUMMARY

In Section 2, we describe the Department of Geography & the Environment as a vital department in materializing Fullerton College's mission to support student achievement and the vision to have a positive impact in the world. We embrace our college's values and are vital members of the campus community and culture. We participate in many campus events and have organized and facilitated the interdisciplinary Earth Day Symposium for the last five years. Our faculty are involved in various shared governance bodies such as the Faculty Senate, President's Advisory Council, Sustainability Committee, Program Review Committee and provide advisership for the Grads to Be Program and FC United, in support of undocumented students, and Students for Equitable Sustainability. We cultivate a culture of excellence and both full-time faculty in our department have been formally recognized for teaching excellence within our campus community and beyond. Many of our students receive awards of excellence and transfer to top universities in California and beyond.

In Section 3, we explore the enrollment increases within our department despite collegewide campus declines. The Department of Geography & the Environment offers the most enrolled physical science course at Fullerton College as well as the fastest growing Science Lab course, vital courses for STEM preparation – all while facing substantial challenges with labs being entirely taught by adjuncts and with limited access to lab space, especially after the retirement of Susie Grabiel in 2018. We offer courses and study tracks within the Social, Environmental, and Technical academic spheres, thus providing broad academic preparation to students. We offer a Geography AA and AAT and an Environmental Sustainability AA and Geospatial Technology Certificate (active in the Fall 2022). We also explore recent improvements in student equity per student success metrics and a plan to continue to reduce equity gaps which includes 1) universal adoption of zero cost textbooks, 2) continued embedded tutoring, 3) equitable grading practices, 4) embedded support services, 5) curricular partnerships. In this same section we also explore our efforts in removing barriers to achievement and effectively mapping our study programs for guided pathways. Lastly, we explore some of the lessons from COVID-19 and the reality of increased online offerings (and pleasing metrics of student success amidst this global crisis).

In Section 4, we analyze our student learning outcomes processes and data and present an immediate list of tasks to remediate some of the issues with our assessments and the need to review our PSLOs. **In Section 5,** we connect some of the outside forces influencing student achievement in geography courses, including the lack of geo-literacy, science preparation, and the peripheral position of geography in the American educational system. We also explore how geography departments in the region have responded to this lack of familiarity through rebranding. **In Section 6,** we outline three lines of strategic action to improve student preparation and achievement: 1) to hire a full time physical/lab/GIS geographer to teach high-demand science courses, 2) to continue the Earth Day Symposium, 3) to continue exposing students to the professional/academic experience of CHESC (California Higher Education Sustainability Conference).

2.0 MISSION

Please explain briefly how your program contributes to the College's mission, vision, core values, and goals. Highlight any new contributions since your most recent self-study. If your department has a mission statement, please share it. If not then please consider discussing one with your colleagues.

Geography is the holistic study of the Earth's human and physical systems and their relationships. Its broad disciplinary scope bridges the social and natural sciences focusing on understanding the relationships of human societies with the environment and each other, often focusing on the disparities these relationships produce. As a discipline, Geography is paramount in understanding a world that is increasingly globalized– a phenomenon that compels us to better understand the complex global relationships and interdependence between peoples, places, and environments. Geographers study many of the world's most pressing issues, utilizing a holistic and relational framework to study topics like climate change, population, natural resources, environmental justice, deforestation, pandemics, wildlife trade, economic development, sustainability, natural disasters, social inequality, conflict, agriculture, migration, economic and cultural globalization, among other relevant topics. Students who take geography often report to feel more globally aware and thus more confident in facing the pressing issues of the contemporary world.

"The Department of Geography & the Environment supports the learning and achievement of all students through enriching courses in the physical and social sciences. We engage learners in critical exploration of the contemporary world and prepare students to face the most pressing challenges of the 21st Century. We offer flexible courses and pathways of study in Geography (AA & AAT), Environmental Sustainability (AA), and Geospatial Technologies (CTE Certificate). We envision building a community of local and global leaders and inspire positive change in the world.

The Department of Geography & the Environment ***advances student learning and achievement by developing flexible pathways for students from our diverse communities who seek educational and career growth, certificates, associate degrees, and transfer*** by offering…

- ∴ enriching General Education courses in the social and physical sciences, academically preparing Fullerton College students of all majors to transfer to CSUs and UCs;
- ∴ courses that develop students' transferrable skills, such as critical thinking, data analysis, research, and writing;
- ∴ diverse pathways of study in social, environmental, and technical fields with specialized study tracks -- an AA or AAT in Geography, an AA in Environmental Sustainability (Fall 2022), and an occupational technical certificate in Geospatial Technologies (Fall 2022); and
- ∴ courses with relevant subject matter that equip students with a better understanding of the physical and human processes that shape the contemporary world, its inequities, and many of its environmental and social challenges.

The Department of Geography & the Environment ***fosters a supportive learning environment for students to be successful learners, responsible leaders and engaged community members*** by…

- ∴ offering courses that equip students
  - o with knowledge and critical thinking skills to make informed decisions.
  - o to analyze the prospects, challenges, and applicability of existing solutions to pressing social and environmental issues.
  - o to utilize an analytical and empirical framework to seek, interpret, and gauge sources of information in order to understand the world.
- ∴ supporting and engaging students beyond the classroom by
  - o adopting embedded tutoring.
  - o adopting free Open Educational Resources.
  - o connecting students to campus support services.
  - o providing extracurricular learning opportunities such as guest lectures, film screenings, symposiums, and webinars.
  - o advising two student organizations such as Students for Equitable Sustainability and FC United as well as student-led initiatives and events.

[From top left, clockwise]: ***[1]*** *Professor Aline Gregorio collaborates with the Sociology Department and Professor Mohammad Abdel Haq in welcoming Dr. Manual Pastor from USC, author of "State of Resistance" and other important titles on social and environmental justice, as the keynote speaker for the Earth Day Symposium on Migration, 2019.* ***[2]*** *Professor Ruben Lopez and Professor Aline Gregorio celebrate the retirement of Professor Susie Grabiel, 2018.* ***[3]*** *Fullerton College President, Dr. Greg Schulz and Professors Ruben Lopez & Mohammad Abdel Haq join the 2019 Teacher of the Year Appreciation Gala in celebration of Professor Aline Gregorio for being recognized as the 2020 OC Teacher of the Year – pictured with her little girl, Iris Hernandez and a collage of Bernie Sanders being critical about the moment (courtesy of Dr. Schulz).* ***[4]*** *Students of Equitable Sustainability hold a Human Rights workshop on the Universal Declaration of the Human Rights – pictured holding selected rights from the declaration.* ***[5]*** *Geography students attend the Conference for Sustainability in Higher Education at UC Santa Barbara, 2018.* ***[6]*** *Geography major, Rocio Chavez, wears her geo-literacy proudly as she graduates and transfers to UC Davis.*

VISION

Geographers adopt an empirical framework to study climate change, population, natural resources, environmental/spatial justice, deforestation, wildlife trade, economic development, sustainability, natural disasters, social inequality, regional and global conflict, agriculture, migration, economic and cultural globalization, ethnoracial geographies and more. Therefore, a geography-centered education plays a central role in developing student knowledge and engagement in social and environmental issues at global and local scales and often results in a transformative awareness that empowers students to inspire positive change. Students who acquire a geographical perspective can see themselves as global connectors and units of change and often assume accountability in the role of their individual decisions in an increasingly globalized world. Thus, our department plays a vital role in helping Fullerton College fulfill its mission to inspire responsible leaders and engaged community members and fulfill its vision to ***transform lives and inspire positive change in the world.***

[From top left, clockwise]: [1] Professor Ruben Lopez lectures about climate migration in the Earth Day Symposium. [2] Students for Equitable Sustainability join the Global Climate Strikes march in Los Angeles City Hall, 2019. [3] Professor Andrew Shensky lectures about gauging food insecurity through maps at the Food Justice Symposium, 2018. [4] Geography major Audrey Waight and Professor Aline Gregorio celebrate excellence of Umoja and geography student, Josue Piñeda. [5] FC United student leaders, a student club that supports and advocates for undocumented students, celebrate their graduation.

CORE VALUES

Responsibility – We accept our responsibility for the betterment of the world around us.
Partnership – We work together with our educational and community partners.
Community - We promote a sense of community that enhances the well-being of our campus and surrounding areas.

Geography as a discipline is geared for the betterment of the world. The Department of Geography and the Environment values our role in materializing a brighter future through education and expansive community building and collaboration. We play a central role in engaging the campus around environmental matters and in building a campus culture of environmental stewardship. We facilitate and are part of various educational events where faculty and students engage in co-curricular and extracurricular learning, dialogue, and community-building around pressing contemporary issues, including the unprecedented context of the COVID-19 pandemic.

[Left] Professor Aline Gregorio & Professor Ruben Lopez join community leaders – Dr. Amber Gonzalez, Professor of Ethnic Studies; Moises Plascencia, Adjunct Professor of Anthropology; Jose Trinidad Castaneda, Climate Justice Organizer; and Audrey Waight, CSUF Geography Undergraduate – in a discussion about the lessons of COVID-19 pandemic in a live webinar in April 2020 in participation of the 50th Anniversary of International Earth Day. The event gathered over 200 community participants. [Right] Professor Aline Gregorio moderated a webinar conversation space for student leaders – Justine Lim and Andres Martinez from FC United; Chad Becker and Emily Dewell from Students for Equitable Sustainability (SES); Stephanie Marie Jeffcoat and Josue Pineda from FC Street Scholars; and Selena Cruz, AS president – to discuss lessons from COVID-19 and a vision forward from the student perspective.

THE EARTH DAY SYMPOSIUM & OTHER SUSTAINABILITY EVENTS

Fifty years ago, the very first **Earth Day** began as a protest from college students all over the United States as there was increased awareness of the severe environmental effects of an industrialized society. Living in the context of oil spills, toxicity and impacts of agrochemicals such as DDT, extensive forest loss in the West Coast, and toxic levels of air and water pollution, environmental problems became recognized as deeply intertwined with human quality of life. In demand of a better world, college students and the youth actively engaged the nation in environmental awareness in synchronized national protests that came in the form of teach-ins and peaceful demonstrations, primarily led by college students and with the support and participation of college campuses. The first Earth Day included over twenty million participants – today, it involves hundreds of millions of people from all over the world. The youth and college led the environmental movement from its moment of

conception, and that is still true today. Earth Day in many ways is one way in which college campuses all over the world showcase their role in carving a brighter future.

Prior to 2017, Earth Day events at Fullerton College were scattered and many times under the umbrella of "World Fest", which is a campus wide event described as "a celebration of world cultures, diversity, and the Earth." While this is widely celebrated at Fullerton College and a beloved part of our campus culture, it does not embody the spirit of rebellion and protest, and it does not center the critical and rigorous dialogue on environmental issues exclusively. Prior to 2017, Fullerton College did not have an exclusive event dedicated to environmental awareness and action. Based on the interest of our students in filling this great void in our campus culture, the Department of Geography & the Environment offered its first Earth Day Symposium as a campus community educational event around the topic Climate Change in the Spring of 2017. In the spirit of the "teach-ins" that have occurred in college campuses over the last fifty years on this day, we hosted Dr. Glenn MacDonald, the John Muir Memorial Chair of Geography, Director of the White Mountain Research Center, a UCLA Distinguished Professor, and the former UC Presidential Chair and former Director of the UCLA Institute of the Environment and Sustainability. Dr. MacDonald was the keynote speaker of the event, materializing our department's vision to create an opportunity to expose Fullerton College students to regional experts around an environmental topic. The event concluded with faculty lectures on various aspects of climate change and a film screening, which concluded an entire day of learning that engaged over 500 students, faculty, staff, and community members at Fullerton College.

Since then, **environmental sustainability** has been embraced as a planning direction for Fullerton College and NOCCCD, as informed by the most recent Masterplan (Educational and Facilities Masterplan, 2020) and the Board Policy on Sustainability (BP 3580, adopted Summer 2021):

> *"The North Orange County Community College District (NOCCCD) holds environmental sustainability to be a foundational principle in shaping the present and its vision of a future. As a responsible steward of natural resources and the environment, and in alignment with recommendations from the Board of Governors to California Community Colleges, NOCCCD will work towards minimizing the ecological footprint of its institutions by implementing best practices for conserving resources, reducing waste, implementing energy reduction and alternative energy generation strategies, constructing efficient buildings,* ***promoting interdisciplinary environmental education in our campus communities****, and developing partnerships that will further these activities" (NOCCCD, BP 3580).*

The Department of Geography and the Environment continues to play a central role in materializing this vision of NOCCCD via the courses that we offer but also through our central role in promoting environmental education on campus. We have trialed several formats for the Earth Day Symposium, starting with it being housed in our department for the first two years, then seeking administrative support to institutionalize it as a campus wide event with wide academic participation. Given the holistic nature of geographical studies, and our aim to build community and involvement on environmental matters, we envisioned to collaborate broadly and engage and invite faculty and students from all interests to take ownership of this international day of environmental awareness. In that, and in the interest of "promoting interdisciplinary environmental education in our campus community" (per BP 3580), we have collaborated and assisted for other departments such as Sociology and Ethnic Studies to host the Symposium showcasing their disciplinary lens on environmental matters.

*[Left to right] [1] The Department of Geography & the Environment organized and hosted the Earth Day Symposium on Food Justice in 2018, with Dr. Pascale Joassart-Marcelli from the Geography Department at Cal State San Diego as a keynote speaker, a film screening, interdisciplinary panel, and a student-led workshop. [2] The Department of Geography & the Environment collaborated with the Sociology Department to assist their hosting of the Earth Day Symposium in 2019, showcasing keynote speaker Dr. Manuel Pastor, USC Professor of Sociology and the author of the book "State of Resistance". The day included a panel with community activists and a workshop led by Students for Equitable Sustainability and FC United. [3] In 2021, FC Ethnic Studies hosted a live webinar with Winona Laduke on climate justice and indigenous leadership and struggles amidst the climate crisis. *All Earth Day Symposium events have engaged more than 200 members of the campus community in live participation. Recordings have gathered many more views. It is the only campus-wide academic event dedicated to interdisciplinary education on environmental matters.*

Aside from the yearly Earth Day Symposium, we lead and participate in various events that promote environmental education and action, including the following:

- **Climate Webinar Series, 2021-2022** – Professors Aline Gregorio & Ruben Lopez are part of a coalition of environmental scholars at Fullerton College, a collaboration between Environmental Science, Earth Science, and the Department of Geography & the Environment to continue to share expertise and advance environmental awareness and action to carve a brighter future. In the Climate Webinar Series, we join professors Tom Morris and Royden Hobbs from Environmental Science and professor Roman De Jesus from Earth Science to expand the conversation about climate change with the campus community. In Part 1, which took place in Fall 2021, we dissected the latest report of the Intergovernmental Panel on Climate Change (Published in August 2020), the highest international scientific authority on climate science. The event helped the campus community understand the increased scientific certainty of the human influence on the Earth's atmosphere and some of the dire realities climate change brings locally and globally. The series will include 3 more webinars (2021-2022) on topics pertaining to climate change.
- **Radical Readers Book Club, Fall 2020** – Professor Gregorio gathered students in a Zoom Book Club and moderated discussions on the works of Naomi Klein *This Changes Everything: Capitalism vs Climate* (2015) and *On Fire: The (Burning) Case for a Green New Deal* (2019).

∴ **Global Climate Strikes, Fall 2019 –** Professor Gregorio joined and supported Students for Equitable Sustainability (SES) to host and attend events for the Global Climate Strikes, a student-led global movement. Students attended a protest in Los Angeles City Council and chalked the campus quad with messages of awareness.

[From corner left, clockwise]: [1] Jenna Lord, geography major and SES member participates in the Global Climate Strikes march in Los Angeles, Fall 2019. [2] FC environmental scholars host a webinar to dissect the latest findings from the IPCC, Fall 2021. [3] Professor Gregorio hosts the "Radical Readers Book Club" around the works of Naomi Klein This Changes Everything: Capitalism vs Climate (2015) and On Fire: The (Burning) Case for a Green New Deal (2019) – pictured: geography majors Alejandra Avila, Chad Becker, Joshua Moreno and geography embedded tutor Nicole Villegas. [4] SES chalks the campus quad with art and messages of environmental awareness, Fall 2019. [5] Emily Dewell, Environmental Science major and SES secretary, interviewed by the LA Times at the Los Angeles Global Climate Strikes, Fall 2019.

EQUITY & ANTIRACISM

Diversity - We embrace and value the diversity of our entire community.
Equity - We commit to equity for all we serve.

[from top left, clockwise] [1] Professor Gregorio lectures about global migration to third graders at Raymond Elementary School as an invited speaker for Latinx Heritage Month, 2021. [2] Student responses from "What It Means to Be an Ally" conversation circle, Fall 2019. [3] The Department of Geography & the Environment takes part in Fullerton College's antiracism vision statement in one of the Faculty Senate Antiracism Taskforces. [4] Fullerton College's Chapter of the Yosi Reyes Book Club featured a discussion panel on "Dear America: Notes from an Undocumented Citizen" (2019) by Jose Antonio Vargas.

A geography education ingrains an understanding and appreciation of the diversity of cuisines, customs, languages, religions, identities, and socioeconomic status that exist in our community and world. Students in geography courses are provided with analytical tools to recognize and contextualize the various systems of oppression at play in contemporary societies and evoke change. Geographers approach environmental sustainability with a holistic approach of environmental equity and justice, as can be noted from the selection of topics in the Earth Day Symposium and sustainability related activities. Aside from those, the Department of Geography & the Environment is involved with a myriad of interdisciplinary campus activities/efforts exclusively dedicated to celebrating cultural diversity and advance equity and antiracism. Examples include:

- **Fall 2021 "A Story of Migration"** – Professor Gregorio lecture about migration to 3rd graders at Raymond Elementary School as part of Latinx Heritage Month events.
- **Fall 2019 "Who is an ally in justice movements?"** - a conversation circle
- **Fall 2019 "Dear America: Notes from an Undocumented Citizen"** - book discussion organized and paneled by Professor Gregorio along with formerly undocumented faculty.
- **Fall 2019 SES: Solidarity Series** – the department supported discussions, info booths, workshops and volunteering that highlighted community solidarity and action.
- **Spring 2019 "Contested Spaces: Homelessness in LA"** – the department hosted Dr. Zia Salim, Geography Professor from CSUF for a guest lecture.
- **Spring 2019 SES: Migration Series** – organized discussions, film screenings, speakers, info booths, and workshops in collaboration with SES & FC United.
- **Spring 2019 Major Declaration Day, Kinder Caminata & World Fest –** info booths
- **Fall 2018: SES & FC United Friendsgiving,** co-organizer
- **Fall 2018 SES: Food for Thought Series -** co-organized and hosted discussions, a beach cleanup, FC food drive, and hosted Jose Trinidad Castaneda to speak on water justice in OC.
- **Fall 2018 One Book, One Campus: "Exit West"** - Professor Gregorio was a panelist.
- **Fall 2018 "Defeating Race Inequity in America" by Tim Wise** - attendees
- **Fall 2018 "Places in Need: The Changing Geography of Poverty"** – book discussion
- **Spring 2018 Major Declaration Day & Kinder Caminata -** booth organizer
- **Spring 2018 Worldfest: "Who Made My Clothes?"** - info booth organizer
- **Spring 2018 SES: Compassion Series** - co-organized and hosted multiple film screenings, discussions, volunteering, and speakers including Gene Baur and Carl Wilkens.

Growth – We expect everyone to continue growing and learning.
Innovation – We support innovation in teaching and learning.

Geography faculty are active learners, continuously engaging in professional development and growth. Here is a sample of recent professional participation by geography faculty:

- **Summer 2021 Faculty Survey Inquiry Group**
- **Fall 2021 "Environmentally Disadvantaged: FC Students' Geographies" –** A mapping research collaboration with the Office of Institutional Research and Effectiveness (OIRE)
- **Fall 2021 "Beyond Land Acknowledgement"** NOCCCD's PIE Series
- **Fall 2020 "Black Lives Matter"** by Dr. Melina Abdullah**,** NOCCCD's PIE Series
- **"Employing Equity Affirming Teaching Practices"** by Dr. Harris**,** NOCCCD's PIE Series
- **Fall 2019 Female Geographers in Higher Education**
- **Fall 2019 National Geographic Educator Certification**
- **Fall 2019 All Points of the Compass (CSUF Geography Conference)**
- **Fall 2019 Association of Pacific Coast Geographers (APCG) meeting -- Flagstaff, AZ**
- **Fall 2019 Convocation/Flex Day Activities on Guided Pathways**

- ∴ **Summer 2019 California Higher Education Sustainability Conference,** UC Santa Barbara
- ∴ **Spring 2019 Immigration Rights and Advocacy Lecture Series**
- ∴ **Spring 2019 California Geographical Society Annual Meeting, Big Bear**
- ∴ **Spring 2019 Flex Day – "Men of Color in the Community College: Trends, Challenges, and Opportunities"** by Dr. Harris
- ∴ **Spring 2019 Seismological Society of America (SSA) annual meeting -- Seattle, WA**
- ∴ **Fall 2018 All Points of Compass (CSUF Geography Conference)**
- ∴ **Fall 2018 Association of Pacific Coast Geographers (APCG) meeting -- Reno, NV**
- ∴ **Fall 2018 Flex Day – "The Equity-Minded Practitioner: Key Competencies for Advancing Equity"** by Dr.Sarah Klotz **& "Serving Disabled Students**
- ∴ **Summer 2018 California Higher Education Sustainability Conference, Santa Barbara**
- ∴ **Spring 2018 Online Teaching Certificate, Fullerton College**

Inclusivity - We support the involvement of all in the decision-making process.

Amidst the COVID-19 pandemic, a time in which inequalities are being highlighted, shared governance provides a foundation for collaboration, transparency, knowledge sharing and inclusion in decision-making. Consulting broadly, welcoming feedback from various groups, and capitalizing on diverse sets of expertise enables institutions of higher education to better serve our students, amidst crisis and beyond. With only two full-time faculty, the Department of Geography and the Environment has a remarkable presence in the college's shared governance structures (see graphic to the right for governance bodies with representation/leadership from faculty in our department).

Integrity – We act in accordance with personal integrity and high ethical standards.
Respect – We support an environment of mutual respect and trust that embraces the individuality of all.

Geography faculty are expected to model high ethical standards and personal integrity and mirror this behavior to students with the expectation that integrity is the core value of our classrooms. Guidelines and expectations are clearly stated on all faculty syllabi. Grading standards are transparent and consistent. Geography faculty are expected to abide by principles of academic integrity by presenting lectures that are founded in accuracy and objectivity. Professors are expected to utilize current teaching resources and scientific findings and present well-sourced and relevant lectures and assignments.

Excellence – We honor and build upon our tradition of excellence.

Our faculty are active members of the college community and challenge our students with relevant and rigorous courses that inspire dedication. Students express their appreciation by frequently recognizing our faculty with nominations for the "Teacher of the Year" award. Furthermore, we exercise a tradition of excellence by continuing to offer extracurricular learning through the hosting of a series of campus wide events, webinars, guest lectures, film screenings and more and actively participating and taking students to professional conferences (see below) and preparing them for transfer to top programs. We recognize student excellence yearly through the Barbara Weightman & Claudia Lowe Scholarship & the Monarch Scholarship, both of which are sponsored by our faculty.

[From top left, clockwise]: [1] Students for Equitable Sustainability join AS & FC United to discuss "Hussle Economics", or ways to save money while in college. [2] Associated Students recognize Professor Aline Gregorio as the FC 2019 Teacher of the Year. [3] Fullerton College President, Dr. Greg Schulz, recognizes Professor Aline Gregorio as the 2019 FC Teacher of the Year and the 2020 OC Teacher of the Year. [4] Students attend the California Higher Education Sustainability Conference (CHESC) 2019 – pictured: Kyle Hickey, Geography major; Raga Kavari, Environmental Science major; Emily Dewel, Environmental Science major; Rose Koffman, Geography major; and Rocio Chavez Geography major. [5] Caralee Ellis, Nallely Almanza, Rocio Chavez, and Selena Cruz participate in World Fest. [6] Vanessa Bello & Nallely Almanza receive the Monarch Scholarship & Kyle Hickey and Rocio Chavez receive the Barbara Weightman & Claudia Lowe Scholarship in recognition of their leadership and student excellence, 2019. [7] Geography majors attend CHESC 2018. [9, center] Professors Ruben Lopez and Aline Gregorio attend commencement, 2018.

3.0 STUDENTS

Student Hall of Fame *[from top left to right]: [1]* ***Audrey Waight****, the founder of Students for Equitable Sustainability (SES) and FC & CSUF Geography Graduate, currently teaching environmental justice and considering a master's degree in Geography. [2] Geography majors and the Barbara Weightman Scholarship recipients,* ***Kyle Hickey*** *(left) and* ***Rocio Chavez*** *(right) celebrating their excellence and transfer as geographers going to UC Davis and UCLA. Rocio and Kyle are projected to graduate from these UCs in the Summer of 2022. [3]* ***Chad Becker****, SES President for 2018-2020 and geography major, transferring to Portland State University as a Geography Major in Spring 2022. [4]* ***Andres Martinez****, co-president of FC United in Fall 2019 and former geography student Andres is an artist and an Ethnic Studies Major who continues to lead equity efforts on campus and beyond. [5]* ***Caralee Ellis****, former Geography student and 2020 Fullerton College Student of Distinction. Caralee transferred to UC Berkeley and is projected to graduate Summer 2022 as an Environmental Studies major.* ***Honorable mentions*** *not pictured****: Joshua Moreno****, FC geography alumni & GIS Master's Student at Cal State Long Beach, 2021.* ***Teresa Juarez,*** *FC & CSUF geography graduate and recipient of the 2018 Barbara Weightman Scholarship****. Andres Reyna****, geography major and recipient of the Barbara Weightman scholarship in 2021 – transferred to Cal State San Diego to specialize in urban planning****. Jenna Lord****, former SES member and geography major, transferred to Portland State University, Fall 2021.*

3.1 ENROLLMENT DEMOGRAPHICS

1. Using the data provided by the OIE, briefly describe the enrollment trends in the program over the past five years.
2. Using the data provided by the OIE, describe the student population the department serves. Do you have a way of determining which students are majors, for example through a gateway course? Please explain.
3. Which classes have the highest demand and why? Are they offered regularly -- at different times of the day and week, in different formats (in-person, on-line, hybrid)? Please explain.
4. Please describe how course offerings match students' preparation and goals.
5. Does enrollment vary by semester? Please describe how course offerings are adjusted to meet student demand and help students reach their academic goals.

(1) ENROLLMENT TRENDS

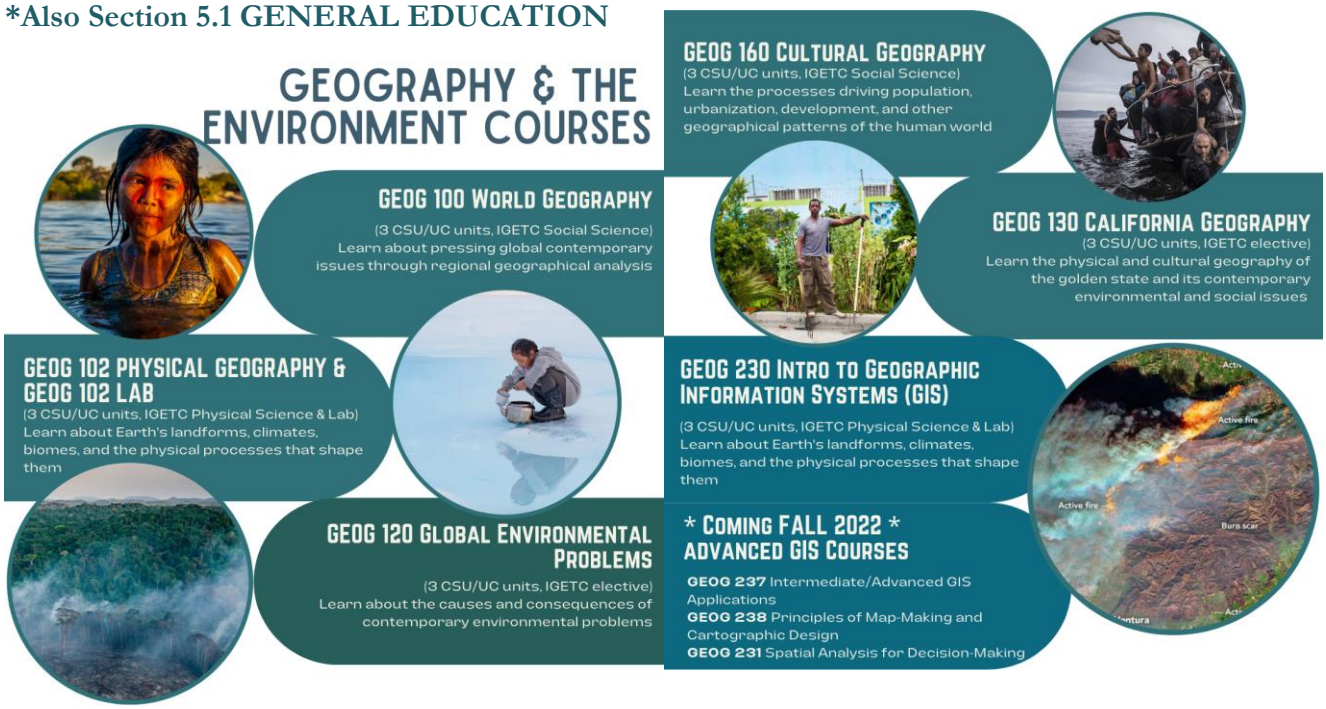
Our enrollment is growing, despite collegewide declines. Over the last five years, the Department of Geography & the Environment saw over 8,000 unique students and about 9,600 course enrollments. While these figures represent a small share of Fullerton College enrollments and headcounts, there is a growing demand for geography courses, without much fluctuation from term to term. Over the past five years, student enrollment at Fullerton College has decreased by 12%, but our department saw a 6.6% increase in enrollment (and close to a 90% fill rate) over the same period. Within the shocks of COVID-19 in AY 19/20 and AY 20/21, our enrollment increased by 2.7% despite the campus wide declines (-3.7%) during these pandemic academic terms[1]. Enrollment increases amidst campus wide decreases reflect a consistent demand for geography courses in the academic preparation of *all majors*. Furthermore, our courses help fulfill the college's mission to inspire positive change in the world. As new degrees become active in the Fall 2022, we expect enrollment and degree awards to increase.

(2) STUDENT PROFILES

The Department of Geography & the Environment mostly serves students seeking to transfer to a university – transfer students makeup 85% of our enrollment in comparison to an average 77% for other programs in the college. Most of our students are part-time students (54%), but less so than the overall college (74%). We offer courses that fulfill both the Social and Physical Science requirements for CSU/UC transfer, which help a myriad of students to achieve their goals, regardless of their major. Our students are a little older and have a little more units completed compared to other programs. We serve slightly larger shares of low-income students (76% vs 74% collegewide) and LGBTQ students (11% vs 9%) and serve the same share of other-special student populations - foster youth, veteran, and DSS – as all other program averages. The ethnoracial makeup of our student population closely resembles that of the college with slightly more Hispanic/Latinx students but with no significant overrepresentation or underrepresentation of any specific group - race/ethnicity does not fluctuate much above or below 1 percentage point for each ethnoracial category than that of the college. Our enrollments by major are 67% Latinx, 21% white, and 7% Asian and 52% of degrees awarded went to Latinx students, 33% white students, and 15% of unknown ancestry. Geography majors are skewed in comparison to the college population.

[1] All data references in this section are based on Tableau KPI Dashboards or Appendix A, unless stated otherwise.

(3-5) ENROLLMENTS, OFFERINGS & STUDENT PREPARATION BY COURSE
***Also Section 5.1 GENERAL EDUCATION**



Except for GEOG 230: Geographic Information Systems, all GEOG courses are IGETC courses and 99% of enrollments in our department are GE enrollments.

GEOG 102 F, Physical Geography, has the highest enrollment of all Physical Science GE Requirement at FC and continues to grow, despite pandemic. GEOG 102 is a STEM course that fulfills the CSU/UC Physical Science requirement for transfer students. In this course, students learn the basic physical processes shaping the biosphere, lithosphere, and atmosphere. It is an important preparatory course that equips students with the scientific knowledge and reasoning necessary to navigate the 21st century. It is the class with the highest enrollment in our department, with about 1,000 students each year in its in-person mode of instruction and about 500 students online (pre-pandemic). GEOG 102 is also among the most enrolled courses in the Social Science Division, ranking among the top 10 courses with the highest enrollment (Rank #10, with 4,416 enrollments in the last five years). Most importantly, when looking at comparable courses in the physical sciences, GEOG 102 is the #1 course at Fullerton College preparing students to fulfill their transfer requirement to a UC and CSU. In other words, it has the highest student enrollment of any listed course fulfilling the Physical Science Transfer Requirements (see table below, on pg. 18).

It is traditionally offered in-person and online during mornings, afternoons, and evenings and in all days of the week (excluding weekends). We have adopted this diversified approach to scheduling this course in attempt to respond to student demand. As such, we have discontinued hybrid offerings since 2018 due to low enrollment and student success in favor of more in-person and online offerings, given the high demand for both. Amidst the COVID-19 context and the transition to exclusively online modes of instruction, GEOG 102 is enrolling about 1,000 students, notably above enrollment patterns of pre-pandemic years. In AY 19/20, the course saw an enrollment growth of 9%. Enrollments in AY 20/21 have grown by 13% in comparison to five years ago.

Courses Fulfilling the CSU/UC Physical Science Transfer Requirement	Total student enrollment from 2017-2021 (Tableau)	Courses Fulfilling the CSU/UC Physical Science Transfer Requirement	Total student enrollment from 2017-2021 (Tableau)
GEOG 102 & GEOG 102 Honors	4454 13% increase	CHEM 103	350
CHEM 107	3454	PHYS 130	350
ESC 130	3286	ESC 110	279
CHEM 111AF	2604	PHYS 223	247
ESC 100	1698	PHYS 210	125
CHEM 101	1647	ESC 103	74
PHYS 221	1548	PHYS 211	51
ESC 101	1447	ESC 107	44
CHEM 111BF	1387	PHYS 206	42
PHYS 222	936	ESC 190	32
ESC 105	828	ESC 120	13
CHEM 100	790	PHYS 120	12
ESC 116	494		

GEOG 102 LF, Physical Geography Lab has the fastest growing enrollment of all GE Physical/Life Science Laboratory Requirements in the college. GEOG 102 LF, or Physical Geography Lab, is another important preparatory course for students' STEM education and transfer preparation – a course dedicated to developing students' scientific inquiry and understanding through tactile and experimental learning. Over the last five years, Physical Geography Labs enrolled over 1,206, the third largest lab enrollment in our college and a course with consistent and increasing student demand. In 2021, 58.5% more students enrolled in GEOG 102 Lab than five years ago, despite the remote learning context and steep declines in enrollments campus wide. GEOG 102 Lab was the fastest growing lab course on campus over the last five years, with the highest average annual growth rate (see table, pg.19). It is important to note that the Social Science Division hosts two of the most enrolled science lab courses in the departments of Anthropology and Geography & the Environment, two departments who share scheduling of a single lab space that is also shared with Psychology.

We face substantial challenges in meeting student demand given space and staffing issues to be discussed in later sections of this report. We have strategized as much as possible to overcome lack of space challenges by scheduling lab courses on Fridays and evenings, as only these fringe times have been made available for Geography Labs. While lab courses are traditionally only taught in-person, lab instructors have adapted the course to be taught remotely, and we have maintained remote lab offerings for the last two years.

	Enrolments by Academic Year						Percentage %	
COURSE	2017	2018	2019	2020	2021	TOTAL	% avg change	AY 2017 vs AY 2021
ANTH 101 LAB	400	419	398	493	619	2329	12%	54.8%
ENVS 105 LAB	325	321	341	280	339	1606	2%	4.3%
GEOG 102 LAB	200	205	244	240	317	1206	13%	58.5%
BIO 102 LF	267	247	206	174	157	1051	-12%	-41.2%
ESC 130 LAB	149	114	90	121	82	556	-11%	-45%
ESC 116 LAB	113	157	101	123	0	494	-19%	-100%
ESC 100 LAB	122	103	90	115	48	478	-15%	-60.7%
ESC 101 LAB	97	101	99	51	74	422	0%	-23.7%

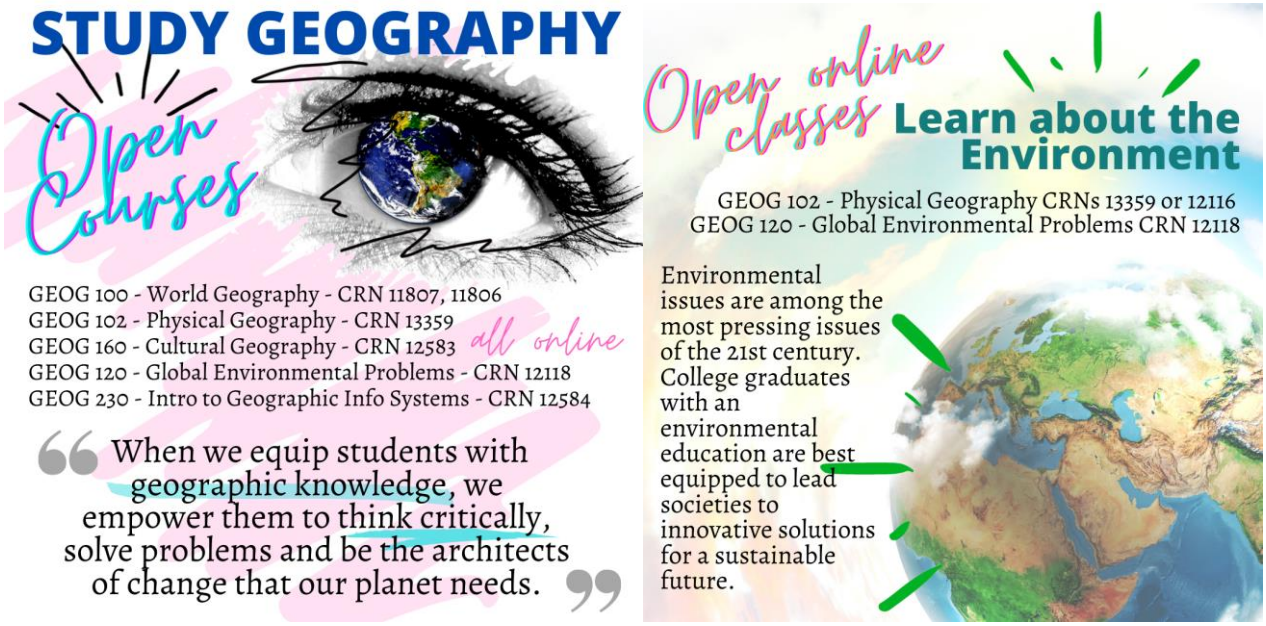
GEOG 100, World Geography is our third most enrolled course and one of the few courses on campus focused entirely on global literacy – enrollments have decreased recently**.** GEOG 100, World Geography is a preparatory course that fulfills the GE Social Science Requirement and the Cultural Diversity Requirement for CSU/UC Transfer. It is a course dedicated to instilling geo-literacy, or an understanding of the world and its interacting human and physical systems. This course is CI-D approved as a course equivalent to Global Issues, a required course in an upcoming Global Studies ADT. It is also one of the courses on campus that helps Fullerton College achieve its institutional learning outcomes (ISLOs) on global systems and stewardship.

GEOG 100 enrollments have remained relatively consistent, enrolling about 700 students each academic year. In order to respond to student demand and enrollment patterns, hybrid formats are no longer offered, but we have maintained a wide array of in-person, online, and evening offerings in the last five years. Overall, there is a downward trend in enrollment, mostly driven by a steep decline of 18% in the 20/21AY compared to the previous year. Given the context of the pandemic, this course openly competed with a myriad of other Social Science courses, thus was greatly impacted with enrollment declines. Given that the Social Science Division has maintained stable enrollment patterns over the last five years, and that during AY 20/21 enrollments in SS Division courses increased by 2.8%, it is notable that GEOG 100 is notably impacted by the strictly online format of teaching and learning. We plan on discussing strategies to attract students, discussed later in this report. There is no doubt that GEOG 100, World Geography, has a lot to offer to our students and learning outcomes our college, beyond fulfilling transfer requirements. It is a gateway course, along with GEOG 102, that often leads to further enrollments in Geography courses. For example, in the Fall semester of 2021, about a third of students enrolled in GEOG 160, Cultural Geography, are students who took GEOG 100 in past semesters. Our department's student enrollment is much higher than the student headcount, by about 400 students each year, suggesting that students who enroll in Geography tend to take more than one course.

Other geography courses are major specific or electives that also have showed notable increases in enrollment. Namely, **GEOG 160 Cultural Geography,** saw a 46% growth in enrollment due to

consistent pre-pandemic online offerings (17% of enrolled students are majors). Cultural Geography is an important course in helping the college materialize its mission on antiracism, as it is specifically focused on the geographical disparities of the Global Majority and Black, Indigenous, and People of Color in the United States. It fulfills both the Cultural Diversity requirement and the Social Science Requirements for transfer at Fullerton College. It is offered exclusively online and enrollments have increased in this mode of instruction in comparison to in-person offerings of the past.

GEOG 120, Global Environmental Problems and **GEOG 130, Geography of California** are courses with less consistent offerings and small enrollment, although both offer transferable credits for CSU and UCs and help students fulfill the Social Science transfer requirements. These courses attract Geography majors (13%-17% of enrollments) and tend to be quite impactful as they are usually taught in an intimate setting, with a small group of students with high interest and previous experience in geography. We have offered these courses in alternate semesters, in order to serve our majors and interested students but also due to staffing limitations. As a Department of two, we manage scheduling the best that we can to maximize to meet student demand and consistently offer specialty courses. We plan on returning to a consistent offering of GEOG 120, Global Environmental Problems, as this course is a required preparation course for a new degree that we will offer in Fall 2022, Environmental Sustainability – a degree focused on environmental studies. **GEOG 230, Intro to Geographic Information Systems** is another specialty course that we have offered consistently in the last several years. While serving a small number of students, this course helps prepare students of all majors to gain a technological edge



[Above] Instagram advertisement for geography courses. Our Department promotes our courses via social media, as we believe we offer a unique and necessary academic preparation for all students to be engaged global leaders.

3.2 STUDENT ACHIEVEMENT & EQUITY

1. Using the data provided by the OIE, briefly describe student achievement rates in your program over the past five years: completion, success, degrees/certificates, transfer, licensing, job placement, wage improvements (not all of these measures apply to every program).
2. Please pay special attention to equity issues -- where a group of students has an achievement rate that is below average. What factors can explain this?
3. Does the department have regular discussions about equitable grading, attendance, late-work, and extra credit policies, or about other strategies for helping students succeed? Could reforming classroom policies help more students succeed? Please explain.
4. Please write a brief Equity Action Plan. What strategies can you implement to close this gap in student achievement within the next five years? What professional learning, curriculum development, or other forms of support does your department need

(1) STUDENT ACHIEVEMENT METRICS

Our department retains students, and our students succeed and transfer at notable rates.

When looking at both course completion and course success rates, our department has shown continued progress over the last five years, seeing increases in completion (by 3%) and success rates (by 13%) compared to five years ago. Today, both our course completion rates and success rates remain above other programs - student completion is 85% (compared to 81% for the college and 84% for the Social Science Division) and our success rates 74% (compared to 69% for the college and 72% for the SS Division). According to CCC Pipeline Launch Board[2], our department has a 91% term to term retention rate, compared to 89% statewide geography departments, a two percent difference that accounts for hundreds of students we serve. This is a remarkable statistic for a discipline like geography, as most students enter our geography courses facing systemic fallacies that disadvantage them in the geography classrooms, one being the lack of familiarity with geography experienced by most Americans (a reality discussed in Section 5 of this report). Our progress as a department is attributable to the commitment of our faculty to engage students and to continue improving instruction is what drives our improved student success over the years. As described in previous sections, we are committed to taking geography beyond our classrooms and to engage students on campus far and wide. Our increases in enrollment and student success may be some of the rewards of our approach.

The number of geography students who transfer to a 4-year university has increased remarkably over the years, as in 2018 100 more students transferred than in 2015[2]. Together with Saddleback College, Fullerton College is among the top colleges in the region for transfer students – our program is no different, as we are ranked as the 2nd Geography Department in the region for transfer students[2]. A very small share of the students we serve are Geography majors – but the number of degrees awarded yearly to FC geographers has doubled in the last five years (from 5 to 10 – totaling 27 degrees awarded in the last five years, most of them AATs). This pattern contrasts with statewide patterns, as the number of students earning geography degrees in California Community Colleges have remained the same over the years[2]. Students who major in Geography are often attracted to the holistic nature of geographical inquiry and the relevance of the topics that geographers study. We have no

[2] Community College Pipeline: Milestones: https://www.calpassplus.org/LaunchBoard/Community-College-Pipeline.aspx

institutionalized way of knowing our majors aside from interacting with students in our classes, advising in our office hours, and requesting periodic major lists from the administration. We have also built a Canvas shell for FC Geography Enthusiasts, where we maintain contact with geography students. In the year of 2020, we had 12 geographers transfer to a university, primarily CSUF, CSULB & UCLA (See some of their names and accomplishments in our "Student Hall of Fame", pg. 15).

Geography is a viable and promising academic and professional field.

The interdisciplinary nature of the geography discipline encompasses sub-fields in the social, natural, and technological sciences. "The study of geography hones observational and analytical skills, the ability to take in vast quantities of information and also think critically, and the capacity to understand continuity and change in a range of contexts based on a broad knowledge base"[3]. Students with a geography education are equipped with skills to place them in a wide range of professional fields including urban/emergency planners, civil engineers, legislators, geoscientists, and postsecondary teachers. US News ranked geographers among the top 10 best science jobs, based on salary, job markets, and work-life balance[4]. In 2020, geographers earned a median salary of $85,430 (compared to $41,950 median pay of other occupations), with the highest paid 10% earning more than USD$117,100[5]. While there is little future growth projected for geographers for 2030 (~1-2% growth), occupations dependent on training offered in geography departments show continuous growth – for example, jobs in urban planning, geosciences, civil engineering, and environmental planning/protection are projected to grow as fast or slightly faster as other occupations[4]. STEM degrees awarded regionally continue to grow, accounting for 29% of Orange County degrees in 2019, 8% higher than a decade ago[6].

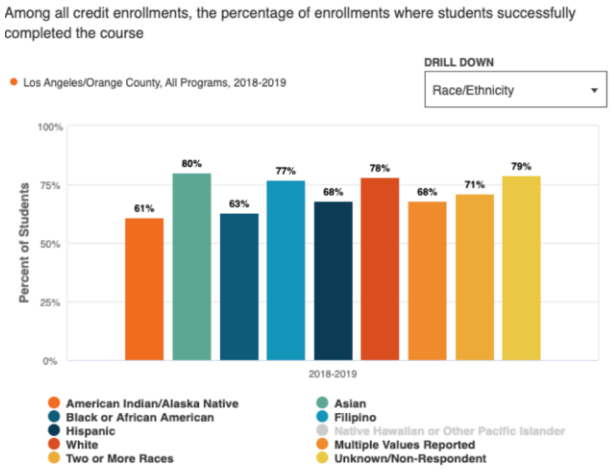
Based on Community College Pipeline employment data[2], 63% of our students become employed four quarters after exiting post-secondary education but are not working in related fields of geography (most are in restaurants or amusement parks minimally earning a living wage). There are some omissions in the dataset, as it is not clear if these are former students of ours who earned bachelor's and master's degrees at universities or those who left our departments to enter the workforce without degrees. Our department prepares students to attain greater training to transfer to universities to get better higher paying jobs, as there are no occupations within geography that do not require academic training and degrees. Nonetheless, many students are not seeking academic degrees but instead looking for vocational training and preparation for the workforce. Certainly, the data suggests that geographers in higher education can be doing a better job at connecting academic experience to professional preparation. We have thought greatly about vocational training for our students and have recently developed a GIS Certificate, to be active in Fall 2022. We explore this in a discussion about study pathways within our department, Section 3.3.

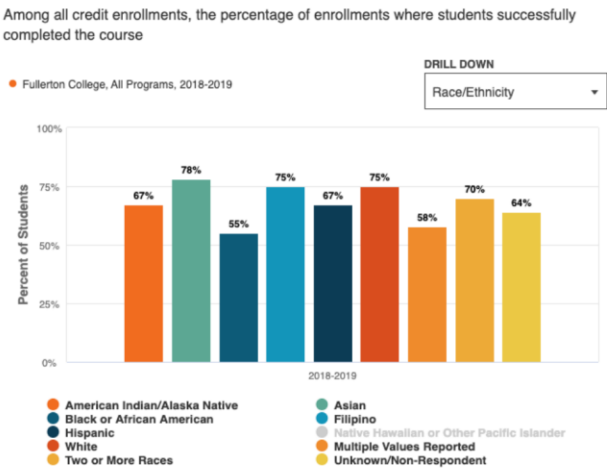
(2) EQUITY ANALYSIS *by Success Rates

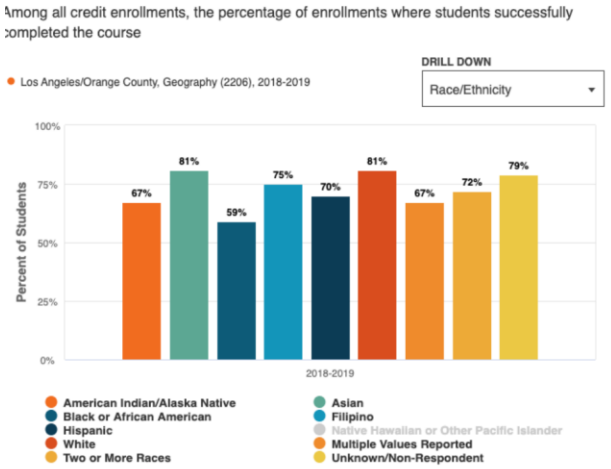
[3] Times Higher Education, 2017. https://www.timeshighereducation.com/student/subjects/what-can-you-do-geography-degree
[4] US News: Best Science Rankings https://money.usnews.com/careers/best-jobs/rankings/best-science-jobs
[5] Bureau of Labor Statistics, 2020. https://www.bls.gov/ooh/life-physical-and-social-science/geographers.htm
[6] Orange County 2019-2020 Community Indicators https://ocbc.org/wp-content/uploads/2020/09/CommIndicators_Report_091219-FINAL.pdf

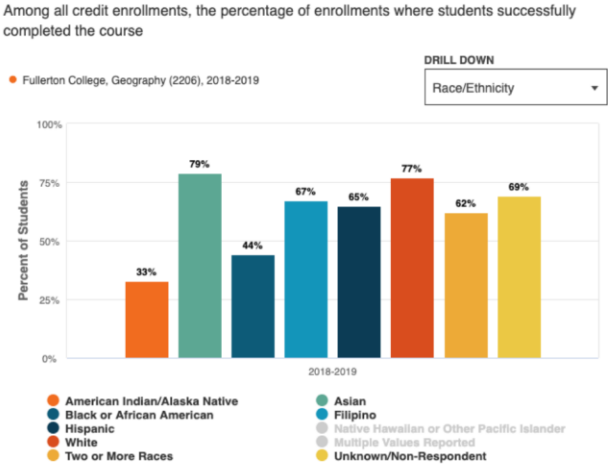
Our department strives to close the student achievement gap, as we face notable inequities in student success rates in our courses in comparison to other programs and to other success rates in geography courses in the region in the year of 2018/2019. Black, Indigenous, and Students of Color (BIPOC) are disproportionately impacted in all programs at Fullerton College and in the Los Angeles and Orange County (LAOC) in general. While student success rates was an average of 72% in LAOC, BIPOC students have success rates below the regional average. This is also true for Fullerton College, where BIPOC success rates that resemble the region's figures (see below).

Charts below: regional comparisons with college and regional programs in student course success rates disagregated by race/ethnicity, California Community College Pipeline: 2018-2019 Milestones Dashboard[7]. 1) [Top left] Los Angeles, Orange County – courses in all programs. 2) [Top right] Fullerton College – courses in all programs. 3) [bottom left] Los Angeles, Organge Couty – geography courses. 4) [bottom left] Fullerton College – geography courses.





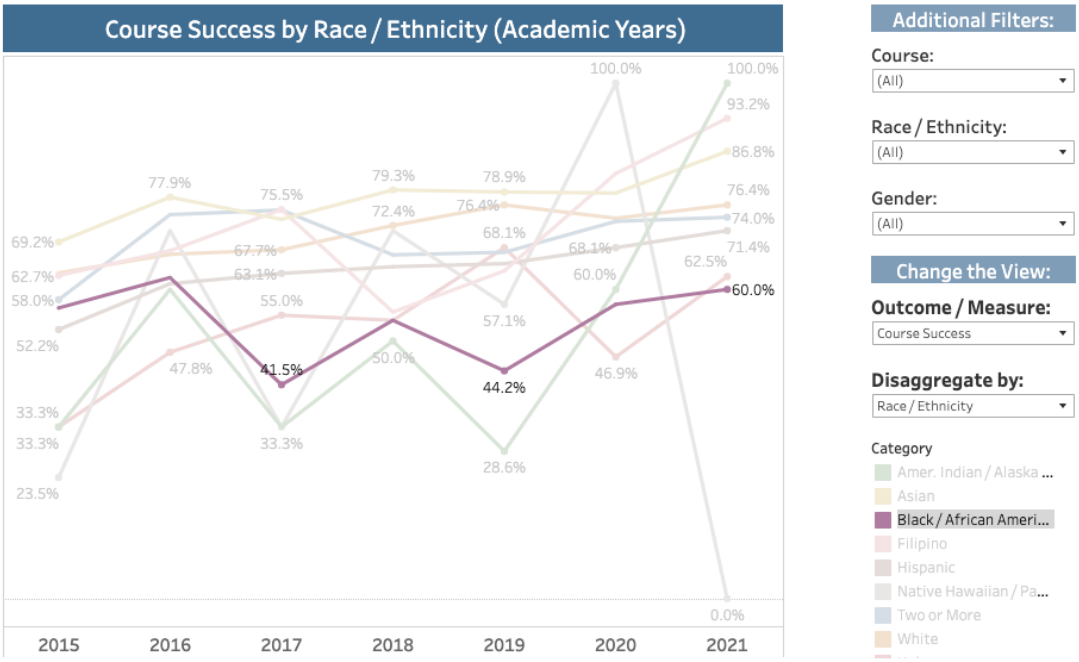




[7] https://www.calpassplus.org/LaunchBoard/Community-College-Pipeline.aspx

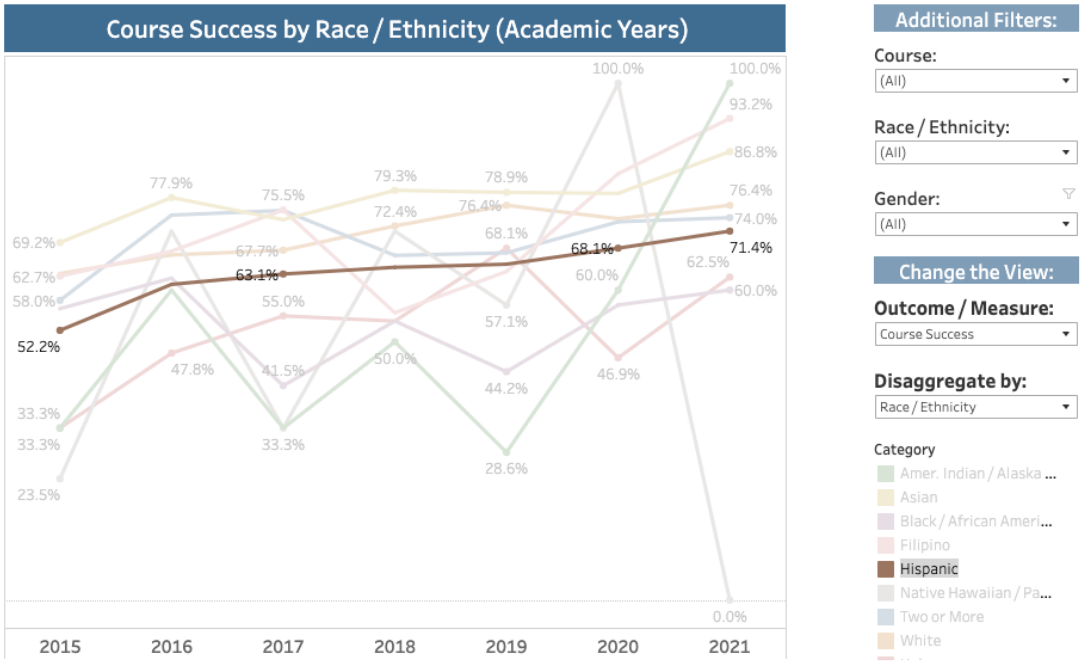
In 2019, the ethnoracial equity gap was more pronounced in our courses during some periods, even when compared to other geography courses in the LAOC region. The figures are not taken lightly.

∴ **Black/African American Students:** Our success rates for Black/African American students (44%) is 15 percentage points below the success rates of Black/African American students in geography courses in the LAOC region (59%) and 11 percentage points below the success rates of Black/African American students at Fullerton College (55%). It is also notable that Black/African American students are generally more impacted at Fullerton College than in the LAOC, as the success rates for this population at FC is 8 percentage points below the regional figures. When compared to the average course success rate of 72% in LAOC, and 70% at FC, Black/African American students are disproportionately impacted in the region, in our college, but especially in our courses. In 2020/2021, there was notable improvement, as success rates for Black/African American students was 52-53% (AY 2020-2021) in the college at large, 52-58% in the Social Science Division, and 60% for geography courses in the same period. Thus, our department is surpassing the college patterns by 7 percentage points. As a department and college, we still have a long way to go – we aim to better understand these recent improvements and adopt strategies to close this gap.



Perhaps a portion of the gap can be partially explained through the fact that a good number of our Black/African-American students are recruited away from their home areas to participate in athletic programs on campus. Our scholar athletes are non-scholarship athletes and many work to pay for room and board while also attending school and participating on athletic teams, thus facing the simultaneous stressors of their work/school/athletic commitments. While these stressors are not exclusive to any student group, they may be more pronounced for out-of-state student athletes. As such, these students may suffer from higher instances of absences, tardies, less out-of-class study time, and poor performance/missed assignments and/or exams.

∴ **Hispanic/Latinx Students:** we are closing the student success gap for our Hispanic/Latinx students as we have gained close to 9 percentage points in student success rates for Hispanic/Latinx students in the last five years, which was 63% in AY 2017 and is now 71.4% in AY 2021. The figures of recent years show that our department is doing better today than the region (in 2019) and college at large (in 2021), as the success rate for Hispanic/Latinx students in geography surpass that of the college's 66% by 5 percentage points. This means that hundreds more Latinx students are succeeding in their geography courses in comparison to past patterns, but also compared to the college at large. In fact, Latinx students in geography in AY2020/2021 outperformed the college average success rates of 70%, thus 2021 represents a time in which we closed the gap for Latinx students.



This is quite a remarkable leap in the right direction, one that breaks with the national trends. While more Latinx students are enrolling the CCC System, the equity gaps for Latinx students persist in nearly every metric (although small gains have been made), especially for Latinx males. Being that community colleges serve over 76% of Latinx students in the California system of higher education, enhanced support and teaching practices continues to be needed to close the gap. As is, only 15% of Latinx students transfer within four years (compared to 29% for white students). Closing the gap for this large student population entails hiring more Latinx faculty and enhancing support for Hispanic Serving Institutions[8].

∴ **American Indian/Native Students:** The most Native American students that we have had in our courses was 6 in 2018-2019, with a 30-50% success rate in that period (the CCC Pipeline data differs the Tableau data for the same period – we are not sure which dataset is most reliable). While the very small representation of our Native American students makes it impossible to draw statistically significant conclusions about disproportionate impact in geography courses, we know

[8] "Growing Latinx Enrollment, Not Enough Support," 2021
https://www.insidehighered.com/news/2021/11/10/report-shows-continued-equity-gaps-latinx-californians

that Native American students were disproportionately impacted in the LAOC region and at Fullerton College **in this study cycle**, thus likely in our department, too. For the small number of students that did take our courses, it was the case.

∴ **Low-Income Students:** FC Geography courses serve a larger share of low-income (~80%) students than the college (~78%), but the success rates of our low-income students stand 5 percentage below that of non-low-income students. It is well-documented that low-income students suffer higher rates of housing/food insecurity, work several jobs, and lack resources to purchase class materials such as textbooks and computers. We are approaching this inequity by removing access economic access barriers as (see next section).

∴ **LGBTQ, DSS, Foster Youth & Military Students:** data in Appendix A indicates that we are doing well with these special populations, as there are no gaps in student success. We serve our DSS and military students exceptionally well, as they tend to have higher success rates than our departments' averages. Military students are often attracted to geography courses – we have had several students major in it and successfully transfer.

[Above, clockwise]: [1] SES participates in World Fest to bring awareness to issues with fast fashion. [2] FC United & SES join for the yearly "Friendsgiving" celebration. [3] Sam has the Earth on her mind at World Fest, 2018. [4] Joshua Moreno celebrates his graduation to CSULB. [5] Professor Lopez is an invited speaker to Living Ubuntu's events, hosted by geography student Audrey Waight.

#BlackLivesMatter

(3-4) REFLECTIONS ON STUDENT EQUITY & EQUITY PLAN

The patterns of student success within our department are not much different than patterns of the entire educational system in the US. First generation students, students of color, and low-income students are disadvantaged when they enter our classrooms, and many of them leave our classrooms disadvantaged, too – and therein is the tragedy. We *know* that through a variety of policies, practices, and discourses, opportunity, preparation, and support for higher education (and so much more) is societally unequal. We *know* that systemically designed disadvantage, disenfranchisement, and displacement is an undisrupted reality of low income and BIPOC students. In *knowing all of this*, educational institutions have still maintained inequities largely untouched. In fact, the differences in college enrollment and completion of historically marginalized populations and white and affluent populations have widened in recent years – the American educational system has an equity problem.

The past year marked a time of global uprisings for racial equality, a time when the nation (and world) engaged in a reckoning and a rebellion – amidst the COVID-19 pandemic and a climate crisis that, too, disproportionately impacts BIPOC. In this acute reality, Fullerton College, along with many colleges and universities, committed to a systemic overhaul and called upon us to engage in critical reflection to dismantle interlocking systems of oppression[9]. This mission requires us to rethink the very foundations of the ways we do things at every level of the institution. We must feel personally and institutionally responsible to correct inequitable outcomes. In doing so, we are tasked to identify processes, policies, and practices that are in place that perpetuate the disparities of our system-impacted students. Fullerton College takes great pride in being "radically student centered", but fully materializing this slogan entails a greater commitment to instruction. We hereby highlight systemic barriers faculty face and suggest ways for our college and District to support instruction:

Attain a 75% Full-Time Faculty Instruction: The Academic Senate of California Community Colleges (ASCCC) has long communicated on the value of full-time faculty in promoting educational excellence for community college students:

> "If the community colleges are to respond creatively to the challenges of the coming decades, they must have a strong and stable core of full- time faculty with long-term commitments to their colleges. There is proper concern about the effect of an over-reliance upon part-time faculty, particularly in the core transfer curricula. Under current conditions, part-time faculty, no matter how talented as teachers, rarely participate in college programs, design departmental curricula, or advise and counsel students. Even if they were invited to do so by their colleagues, it may be impossible if they are simultaneously teaching at other colleges in order to make a decent living"[10]

Title 5 regulation lists this ratio as an aspirational goal— frequently referred to as the 75/25 goal—for 75% of courses to be taught by full-time faculty. The goal is also referenced in Education Code §87482.6. Instead of making progress to attain such a goal, many colleges have instead relied on the

[9] Fullerton College's Antiracism Statement, 2020
[10] ASCCC, 2016 https://www.asccc.org/content/50-law-and-faculty-obligation-number-proposal

FON (Faculty Obligation Number) which is a number meant to draw a minimum of full-time faculty that is treated as a maximum in colleges programmed for compliance rather than for excellence. Such an approach results in no progress and even regression on attaining the goal of 75% of courses being taught by full-time instructors. Fullerton College is still struggling to reach 75% despite the recent spate of hirings (currently, 60% of sections are taught by full-time faculty); however, some divisions including the Social Science Division (where full-time faculty only teach 47% of courses) are still further behind. In the Department of Geography & the Environment, full-time faculty teach only 39% of sections (2020/2021). So many departments have very high shares of courses taught by adjuncts, nearing a reversal of the recommendation with 75% adjunct instruction. Yet, in the summer of 2021, the NOCCCD Board of Trustees (BOT) rejected additional funding from the State of California which would help make progress towards that goal. Instead, the BOT chose to maintain the minimum number of faculty, staying slightly above the FON at NOCCCD campuses. Thus, the Board chose not to invest in instruction.

The picture is not good for antiracism. "[O]ne of the fundamental purposes of tenure is to protect a faculty member's ability to speak truth to power…a privilege not experienced by part-time faculty"[11] who face job insecurity, poverty wages, and have minimal to no processes to grieve violations of their academic freedom. NOCCCD had its own recent display of the hostile context in which we are living when a queer Muslim part-time instructor challenged a white male student to think critically about the existing disparate experiences of BIPOC and policing in America. The instructor's classroom video was shared with national media without her consent, her life was threatened, and a terrorist organization shut down Cypress College with threats of explosives and armed terrorists on campus[12]. BIPOC faculty within the district were targeted, especially those of Middle Eastern heritage – six months later, we know nothing of the resolution of the case. The incident showcased that it is clearly unsafe to think critically about systemic racism in our (now virtual) classrooms. BIPOC students are ultimately done a disservice when faculty face job (and even life) insecurity for challenging the very systems of power that oppress them daily.

This reliance on insecure/volatile/poverty-wage employment for instruction is also not good for student success, especially for impacted populations who need us to level generational inequities. The inferior working conditions (not instructional capabilities) that adjuncts face result in negative effects for students. A recent study done by the Community College Research Center[13] found that adjunct faculty have minimal access to basic technology and even spaces to work and meet with students. At Fullerton College, adjunct faculty do not have office hours – as they are not compensated to support students beyond the classroom. Furthermore, the study found that adjunct faculty have less institutional knowledge and are least familiar with essential supporting services such as financial aid and counseling. In a college where close to half of the students are Pell Grant recipients and the majority are economically disadvantaged,[14] in departments primarily taught by faculty without the institutional "know-how", this is an alarming systemic feat. Especially when recent student surveys show that most of our students face basic needs insecurities and are not utilizing our campus

[11] ASCC Statement on Academic Freedom, 2020 file:///Users/macdaddy/Desktop/Academic_Freedom_F20.pdf
[12] OC Register, 2021. https://www.ocregister.com/2021/08/16/probe-into-deeply-traumatic-conflict-at-cypress-college-still-incomplete/
[13] Community College Research Center, 2020. https://ccrc.tc.columbia.edu/publications/early-outcomes-students-part-time-faculty.html
[14] Institutional Effectiveness Report, 2019-2020 (pg. 14) https://ie.fullcoll.edu/wp-content/uploads/sites/27/2021/04/Fullerton-College-Institutional-Effectiveness-Report-2019-2020.pdf

resources[15]. Our students need support integrated into classrooms – part-time faculty are insufficiently integrated into our institution to provide this much needed connection.

Hire more faculty of color: Community Colleges are open access institutions meant to bridge students to postsecondary educational attainment. In doing so, students need to see themselves in institutions of Higher Education. Fullerton College is a Hispanic Serving Institution (HIS), with 56.4% of students identifying as Hispanic/Latinx (well above the threshold of 25% to be identified as HSI). Yet, students do not see themselves represented in the college as 62% of full-time faculty, 49% of part-time faculty, and 63% of administrators are white. Overall, Hispanic/Latinx peoples only makeup 28% of the college's employees. Comparisons between our student demographics and our employee demographics show that Latinx peoples are underrepresented and white peoples overrepresented in our institutional governance[15]. Even when compared to Orange County demographics, Fullerton College's employees, most notably full-time faculty and administrators, are disproportionately white[16]. It's a national pattern too as across the nation tenured professors are predominantly white males[17]. It is also nationally recognized that hiring more faculty of color is a much-needed strategy to retain and support students systemwide.

It is no surprise that the recent Fullerton College Campus Climate Survey showed that even though BIPOC students represent most of the student populace, they do not feel like they belong in many campus spaces - 27.5% of students of color reported to feel a sense of mattering and belonging in common areas such as the campus quad. But faculty demographics matter. The survey indicates that a disproportionate share of students do not feel that they matter in classrooms taught by white faculty but feel a stronger sense of mattering in classrooms taught by faculty of color. For example, only 35.5% of Black students felt that they strongly mattered in classes taught by white professors compared to 78.6% of Black students in classes taught by professors of color[16]. Our first-generation students are predominantly students of color. They will need to see a window for them in higher education, one that was not there for their parents.

Improve conditions for faculty, including adjuncts: There are many issues pertaining to working conditions and poor morale among faculty. The district's salary comparability studies show that faculty at NOCCCD are paid poorly in comparison to surrounding districts, yet NOCCCD holds the second largest reserve in the state of California. Our finance administrators project budgetary deficits every fiscal year yet end up rolling over millions of dollars onto the district reserves every year. After two years of negotiations and an impasse amidst a pandemic, the district agreed to provide cost of living adjustments and medical coverage to one dependent – negotiating for COLA and health care makes NOCCCD an outlier in the region. We do not have lab-lecture parity, which makes it difficult to staff our labs. Our adjuncts are paid poverty wages (and adjuncts have more BIPOC than full-time faculty), have no office spaces, and no paid office hours. Given our poor salary comparability, we have a high turnover for adjunct faculty. This means that many full-time faculty are both compensating for shortages in their department and for low salaries with teaching additional classes. Yet, it is never a

[15] Faculty Inquiry Group Report, 2021 [unpublished]. Based on analysis from recent national surveys, such as the Real College, SENSE, CCSSE, and Campus Climate Survey (NACCCP) (all available by request to the OIER).
[16] Orange County Community Indicators report, 2019. OC largest demographic groups: 42% white, 35% Hispanic. https://ocbc.org/wp-content/uploads/2020/09/CommIndicators_Report_091219-FINAL.pdf
[17] "White Men Dominate Aging Tenure-Track Rankings", 2020 https://www.insidehighered.com/quicktakes/2020/02/25/white-men-dominate-aging-tenure-track-ranks

good time to hire more teachers or pay teachers better. There needs to be a great reckoning about this reality if we are to "dismantle systemic oppression" and be "radically student centered". Faculty are the direct support of all our students – supporting faculty equates to better supporting students.

EQUITY PLAN

As a department, we accept our responsibility in closing equity gaps and being antiracist. Professor Ruben Lopez and Professor Aline Gregorio (and many of our adjuncts) have participated in innumerable equity and antiracism efforts on campus (see Section 1, pgs. 11-13). We understand that an equity-based approach to education requires us to rethink the very foundations of the ways we do things at every level of the institution. Here are five key strategies we are committed to adopting as a department:

Strategy #1: Universal OER adoption

High quality and open educational resources (OER) have been identified as a strategy to reduce inequities. Rising textbook costs are barriers to student achievement, as many students are not purchasing textbooks and attempting to pass college courses without any materials to refer to when studying. The Academic Senate for California Community Colleges (ASCCC) has recognized textbook costs as a barrier to completion, adopting a series of resolutions supporting the development of Open Educational Resources as an important strategy in promoting student success.[18] This support stems from widely available data on the impact of zero cost textbooks on student achievement. The Office of Institutional Research and Effectiveness at Fullerton College produced comparisons, showing that courses with free textbooks showed higher student success rates by about five percentage points[19]. Other studies have found that free textbooks increase success rates, improve overall student grades, and help reduce the equity gap by particularly improving the performance of economically disadvantaged nonwhite students[20].

Most of our courses are taught with free textbooks. Much of the course content in GEOG 100 and GEOG 102 (our most enrolled courses) is developed and/or curated by Professor Lopez and Professor Gregorio (our adjunct colleagues also use OER). Professor Aline Gregorio has participated in authoring a manual for Physical Geography Labs[21], a peer reviewed publication sponsored by the

[18] Academic Senate for California Community Colleges (ASCCC) OER-Related Resolutions https://asccc-oeri.org/asccc-resolutions/
[19] Office of Institutional Effectiveness, Michael Gieck (AY2020).
[20] "The Impact of Open Educational Resources on Various Student Success Metrics" in International Journal of Teaching and Learning in Higher Education 2018. https://www.isetl.org/ijtlhe/pdf/IJTLHE3386.pdf
[21] Physical Geography Lab Manual, 2020. http://cageoglab.populr.me/manual

ASCCC OER Initiative. The lab manual is now utilized in geography lab courses across the state, thus helping countless students overcome barriers to success.

Curriculum representation matters. There are innumerable issues with traditional geography textbooks, free or not, the most important being Eurocentricity. It is well documented that the publishing world centers white authors – a study reviewing a sample of 7,000 books published in 2018 revealed only 11% of those books were published by people of color[22]. The textbook industry is no different, particularly for geography, a discipline dominated by white males in textbook publications and in professorial positions in colleges and universities across the nation[23]. This issue of persistent and overwhelming whiteness and underrepresentation of Black, Indigenous, and People of Color (BIPOC) in the discipline has been brought up by several influential women geographers, including former president of the American Association of Geographers, Mona Domosh[24], and USC professor, Laura Pulido[25]. They and others[26] have highlighted that whiteness in geography is not only an issue of representation but that Eurocentricity in knowledge production, academic culture, epistemologies, and frameworks have very real and negative implications for the discipline overall.

This prominent whiteness and Eurocentricity in geography textbooks also negatively impact our students, who are predominantly BIPOC, and their ability to meaningfully achieve the learning outcomes of the course and relate to the lessons. This is most notable in GEOG 100: World Geography. With the goal of improving student success rates and equity in GEOG 100, Professor Gregorio has proposed a sabbatical project (for Fall 2022) to overhaul the course with authoring a zero-cost textbook and associated materials/assessments for World Geography. The proposal is for a book adopting a critical geography framework, to frame geographical knowledge for the betterment of our world – integrating the works of Black geographers[27] , of indigenous and other authors from historically marginalized communities, and of critical scholars[28] into foundational teaching and learning. Many of our adjunct colleagues have expressed this to be a major frontier of their antiracism efforts, to integrate a more antiracist curriculum.

The former president of the American Association of Geographers, Derek Alderman, wrote about the need for a critical approach to teaching geography in this era: "Absent, at least prominently, within standard definitions of geographic literacy is the relationship between geographic education and the promotion of peace, social and environmental justice, and anti-discrimination—the very matters that seem to matter the most at this historical juncture". Alderman further highlights that "ethical geographical awareness and action as one of the discipline's core or essential elements and

[22] "Just How White Is the Book Industry?" in New York Times 12/11/2020. https://www.nytimes.com/interactive/2020/12/11/opinion/culture/diversity-publishing-industry.html
[23] https://www.zippia.com/assistant-professor-of-geography-jobs/demographics/
[24] "Why is Geography Curriculum so White?" in American Association of Geographers Presidential Column, 01/06/2015.
[25] "Reflections on a White Discipline" in The Professional Geographer 2002. https://atrium.lib.uoguelph.ca/xmlui/bitstream/handle/10214/1803/7-Pulido.pdf?sequence=1&isAllowed=y – Notes: Two decades later, Pulido's writing remains relevant as far as the demographic makeup of the geography discipline, but there is a growing momentum in knowledge production within critical geography that challenge the context Pulido describes in this piece.
[26] "Classroom Strategies for Tackling the Whiteness of Geography" in Teaching Geography, 2020. https://www.proquest.com/docview/2472670442?pq-origsite=gscholar&fromopenview=true
[27] A Reading List of Black Geographers, in University of British Columbia News, 2020 https://geog.ubc.ca/news/a-reading-list-of-black-geographers/
[28] Antipode: Radical Journal of Geography https://antipodeonline.org/

competencies."[29] Thus, Dr. Alderman's statement inspires a new approach for Open Educational Resources. And so does the newly published Inclusion, Diversity, Equity and Antiracism framework for OER by ASCCC.[30]

Strategy #2, Equitable Grading Policies & Practices

The department is assessing how to implement a more equitable approach to grading students. Faculty members at the post-secondary level usually receive little to no training in how to grade, either in graduate school or professional development once teaching; therefore, most tend to follow the grading protocols they were graded on as students. In addition, faculty members seldom receive support to examine and learn about the importance of grading. Typically, an instructor's grading policies are filtered through their own individual beliefs about how students learn and how best to define student success. There tends to be variation in grades within a department and even within a course taught by different instructors. This practice is further entrenched by the significant use of part-time faculty in post-secondary education who are seldom involved in any meaningful way with the department. Faculty members may believe that their grading practices are just and objective; however, that may not truly be the case. For example, some instructors grade on subjective criteria including effort and participation. These are judged through a culturally biased outlook. Another example of a frequently used practice often believed to "help" students is to grade on a curve. This practice literally bases the grade on other students in the class and negates what the student in question learned.

Questioning zeros from Lisa Pitts, Adjunct Professor of Geography: "One strategy I have used with mixed results is no zeros. Students' lives and schedule have been impacted by the pandemic, and they seem to have mixed priorities and access to the tools and materials I ask for. If a student does not submit an assignment, they do not receive a zero. I say mixed results, because many students are not doing the activities and then when they take the midterm to demonstrate proficiency they do poorly, this is not always the case, but there are many students who are not doing labs but expecting to do well on the tests." Professor Pitt's approach is part of a wider academic discussion about equitable grading. Should 50 be the new 0? While many faculty have adopted the either "no zero" or "50 in lieu of zero" strategy, others have remained skeptical of its benefits. As Prof. Pitts states, many of the assessments are preparatory – and without frequently engaging in low stake assignments, students are become further disadvantaged in learning the overall concepts of the course. Many scholars have concluded that maybe equity grading does not need to be a zero-sum game. Equitable grading includes adopting strategies to engage students to complete assessments and succeed.

Windows, not deadlines. Both Professors Aline Gregorio and Ruben Lopez have replaced assignment deadlines with "windows" of times for students to submit assignments, so students are given a goal deadline and a window for late submissions without point deductions. Working on timeframes instead of deadlines adds some flexibility in helping students cope with obstacles from outside of the classroom that could impact the submission of an assignment.

Low stake assessments, re-takes, and dropped low scores are some of the strategies that are widely adopted in our department. In many GEOG courses, students are allowed to drop their lowest assignment and quiz grades. This tactic rewards a growth mindset and emphasizes persistence in

[29] "Time for a Radical Geographic Literacy in Trump America" in Association for American Geographers Presidential Column, 2018 http://news.aag.org/2018/02/time-for-a-radical-geographic-literacy-in-trump-america/

[30] ASCC OERI Inclusion, Diversity, Equity and Antiracism Audit Framework, 9/28/2021. https://asccc-oeri.org/wp-content/uploads/2021/09/Inclusion-Diversity-Equity-and-Anti-Racism-IDEA-9-28-21-V1.pdf

learning (rather than penalizing the learning process). In GEOG 100 and GEOG 160 courses taught by Professor Gregorio, course grades have been adjusted by 2% to compensate for the difficulties of the pandemic and there are no cumulative semester assessments, which allow students to tackle concepts one at a time. Sections of GEOG 102 taught by Professor Lopez have been re-designed with the use of multiple methods of assessment including low-stake multiple choice exams, discussion boards, and a term paper/presentation. Prof. Lopez has experimented with allowing students to re-write the term paper or discussion boards if students scored poorly enough to negatively impact the grade to the point where failing the course was likely without intervention. These tactics may at least partially explain an uptick in student success in GEOG 102 in recent years.

Assessing and grading with clarity and meaning: Grading on content mastery and growth can limit subjectivity, bias, and evaluation on anything but demonstrations of learning. First, clear objectives need to be set to align with CSLOs. Students should have a clear understanding of what knowledge and skills they will demonstrate upon completing the lesson/unit/course activities. Second, observable criteria should be developed. Students need measures to successfully achieve the goal or expectation. Criteria should be succinct, student-friendly, easily understood, and clearly communicated so that students understand expectations. Third, occasions for success need to be provided. Instructors should set sensible and realistic expectations and change modifications for every student so that the grading is inclusive. This does not mean that expectations should be lowered for students with diverse language backgrounds or are differently learning abled. As such, grading equitable assessments which are aligned to CSLOs should make use of rubrics that demonstrate student learning and mastery. Rubrics developed with the above principles in mind encourage students to understand that formative assessment checks for understanding and progress while allowing for mistakes and revisions. Grades on the rubric are not summative and are for monitoring growth and instructors should write meaningful comments to go with the grade.

According to Joe Feldman, the author of *Grading for Equity* (2018), these are among the best practices for more equitable grading[31]. Geography faculty make common practice of "lifting the veil" on student success and already adopt many of these strategies. As a department, we would like to expand the discussion and learn more from this framework and further integrate these strategies for more equitable grading within all our course sections.

Strategy #3, Embedded Tutoring

Currently, both GEOG 100 and GEOG 102 have embedded tutors. The embedded tutor program yields positive results for students who engage with our tutors, many times advancing student learning and student success at notable rates. Because embedded tutoring requires full-time faculty (who have the contractual hours to communicate, train, and assist tutors), and because most of our courses are taught by adjunct faculty, most of our courses do not have this support service. Thus, while we wish to expand the integration of embedded tutors, we are systemically impacted and unable to do so. At minimum, college administration needs to consider compensating adjunct faculty for office hours. As for our part, we will maintain embedded tutors within the courses taught by full-time faculty.

Strategy #4, Support Services

[31] "Improved Grading Makes Classrooms More Equitable" 2020
https://www.insidehighered.com/views/2020/01/27/advice-how-make-grading-more-equitable-opinion

Our department has universally adopted a directory for student support services in our course syllabi and makes practice of connecting student services within course announcements. We will discuss the possibility of adopting a "Fullerton College Passport" experience, where students get to learn about each place and function of the college campus as part of building a sense of place and belonging and to increase familiarity with campus resources. As the college continues to finalize plans pertaining to the "First Year Experience", perhaps our department could contribute with leading this geographical activity.

Strategy #5, Curricular Partnerships

Geography & English: Our most recent adventure is partnering our Human Geography (GEOG 160) with Critical Thinking (ENG 103). Given that many students are developing their writing and critical thinking skills in our courses, a course duo seems beneficial, as students will be able to submit their English Essays as their GEOG 160's writing assignments (the courses will use the same readings, more or less). This should help students learn better as they will work on the same essay to be submitted for two of their classes. This adventure begins in Spring 2022 – we look forward to seeing results. We foresee similar partnerships with Reading and English courses.

Geography, GIS & Tech: In partnership with the Technology and Engineering division and the Director of the Drone Program, we have secured a grant to fund a geospatial technology lab for our Geospatial Technologies Certificate, coming Fall 2022. The program is designed to prepare students with foundational knowledge and practical skills to employ geospatial technologies to understand spatial problems and inform decision-making in various fields including: urban planning; law enforcement; firefighting; disaster preparedness and response; politics and government; medicine and disease control; environmental quality, protection, and land management; business; media, marketing, and communications; archeology; anthropology; geography; and more.

3.3 STUDENT ACHIEVEMENT & PATHWAYS

1. Using the data provided by the OIE, briefly describe how students have moved through the program over the past five years: unit accumulation, prerequisites, corequisites, substitutions, gateway courses, and bottleneck courses. (Not all of these measures apply to every program.)
2. For transfer degree programs: Are your current requirements in line with the Transfer Model Curriculum, or have you added extra steps, such as prerequisites? If you added extra steps, please explain.
3. Please provide an update on the curriculum mapping you have done, perhaps in collaboration with Counseling. Are all programs (degrees and certificates) mapped? Based on course offerings for the last two to three years, could a student complete the map(s) you have created? If so, please demonstrate this with some facts from your schedules. If not, how will you address these discrepancies?

4. Do the data reveal differences among your AA, ADT, or certificate programs (in enrollment, completion, or success, for example)? Please explain.

(1-2) MOVING ALONG: GATEWAYS AND BOTTLENECKS

As described in Section 3.1, most of our students are part-time students (54%), but less so than the overall college (74%) and a large share (49%) of our students have attempted full-time loads each year (in comparison with 22% of FC students overall). None of our GE courses have prerequisites or corequisites as most of our courses are introductory level courses for transfer preparation and all of our degrees follow the TMC without any additional steps/obstructions. The only exception being GIS: GIS courses are CSU and UC transferable but are specific to students interested in GIS related academic fields or occupational training. Recently developed curriculum for GIS courses prepare students with advanced skills, so the prerequisite of the introductory GIS course is necessary.

Our biggest enrollment courses, GEOG 102 Physical Geography and GEOG 100 World Geography, are both **gateways and bottlenecks** depending on what metric is used.

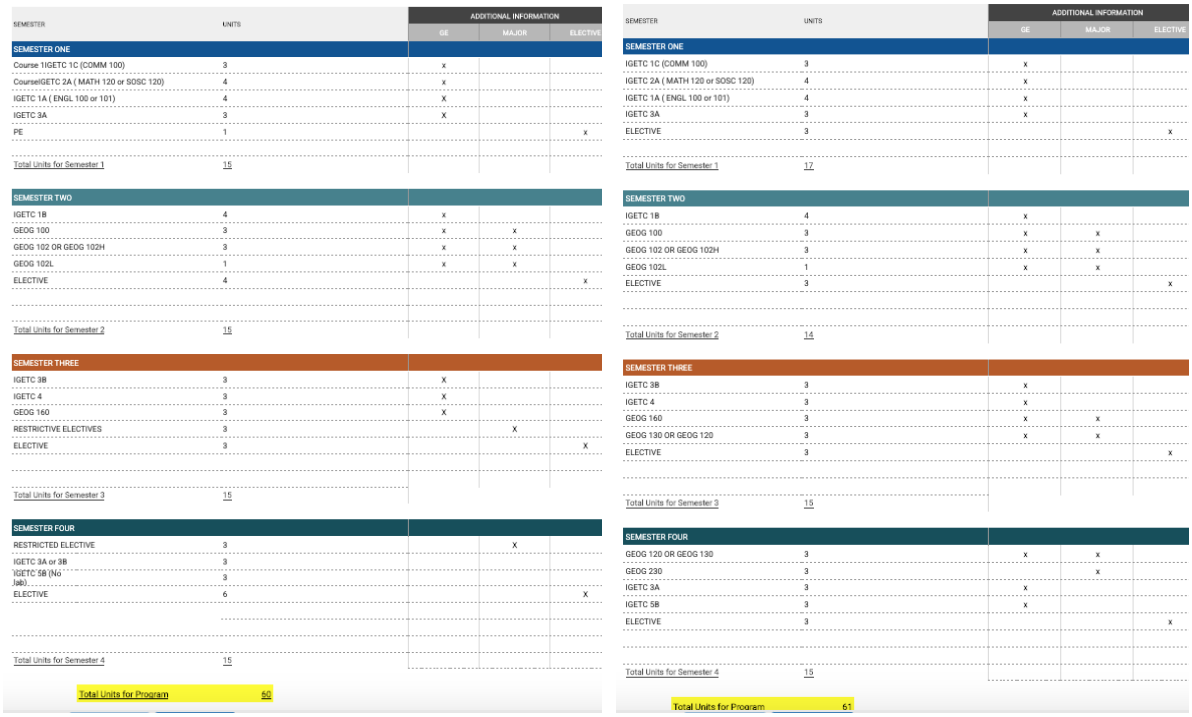
∴ **GEOG 102:** As described in Section 3.1 (pg. 17-19), this is our most enrolled course as it provides university preparation in physical science. The success rates of GEOG 102 is 71% on average and is as high as 85% when looking the sections range. This is a higher success rate compared to the college overall (69-70%), especially considering that it is a science course taught to non-major students with little background in geography (see Section 5.2, pg. 48). GEOG 102 is also the course with the highest repetition rates (7.5%), high withdrawal rates (15%), and with the highest disproportionate impacts on Latinx and Black students. When taking the lab section of this course into account, Physical Geography is our most likely gateway opportunity for students to learn physical geography, pass, and maybe take more geography courses.

∴ **GEOG 100:** As described in 3.1 (pg. 20), GEOG 100 is our second most enrolled course. It prepares students with global literacy and fulfills GE Social Science requirements and the cultural diversity requirement. Despite the importance of GEOG 100 in our students' educational journey, the success rates for the course continue to fall below that of the success rates of other geography courses in our department, hovering around 60% each year, 10 percentage points below the department (70%), the Social Science Division (71%), and college average success rates (69%) in 2020/2021[32]. When disaggregated by race/ethnicity, the course shows great inequities in student success rates, with Black and Latinx students disproportionately impacted. Furthermore, the course has the highest withdrawal rate (19%) in our department. But students in GEOG 100 are much younger than those in other GEOG courses, a third being under 20 years old and 13% being first-time college students (the highest share in our department aside from honors courses). The lack of basic skills preparation and lack of basic familiarity with geography of most first-time college students (see Section 5.2, pg. 48) is likely an underlying reason for the student success patterns described. Furthermore, young first-time students are still navigating how to be a college student altogether, and there is a learning curve.

[32] Data retrieved from Tableau's Key Performance Indicators 10/26/2021.

As community college educators, it is our mission to prepare students to achieve their highest academic goals. Systemwide, California Community Colleges are taking too long to achieve that for too few of students: the average number of accumulated units by first-time students earning an AA or AAT is about 85 units (about the same for FC)[33] and only 2.5% of community college students transfer within two years and only 49% after six years (many struggle to succeed in the university)[34] .

(3) MAPPING FOR SUCCESS



SEMESTER	UNITS	ADDITIONAL INFORMATION		
		GE	MAJOR	ELECTIVE
SEMESTER ONE				
Course 1/IGETC 1C (COMM 100)	3	x		
Course/IGETC 2A (MATH 120 or SOSC 120)	4	x		
IGETC 1A (ENGL 100 or 101)	4	x		
IGETC 3A	3	x		
PE	1			x
Total Units for Semester 1	15			
SEMESTER TWO				
IGETC 1B	4	x		
GEOG 100	3	x	x	
GEOG 102 OR GEOG 102H	3	x	x	
GEOG 102L	1	x	x	
ELECTIVE	4			x
Total Units for Semester 2	15			
SEMESTER THREE				
IGETC 3B	3	x		
IGETC 4	3	x		
GEOG 160	3	x		
RESTRICTIVE ELECTIVES	3		x	
ELECTIVE	3			x
Total Units for Semester 3	15			
SEMESTER FOUR				
RESTRICTED ELECTIVE	3		x	
IGETC 3A or 3B	3			
IGETC 5B (No lab)	3			
ELECTIVE	6			x
Total Units for Semester 4	15			
Total Units for Program	60			

SEMESTER	UNITS	ADDITIONAL INFORMATION		
		GE	MAJOR	ELECTIVE
SEMESTER ONE				
IGETC 1C (COMM 100)	3	x		
IGETC 2A (MATH 120 or SOSC 120)	4	x		
IGETC 1A (ENGL 100 or 101)	4	x		
IGETC 3A	3	x		
ELECTIVE	3			x
Total Units for Semester 1	17			
SEMESTER TWO				
IGETC 1B	4	x		
GEOG 100	3	x	x	
GEOG 102 OR GEOG 102H	3	x	x	
GEOG 102L	1	x	x	
ELECTIVE	3			x
Total Units for Semester 2	14			
SEMESTER THREE				
IGETC 3B	3	x		
IGETC 4	3	x		
GEOG 160	3	x	x	
GEOG 130 OR GEOG 120	3	x	x	
ELECTIVE	3			x
Total Units for Semester 3	15			
SEMESTER FOUR				
GEOG 120 OR GEOG 130	3	x	x	
GEOG 230	3		x	
IGETC 3A	3	x		
IGETC 5B	3	x		
ELECTIVE	3			x
Total Units for Semester 4	15			
Total Units for Program	61			

[Above] Preliminary 2-year program maps for Geography AA [left] and Geography AA-T [right]. Completed with Heather Halverson (Counselor) and Matt Taylor (Guided Pathways), December 17, 2020. Geography courses mapped for second and subsequent semesters, to encourage development of basic skills, namely reading and writing.

As a department, we have reflected on how to best design student success and have considered including a "recommendation" for ENG 100 for all geography courses, as succeeding requires reading comprehension and academic writing. While we do not want to include any repelling language in our courses, as we believe we can provide the working arena for these skills, we also know that these foundational skills are key for success in the geography discipline. We ultimately opted out of the recommendation, for now, and instead focused on mapping study plans that promote student success: 1) We are trialing one course duo, where students can get the reading/writing support by taking GEOG/ENG at the same time and submitting the same assignments for both courses. 2) We mapped our courses in a way that focuses the first semester experience on foundational skills such as reading,

[33] CCC Pipeline: Success Dashboard https://www.calpassplus.org/LaunchBoard/Community-College-Pipeline.aspx
[34] "California Community Colleges Face Road Blocks," 6/23/2021. https://edsource.org/2021/california-community-college-transfer-students-face-roadblocks-to-a-bachelors-degree/656883

writing, and math and subsequent semesters partnering courses we believe to be complementary. While we have preliminary maps for our Geography AA and AAT, recent degrees (to be active in Fall 2022) have not yet been mapped. We plan on finalizing mapping all of our degrees by Spring 2022.

(4) STUDENT DEGREE OF CHOICE: ASSOCIATES FOR TRANSFER

Based on CCC Pipeline, our department is among the "top 5" in the region for transfer students, meaning that we train students who successfully and subsequently transfer. And while most of these students are not Geography majors, we have doubled our degree awards, with 21 majors earning their AA-T and 6 earning their AA in Geography in the last five years (mostly recently).

3.4 FACULTY

1. Using the data provided by the OIE, briefly describe the faculty workload over the past five years: FTF (full-time faculty), PTF (part-time, or "adjunct" faculty), FTEF (full-time equivalent faculty), WSCH per FTEF (weekly student contact hours). (Not all of these measures apply to every program.)
2. If your department plans to request hiring a full-time faculty member, this is the place to make the argument. Please discuss hiring needs in reference to data analyzed in sections 3.1 to 3.4.

(1) FACULTY WORKLOAD

The Department of Geography & the Environment is an outlier in our college and division, in that we are disproportionately functioned by adjunct faculty compared to the college, most of our division, and departments with similar disciplinary scope and service. As explored in section 3.2 (pgs. 26-27), 60% of course sections at Fullerton College are taught by full-time faculty, but full-time faculty only teach 47% of courses in the Social Sciences Division. In the Department of Geography & the Environment, we went from three full-time faculty (able to teach 58% of our courses in 2018) to only two full-time professors teaching 39% of course sections, despite overload (2020/2021), and 7-9 part time faculty teaching the remainder of courses. Our full-time equivalent faculty (FTEF) is 11.5. When compared with courses within our division with comparable disciplinary scope, such as Anthropology, our full-time workload shows similar figures despite Anthropology being a larger department with about 1,000 more students each year – In 2021, Anthropology was considered #2 hiring priority of the college. Geography did not make top 20 despite similarities in workload data and similarly requesting for a replacement position, also a full-time person for our science lab. When comparing our workload with other STEM departments offering GE courses in the same categories as ours, the comparisons become more striking: the Earth Science full-time faculty have taught more or less than 100% of their courses in the last five years, at one point with six full-time faculty and now with four – Geography serves slightly more students (1,596 in GEOG in 2021 and 1,472 in ESC). Similarly, Environmental Science has had most of their courses taught by full-time faculty in the last five years (96% in 2020 and 100% in 2021) and having 4-5 full-time faculty at some point (two in 2021). Student headcount for GEOG is double of ENVS, ~700.

We make these comparisons with disciplines of similar scope not to diminish the staffing needs of other departments but to highlight the peripheral position of Geography despite the data trends and the tremendous importance and breadth of our courses and service to students. Geography is seen as

the unwanted stepchild of the American educational system (See section 5.2, pg. 50) and is often placed peripherally for its resource requests while offering the same STEM courses. We can seize the opportunity of disrupting the existing academic imperialism by acknowledging the breadth and value of the Department of Geography & the Environment in our students' education. **The two full-time professors oversee and staff the most enrolled Physical Science course on campus, the fastest growing science lab course, and four degree pathways** (Geography AA & AAT, Environmental Sustainability AA, and Geospatial Technologies Certificate – and soon, a fifth degree with the upcoming Global Studies AA) all while exceeding contractual obligations to shared governance with representation in Faculty Senate, the President's Advisory Council, the Sustainability Committee, the Program Review Committee, various taskforces, adviserships of student clubs, and as facilitators of campus wide events. The viability of our service is unquestionably compromised by the lack of full-time faculty.

(2) A NEED FOR A PHYSICAL/LAB/GIS GEOGRAPHER

The Department of Geography & the Environment needs a **replacement hire** for Susie Grabiel, who retired in 2018, to maintain the viability of our department functions in preparing Fullerton College students for various academic paths. We need a full-time professor with expertise in applied geography: physical geography, physical geography lab, and GIS. This request was recommended by the Program Review Committee in 2017, and our need has only grown more acute since. Several lines of reason and evidence have been explored within this report and will be reiterated here:

Our enrollment is growing, despite collegewide declines. Over the past five years, student enrollment at Fullerton College has decreased by 12%. The Geography Department has seen a 6.6% increase in enrollment (and 90% fill rate) over the same period. When comparing the COVID-19 impacted academic years, AY 19/20 and AY 20/21, our enrollment has increased by 2.7%, despite the campus wide steep declines associated with the pandemic (See Section 3.1, page 17).

Geography courses are predominantly taught by adjuncts. During the year and a half that our department functioned as a three-person department, full-time geographers were able to teach most departmental course offerings. Since the retirement of Professor Susie Grabiel in 2018, the share of courses taught by adjuncts has only increased: 65% of our courses were taught by adjuncts in fall 2020. This figure remained approximately the same since Prof. Grabiel's retirement, despite the increased overload teaching by the two full-time geographers—Aline Gregorio & Ruben Lopez. A program that is functionally run by part-time instruction hurts students (See Section 3.2, pages 26-27).

Geography has a broad curricular scope that is underrepresented in a department of two. Our classes fulfill GE requirements in Social Science and Physical Science, and CTE, and we provide degrees in Social, Environmental, and Tech fields of study, thus offering three separate pathways in the program mapper (Fall 2022). The Department is now titled "Geography & the Environment" to more effectively communicate these diverse study options. Our needs are most acute in the following areas:

∴ **Physical Geography & Lab** GEOG 102, fulfills the Physical Science requirement for transfer students and is the most enrolled Physical Science course on campus. Professor Ruben Lopez teaches his full-time load in GEOG 102, Physical Geography and Honors Physical Geography. Despite his overload dedication to this course, it remains largely taught by adjuncts given the large number of sections and role of this course in the GE education of all majors.

∴ **Physical Geography Labs are the fastest growing labs on campus and are 100% taught by adjunct professors.** Lab courses, too, are in high demand but without a full-time person dedicated to inventorying and maintaining lab materials, creating/ collaborating on lab manuals, and advocating for an improved lab space - the course's viability is greatly challenged. Despite fulfilling the same STEM (Physical Science) credits as Earth Science or Environmental Science, students taking Physical Geography Labs are underserved, as our department is not able to provide our lab students with comparable lab experiences conducted by full-time faculty in the Natural Sciences. We are in dire need of help in maintaining and improving the Geography Lab, a foundational immersive science course for so many students.

∴ **GIS & Geospatial Technologies Certificate.** Geographic Information Systems (GIS) is an integral component of Geography departments across the CCC system, yet **GIS is 100% taught by adjuncts at FC, an entire program without full-time faculty with GIS expertise to guide students.** As of 2017, GEOG 230: Introduction to GIS, has been consistently offered to a myriad of majors seeking to attain technological skills. The course is now integrated in Geography, Anthropology, Environmental Science, and Environmental Sustainability (coming Fall 2022) Associates Degrees and an upcoming Administrative Justice Certificate. Three new GIS courses will be offered along with a Geospatial Technologies Certificate (Fall 2022). This development is a collaborative effort with the Director of the Drone Program, Jay Seidel, and an inevitable direction for our department given the momentum of the Drone Technology at FC. Without participating in the geospatial technology momentum, our department is at risk of losing this important piece of our discipline. We have worked in collaboration with the Technology and Engineering division, developing CTE curriculum in GIS and securing a grant to invest in a geospatial lab for drone and GIS courses. Yet, we need a GIS specialist to materialize this effort, as the current full-time geographers are not qualified to teach GIS courses.

GIS prepares students with vocational skills and workforce placement. According to the recent Career & Technical Education Employment Outcomes Survey, CTE programs are extremely beneficial for workforce building. The survey concludes that "…completing CTE studies and training –whether or not a credential is earned, whether or not a student transfers –is related to positive employment outcomes." Participants of this survey reported a 75% employment rate, a 41% wage increase, and 92% satisfaction with their training[35]. As it pertains to GIS, in the Summer of 2021, the LAOCRC (Los Angeles/Orange County Regional Consortium) approved FC's Geospatial Tech Certificate based on regional labor and market data that confirm both current and projected needs for GIS training in the labor force. Offering an array of GIS

[35] Career & Technical Education Employment Outcomes Survey, 2020. Available via the Office of Institutional Research and Effectiveness, Fullerton College.

courses enables FC to serve students seeking both vocational and academic paths – we need a GIS specialist to teach the courses and to institutionalize this program for it to succeed.

GIS expertise is needed for institutional planning. As of 2021, Fullerton College does not have a full-time GIS analyst working in any department on campus. For example, the Office of Institutional Research currently does not have any geospatial data analytical capabilities. This means that we cannot internally analyze the geographic trends of the time which can help us with planning and communicating invaluable information such as transportation routes for easier campus access, for example. We also do not have a campus interactive map, which helps students navigate the campus better by connecting location to information. We heavily rely on consultants for simple map-making. This process could be internal and inclusive, an immersive educational opportunity for FC students to use maps to learn and lead, and an invitation for GIS expertise in our participatory governance. The GIS vacuum is districtwide: In the Summer of 2021, the NOCCCD Board of Trustees hired a consultant for redistricting, without any consultation of academic GIS experts within the District. This makes redistricting an obscure endeavor without the appropriate participatory governance that is common practice in other areas. It is paramount that institutions of Higher Ed have in-house expertise to help inform participatory decision-making. Despite the rise of geospatial technologies in all areas of society, NOCCCD continues to lack internal capabilities for geospatial analysis—a process that could include the expertise of faculty and learning of GIS students.

3.5 COVID-19 PANDEMIC

Using the data provided by the OIE, briefly describe how the Covid-19 pandemic affected your department and how your department has adjusted. Did you make temporary changes? Or have you adopted new, long-lasting practices that enhance teaching?

"Historically, pandemics have forced humans to break with the past and imagine their world anew. This one is no different. It is a portal, a gateway between one world and the next. We can choose to walk through it, dragging the carcasses of our prejudice and hatred, our avarice, our data banks and dead ideas, our dead rivers and smoky skies behind us. Or we can walk through lightly, with little luggage, ready to imagine another world. And ready to fight for it." --- Arundhati Roy

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The Covid-19 pandemic threw the world upside down. It claimed more than 700,000+ lives (and still counting) in the United States and caused the biggest economic meltdown of our lifetimes. There is no shortage of written analysis of the global impacts of the COVID-19 pandemic - our global priorities and inequities continue to be on clear display. In the early months of the pandemic, we watched the wealthiest nation on Earth run out of a 75-cent mask. At the same time, amidst shortages of vital supplies and an economic meltdown, military spending in the US increased by billions of dollars. "We are in this together" quickly grew old as the slogan is deceitful in a country shattered by inequality and disconnected budget priorities – the US stood as the only wealthy nation in the world without a

monthly emergency relief for its unprecedented number of unemployed taxpayers, BIPOC were disproportionally impacted in nearly every metric and way possible.

Amidst this context, Fullerton College faculty, many without any previous experience in online teaching, were given four days to transition hundreds of students and continue teaching amidst the apocalypse. Geography faculty worked exhaustive hours preparing lessons, making video recordings, and teaching online while building online courses. Many faculty had dependents at home and, without office access, worked amidst pressing home circumstances to guide students through this unprecedented context. Without sufficient equipment, many tried to migrate computers from their school offices to their home, only to be prompted to return District property to an office space they could not occupy. Despite the indescribable challenges, especially in those early weeks, it is evident that faculty adopted every possible measure to support students and to ensure that they could still make progress towards their academic goals. Most of our students (54%) earned an "A" or "B" at Fullerton College in the Spring of 2020. In our department, 43% of students earned an "A" and 15% earned a "B".[36] In that same semester, Fullerton College's success rate was 69% (on par with success rates of previous years). Geography's success rate was also 69% in the Spring of 2020 (same rate as previous Spring), and we have seen a consistent increase in student success while holding 100% of our courses online, mostly asynchronously. In other words, student course success barely moved collegewide and notably improved in our department. We find that our grade distribution, retention and success rates are a testament of our commitment to students and of our adaptability and innovation, amidst the crisis and all. It also says a lot about our students' resilience and commitment to keep moving forward, even when the world stopped and, in many ways, collapsed. In this context of distress, many student leaders gathered for a webinar and dared to provide insights and vision of the world (and college) they saw versus the world they wanted to see[37].

The wellbeing of our students and the struggles of the time cannot be gauged by "student success" metrics. There is no doubt that students in our college, nation, and all over the world are heavily impacted by the ongoing pandemic. According to the 2020 Real College Survey, 77% of surveyed students had difficulty in focusing in their classes and 46% had technology difficulties. 48% of surveyed FC students had a friend or family member who was sick with COVID-19, while 7% were sick with COVID-19 themselves. 62% experienced basic needs insecurity but the majority did not utilize emergency relief or any support for lack of knowledge. 42% of students exhibited at least moderate anxiety[38]. And while the classroom was quick to transition to online spheres, the support that students needed most took too long – the first mental health appointment available came after six weeks of the campus shut down. It took almost two months for greater communication about basic needs resources and emergency relief aid to trickle down to students in need. Since then, Fullerton College has engaged in rapid transformation applying emergency aid relief from CARES Act

[36] CCC DataMart, Student Outcomes Dashboard. The greatest grade distribution categories were: 37% earned A's, 17% earned B's and 25% EWs. https://datamart.cccco.edu/Outcomes/Grades_Distribution_Summary.aspx
[37] Re-Imagining Our World Webinar: Student Edition. Recorded May, 2020. https://www.youtube.com/watch?v=MXK4xLkURfs
[38] The Real College Survey, 2020. Available via FC's Office of Institutional Research and Effectiveness (OIRE).

to support student basic needs and effectively transition online service. Systemwide, higher education received historic budget boosts from the state of California, thus emphasizing the importance of continued and amplified community college education as the state moves towards recovery.

[Image above] The world of Zoom – Students for Equitable Sustainability (SES) carried their Spring and Fall 2020 club meetings over zoom. SES eventually dissolved and no longer meets. Losing SES, one of the most active clubs on campus, is one of the negative impacts of impersonal digital spaces and the loss of authentic interactions and connections that was character of SES in-person meetings for years.

As we envision a campus return after two years of online instruction, we understand that our online offerings are likely to continue to be greater than pre-pandemic. A recent survey conducted by our Office of Institutional Research and Effectiveness indicates that a small share of students want to return to fully in person education in Spring 2022, with most indicating preference for some form of hybrid or online education[39]. The pandemic context lingers on with most of California counties still categorized at various degrees of high risk and very high risks of infection. As of November 2021, infection rates across the US are comparable to those in the same months in 2020 – In October 2021, US infection rates averaged about 72,000 cases and that was more or less the average of October

[39] Office of Institutional Research and Effectiveness, 2021. Findings of a survey conducted to about 2,000 students online about their preference for modes of instruction in Spring 2022 (results indicated that only 14% of students preferred fully in-person instruction) – available by request to OIRE.

2020[40]. For California, the 7-day average rates are also close to the same for October 2020 and October 2021. Vaccination rates remain below percentages needed for herd immunity, with only 62% of residents in California fully vaccinated (64% for in Orange County).

This extended reality will call for greater shares of our courses to remain online and for the continued use of innovations made in even highly tactile courses, such as our GEOG 102 Physical Geography Lab. Faculty have adapted by using virtual lab simulators, interactive vegetation maps, interactive data/map analysis, and digital GPS routing exercises. These adaptations and innovations will help our department to continue to serve our students and offer online options for our courses without space limitation issues. Furthermore, in this context of uncertainty, our faculty are now more well equipped to have materials ready online, to hold office hours for online students, and to shift between modes of instruction. We believe the abrupt transition became bootcamp preparation for online education and will ultimately serve our students in-person, too, as students who are symptomatic or who miss class can be redirected to online resources at any point of the semester.

[Left] The last SES in-person meeting, March 2020, prior to the national shutdowns of COVID-19 pandemic. [Right] SES in full gear, a photo memorializing students of a lifetime: Emily Dewell, Josue Pineda, Nallely Almanza, Caralee Ellis, Rocio Chavez, Josie, Selena Cruz, Chad Becker, Lauren Mata, Joana, Raga, Stephanie.

[40] CDC data published daily on NY Times https://www.nytimes.com/interactive/2021/us/covid-cases.html

4.0 OUTCOMES

*All of the data references in this section pertain to Appendix B, unless stated otherwise. Please refer to Section 3.2 (pgs. 27-34) for mitigation strategies for addressing the outcome gaps described.

4.1 & 4.2 PSLOS REDESIGN & ASSESSMENT

4.1 Since the last self-studies, the College adopted new Institutional Student Learning Outcomes (ISLOs) and new design principles for PSLOs. Please describe your department's PSLO revisions to date, and your PSLO plans.

4.2 The new PSLO design principles encourage departments to use PSLOs as a way of gauging student learning once they have completed a degree or certificate, not just when they have completed a single course. Please describe how PSLOs are assessed or will be assessed in your department.

While we have attended PSLO redesign teach-ins and had conversations about the usefulness of our current PSLOs, the department has yet to work on PSLO revisions and plans to complete revisions by the end of the spring 2022 term. We will be assessing PSLOs to better show how students utilize skills and knowledge learned while completing a course of study rather than on a course-by-course basis. Oftentimes, the focus tends to be on building breadth of knowledge at the expense of developing a depth of knowledge. The result is a superficial and stagnant familiarization with a set of facts about a field of subject without the ability to synthesize new knowledge or to remain adaptable to a changing world. New PSLOs need to show a student can contextualize knowledge and attain higher order critical thinking/problem solving skills. This will entail that differentiated assessment be used to measure the effectiveness of PSLOs, in lieu of linking CSLOs. Higher education still relies heavily on instructor-created multiple-choice/fill-in-the-blank/true or false summative assessments thereby limiting what can be interpreted as "learning". A student may struggle with this type of assessment and the limited generated data would show that the student did not "learn". Utilizing multiple methods of assessment including instructor-created exams, a capstone research paper/presentation, student reflections, and/or discussions would provide a more truthful accounting on whether or not students were meeting the PSLOs. Based on these realities, we are currently exploring major courses such as GEOG 130 and Geography of California or GEOG 160 (both with the highest percentage of majors) as possible courses to integrate capstone projects to assess our Program Learning Outcomes. We understand that student portfolios have been suggested and would like to expand the discussion about possible adoption of this method of PSLO assessment.

4.3 CSLO ASSESSMENT

Briefly describe the timeline your department uses to assess CSLOs on a regular basis and how you use the results to make improvements. This discussion should be based on SLO data, which is available on eLumen. (Your division's SLO reps can help with this.) Please include relevant CSLO charts or graphs in an Appendix. Since the last self-study, you should have assessed the CSLOs of every course that you have taught, at least once. If that is not the case, please describe how you will accomplish this as soon as possible.

Our department faculty regularly assess CSLOs on a three-year cycle, with most assessments done by full-time faculty and most courses (but one) assessed in the last cycle. We feel compelled to note that we are highly skeptical of our CSLO data. There are no standardized or agreed upon methods or best practices for CSLO assessment in our department and there is great inconsistency in how we assess CSLOs in different course sections. The previous administrative team for the department encouraged a decentralized approach where each class instructor was allowed to assess CSLOs in a manner in which they saw fit. The department continued with the approach this cycle which makes it difficult to

accurately compare data across class sections, terms, and demographics. An unintended outcome of this decentralized approach is that CSLOs were not assessed for GEOG 230 this cycle. This course was updated and offered beginning in 2017 and again after a prolonged hiatus. The department will work with the instructor of record for GEOG 230 to ensure that CSLOs are assessed in the spring 2022 term[41]. Another issue is that current practices may also not best capture our student learning outcomes in our courses. For example, in GEOG 102, CSLO data was based on final grades for the course. For GEOG 100, the data was based on scores of three multiple choice tests respective of specific CSLOs. Given that students don't perform as well in exams and that overall course grades do not capture itemized performance on individual CSLOs, we recognize that these are flawed methods for attaining CSLO data. For these reasons, we have low confidence in this data– this recognition is a step in the right direction. While we accept our responsibility to improve our CSLO process, we also must make explicit the urgency for acquiring more institutional support to improve our CSLO data, especially given its value for institutional planning and accreditation. There are two particular areas that require institutional decision-making: 1) Software: eLumen is not intuitive for data input or output. As a college, we must consider abandoning a software that has gained universal disdain from faculty for its lack of legibility, Appendix B is nearly incomprehensible. 2) Personnel: as a college, we must consider either shifting CSLOs as part of our OIRE or as contractual expert hours for faculty, especially if the frequency of data input and analysis is to be increased beyond current standards. These two changes could prove to remarkably improve our current CSLO process and the quality of data analysis from programs

Summary

Statistic	Number of Courses	Courses
Courses in the Department	8	GEOG100 F, GEOG102 F, GEOG102HF, GEOG102LF, GEOG120 F, GEOG130 F, GEOG160 F, GEOG230 F
Courses with CSLOs	8	GEOG100 F, GEOG102 F, GEOG102HF, GEOG102LF, GEOG120 F, GEOG130 F, GEOG160 F, GEOG230 F
Courses without CSLOs	0	
Courses with CSLOs mapped to PSLOs	5	GEOG100 F, GEOG102 F, GEOG102HF, GEOG102LF, GEOG160 F
Courses without CSLOs mapped to PSLOs	3	GEOG120 F, GEOG130 F, GEOG230 F
Courses with direct assessment of PSLOs	0	
Courses with CSLOs mapped to ISLOs	6	GEOG100 F, GEOG102 F, GEOG102HF, GEOG102LF, GEOG120 F, GEOG160 F
Courses without CSLOs mapped to ISLOs	2	GEOG130 F, GEOG230 F
Courses with direct assessment of ISLOs	0	
Courses with at least one planned Assessment	7	GEOG100 F, GEOG102 F, GEOG102HF, GEOG102LF, GEOG120 F, GEOG130 F, GEOG160 F
Courses with planned Assessments scored	6	GEOG100 F, GEOG102LF, GEOG120 F, GEOG160 F, GEOG102HF, GEOG130 F
Courses with some Assessments scored	1	GEOG102 F
Courses without any Assessment scored	0	
Courses with no planned Assessments	1	GEOG230 F

[41] A third full-time faculty would help us better manage the various dimensions of departmental planning.

Missing mapping. One of the unique values of CSLO data is how it connects with institutional learning outcomes (ISLOs). According to the table above, not all of the courses offered by the department were mapped to PSLOs and/or ISLOs. For example, GEOG 130 and GEOG 230 are not mapped to either PSLOs or ISLOs. In addition, GEOG 120 is mapped to ISLOs but not to PSLOs. The issue then is that the department offered some classes which may not formally share a common sense of direction with other courses, various programs offered through the department, and the institution.

4.4 CSLO EQUITY ANALYSIS

1. Looking at CSLO attainment data, do you find significant differences by race, ethnicity, gender, and other categories? Please include some illustrations of this data in the Appendix. Describe here what the data shows. What strategies will you use to close the attainment gaps among groups of students? What kinds of professional learning would help?
2. Compare the equity analysis in this section to the equity analysis in Section 3.2. Are there some groups who have lower completion and success rates AND lower SLO attainment rates than other groups? Can new departmental strategies close both gaps? Please explain. [For example, many departments found that their SLO attainment gaps are quite a bit smaller than their success gaps (or the gaps don't exist). This might mean that many students who get a D or lower in a course are actually learning the material (i.e. attaining the SLOs) but they are winding up with a failing grade for other reasons: absences, tardies, missed assignments, missed exams, poor performance on high-stakes assignments.]

Gender: We do not see a significant difference with respect to gender as it relates to meeting CSLO expectations. Those students identifying as male or female are meeting expectations at roughly 75% (see table below).

Overall by Demographic Element for Demographic Category: Gender

	Greatly exceeds expectations.		Exceeds expectations		Meets expectations		Does not meet expectations but developing		Does not meet expectations	
F	0	0.00%	0	0.00%	1548	74.82%	0	0.00%	521	25.18%
M	0	0.00%	0	0.00%	1790	74.52%	0	0.00%	612	25.48%
N	0	0.00%	0	0.00%	71	92.21%	0	0.00%	6	7.79%
X	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
(Unknown Value)	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%

Ethnoracial groups: Similar to other student outcomes measures (such as student success), there is a notable variation in CSLO attainment among ethnoracial groups. Overall, there is a difference across groups between CSLO and student success rates, with CSLOs showing better scores. The discrepancies between the two measures are as follows: African-American students continue to struggle more than any other group. As a group, 66% of African-American students met CSLO expectations this cycle while maintaining a 79% course completion rate and a 51% course success rate. This indicates that while two-thirds of these students might be learning the material, only about half are passing the courses – a 15-point gap between metrics. Latinx students had the next lowest scores with 73% meeting CSLO expectations while maintaining an 83% course completion rate and a 67% course success rate. For comparison, white non-Latinx students (79% met CSLO expectations; 86% course completion rate; 73% course success rate) and Asian students (78% met CSLO expectations; 89% course completion rate; 79% course success rate) scored higher, overall.

Overall by Demographic Element for Demographic Category: Ethnicity

	Greatly exceeds expectations.		Exceeds expectations		Meets expectations		Does not meet expectations but developing		Does not meet expectations	
African American	0	0.00%	0	0.00%	88	66.17%	0	0.00%	45	33.83%
American Indian/Alaskan Native	0	0.00%	0	0.00%	5	100.00%	0	0.00%	0	0.00%
Asian	0	0.00%	0	0.00%	457	78.39%	0	0.00%	126	21.61%
Filipino	0	0.00%	0	0.00%	151	83.89%	0	0.00%	29	16.11%
Hispanic	0	0.00%	0	0.00%	1998	73.08%	0	0.00%	736	26.92%
Pacific Islander	0	0.00%	0	0.00%	4	100.00%	0	0.00%	0	0.00%
Unknown	0	0.00%	0	0.00%	66	74.16%	0	0.00%	23	25.84%
Unspecified	0	0.00%	0	0.00%	0	0.00%	0	0.00%	5	100.00%
White Non-Hispanic	0	0.00%	0	0.00%	632	79.10%	0	0.00%	167	20.90%

In Section 5.2, we explore some of the exterior factors likely driving much of our student outcomes, and in Section 3.2 we underscore some key strategies to produce more equitable learning outcomes. We plan on publishing our equity plan with all adjunct faculty and discuss how we can implement it departmentwide.

While we are looking forward to moving the needle and improving student equity in our classrooms, it should be noted that the department has made strong progress in addressing lower performance for all students but specifically for African-American and Latinx students. For African-American students, there has been a 16-point increase in the course success rate from the 2014 program review cycle (35%) to the 2017 program review cycle (44%) to the 2020 program review cycle (51%). For Latinx students, there has been a 15-point increase in course success rate from the 2014 program review cycle (52%) to the 2017 program review cycle (55%) to the 2020 program review cycle (67%). The marked jump in the success rate for Latinx students from 2017-2020 of 12 percentage points happened in the same time interval as Professors Gregorio and Lopez, two Latinos, were hired. This may be yet another indicator that representation in the classroom matters. In the same time interval, white non-Latinx students increased the course success rate from 67% to 73% and Asian students increased the course success rate from 65% to 79%.

5.0 OTHER AREAS OF PROGRAM EFFECTIVENESS

5.1 GENERAL EDUCATION See Section 3.1, pgs. 17-20 - questions are already addressed

1. Using the data provided by the OIE, please look at students who take your courses for GE credit.
2. What role does your department play in helping students complete the GE pathway?
3. Do you offer GE courses at a variety of time slots and at a frequency that allows students to fulfill GE requirements?
4. Please take into account daytime, evening, weekend, and online classes to provide a brief sketch of your GE course availability.

5.2 OUTSIDE INFLUENCES

1. Describe any laws, regulations, trends, policies, procedures, or other influences that have an impact on your program. Please include any other data that may be relevant to student achievement, learning, and trends within your Basic Skills, CTE, or Transfer Education programs.

American students lack basic geo-literacy.

The institutionalized neglect of the geography discipline in fundamental education and higher education has a dire impact on student preparedness for college level geography courses. The majority of college students in introductory geography classes have never taken a geography class in their lifetimes and many have difficulty in understanding basic geographic principles. Geo-illiteracy among American students has been a topic of research among many organizations seeking to bring awareness to the issue. The 2018 National Assessment of Educational Progress (NAEP), known as "The Nation's Report Card," indicated that less than 30% of American students were *proficient* in geography, that is, able to perform at the level expected for their grade[42]. Most of high school graduates are not prepared to do the ordinary geographical analysis urgently needed to live and thrive in a globalized world. It all makes sense. Out of the nine areas listed as core academic subjects in fundamental education, Geography is the only one that does not have a dedicated federal program and funding for research or innovation. Furthermore, only six states in the US require geography stand-alone courses in fundamental education – geography is the "unloved step-child of American education"[43]. How could American students know geography?

The few who have taken geography in fundamental education were only taught geography as a fact-based body of knowledge rather than as a system of analytical spatial inquiry. These students often enroll in geography courses thinking that the material in the courses will be akin to what was learned from primary through high school, but studying geography is much more akin to studying a scientific discipline with heavy use of scientific/technical jargon, spatial analysis, and interpretation of data, even within its human/cultural realms. Scientific preparation, like most academic preparation, is disproportionate: The *Civil Rights Data Collection (CRDC): STEM Course Taking*[44] that Latinx and African-American students were less likely to attend high schools that offer advanced math or science

[42] Geography Scorecard, NAEP, 2018 [latest available]. https://nces.ed.gov/nationsreportcard/geography/
[43] "Geography: The unloved stepchild of American education," 2020. https://fordhaminstitute.org/national/commentary/geography-unloved-stepchild-american-education
[44] "The Civil Rights Data Collection: STEM Course Taking", 2018. https://www2.ed.gov/about/offices/list/ocr/docs/stem-course-taking.pdf

classes than their white and Asian peers. The lack of geo-literacy coupled with a lack of opportunity to develop analytical thinking skills makes it more likely that African-American and Latinx students will be negatively impacted.

Year after year, surveys reiterate this geo-literacy crisis among Americans, even as they enter college. The Survey on Global Literacy by Foreign Relations and National Geographic Society focused on assessing the understanding of college-aged adults on basic global literacy and issues of pertinence to the United States. Questions inquired about American military alliances, locations of countries the US has long-standing military involvement/tensions (such as Iraq, Afghanistan, and Iran), and global issues such as climate change. The results "revealed significant gaps between what young people understand about today's world and what they need to know to successfully navigate and compete in it. On the knowledge questions asked, the average score was only 55 percent correct. Just 29 percent of respondents earned a minimal pass..."[45]

It has been said that "Americans learn geography through war" -- but that is not true. According to the same survey cited above, the majority of Americans cannot at minimum place Iraq or Afghanistan in a world map. It also seems that a lack of geographical knowledge is a key factor in determining public support for military engagement abroad. In other words: when it comes to the US, war and geographical knowledge do not relate. Take for example an interesting experiment conducted by researchers for the New York Times[46] that asked respondents what their stance was pertaining to military engagement with North Korea. It turns out that those who cannot place North Korea on a map are most likely to prefer military engagement. Conversely, the few who could locate North Korea on the map (36%) favored diplomacy.

Geography matters. Embracing the opportunity to educate students to think critically about their world is as needed in 2021 as ever, if not more than ever. Amidst the climate crisis, the tidal shifts and inequities highlighted and exacerbated by the COVID-19 pandemic, global declines in human freedoms, unprecedented levels of economic inequality, violations of human rights, and so many other indicators of a world in disarray, the time is ripe to engage students in thinking critically about the world. Community colleges all over the nation have had a reckoning with this reality, making commitments to promote an antiracist education as a response to the global uprisings for racial equality of 2020. As part of such systemic overhaul, Fullerton College's statement on antiracism calls on its scholars to engage in critical reflection and devise strategies for dismantling interlocking systems of oppression[47]. A failure to maximize geography classrooms to advance this mission is extremely consequential. As Harm De Blij wrote in his book, *Geography Matters,* "the American public is the geographically most illiterate society of consequence on the planet, at a time when United States power can affect countries and peoples around the world." Economic and political decisions made in the US have far-reaching consequences. A geography education means that individual Americans can leverage their centrality and influence with greater accountability. We share this planet and its precious resources with billions of others, and yet have a disproportionate hand in many of its contemporary issues (as we consume most resources and exert most military power/influence on international

[45] "What College-Aged Students Know About the World: A Survey on Global Literacy" CFR & Nat Geo, 2016 [latest survey available]. https://cdn.cfr.org/sites/default/files/pdf/cfr_natgeo_asurveyongloballiteracy.pdf
[46] "If Americans Can Find North Korea on a Map, They're More Likely to Prefer Diplomacy," NYT 2017. https://www.nytimes.com/interactive/2017/05/14/upshot/if-americans-can-find-north-korea-on-a-map-theyre-more-likely-to-prefer-diplomacy.html?_r=0
[47] Fullerton College's Antiracism Statement, 2020. https://www.fullcoll.edu/wp-content/uploads/2020/11/Fullerton-College_AntiRacism-Statement_PAC-Oct-28.pdf

matters). It is about time that we begin to engage the Global North and its students in higher education in critical reflection about what that means.

Disciplinary Trends: Re-inventing Geography Departments

In 2021, our department has been renamed from "Geography Department" to "Department of Geography & the Environment"[48] to 1) respond to academic publications in the Annals of the Association of American Geographers calling for Geography programs to make its environmental scope explicit, 2) to illustrate the diverse study tracks within our department, and 3) to align with CSUF's "Geography & the Environment" department, the top destination for our Geography majors. We believe this nomenclature change can potentially recapture the wonder and excitement of our students by adopting language that conveys the scope of the geographical discipline, speaking a language that is honest and true to the essence of geographical inquiry.
What is the academic utility and transparency of the term *"geography"*? A recent publication[49] in the Annals of the American Association of Geographers, the premier national journal for the discipline, explored the issues Geography departments in higher education are facing with the lack of geo-literacy and lack of familiarity with Geography's scholarly scope in college campuses. The publication introduces the discussion as follows:

> "The academic discipline of geography continues to suffer an identity crisis related to popular (mis)perceptions of geography and its intersection with other disciplines, a phenomenon that has been documented for at least sixty years (Alexander 1959). New academic programs, particularly in the environmental and sustainability sciences and studies, have nibbled at the edges of—and often created significant overlap with—university content traditionally taught by geography departments. One significant consequence has been the decades-long trend of U.S. geography departments merging with other departments or strategically renaming and rebranding themselves and their degree programs to capture student enthusiasm for environment, sustainability, global studies, or other cognate disciplines (Frazier and Wikle 2017)."

This study responds to national trends of Geography departments changing program names and participating in additional curricular pursuits in order to assert its disciplinary scope in academia. Global Studies, GIS, Environmental Studies, and Environmental Sustainability are inherently Geography's realm, but unfortunately the lack of familiarity of undergraduates (and higher education at large). The Geography discipline is losing itself as other programs continue to emerge and rebrand this existing discipline. Changing departmental names is meant to enhance the department's transparency about its disciplinary scope and to match descriptions in words that undergraduates understand. The authors describe as follows:

> "This study begins to fill the gap in our knowledge of how undergraduate students perceive the language used to identify programs in geography, environment, and sustainability. We surveyed 4,388 undergraduates in person across four U.S. universities of varying student body

[48] Full proposal and pertinent rationale, approved by the Curriculum Committee in 2021, available here: https://docs.google.com/document/d/11wPufYZbxM3aMGx4TmVr-arv1xmuvcAR/edit?usp=sharing&ouid=113189065135913578471&rtpof=true&sd=true
[49] "What's in a Name? Undergraduate Student Perceptions of Geography, Environment, and Sustainability", 2020. https://www.tandfonline.com/doi/abs/10.1080/24694452.2020.1766412

sizes and geographic locations to understand how students rate key words that commonly appear in geography course descriptions and titles and phrases that comprise degree and department names. We present baseline evidence that consistently suggests that some of the most commonly used jargon, particularly in geography, might be undermining undergraduate recruiting efforts and that this academic disconnect is eminently fixable by listening to our students."

Considering this publication and disciplinary trends, the following rationale was outline in our proposal to change to "Geography and the Environment":

1) A matter of transparency: While students in this study ranked most terms used in geography programs favorably, 'geography' ranked notably low in comparison to 'environment' and 'sustainability' – both are characteristic of the geography discipline. Out of the 37-department key-terms ranked, students responded best to simpler, every day, thematic descriptions over technical and unfamiliar terminology. When disaggregated by major types, students who favor the words 'environment' and 'sustainability' tend to major in the Natural Sciences and Social Sciences. Geography departments are housed in either division, as the discipline is an umbrella discipline of both. In sum, the studies reveal that geography-related jargon is being badly outcompeted by environment/sustainability related terms, a call for Geography departments to reorient language to speak to undergraduate students. Communicating the nature of the discipline in programs and course titles is a way to be transparent about what geography is and what geographers do.

2) Familiarity matters: In a country where only ten states require a geography education as a high school graduation requirement, it is no surprise that the term 'geography' is ambiguous for most undergraduate students, despite their expressed interests in 'society', 'global', 'environment', 'immigration', 'human rights', 'climate change' and 'sustainability' – topics inherent in geographical study. Exposure to geography matters. Students who take geography courses become familiar with the nature of geographical inquiry and analysis and rate all geography-related key terms higher than those who have not taken geography courses, regardless of whether they major in geography. The fact that students who take geography become more receptive to geography-related key terms reaffirms the need and role of geography programs in learning outcomes pertaining to environment and sustainability (and other listed key-terms).

3) Aligning with CSU's and UCs as multi-pathway department: Various pathways are common in Geography - GIS (which has its own unique TOP code) is found in Geography departments, for example. Fullerton College is mirroring colleges and universities embracing new interdisciplinary expressions of our discipline: UCLA combines Geography and Environmental Studies, providing unique and combined degree tracks for each. Cal State San Bernardino provides both Geography and Environmental Studies tracks for students within their Geography and Environmental Studies department. In fact, at Cal State San Bernardino, the Geography department houses *all* of its related degrees, including GIS, Geography, Global Studies, and Environmental Studies – degrees that are a recombination of geography courses with other disciplines for more focused study tracks. Encompassing Geography departments are also found at the community college level. In Central New Mexico Community College, a "Geography & Environmental Studies AA" is offered in a combined study track. In Palomar College, the two degrees (Geography and Environmental Studies) are housed under the geography department. These examples are among many others within the state of California and beyond.

5.3 APPLIED LEARNING AND HIGH IMPACT PRACTICES

1. The College wants to create an inventory of faculty efforts to make learning active and applied. Please briefly describe opportunities your students have to apply and deepen knowledge and skills through projects, internships, co-ops, clinical placements, group projects outside of class, service learning, study abroad, and other experiential learning activities that you intentionally embed in coursework, or elsewhere in your program.
2. Are there institutional barriers hindering your department's ability to offer or enhance these learning experiences for students? Please explain.

(1-2) Physical Geography & Field Experiences

The department is determined to help students become "transfer-ready". Students seeking to transfer to university need to know the difference between composing an essay and writing a research paper. Students also need to learn how to conduct research and present their findings as more programs at university are requiring performance-based assessments. While an exam is an efficient way to gather evidence about students' conceptual knowledge, a performance assessment is a better tool for gathering evidence about what students can do with their knowledge. Performance assessment is especially useful for assessing students' achievement of complex learning standard, assessing their ability to apply concepts they learned to solve problems, and assessing skills. Students enrolled in sections of GEOG 102 taught by Prof. Lopez must write a research paper and then orally present their research via a poster presentation. A significant focus of the assignment is to use a theoretical framework to focus a research question. Prof. Lopez works in conjunction with the Fullerton College Library to teach students proper research techniques and strategies.

Geography is a social science and an earth science, with studies dedicated to understanding the real-world in real time. As such, Geography utilizes lab/field experiences to improve the quality of learning and improving students' practical skills. Thus, the learning development process is best combined with conducting lab and field observational investigations. Butzow (2019)[50] reports that experiences in the lab and field can have a positive impact on a person's thinking ability. This finding correlates with Peercy and Troyan (2017)[51] which reports that involving students in learning activities in the field directly can kindle conceptual thinking skills which can then improve deep thinking skills about a theory or problem in scientific studies. Furthermore, Theobald et al. [52] find that active learning reduces achievement gaps in exam scores and passing rates. Active learning benefits all students but offers disproportionate benefits for individuals from underrepresented groups. Teaching and learning in Geography requires models, visual/print media including maps, globes, charts, and lab learning resources such as proper lab equipment. Lab resources needed for learning in Geography are not only relevant for a physical laboratory space but are also needed for field experiences. Despite the clear benefits of active learning in this discipline, field experiences are not currently integrated on a department level though individual instructors assign local self-led field trip options. We lack the administrative support to better integrate field work into our courses.

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[50] Butzow, D. (2019) Using Sense of Place in the Classroom, *The Geography Teacher, 16*:1, 10-14, DOI: 10.1080/19338341.2018.1559215

[51] Peercy, M. M., & Troyan, F. J. (2017). Making transparent the challenges of developing a practice-based pedagogy of teacher education. *Teaching and Teacher Education, 61,* 26–36. https://doi.org/10.1016/j.tate.2016.10.005

[52] Theobald et al. 2020 https://www.pnas.org/content/117/12/6476

The department is in need to a dedicated physical lab space. Labs in GEOG 102L are currently more conceptual rather than practical. Currently, GEOG 102L sections are predominately taught utilizing lab manual exercises which do not require models or more complex lab apparatuses. This makes it more difficult to teach practical skills and limits true scientific inquiry as laboratory experimentation cannot be adequately attempted. Sections of GEOG 102L are taught in room 1419, a "lab" space shared with the departments of Psychology and Anthropology. The room was not designed to be a physical lab space. For example, the room has carpet and standard non-laboratory specific tables. Furthermore, there is not enough storage space to keep lab equipment and supplies. A dedicated lab space would not only allow the department to utilize lab equipment but it would also allow time for instructors to set up and take down the lab equipment when not in use. The current situation does not allow enough time to set up or secure lab equipment as room 1419 always seems to be in use given that three separate departments are sharing the space.

The department is also in need of a computer lab space for its growing Geospatial Technology program. The department is currently borrowing computer lab space and the continued use of the space is contingent upon the needs of the Technology and Engineering division. Geospatial Technology requires the use of hardware robust enough to run the required specialized software. In addition, students enrolled in the Geospatial Technology program need access to the computer lab during times when class is not in session to work on assignments. The department is in need of a new permanent tenure-track hire specific to Geographic Information Systems (GIS). This instructor would be primarily responsible for teaching in the Geospatial Technology program, integrating GIS into GEOG 102L, and maintaining computer lab hours where students can work on projects outside of class time, and the creation/maintenance of GIS internship opportunities.

(1-2) California Higher Education Sustainability Conference, Summer 2018 & Summer 2019

Given that many geography courses focus on real world and relevant issues, students often relate with the course material beyond the classroom. Many of our students become engaged in the campus and beyond to advocate for environmental justice – various student led initiatives and events are listed in Section 2. Learning beyond the classroom helps nourish student leadership and deepen their educational experiences in decision-making. We have had many geography students take up leadership positions in Associated Students and other representative bodies on campus.

With support of the campus administration, students interested in leading sustainability on campus were given the opportunity to attend CHESC, the California Higher Education Sustainability Conference in the summers of 2018 and 2019. CHESC brings together California Community Colleges, California State University, University of California to share best practices in campus sustainability efforts. Attendees come from many different departments and divisions in higher ed reflecting the silo crossing approach of the sustainability field. Thus, the event is a great opportunity for students to learn about innovation that can be integrated within FC, but, most importantly, the conference serves as a window into the professional world for students majoring in various environmental disciplines (geography, environmental science, earth science). In other words, students get to see what sustainability professionals do and learn and network to get there. Regular attendance at CHESC, for faculty and especially students, is an integral part of the college's sustainability efforts as the event enables our students to connect to sustainability champions in the region. Most importantly, supporting student attendance in CHESC provides students with concrete academic and professional experience in the fields they want to pursue, thus deepening their academic and professional preparation. This practical and active learning greatly motivates students

who may have an obscure vision of their future in sustainability fields. The past two student cohorts who attended CHESC have praised the event as a formative experience in their academic fields. All students who attended CHESC transferred/are planning to transfer into sustainability-related fields:

CHESC cohort 2018:
Teresa Juarez, Geography graduate from CSUF
Audrey Waight, Geography graduate from CSUF
Javier Gomez, Geography graduate from CSUF
Joshua Moreno, Geography graduate student, CSULB
Carallee Ellis, Environmental Studies major at UC Berkeley, graduating in 2022
Diana Rosas,

CHESC cohort 2019:
Kyle Hickey, Geography, UCLA 2022
Raga Kavari, Environmental Science,UCLA 2022
Rose Koffman, Geography student, transferred 2019
Rocio Chavez, Urban Planning, UC Davis 2022
Emily Dewell, current FC student in Environmental Science

Many students have expressed their appreciation in this formative experience in their careers by thanking the college administration for the opportunity. Here are sample emails sent in 2018/19:

Dr. Schulz,

This summer, thanks to you and Fullerton College, I was able to attend the California Higher Education Sustainability Conference (CHESC) alongside fellow students, staff, and faculty. This opportunity allowed me to see what steps institutions around the state have been taking to become more sustainable. I attended presentations with topics ranging from the creation of new, environmentally-friendly facilities at Stanford to a student-run organization at UCSB that redistributes clothes and has kept thousands of garments out of landfills. These presentations allow students to expand their knowledge and gain experience beyond what is offered on campus. CHESC provides a platform for sharing a wide variety of ideas and experiences across institutions and is an invaluable resource to Fullerton College.

Now, more than ever, it is crucial that Fullerton College takes immediate action to reduce its carbon footprint and overall impact on the environment. The creation of the campus' Sustainability Committee was an important step and I implore you to continue to support sustainability efforts on campus. CHESC empowers students and employees alike and allows us to share knowledge and make smart, well-informed decisions on our campus. Community colleges are severely underrepresented at CHESC and Fullerton College has the opportunity to step into that space and set an example for community colleges across the state to follow. It is critical that decision-makers at Fullerton College are able to share with and learn from others as FC tries to fulfill it's responsibility to the environment and to future generations.

Sincerely,

Kyle Hickey

Dear Dr. Schulz,

So first I would like to start off by saying thank you for providing the Geography department with the funds needed for the trip to CHESC. The experience will be something that I will forever remember & be grateful for. Getting to attend such a conference like CHESC & to sit in on the panel speeches & just absorb all the information is something that I feel will put us ahead of the game from other students in the same field & in our future careers. I learned many things from the speeches that I sat in, two of the most interesting & memorable ones were speeches on water conservancy & bike sharing effort. Both were very high on sustainability, with the water conservancy tackling the effort to save water with Cal State Northridge sprinkler system & bike sharing at UC Berkeley and how to make it as sustainable & affordable as possible. Being able to attend such a conference for community college students gives us a leg-up given the fact that professors and professionals in their careers are the ones who are mostly in attendance. It makes us sort of stand out when we can put this on our resume for a job or on a college application. An experience like this can definitely enhance our future in our education or careers by opening up our minds to different perspectives, maybe certain fields that we may have not even been thinking about, or start new projects that we might want to be a part of while listening to these speeches. This trip was not just beneficial to the rest of the students that attended & myself, but beneficial to Fullerton College. The whole time at the conference i did not see any students that were coming on behalf of a community college. So for Fullerton college to be able to send students to represent the school looks phenomenal. What I learned at the conference and the experience as a whole will be something that I will carry on forever and be grateful for. I would like to thank you again Dr. Schulz for providing us with such an educational and highly beneficial experience.

Sincerely,

Javier R. Gomez

Dear President Schulz,

I wanted to begin this letter by thanking you for allowing my fellow Geography majors and I to attend CHESC 2018 in Santa Barbara this Summer. The experience was really one to remember both educationally and personally. It was such an amazing opportunity to be able to learn about different methods that many campuses across the state are implementing to achieve a sustainable and environmentally friendly status. On a personal note, it was my first time outside of Southern California and attending the conference allowed me to embrace the beauty of Santa Barbara and the coastal drive there. Educationally, the conference allowed me to learn the many different approaches schools are taking to become more sustainable, anything from water conservation to bike share programs are just few of the many things that I learned there. The one panel that stood out to me the most was water conservation within Cal State Northridge in which they used GIS to map out irrigation systems across campus for the irrigation team. With the map, they were able to place sensors on sprinkler systems to determine levels of overflow and any problems that they might encounter, from leaks to breaks. The GIS team created an app for the irrigation team that would use information from the sensors and have everything on a database that they can access through mobile phones, tablets, and computers. This was a huge upgrade for the irrigation team because before they relied on a hand drawn map of the campus irrigation system and had to wait until someone reported a leak or overflow of water, so they can fix it. It made the irrigation team's job a lot more reliable and effortless, along side with saving water all over campus.

For us community college students, opportunities like this aren't common to come by and sometimes it's even difficult to find a group of students so passionate and interested in a same subject as all of us are. Professor Gregorio, for the most part influenced all of us to pursue a career and degree in Geography which led to our want to attend CHESC. I think allowing students with a passion in Geography or anything relating to environmental sustainability to attend CHESC or any conference like these, sets them up for success. Being that at conferences like these, it can introduce students to their future employers and even spark interest on what they would want to focus on in their careers. For example, I personally was already focusing on GIS in Geography and by sitting down and

learning at the panel held by Cal State Northridge, I now have a glimpse at the full potential of GIS and how it can be used. At CHESC, students can make connections with other like-minded individuals who all have the same goal in mind which is to find different ways of implementing sustainability efforts within campuses and even personally. With what I learned at CHESC 2018, I can provide or pitch ideas to the sustainability club and the environmental committee at Fullerton College to try to implement something like what Cal State Northridge did at their school with the irrigation systems. Even if it's just a small change of regularly checking overflow and water leakage by the irrigation systems across campus manually or a potential GIS database map created by select students who have taken or enroll in the GIS course.

Thank you again for providing allowing this group of students, including myself, to travel and attend CHESC 2018. The experience is one that I will never forget as well as the knowledge obtained while in attendance. CHESC is known to bring students from across California and anyone interested in sustainability efforts, it allows students to learn and possibly implement them at their campus. With Professor Aline Gregorio being able to influence many students through her classes to actually want to attend CHESC like all of us did, I believe allowing future students to attend and learn the different and new efforts being made every year towards sustainability would be a great benefit to Fullerton College and the Geography Department.

Sincerely,

Joshua Moreno

Dear President Schulz,

Thanks to your generosity, I and a few other geography majors, were able to attend the California Higher Education Sustainability Conference (CHESC) in July. This week-long event brought forth many approaches to sustainability: through reworking the food movement, implementing on-campus policies, incorporating the voices of the indigenous, using narrative to communicate climate change, and much more! The speakers, ranging from professionals with PhD's to college students, offered much insight in the sustainability movement. For Fullerton College students particularly, we found it valuable to surround ourselves with other like-minded students who are working towards sustainability on their campus. More so, for many of us stuck in a limbo of transferring, deciding our majors and career decisions, we found it impactful to hear from those already in the field professionally.

This conference, successful in its entirety, was hosted by none-other: the geography department at UCSB. Since geography is such a broad discipline, they were able to effectively cover issues of all interest – from social to scientific. I, now more than ever, see the significance of geography in the sustainability movement. My interest in pursuing a degree in geography, and hopefully joining the academic field, has only grown.

As the president of Students for Equitable Sustainability at Fullerton College, I learned a lot from other student-led groups at this conference. It seems that there are plenty of ways to incorporate sustainable practices on campus – starting with student awareness and campus-based policies. This opportunity brewed a lot of ideas for me that I may have other-wise not thought of.
I'm looking forward to taking what I learned from this conference to Cal State Fullerton and incorporating my knowledge throughout my academic and professional career. I believe every student interested in environmental progression deserves the opportunity to attend CHESC.
Yet again, I thank you for granting this memorable experience. We found every moment valuable.

Kind regards,

Audrey Waight

6.0 PLANNING

6.1 PROGRESS ON PREVIOUS STRATEGIC PLANS

1. Please briefly describe the goals (Strategic Action Plans, SAPs) from your last self-study. How much progress have you made on them? If you have reached a goal, explain how it allows ongoing improvement, especially if you received additional funding.
2. If additional funds were NOT allocated to you in the last review cycle, how did the LACK of funds have an impact on your program?

SAP	Financial request	Awarded?	Impacts
Enhancing the experience in Geography 102 Labs	$15,000 for lab equipment and supplies	Yes, funds for lab materials were secured in 2019 Lab space limitations remain	To be determined. The materials were purchased amidst the pandemic shutdowns and while all lab courses were held remotely. We expect that lab resources will improve the tactile experience of students returning to campus.
Enhancing the experience in Geography 230: Intro to Geographic Information Systems (GIS)	$39,500	No	Through the creation of the Geospatial Technology Certificate, the Geography Department has partnered with TECH's drone program to attain grants to fund a geospatial lab. We still do not have a space for newly purchased computers via that grant.
Maintain a 3-person department, hire one full-time faculty in anticipation of the retirement of Susie Grabiel	$65,000 - $72,000, depending on salary placement.	No	We continue to see greater shares of our courses taught by part-time faculty and find ourselves unable to continue campus participation/activities and unable to maintain our physical geography lab. See Section 3.4.
Yearly funding for the Earth Day Symposium	$4,000	No	With the discrepancy and support of administration, we have been able to fund this event on a year by year basis. We have submitted an APRU to urge college administration to institutionalize this event as an integral part of our cultural programming for the campus community. The event has benefited hundreds of FC students, engaging the campus community in environmental education.

6.2 NEW STRATEGIC ACTION PLANS, SAPs

SAP #1 – HIRE A FULL-TIME PHYSICAL/LAB/GIS GEOGRAPHER		
Describe Strategic Action Plan	The department seeks to hire a full-time geographer for a physical/lab/GIS geographer to 1) teach the most enrolled Physical Science course in the college, 2) manage a lab and teach the fastest growing science lab course in the college, 3) teach GIS courses and manage a new GIS program. See Section 3.2 for enrollment data/patterns and equity plan and Section 3.4 for faculty workload.	
College goal/objective the plan meets.	College goal: "**advance student learning and achievement** by developing flexible pathways for students from our diverse communities who seek educational and career growth, certificates, associate degrees, and transfer". College vision: "inspire positive change in the world." Antiracism: reduce achievement gaps through involved active learning.	
Explain how the request helps the College attain student equity.	As explored in Section 3.2, the Academic Senate for California Community Colleges has communicated the connection between full-time/part-time faculty ratios to student achievement and student success as well as student equity. In Section 5.2, we further explored tactile learning in labs as a high impact learning practice that fosters student success and promotes more equitable student achievement.	
What measurable outcome do you anticipate for this SAP?	Improved student success rates and reduced equity gaps in Physical Geography (GEOG 102) and Lab (GEOG 102L). We also foresee that a full-time physical geographer with GIS expertise will enable us to grow enrollment in GIS courses and increase degree awards.	
What specific aspects of this SAP can you accomplish without additional financial resources?	None	
Type of resource	**Requested dollar amount**	**Potential funding source**
Personnel	$67, 769 - $81,196 (depending upon step placement)	Ongoing funds
Facilities		
Equipment		
Supplies		
Computer hardware		
Computer software		
Training		
Other		
TOTAL requested amount	**$67, 769 - $81,196 (Depending upon step placement)**	

SAP #2 – CALIFORNIA SUSTAINABILITY CONFERENCE (CHESC), STUDENT FIELD EXPERIENCE/PROFESSIONAL PREPARATION		
Describe Strategic Action Plan	The department seeks to improve student preparation and connect students to professional and academic experiences in green fields.	
College goal/objective the plan meets.	College goal: "**advance student learning and achievement** by developing flexible pathways for students from our diverse communities who seek educational and career growth, certificates, associate degrees, and transfer". College vision: "inspire positive change in the world." Antiracism: reduce achievement gaps through involved active learning. NOCCCD Sustainability Policy: "promoting interdisciplinary environmental education in our campus communities"	
Explain how the request helps the College attain student equity.	Academic conferences and symposiums are high impact learning experiences. As explained in Section 5.3, practical learning improves student performance and achievement and reduces inequities in both. CHESC provides an opportunity for students to see themselves in a field they love and pursue their degrees. Furthermore, disciplinary inequities and the peripheral position of geography departments in higher education (in terms of funding and staffing) explored throughout this report, specifically Sections 3.4 and 5.2, reproduce inequitable experiences for geography students in comparison to other STEM departments with more staffing and resources. Disciplinary equity must be considered, so that we can serve students studying less popular study tracts and support their academic and professional aspirations.	
What measurable outcome do you anticipate for this SAP?	As described in Section 3.1 (pgs. 21-22), we have doubled our degree awards in the last five years. We suspect that high impact learning experiences helped students find themselves in Geography. With the offering of a new Environmental Sustainability AA (Fall 2022), we expect CHESC will help us increase degree awards and student transfer as students pursue this new degree/existing geography degrees.	
What specific aspects of this SAP can you accomplish without additional financial resources?	None	
Type of resource "OTHER"	**Requested dollar amount**	**Potential funding source**
Conference registration fees/boarding/ transportation/meals for students and accompanying staff Conference field experiences	**Student accommodation/ registration (without travel/food costs):** student housing accommodations, shared occupancy = $2,600 + registration fees $1000 & field trip costs $640. STUDENT TOTAL $4,240 **Accompanying Staff Accommodations** [4 x $200/night + service fee/tax] $1000 + $580 [early bird fee] = $1580 per person x 5 = $7,900 **Food/travel costs** est. $300/person = $1500TOTAL FACULTY/STAFF COSTS $9,400. TOTAL ~14,000 per year (for AY 2022, 2023).	
TOTAL requested amount	**$27,500 for CHESC attendance in two annual conferences at UCSB (*pending on COVID 19 health crisis)**	

SAP #3 – ANNUAL EARTH DAY SYMPOSIUM		
Describe Strategic Action Plan	The departments seeks to continue to facilitate the interdisciplinary Earth Day Symposium, an academic symposium focused on exposing students to academic experts to better comprehend the holistic nature of environmental issues and environmental sustainability. In Section 2.1 (pgs. 7-10), we explored the importance of Earth Day in the culture of higher education and the place of higher education in evoking environmental leadership, historically and in contemporary times. The Earth Day Symposium is a campus wide event that benefit hundreds of students and campus community members. It connects students to academic expertise and higher learning of relevant topics of our time.	
College goal/objective the plan meets.	College goal: "**advance student learning and achievement** by developing flexible pathways for students from our diverse communities who seek educational and career growth, certificates, associate degrees, and transfer". College vision: "inspire positive change in the world." Antiracism: reduce achievement gaps through involved active learning. NOCCCD Sustainability Policy: "promoting interdisciplinary environmental education in our campus communities"	
Explain how the request helps the College attain student equity.	Academic conferences and symposiums are high impact learning experiences. As described in Section 2.1 (pgs. 21-22), the Earth Day Symposium provides students with windows into academic fields/topics and connects them to experts in matters of the environment. It is the only campus wide event explicitly aiming at engaging the campus community in environmental justice. Given that environmental issues disproportionately impact BIPOC communities in the US and beyond, an environmental education with an equity focus is essential for enacting positive change in the world. Furthermore, this focus helps make STEM fields more relatable to historically marginalized populations. With the offering of a new Environmental Sustainability AA (Fall 2022), Geography Degrees, Environmental Science and Earth Science Degrees, and the increased importance of environmental justice in other academic fields, the Symposium helps student achievement in breadth and depth within their fields of study.	
What measurable outcome do you anticipate for this SAP?	Increased student engagement beyond the classroom, increased environmental awareness, increased student success in environmental lessons/topics, increased numbers of majors in environmental fields, increased representation of BIPOC students in environmental fields.	
What specific aspects of this SAP can you accomplish without additional financial resources?	None	
Type of resource "OTHER"	**Requested dollar amount**	**Potential funding source**
Stipends for expert keynote speakers and panelists Documentary licenses Student workshop material costs/souvenir pins	Expert stipends range $3,500 - $7,000 Panelist stipend range $1,000 - $2,000 Documentary license $500 Workshop costs $500 Souvenirs + printing $500 - $1,000 **$8,000 maximum, annually**	
TOTAL requested amount	**$24,000 max, for 3 Symposiums: AY 2023, AY 2024, AY 2025**	

6.3 Optional: Long-Term Plans

Your department might have more plans than just immediate requests for funding. If so, please describe them here. N/A

7.0 Executive Summary

Please provide the reader with a brief overview of the highlights, themes, and key elements of this self-study. Please don't include new information you did not discuss earlier. Although you will likely write this section last, please remember to put this summary at the front of your report.

In Section 2, we describe the Department of Geography & the Environment as a vital department in materializing Fullerton College's mission to support student achievement and the vision to have a positive impact in the world. We embrace our college's values and are vital members of the campus community and culture. We participate in many campus events and have organized and facilitated the interdisciplinary Earth Day Symposium for the last five years. Our faculty are involved in various shared governance bodies such as the Faculty Senate, President's Advisory Council, Sustainability Committee, Program Review Committee and provide advisership for the Grads to Be Program and FC United, in support of undocumented students, and Students for Equitable Sustainability. We cultivate a culture of excellence and both full-time faculty in our department have been formally recognized for teaching excellence within our campus community and beyond. Many of our students are receive awards of excellence and transfer to top universities in California and beyond.

In Section 3, we explore the enrollment increases within our department despite collegewide campus declines. The Department of Geography & the Environment offers the most enrolled physical science course at Fullerton College as well as the fastest growing Science Lab course, vital courses for STEM preparation – all while facing substantial challenges with labs being entirely taught by adjuncts and with limited access to lab space. We offer courses and study tracks within the Social, Environmental, and Technical academic spheres, thus providing broad academic preparation to students. We offer a Geography AA and AAT and an Environmental Sustainability AA and Geospatial Technology Certificate (active in the Fall 2022). We explore improvements in student equity and achievement and a plan on how to continue to reduce equity gaps in our department as well as our efforts in removing barriers to achievement and effectively mapping our study programs in participation of guided pathways. Lastly, we explore some of the lessons from COVID-19 and the necessary adaptations we have made.

In Section 4, we analyze or student learning outcomes processes and data and present an immediate list of tasks to remediate some of the issues with our assessments and the need to review our PSLOs. **In Section 5,** we connect some of the outside forces influencing student achievement in geography courses, including the lack of geo-literacy, science preparation, and the peripheral position of geography in the American educational system. We also explore how geography departments in the region have responded to this pervasive lack of familiarity through rebranding. **In Section 6,** we outline three lines of strategic action to improve student preparation and achievement: 1) to hire a full time physical/lab/GIS geographer to teach high-demand science courses, 2) to continue the Earth Day Symposium, 3) to continue exposing students to the professional/academic experience of CHESC (California Higher Education Sustainability Conference).

8.0 Publication Review

The College wants to maintain integrity in all representations of its mission, programs, and services. Please help this effort by reviewing your publications: professional social media profiles, websites, brochures, pamphlets, etc. Please tell us the date they were last reviewed and if you found them to be accurate in all representations of the College and program missions and services. Information on the college's graphic standards is available here.

1. For each of your program's publications, please provide the URL where the publication can be viewed. If the publication cannot be accessed via the Internet, please contact Lisa McPheron, Director of Campus Communications at lmcpheron@fullcoll.edu.
2. If you find an inaccurate publication, please explain how you will make corrections.
3. If your department maintains a social media presence then please describe it here. What do you use it for? How do you monitor it? Who is in charge of it? In what ways is it benefiting the College and your program? Does it follow the District's social media guidelines?
4. If your program regularly communicates with the wider community, please describe how. What feedback do you get from the community?

PUBLICATION	FUTURE GOALS/UPDATES
Geography Department website: https://socsci.fullcoll.edu/geography/ **Reviewed 11/3/2021, accurate**	We need to redesign the FC Geography page to better connect students to our pathways of study and newly developed GIS courses as well as our extracurricular events. We will revisit this after guided pathways maps are implemented in the web layout.
Social Media presence – inactive as a department on Facebook. Professor Gregorio maintains an Instagram account to stay in touch with former students and to connect students and the campus community to geography related events and geography courses/topics. **@fcprofgregorio – Instagram** **Reviewed 11/3/2021, usage in line with District's guidelines**	We would like to explore a regional geographers podcast/Instagram live for conversations about geographical topics. This aim would help maximize our students inclination with social media and engage them with geography in a platform they use often.
Geography Major pamphlet: not available online **Reviewed 11/3/2021, needs to be updated**	Additions of the Sustainability AA and the Geospatial Technologies Certificate need to be reflected in our department flyer. Changes will be completed by Fall 2022

Appendix A: Key Performance Indicator (KPI) data

The Office of Institutional Effectiveness will provide data for departments to analyze. To answer some of the questions on this form, departments will need disaggregated data that focuses on specific groups. The data will be presented to identify equity gaps among groups, so that departments can plan ways to close those gaps. Departments should also be informed how their student populations compare to the overall college population, and the population of the college's service area.

Appendix B: SLO data

This data is still off-limits to the OIE because it is housed in eLumen. The Faculty Senate only allows faculty members to have access to SLO data on eLumen. The Senate's SLO Assessment Committee will work with its division reps to help departments disaggregate SLO data, just as KPI data is disaggregated in Appendix A.