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## ***Instructional Programs*** **2014-2015 Self-Study** **Three-Year Program Review Template**

**Geography Department**  
**Social Science Division**

### **Statement of Collaboration**

The program faculty 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 self-study.

### **Participants in the self-study**

Claudia Lowe, Chairperson

Susan Grabiell, Faculty

Adjunct Faculty: Professors John Connelly, Rubin Lopez, Laszlo Maryhazy, Dr. Mary Freeman and Dr. Peggy Smith.

Both full-time geography department faculty members contributed and reviewed the data and self-study components of this report. We had three formal meetings and numerous afternoon and evening phone collaborations in order to construct our responses to the PR questions and evaluate our outcomes and determine our future goals and plans for improvement. Additionally, adjunct faculty provided valuable commentary and suggestions along with insights and documents of how the SLO and Program Review process are being addressed at other local community colleges.

### **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 Committee.

Claudia Lowe

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## 1.0 Mission and Goals

The College's Mission, Vision, Core Values and Goals drive all college activities. The Program Review committee would like to understand the connection of your program to the College's Mission, Vision, Core Values and Goals. Summarize how your program supports each area.

### **Fullerton College Mission: We prepare students to be successful learners**

- ◆ The Geography Department intrinsically emphasizes the importance of educating generations of lifelong learners and problem solvers to guide our future. Geographers take an integrated approach to facilitate student learning and understanding of human and natural systems to help make better “far reaching” decisions in their personal lives and making the world a better place to live.
- ◆ Students benefit from this integrated approach in jobs ranging from business, planning and development to natural science, environmentalism, to international relations and world affairs. The geography department offers a range of classes including Global/World Geography, Cultural/Human Geography, Physical Geography, Physical Geography Lab, Global Environmental Problems, Urban Geography, Economic Geography and The Geography of California, all using a systematic integrated approach.

### **Fullerton College Vision... will create a community that promotes inquiry and intellectual curiosity, personal growth and a life-long appreciation for the power of learning.**

- ◆ Geography emphasizes the importance of continued inquiry, learning, and appreciation of the different ways in which people have adapted to their social, political, economic and environmental milieu. This is fundamental to our discipline and our teaching methodologies.
- ◆ Geography faculty encourage students to stay abreast of current issues develop awareness, knowledge, understanding and empathy toward others in the decisions they make. Through local, regional and international investigations and the use of varied resources, students use geographic skills, methods and techniques that combine understanding the human, physical and natural sciences relationships in our world and apply these to identifying local, regional and international issues and collaborating and researching potential solutions.
- ◆ By engaging in geography, all students will become better global citizens by being better equipped to understand the complexity of our world, how our decisions affect others and vice versa, and our global interconnectedness.

### **Fullerton College core values:**

#### **We respect and value the diversity of our entire community**

- ◆ The Geography Department strongly promotes diversity in our learning communities; this is a basic concept in geographic deliberation, thought and practice.
- ◆ We value the diversity within our classrooms and draw on student's individual experiences in discussions and presentations.

- ◆ It is of note that the fulltime geography faculties are all women in a field largely dominated by men. Additional, our adjuncts are also wonderful role models of diversity by ethnicity, culture, nationality and physical challenges.

### **We value tradition and innovation**

- ◆ Geographers strongly support the traditions that bind us and promote research and investigations to understand ***where we were, how we got to here, and where we are going.***
- ◆ We promote the use of new technology, tools, techniques like Geographic Information Systems (GIS), Remotely Sensed Data Analysis along with computer assisted learning projects and assignments to enhance learning and the development of geographic skills. Since our last program review in 2012, two-thirds of our geography classes have added publisher supported computer assignments that also track Geography Department SLO's in the process. We are currently gathering results to assess improvement in student engagement and learning using these homework programs.
- ◆ We encourage student involvement in local cultural events and active field experience. We strongly support students in *experiential learning* by designing self-guided activities and experiences outside the classroom as well as instructor led field experiences. **SAP #3 enhancement**
- ◆ The Geography department is working on ways to bringing in speakers and professionals from the local communities to discuss hot topics ranging from water-use in drought conditions to international, cultural, social, and political and economics topics. **SAP #4 enhancement**

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

- ◆ The Geography faculty participates on various campus committees including hiring committees. We also participate in campus forums and discussions and support and encourage student participation in campus extracurricular activities like Earth Day Events.
- ◆ The Geography Department strongly supports student involvement, on campus, in the community and in the discipline of Geography.
- ◆ Faculty work directly with our adjuncts in an open and sharing environment. Our diverse adjunct faculty make valuable contributions to learning and are important members of our department and our departmental vision.

### **We expect everyone to continue growing and learning.**

- ◆ Geography faculty regularly participate in local forums, staff development sessions and discipline specific academic conferences and workshops like The National Council for Geographic Education, The American Association of Geographers and local participatory associations and conferences like "All Points of the Compass" at CSUF to stay abreast of current issues and trends and new methodologies in the field.
- ◆ Students are also encouraged to participate in these and other conferences as well, via extra credit and/or credit and/or actively participating and presenting at these events as part of their grade. This is a tremendous opportunity for students to gain experience, growth and the development of professional skills.

### **We believe in the power of the individual and the strength of the group**

- ◆ Geography supports the power of the individual and the strength of the group by modeling this behavior and working on varying projects that empower students to work individually and then collectively in problem solving assignments.

### **We expect everyone to display behavior in accordance with personal integrity and high ethical standards.**

- ◆ Geographer faculty behave in accordance with personal integrity and high ethical standards and expect students to do likewise. Guidelines are clearly stated on all faculty Syllabi and grading standards are defined and adhered to fairly and consistently.
- ◆ We also expect our students to conduct themselves ethically and respectfully to listen to other points of view both in and out of the classroom, and our faculty role model these attributes in all communication.
- ◆ Geography faculty expect everyone to apply these standards in decision making choices, toward the environment, both near and afar, toward other beings like animals and toward other people and other life-worlds across our global communities.

### **We accept our responsibility for the betterment of the world around us.**

- ◆ For Geography, this is a foundational concept which is emphasized by the courses we teach and the methodologies of how we teach. Assignments and field work are hands-on activities that exemplify belief.

#### For example

- Many of our students and faculty participate collectively in environment cleanup projects in places like Newport back-bay, along coastlines, in wetland and wildlife areas and in the community and our own campus.
- We encourage student involvement in local and global aid organizations through interactive programs designed by the UN and/or the World Bank to sharing ideas for problem solving with students from other countries around the world
- Additionally, the department designs programs and/or projects that students develop in classroom groups. One year they had to design a “Refugee Camp” using MSF perimeters and figures.
- Other participatory learning programs include projects directed by MSF, Doctors without Borders, or attendance at a refugee camp that simulate the real world experience (designed and built by MSF).

### **We value and promote the wellbeing of our campus community**

- ◆ The Geography Department encourages and supports active participation in student events, and campus programs presented in other departments and within the broader community. These include “The Foreign Film Programs” put on by the Foreign Language Department, special lectures and demonstrations put on by the sciences, and special art, music and theater events presented by the Fine Arts division to name a few.
  - These activities are supported through extra credit and/or participation in question and answer sessions, open discussion or a written paper or class presentation.

- ◆ The geography department encourages student participation in campus clubs, student government, the International Students and Study Abroad Programs.
  - Geography faculty promote these activities by inviting campus guest speakers into our classrooms to let students know about various campus activities and upcoming events.

### **Fullerton College Goals and Objectives**

#### **Goal 1 Fullerton College will promote student success**

Objective 1: Address the needs of under-prepared students

Objective 2: Increase course retention and success

Objective 3: Increase the number of degrees and certificates awarded

Objective 4: Increase the number of transfers

- The geography department is regularly attending conferences, researching and testing new teaching/learning methods and additional means to improve assessment measures to help our students become successful in both the “world of work” and their personal lives.
- ◆ The geography department is addressing Goal 1 and 2 by increasing available assistance using Grad-Student Interns as learning fascinators/tutors and mentors to serve as role models for successful student learning, and advance the retention and success of our under-prepared students. **SAP #1.**
- ◆ The geography department is addressing Goals 3 and 4 by working closely with local CSU’s to identify and increase the number of geography transfers by helping them complete their AA and AA-T degrees at Fullerton College before they transfer. We do this by bringing students to local geography events at the CSU’s, (e.g. *All Points of the Compass* conference presented yearly at CSUF) and UC’s events and introducing them to their advanced programs, geography faculty, geography students and geography associations, as well as, on and off campus activities and field trips. We also facilitate participation and presentations in geography associations e.g. Association of American Geographers, National Council for Geographic Education, California Geographer’s Association and Southern California Geographer Council and their professional activities.

**Note: We need institutional tracking of transfer students to get a more accurate measures of student success and transfer.**

#### **Goal 2 Fullerton College will reduce the achievement gap**

Objective 1: Address the needs of English language learners

Objective 2: Increase retention rate of Hispanic and African-American students by 5% annually

Objective 3: Increase success rate of Hispanic and African-American students *in line with* increase of retention rate. (Question: is this redundant?)

Objective 4: Increase success rate of Hispanic and American-American students by 2% annually.

- ◆ Geography is very concerned with inequality on a global basis and at the local and campus level as well. We are continually looking for new ways to improve the success of **all our students**. This includes ethnic, gender, age, ability, socio-economic circumstances and our returning military students.

- ◆ The geography department is addressing the needs of English-language learners, and other underprepared and/or underperforming students by increased time and offerings of tutors, interns and mentors assistance in all core courses. **SAP #1.**
- ◆ **The geography department would like more institutional data and analysis on the relationship of gender and ethnicity to support or debunk our observations of success rates among ethnic women. This continues from our last program review cycle in 2010 and 2012.**

**Goal 3 Fullerton College will strengthen connections with the community**

Objective 1: Double the number of members of the Alumni Association

Objective 2: Increase contacts with local feeder high schools

- ◆ The geography department faculty encourage and facilitate student involvement and connections with the community at large. We do this by designing interactive projects and field assignments that are often cross-disciplinary and are directly involved with community service at many different levels. This includes involvement in local planning and government issues, assisting with community fundraising, food and clothing drives, environmental awareness and cleanup projects and participation in earth day activities to name but a few.
- ◆ The geography department is working to increase the membership in the FC Alumni Associations by reaching out to former graduates who can work as volunteer interns, mentors and role models. This encourages greater campus involvement of alumni as well.
- ◆ Geography Faculty is increasing participation in transfer days, STEM events and Women in Non-traditional Occupations Panels and Discussions at local feeder colleges to strengthen connections with the community.

**Please note: there is a lot of redundancy when addressing the Mission, Vision, Core Values and College Goals. It would be more useful and appropriate to better articulate and combine some of these reiterations, to eliminate duplication and reduce academic chatter.**

**2.0 Program Data & Trends Analysis**

**2.1 Key Performance Indicators (KPI)**

For each KPI listed below, analyze and report your findings and describe what they mean.

(Attach 5-year longitudinal data from Office of Institutional Research and Planning (OIRP) to Appendix.)

<b>KPI</b>	<b>Findings</b>
Enrollment	From 2000 to 2014 geography enrollment has increased annually by 8.4%. We are handling this growth with no additional staff or units allotted. Meaning our class sizes are getting larger giving us less time to work one-on-one with our students.
Total FTES	For the 5 year period from 2010 to 2014, the geography department FTES has increased by a total of 75%. From a low of 136 increasing yearly to a high of 182, this shows the interest and growth in our department courses and a need for more adjuncts.

Sections	Over the last 5 years our section numbers have increased by 57% from 25 to 44. This has been accomplished by adding more hybrid classes that meet in the classroom only once/week instead of twice/week in order to free up class space for additional sections. For the same reason, we also have added on-line courses of our core courses that meet once a month. This has increased the number of sections but limited the face to face contact hours.
FTEF	Covering the 5 year period from 2009 to 2014, we have doubled the number of FTEF's. This is because we have added more adjunct faculty to augment the two full time faculties. This translates to a full-time ratio of 50/50 of sections being taught. We have not had a new full time faculty hire in over 20 years.—It's time!
Fill Rate	<p>Because of the Fullerton College budget constraints and the reduction of class and sections numbers from 2009-2012, our fill rates were well over 100% (105%; 110%; 103%). In 2013 and 2014, with a slight campus-wide budget increase and resulting additional sections, our fill rates have still been at 98% in 2013 and 93% in 2014.</p> <p>This remains high given that geography is one of several electives in the University General Education segment of CSU and UC transfer course options in both Social Science and Physical Science sections. Of course, all of our courses are required for the AA and AA-T degrees and needed for transfer, some of which cannot be offered on our campus because of many district, campus, and division constraints. Therefore, we find it necessary to refer majors to cross-enroll for these classes at CSUF which is in close proximity to FC</p>
WSCH/FTEF	<p>Our WSCH/FTEF have been up and down from 798; 671; 787; 671. This is in response to budget cuts and additions and variable section offerings. It also is dependent on the number of available qualified adjunct faculty, as our adjuncts are in high demand and short supply and most adjuncts are already working elsewhere in the geographic profession.</p> <p><b>Please note</b>, these numbers consistently puts geography well over the target rate of 600 i.e. faculty are doing more work and servicing more students with fewer faculty or assistance as our student enrollments continue to increase (note Enrollment and FTEF figures above).</p>
Retention	<p>Our average semester retention rates are 82.4% for the five year period (80%-84%) from 2009 to 2014.</p> <p>This retention rate is quite high given the beginning level of our students, the extent of remediation needed and the multitude of non-school related conditions our students must contend with in their daily lives (like food and housing). FC is also a Hispanic Serving Institution (HIS) and many of our students are first generation college students with few related academic role models in their lives. Thus, the average of 82.4% is a laudable number to maintain and speaks to the enthusiasm and quality of our instructors including adjuncts.</p>
Success	Our overall five year success rates for 2009-2014 range between 51% and 61% (2009-2014) Geography courses are considered difficult by many students and FC counselors because of the increasing need for remediation. The geography departments at Fullerton College maintains high academic and ethical standards and with reduced face to face student/faculty contact time (see <i>sections</i> above), students often struggle with unfamiliar global concepts which are new to their self-identity e.g. "The global sphere of influence." We are addressing this situation by requesting institution funds to increase our supplemental learning in our core classes. <b>See SAP #1, 3, 4 and 5 enhancements.</b>

## 2.2 Peer Institution Comparison

Complete the table below. 2011-2013

College/Program:	Fullerton College Geography Program	Chaffey College Geog. Program	Cypress College Geography Program	Rio Hondo College Geography Program	Santa Ana College Geography Program
<b>Retention:</b>	F2011 85% F2012 83% F2013 83% Average 84%	F2011 90% F2012 88% F2013 89% Average 89%	F2011 87% F2012 85% F2013 90% Average 87%	F2011 77% F2012 86% F2013 90% Average 84%	F2011 79% F2012 83% F2013 84% Average 82%
<b>Success:</b>	F2011 59% F2012 53% F2013 53% Average 55%	F2011 64% F2012 69% F2013 76% Average 70%	F2011 74% F2012 71% F2013 56% Average 67%	F2011 56% F2012 54% F2013 69% Average 60%	F2011 58% F2012 58% F2013 62% Average 59%
<b>Degrees Awarded:</b>	Annual 2011 0 2012 3 2013 3	Annual 2011 0 2012 0 2013 1	Annual 2011 0 2012 0 2013 1	Annual 2011 0 2012 0 2013 0	Annual 2011 5 2012 2 2013 3
<b>Certificates Awarded:</b>	NA	NA	NA	NA	NA
<b>Transfers:</b>	NA	NA	NA	NA	NA

**How does your program compare with peer institutions? Provide a narrative of your comparison. (Peer institutions are colleges or programs identified by the Office of Institutional Research and Planning (OIRP)).**

The above four Community Colleges are defined by Fullerton College using the Chancellor's "Integrated Postsecondary Data Systems" provided by OIRP and the state chancellor's Data Mart figures (2014).

- ◆ \*The FC Geography department retention rates average 84% which falls in the middle of the four comparison colleges which range from 82% to 89%. While this is comparable, it is not acceptable. The geography depart at FC will continue to research, develop and test alternate methods to improve retention rates, especially for minority students.  
(See SWOC and SAP sections of this document.)
- ◆ \*FC Geography department success rates are at the bottom of the four college rankings that range from 55%-70%. We are most closely aligned with Santa Ana College figures in both demographic and socio-economic factors which show in the above data. Additionally, many of our courses are science related and are more closely aligned with science success and retention rates. Success: FC average 55%; SA average 59%.
- ◆ The department is very concerned about this standing and has on-going discussions to find enhanced approaches to better help our students become more successful. Are our standards too high? Is there grade inflation? What are other colleges doing to improve success rates? This will be further discussed in the SWOC and SAP sections of this document as there is a need for more discipline-specific remediation. We are requesting funding for supplemental learning and graduate interns to evaluate whether this will improve our success rates. We believe it will. **SAP #1 enhancement.**



- ◆ \*In terms of Degrees Awarded, our comparison college geography departments range from 0 -10 for all years combined. FC geography AA degrees completed for this same period was 6. (Max. 10 Min. 1 for all comparison colleges).

**\*Note:** We have been researching this phenomena with the surrounding CSU's and UC's since our last Program Review in 2012 and it seems that many of our geography students do not declare a major until after they transfer. In our discussions and investigations with local 4 year institutions, we find many of **our students** enrolled in BA and MA geography degree programs at these schools but, declared geography as a major after they transferred. There is no consistent hard data since the state does not provide this for lateral transfer students that declare a major before or after they transfer.

**\*Institutional tracking of transfer and degree information by discipline would be extremely helpful for future planning and analysis. Include in KPI section.**

**2.3 Achievement Gap**

Indicate achievement gap for each of the groups listed below. (Attach to Appendix the Success and Retention by Ethnicity Data as identified by the Office of Institutional Research and Planning.)

Annual Figures 2011-2013

**Data Mart**

Total Fullerton College Population 2013 = 27045

<b>Group</b>	<b>% Retention</b>	<b>% Success</b>	
<b>Males</b>	2011 84% 2012 81% 2013 80% Average 82%	2011 61% 2012 53% 2013 55% Average 56%	Figures for both men and women are very close and vary by only 1-2 percentage points which is insignificant.
<b>Females</b>	2011 84% 2012 85% 2013 81% Average 83%	2011 62% 2012 56% 2013 57% Average 58%	Gender comparisons—See above
<b>Asian-American</b>	2011 83% 2012 86% 2013 84% Average 84%	2011 62% 2012 68% 2013 65% Average 65%	<u>According to Data Mart 2013</u> Total Asian-American students at FC =3135 Asian American % total of FC Students = 12% A few points higher than the average.
<b>African-American</b>	2011 83% 2012 84% 2013 70% Average 79%	2011 43% 2012 31% 2013 32% Average 35%	<u>According to Data Mart 2013</u> Total African-American Students enrolled = 769 African American population at FC = <b>3 %</b>
<b>Filipino</b>	2011 88% 2012 75% 2013 77% Average 80%	2011 70% 2012 54% 2013 59% Average 61%	<u>According to Data Mart 2013</u> Filipino student population at FC =708 Filipino student population by % = 3%
<b>Hispanic</b>	2011 81% 2012 82% 2013 82% Average 82%	2011 56% 2012 51% 2013 50% Average 52%	<u>According to Data Mart 2013</u> Total Hispanic (HIS) students =12101 Hispanic % of Total FC Pop. = <b>50%</b>
<b>Native American</b>	2011 73% 2012 82% 2013 83% Average 81%	2011 65% 2012 47% 2013 56% Average 56%	<u>According to Data Mart for 2013</u> Total population of Native Americans = 68 Percent of Total FC Population (2.5) = .3%

<b>Other Non-White</b>	2010 90% 2011 73% 2012 83% 2013 No Data Average 82%	2010 90% 2011 45% 2012 50% 2013 No Data Average 62%	<b>No specific data to make a comparison</b> on KPI or Data Mart by number of students or % of students.
<b>Pacific Islander</b>	2010 89% 2011 80% 2012 50% 2013 No Data Average 73%	2010 71% 2011 56% 2012 50% 2013 No Data Average 59%	<u>No data for 2013 on KPI</u> <u>On Data Mart</u> total PI population = 97 % of total FC Population = .4%
<b>White</b>	2011 89% 2012 85% 2013 88% Average 87%	2011 69% 2012 61% 2013 70% Average 67%	<u>According to Data Mart 2013</u> White, Non-Hispanic Total student population =5,796 % of total FC Population = 25%
	2011 86% 2012 88% 2013 60% Average 78%	2011 67% 2012 62% 2013 22% Average 50%	<u>According to Data Mart 2013</u> Total Unknown Population = 857 % of total FC Population = 4%  Have no idea why there is a huge drop in 2013. Not enough information to determine a reason.
<b>Range (Max-Min)</b>	<b>Max. 90%</b> <b>Min. 50%</b>	<b>Max. 90%</b> <b>Min. 31%</b>	Analysis of <b>averages</b> for each cohort over the 3 year period is as follows: Max. Retention 87%    Min. Retention 73% Max. Success 67%    Min. Success 35%

**\*Note:**

Averages tended to oscillate over the 3 yr. period.

- ◆ When Fall Semesters were compared to Spring Semesters, spring tended to be 1-4 percentage points higher than fall. This is likely because by spring, many FC students are no longer in their first semester of college. (See Data Sheet of KPI's attached to this document.)
- ◆ Ethnic Ranking for **Success Rate** Averages from high to low over a 3 year period.
  - White (Non-Hispanic) 67%
  - Asian Americans 65%
  - Other Non-Whites 62%
  - Filipinos 61%
  - Pacific Islanders 59%
  - Native Americans 56%
  - Hispanic Americans 52%
  - Unknown 50%
  - African Americans 35%

- ◆ White, Asian American, other non-White and Filipinos are all above the 61% mark with Whites and Asian Americans and Filipinos accounting for 40% of the FC total population (with other non-whites unaccounted for)
- ◆ The Hispanic Population is only averaging a 52% success rate with a total of over 50% of our FC population. Additionally, FC is an HIS institution with additional funds and programs for improvements. We should be focusing resources at this substantial population of students to improve their success rates significantly. Geography is addressing this issue with a number of old and new programs to raise these success rates. **See the 5 New SAP's at the end of this document.**
- ◆ The discrepancy of the African-American cohort was extreme. This population accounts for only 3% of our total FC population and their success rate averages are at a mere 35%. These numbers are outrageously low. As an institution, we need to ask the WHY question and probe further to find the source of this low rate and address it. Figures on African-Americans and sports enrollments also need to be looked at. Are there academic support services for the sports populations on our campus?

#### **Notes and Comments:**

1. **Many campus faculty would like information on “the number out of area students” and the number of students by ethnicity that are on athletic teams.**
2. **Since OIRP already collects KPI data, would they please put it into the PR document format so data does not have to be entered multiple times? This takes an inordinate amount of faculty time with increasing risk of errors? This is all time taken away from our primary responsibility teaching which is teaching and educating all students.**
3. **Individual data entry for this form is very, very time consuming. Multiply the time by the number of departments and faculty and that equals a lot of wasted time in faculty data entry that could be compiled and formatted by a computer program or student aid! This would free up faculty for more thorough analysis and discussions for improvements.**

#### **2.4 Program Effectiveness**

Since your previous Program Review Self-Study, what significant changes have occurred that impact the effectiveness of your program?

- ◆ One of the changes is reflected in the new AA-T geography program whereby courses are determined by the State and 4 year colleges and universities e.g. CSU's and UC's.
- ◆ One of the requirements for the Geography AA-T is the necessity for at least one *Introduction to Geographic Information Systems* (GIS) course which is required for AA transfer degrees. At the present time we are sending our students to CSUF for cross enrollment so they can complete their AA and AA-T Degrees at Fullerton College. This is a carryover problem articulated in our past program reviews that have not changed over the last 8 years. **See SAP #2**
- ◆ Of Note: From 2007 to 2012 a number of GIS courses had been set up in conjunction with Criminal Justice/Police Science disciplines. Since we had no faculty to teach the courses at the time, we were encouraged to take them off CurricUNET. We did as suggested and now Cypress College is challenging even our one Intro. GIS Course that remains. Note: VIA Physical Geography Survey, students do not want to

travel the distance to Cypress College for the class and it is often canceled. They prefer to take the course on our campus or cross enroll in the CSUF Geography Program because it is in close proximity to Fullerton College and they get a chance to interact with CSU faculty and students.

Additionally, Police Science is still interested in revising the previous GIS classes for the many uses of GIS in Police Departments across the nation. The courses included crime mapping, police crime activity in specific locations, locational-planning to better help police define, plan and protect specific areas in a region or modify environments and road ways for improved crime management and prevention.

**2.5 Describe any laws, regulations, trends, policies, procedures or other influences that have an impact on the effectiveness of your program.** Please include any other data (internal or external) that may be relevant to student achievement, learning, and trends within your Basic Skills, CTE, or Transfer Education programs.

- ◆ Repeat: the AA-T and GIS program and assistance for underprepared students as discussed.

**2.6 Provide any other data that is relevant to your self-study.**

- ◆ Access to more comprehensive data collection as noted above.
- ◆ Better institutional support funding for fieldwork experiences for all students.
- ◆ According the U.S. bureau of Labor Statistics the job market outlook of 2012-2022 is that geography jobs are growing at a rate of 29%, much faster than average for all occupations. (See attachment in Appendix)
- ◆ The varied job market of Geography Graduates: “Ten Best Jobs for Geography Graduates.” (See attachment in Appendix)

### **3.0 Strengths, Weaknesses, Opportunities, Challenges (SWOC)**

Based on your analysis in 2.1 through 2.6, answer the following questions:

**3.1 What are the strengths of your program?**

- ◆ The Geography Department provides a strong foundation of geographic/spatial education and underpinning for other academic disciplines with a need for “Spatial Analysis.”
- ◆ *Geographic literacy* is important for positive progress and employment in our Globalizing World. (See opportunities under section 3.3)
- ◆ It is extremely importance to provide more opportunities for students with “real world” geographic field experiences. These include human and environmental impacts and problem solving as a critical component to student learning and understanding. This is essential for internalizing new concepts for improved decision making.
- ◆ The geography faculty at FC has a very diverse group of instructors in gender, physical challenges, ethnicity, culture, and nationality that are very important attributes for understanding the worldview of those different from ourselves.
- ◆ The geography department reaches out and works tirelessly to accommodate student’s personal needs relative to their everyday lives and strongly supports continued geographic learning and education.

- ◆ Geography has also added The Weightman Scholarship for Geographic Education. Dr. Weightman (alumni at CSUF) was a strong supporter of the FC geography program. She also set about inspiring her graduate students, especially women and different culture groups, to focus on Geographic Education, especially in the Community Colleges. We have already awarded two of these scholarships in the past two years to two outstanding students.

### 3.2. What are the weaknesses of your program?

- ◆ Student success rates are lower than the four comparative community colleges, especially among minority students.
  - Students need more role models *for learning how to learn*, more person to person, student to student and instructors or graduate intern mentors to student which can be addressed by increasing and improving supplemental instruction (SI) and a strong intern-mentor program. This is the type of SI that **is not** covered by Basic Skills and repeatedly shows up in our KPI data of success rates that averages 60% across the data collection time period. **SAP #1**
  - We need assistance for student learning in *the Basic Skills of Geography* (see test-class results- below) to improve all student success rates, especially those of minority students, foreign students and ESL students. This makes the need for class mentors and interns even more acute. We hope to increase the use this strategy to narrow the success gap of minority students reflected in the institutional date. **(See KPI Chart attached and in chart form above, also, SAP # 1 at the end of this document.)**
- ◆ **Test-Class Results**
  - The Geography Department has had one course, Physical Geography 102, with a Supplemental Instruction (SI) intern last semester. **The outcomes show that students who attended at least 5 sessions completed the course with an A or B. Students who attended one or two sessions increased their next test score by 10%.**
  - The Geography department has been requesting additional funding to implement SI in our basic classes, especially Global Geography 100 and Physical Geography 102 as our students come in with a very narrow global consciousness and cannot work with basic elementary concepts and skills for example: Longitude and Latitude, Reading a Map Compass, Reading a Map or understanding the basic flow of water i.e. down slope as opposed to down the map...etc.

**See SAP #1-** Intern-Mentor Program with Interns and Graduate students from surrounding universities to strengthen student learning success, act as role models and increase success rate for all students, especially underprepared students.

We also would like to reach out to geography alumni to volunteer their time in supplemental instruction.

- ◆ The lack of a strong introductory GIS class leaves a gap in the learning of geo-spatial skills and hinders student development for transfer and employment in today's job markets. This is especially important with the new AA-T program initiated by the CSU's and UC's.

- Currently, our students must transfer with a deficit in lower division geography requirements or go elsewhere to complete the required class. We are trying to change this so students can declare geography as a major before they transfer not after they leave us.  
(See **SAP # 2.**)

- ◆ Field study is critical for understanding geography and how it works in the “real world” The department needs funding for bus transport to and from field site excursions and assistance with larger groups of students. This is especially important for our students of limited economic resources which means they often cannot afford to go and visit the various locations. This is unfortunate as the field experiences is a highlight of student interaction and investigation into real world experiences.  
(See **SAP #3**)

### **3.3 What opportunities exist for your program?**

- ◆ The addition of a GIS class! Spatial Analysis and GIS skills are widely used in broad sections of employment. The addition of this course would afford students the opportunity to become interested in the highly marketable skills needed in the job of today and employment arenas of tomorrow.
- ◆ GIS is a cross-disciplinary marketable job skill.
- ◆ **Note:** The following are examples of the spatial analysis methods and skills as used by countless scientific researchers, government land-use analysis and planning, and businesses that require spatial analysis for local and global markets Today, the spatial contributions of geographers have developed, expanded and enhanced planning and research abilities in many varied undertakings.

#### **For Example:**

- Biology and Botanical Studies: mapping , local and global plant distributions and the environmental factors that affect sustainability and agricultural land use variables
- Biogeography/Medical Geography and the analysis of mapping disease, o the range of disease diffusion process, and the environmental factors that impact containment. Similarly, locational studies of types of health care needs, health care availability and health care delivery by area or region.
- Ethnological studies of animal movement, protection and landscape impacts.
- Climate variables and climate change over space and time and the human impacts.
- Landscape Ecology. How people use and develop their environments and analysis of the varied impacts.
- Ecological analysis of spatial population dynamics e.g. where people are located, what are their life world like and what are conditions and predictions of future movement and migration worldwide.
- Cartographic/GIS uses in disaster planning, aid planning and logistics.
- Economics and the locations and changes in development patterns on a local and global scale. Mapping, measuring and determining impacts.
- Analysis of Infrastructural development and the human and environmental impacts.
- To improve land use analysis for a better world that is fit to live in.
  - Environmental Planning
  - Urban Planning
  - Transportation planning
  - Plus many other types of land-use planning

- Legal Spatial issues of land ownership both private and public, international boundaries and boundary disputes, territorial legitimacy, riparian rights, local, regional and international
  - GIS and Remote Sensing (Data collected from faraway places, e.g. Satellites, Ariel photography and the use of drones) to improve the effectiveness of locational and spatial analysis for military purposes, strategic location analysis and making informed decisions on foreign affairs situations.
  - Current and new issues of scientific modelling for spatial data analysis and applications
  - Travel and Trade industries
  - Work with global NGO's and Aid organizations.
- ◆ All of these examples show the importance of Geographic Knowledge and Literacy in numerous dimensions of engagement in a rapidly changing world.

	Program Student Learning Outcomes (PSLOs)	Date Assessment Completed	Date(s) Data Analyzed	Date(s) Data Used For Improvement	Number of Cycles Completed
1.	Upon successful completion of courses leading to the Geography Associate in Arts Degree, the student will be able to apply the fundamental concepts of the scientific method and explain the basic components and interrelationships of earth's physical systems of the atmosphere, biosphere, hydrosphere and lithosphere.	End of Semester 2011 Spring 2012 Fall 2013 Spring 2014 Fall	End of Semester S/2011 S/2012 F/2013 S/2014 F/2015	F 2011 F 2012 F 2013 S 2014 F 2015	3
2.	Upon successful completion of courses leading to the Geography Associate in Arts Degree, the student will be able to define, describe and evaluate the uneven and unequal geographical outcomes of society and nature interrelationships.	End of Semester 2011 Spring 2012 Fall 2013 Spring 2014 Fall	End of Semester S/2011 S/2012 F/2013 S/2014 F/2015	F 2011 S 2012 F 2013 F 2014 F 2015	3
3.	Upon successful completion of courses leading to the Geography Associate in Arts Degree, the student will be able to describe, interpret and evaluate movement, migration and cultural traits related to the social construction of human/cultural landscapes	End of Semester 2011 Spring 2012 Fall 2013 Spring 2014 Fall	End of Semester S2011 S/2012 F/2013 S/2014 F/2015	F2011 F 2012 F 2013 S 2014 F 2015	3
4.	Upon successful completion of courses leading to the Geography Associate in Arts Degree, the student will be able to identify, evaluate and critique human-environmental processes of globalization from a geo-spatial perspective.	End of Semester 2011 Spring 2012 Fall 2013 Spring 2014 Fall	End of Semester S2011 S/2012 F/2013 S/2014 F/2015	End Semester F 2011 F 2012 S 2013 F 2014 S 2015	3

## 4.0 Student Learning Outcomes (SLO) Assessment

4.1 List your program level SLOs and complete the expandable table below.

- PSLO's and assessment dates are reported in table above

**4.2 Assessment: Complete the expandable table below.**

- **Please note:** Course level assessments are done every semester. Program assessments and improvements are discussed by all faculty on a yearly basis whereby we can evaluate completion of AA and AA-T's, scholarships, awards and transfer rates of geography students to other institutions of higher learning.
  
- **It would be extremely helpful if the college could track and provide this transfer data to answer these important departmental questions for the goal of increasing AA and AA-T degrees and how we might go about addressing this.**

<b>Program Student Learning Outcomes Assessment for Instructional Programs at Fullerton College</b>			
<b>Intended Outcomes</b>	<b>Means of Assessment &amp; Criteria for Success</b>	<b>Summary of Data Collected</b>	<b>Use of Results</b>
◆ Increased understanding and success in applying basic elements of the world's physical mechanisms and systems.	Assessed at the course level. Yearly, evaluations through collective faculty discussions and shared collaborations of the means for improvements to program level outcomes	<u>Yearly</u> <u>Average</u> F 2011   82% S 2012   83% F 2013   86% S 2014   89% <b>One semester and one class with Supplemental Instruction (SI) student available 4 days/week</b>	To increase understanding of how physical world systems relate to human world systems. The geography faculty discuss, share and collaborate on how to improve this element of the program at the end of each academic year.
◆ Increased explanation, understanding of, and empathy for uneven and unequal opportunities, impacts and, geographic realities of society and nature interrelations.	Assessed at the course level. Yearly, evaluations through collective faculty discussions and shared collaborations of the means for program level improvement in program level outcomes	<u>Yearly</u> <u>Average</u> F 2011   82% S 2012   80% F 2013   81% S 2014 <b>In progress</b>	To improve awareness, understanding and empathy for the locational inequalities and geographic realities of society and nature interrelationships. At the end of each academic year, the geography faculty meet to discuss, share and collaborate on how to improve this element of the program
◆ Increased comprehension of the motivations for human movement over time and space, and the cultural impacts of these spatial interaction and cultural landscape changes that result as measured by course SLO assessments	Assessed at the course level. Yearly, evaluations through collective faculty discussions and shared collaborations of the means for improvement in program level outcomes	<u>Yearly</u> <u>Average</u> F 2011   82% S 2012   80% F 2013   81% S 2014 <b>In Progress</b>	To improve awareness and understanding of human-environmental impacts of spatial movement and change. At the end of each academic year, geography faculty meet to discuss, share and collaborate on how to improve this element of the program.



<p>◆ To increase student abilities to identify, evaluate and critique human-environmental processes of globalization from a geo-spatial perspective.</p>	<p>Assessed at the course level. Yearly, evaluations through collective faculty discussions and shared collaborations of a means for improvement in program level outcomes</p>	<p><u>Yearly</u>   <u>Average</u> S 2011   80% S 2012   85% F 2013   88% S 2014   In Progress</p>	<p>To increase awareness and understanding of the geographic influences and intricacies affecting the processes and impacts of globalization and change from a geo-spatial perspective. At the end of each academic year geography faculty meet to discuss, share and collaborate on how to improve this element of the program</p>
<p>* See preceding chart of PSLO's</p>	<p>*See note above</p>		

**4.3 What percentage of your program level SLOs have ongoing assessment? Comment on progress/lack of progress. All PSLO's are measured at the course level.**

- All of our course level SLO's are assessed each class each semester it is taught however, not all courses are offered every semester. At the end of the academic year the faculty gather collectively and discuss how the course SLO's are impacting our program's PSLO outcomes and progress by looking at the average course scores and the number of geography degrees awarded, scholarship awards and documentable transfers.
- **How has assessment of program level SLOs led to improvements in student learning and achievement?**

  - For all PSLOA's there is only approximately a 2-3 % point differences and there does not seem to be any pattern year to year. Two exceptions: PSLO #1 there was a 3% point increase in one semester class that SI was offered 4 days a week. PSLO #3 there was a low of 80% in 2011 to a high of 88% in 2013. When discussed at department meetings, we do not know the reason.
  - Through faculty discussion, we do not see any specific improvement patterns by assessing PSLO's. However, the faculty plans to revisit our PSLO's in context of the new AA-T (transfer degree) that requires the addition of a GIS course which we have been unable to offer due to budget cuts and lack of available part time faculty willing to set it up and teach it.

    - *As further evidence we are including a letter by one of our outstanding part time faculty with a lot of teaching and work experience in GIS as to why part-timers are not interested in setting up and teaching GIS if there are no full time teaching opportunities available. See SAP #2.*
- **How has assessment of program-level SLOs led to improvements in transfer or certificate/degree awards?**

  - The PSLO's do not seem to have any measurable impacts on the number of degrees awarded and Geography does not have any certificate programs.
  - There have only been a total of nine (9) Geography AA degrees awarded over the past 5 year period from 2010 to 2014. We believe this measurement is of little importance given that there is little students can do with an AA degree except transfer. Employment

positions almost always require a BA or MA degree. However, the knowledge gained from a geographic education strongly supports skills and the fundamentals of spatial thinking for many other degree programs. See section 3.3

- Most of our students do not declare as geography majors until after they transfer. This was discussed in our last program review in 2012 and circumstances remain the same today.
- Until the FC institution tracks transfer students to measure those who graduate with a geography BA, MA or PhD from CSU's, UC's and other institutions of higher education, we will not know the extent of our influence.

### What challenges remain to make your program level SLOAs more effective?

- ◆ Faced with often glaring **Geographic Illiteracy**, we use both traditional (hands-on) and modern (computer driven) methods to initiate students into the importance of the “where” component of geography that launches them into deeper analysis of the “why” and “how” and the “significance” of geographic human-physical interactions. These are skills that are essential in understanding other people in other places for better interaction in today's global communities. For many students, the location and understanding of places is very new to them as this training is lacking in our secondary school systems and many have never traveled beyond their home city or community.
  - Therefore, the challenge of geography faculty emphasizes the *successful completion of a course of learning*, and acquiring geospatial skills of success rates of at least 75% or higher. Helping students become successful is a goal the geography department takes very seriously. All of our faculty discuss, collaborate, share and develop new methods in which to teach, conduct student-centered learning and acquire the skills and the ability to apply them for coherent systematic global problem solving.
  - Funding for Increased use of SI in each of our core courses to **improve our success rates** given the amount of “remediation” needed in basic geographic knowledge and skills by beginning college students. This is evidenced by our retention rates of 80% to 84% in association with our “success rates” which vacillated between 56% and 62% over the last 5 year period from 2010 to 2014. (KPI Data). The outcome is to increase our student success rates to at least 75% which would reflect a 13% increase in student success.

*The geography faculty believe, when we look at institutional data related to basic reading, writing and math skills, this same remediation rate is likely occurring in many of our challenging academic college level courses across campus i.e. many of our students do not have basic entry level program knowledge and skills coming out of high school to be able to perform at college entry levels.*

- The reassessment of PSLO goals in connection with the new AA-T in geography.

**5.0 Evaluation of Progress Toward Previous Goals/SAP's** (Future program review templates for this section will identify “previous goals” as “previous *strategic action plans*”-- SAP's.)

### 5.1 List the goals from your last self-study/program review.

- Complete the curriculum component linking GIS to the new police science certificate program.
- Promote greater student ownership of knowledge and mastery of concepts by offering more field trip opportunities for students.
- Reinitiate the Intern-Mentor Program to improve student learning and success
- Continue to revise and improve our SLO's and PSLO's to remain current in our assessments and analysis of outcomes
- Increase our courses offerings that focus on the State of California Secondary Teacher Education Program; required courses include geography
- Expand our class offerings for transfer students and majors
- Add two new faculty to transition into geography before foreseen retirements are enacted and who have the skills to teach GIS.

### 5.2 Describe the level of success and/or progress achieved in the goals listed above.

- The Geography Department completed the GIS curriculum component for the new police science certificate. With budget cuts leaving us with no faculty to teach the courses, the FC curriculum committee recommended we remove all but the introductory GIS course. Now that there are funds for faculty, it is suggested we again work with Police Science to bring back some of those deleted courses. The SS Dean at Cypress is now opposing all of our GIS classes, even though Cypress does not have any link to *Fullerton College's Police Science program* which, according to past agreement, the curriculum is taught on the Fullerton Campus only. **SAP #2.**
- The department continues to promote greater ownership of knowledge and mastery of concepts through "real world" field experiences. This is especially important for those students who cannot afford to travel on their own and have limited experiences beyond their home base. Field experiences enrich knowledge and learning and help students deepen their understanding of concepts. **See our new SAP #3.**
- The geography department has piloted the use of SI students four times per week in one Physical Geography Course. The success rates were reviewed and the outcomes measured. The data showed that out of the students who attended 4 or more sessions, 90% received an A or B in the course and those who attended one or more sessions recorded 10% higher scores on their next exam. Faculty believe with more resources put to this end, we can reduce the achievement gap and improve the success rates in geography.
- Refocused attention to the needs of secondary education students to complete required geography courses for the State of California Secondary Teacher Education Program i.e. special teaching emphasis in one or more classes.
- Expanded our course offerings with the addition of Economic Geography and Geography of California. SLO's are in place and will be assessed in their first cycle of SLOA's.
- We **have not** achieved our goal of adding two new geography faculty to transition into the department as both full time geography faculty are over the age of 66 and considering

retirement. Since we are only a two faculty department, this could leave the geography program with no full-time faculty. This is soon to become a critical issue.

### 5.3 How did you measure the level of success and/or progress achieved in the goals listed above?

- ◆ **GIS course.** From a process of Constructing GIS, developing new courses and linking with the Police Science Certificate Program, then the push from curriculum to deconstruct classes that are not being taught yet, and now the new AA-T in geography requiring a GIS class be taught for the AA-T and discussions with Police Science to return some of our previous certificate related course to again link with the Police Science Program.
- ◆ **Geography field experiences courses** have been tracked to identify student grades of those who participated in these field trips against those who did not or could not participate. Test and project grades tended to be on average 10% higher among those who attended. Additional Questions were added to the SLO evaluations at the end of the semester for the classes that offered field trips and these were compared to the test grade assessments. Results showed very close success rates of approximately 10%.
- ◆ **Intern-Mentor and SI programs.** The geography department has piloted the use of SI student four times per week in one Physical Geography Course. The success rates were reviewed and the outcomes measured. The data showed that of those students who attended 4 or more sessions, 90% received an A or B for the course and those who attended one or more sessions recorded 10% higher scores on the next exam. Faculty believes with more resources put to this end, we can reduce the achievement gap significantly and improve the success rates. **See KPI data sheet attached and Section 2.3 above.**
- **Addition of two new faculty.** Adding two new geography faculty to transition into the department as both full time geography faculty are over the age of 66 and considering retirement. Since we are only a two faculty department, this could leave the geography program with no full-time faculty. This is soon to become a critical issue. This is justified by our enrollment and retention figures
- ◆ **State Teacher Education Program.** The geography department is continuing to look for data that references longitudinal studies for Fullerton College Education students. Would be helpful if IORD could track this data and include in KPI chart.

### 5.4 Provide examples of how the goals in the last cycle contributed to the continuous quality improvement of your program.

- ◆ Since many of our goals have **only been tested** but, **have not been met** across the discipline due to the previous lack of campus funding or campus direction on where the department can apply for funding, we are not seeing any “across the board” improvements in success rates, especially within our minority populations. However, the pilot programs have shown marked improvements in student grades and success scores in those specific classes tested.

**5.5 In cases where resources were allocated toward goals in the last cycle, how did the resources contribute to the improvement of the program?** NA. No resources were allotted.

**5.6 If funds were not allocated in the last review cycle, how did it impact your program?**

- ◆ Given the improvements in success *in our test classes* as identified above, one can generally surmise that many students are being hindered by not having these resources availability. Calculate the number of low performing students on campus and divide that by total FC students and you will find how many students are being held back from achievement successes.

**6.0 Strategic Action Plans (SAP) [formerly called Goals (6) and Requests for Resources (7)]**

Using the tables below, list the strategic action plans (SAPs) for your program. These plans should follow logically from the information provided in the self-study. Use a separate table for each SAP.

SAPs for this three-year cycle:

STRATEGIC ACTION PLAN # 1	
<p>Describe Strategic Action Plan: (formerly called short-term goal)</p>	<p>Integral to the Fullerton College’s mission, vision, and goals is preparing students to be successful learners. This is reflected in retention and success rates as defined by our institution. This strategic goal is also the Geography department’s major goal. However, we believe for effective learning and understanding, especially with the high number of Basic skills students we serve, that greater teacher/mentor time in and out of the classroom needs to be supported institutionally. This takes the form of small group sessions, workshops and other supplemental instruction.</p> <p>We would like to expand our Supplemental Instruction in order to expand our available time-frames to accommodate more students. This is especially important for low-income and working students that struggle finding extra learning-study times for remediation between their work schedules and family responsibilities.</p> <p><b>This is a carryover from our previous program review goals and funding requests.</b></p> <p>Again, we are requesting funding to initiate a <b>Graduate Student Intern Mentor Program</b>. We have always had close interaction with CSUF which works closely with its feeder community colleges, especially since almost all of their geography transfers come from Fullerton College and, they participated in our previous Intern-Mentor Program that was successful for 8 years until funding was cut. We would like to expand on our Supplemental instruction offerings using Graduate Students, as it has been highly successful to those students who could utilize it (see test class results in section 3.2).</p> <p>It has become glaringly obvious that FC students lack basic elementary school geographic skills such as using Latitude/longitude to locate places, reading graphs, charts and diagrams, interpreting compass directions for orientation and movement, and basic place name locations such as continents, countries and physical features. This is evidenced by test scores in our classes and semester pre-tests used to determine readiness.</p>

<p>List College goal/objective the plan meets:</p>	<p>College Goal # 1 and 2:...to promote student success by increasing success and retention rates of our English Language Learners, Hispanic and African-American populations and other underprepared students.</p> <p><b>Goal 1</b></p> <p>Obj. 1: Address the needs of under-prepared students  Obj. 2: Increase course retention and success  Obj. 4: Increase the number of transfers in geography</p> <p><b>Goal 2</b></p> <p>Obj. 1: Address the needs of English language learners  Obj. 2: Increase retention rates of Hispanic (50% of student population) and African-American students (3% of student population) by 5% annually.  Obj. 3: Increase success rates of Hispanic and African-American students in line with retention rates.  Obj.4: Increase success rates of Hispanic and African-American students by 2% annually</p>
<p>Describe the SAP: (Include persons responsible and timeframe.)</p>	<p><b>We are purposing a Graduate Intern-Mentor Program specific to geographic content, not provided by the Basic Skills Program, to help bring our students up to functioning college level performance.</b></p> <p><b>We would like to initiate and expand our Supplemental instruction offerings using Graduate Students, as it has been highly successful to those students who could utilize it (see test class results in section 3.2). In our past Intern-Mentor program we saw marked increases in success rates as measured by improved test and semester grades and student evaluations of the program.</b></p> <ul style="list-style-type: none"> <li>• <b><u>Note:</u> The advantage of using graduate students as instructional assistances instead of just FC student Tutorsnce is that they are already well-educated in basic geographic skills and <u>serve as excellent role models for student success.</u></b></li> </ul> <p><b>Incorporated in the purposed Graduate Student Intern-Mentor Program the geography department would include Geographic Basic Skills workshops to raise the entry level functioning of our diverse student population.</b></p> <p><b>We would also like to encourage alumni volunteers be included as part of their civic, community and academic responsibility given their educational oppotunities (<i>Giving back to the school would be extremely beneficial as many alum are just starting their careers and often cannot, as yet, afford to make monetary contributions</i>).</b></p> <p><b>*Persons responsible would be our two full-time geography faculty:</b></p>

	<p><b>Claudia Lowe and Susan Grabiell.</b></p> <p><b>Adjunct faculty would also be encouraged to participate in this program. Especially since 50% of our courses are taught by adjunct.</b></p> <p><b>*We would like to see retention and success rates increase by our next program review cycle. <u>However, we would expect to see increases within the first year if this program is funded.</u></b></p>
What <i>Measurable Outcome</i> is anticipated for this SAP?	Increased retention and success rates of all under-prepared students including Hispanic and African American students in line with Campus Goals 1 and 2.
What specific aspects of this SAP can be accomplished without additional financial resources?	<p>This SAP cannot be accomplished without funding for intern-mentortutors in regular attendance with geography courses.</p> <p>Small accomplishments if we can attract enough alumni student Volunteers.</p> <p>Institutional organizational support in this arena would be extremely helpful.</p>

If additional financial resources would be required to accomplish this SAP, please complete the section below. Keep in mind that requests for resources must follow logically from the information provided in this self-study.

Type of Resource	Requested Dollar Amount	Potential Funding Source
Personnel	<p>.5 units for each faculty participant up to 8 faculty.            4 Graduate Intern-Mentors per semester at 10 hours/week for 14 weeks is estimated at \$15 hour which totals out to be  <b><u>Budget Estimate:</u></b>            560 hours for Grad. Intern-Mentors/semester            X 20 \$ per hour = <u>\$11,200 per semester total</u></p> <p>Plus .5 units for up to 8 faculty participants at \$____/.5 units x 8 (however the campus figures the cost per ½ unit or professional expert cost for ½ unit). Estimate approx. \$ 2,250/semester if there were a max. of 8 faculty participants/semester. However this expense would be highly variable depending on the number of faculty participating.</p> <p>Faculty Program set-up and training estimates of \$2,500/year or \$1,250/semester.</p> <p><b><u>Total Cost Estimate per Semester</u></b>            Graduate Intern-Mentors per semester = \$11,200            Faculty Participants up to 8 = <u>\$ 2,250</u>  <b>Total = \$13,450/semester</b></p>	<p>Supplemental Instruction Budget or any other institutional funding in support of this very important type of program to accomplish these Institutional Goals.</p>



	<b>This is a real bargain for improved retention and success increases if the estimated increases are actualized within the given time frame.</b>	
Facilities	Availability of class-rooms, library rooms or tutoring center rooms. <b>No expected Cost</b>	
Equipment	NA <b>No expected Cost</b>	
Supplies	NA <b>No expected Cost</b>	
Computer Hardware	1 available computer for each session. <b>No extra cost.</b>	
Computer Software	NA <b>No expected Cost</b>	
Training	\$1,250/semester or \$2500/year	
Other	NA <b>No expected Cost</b>	
<b>Total Requested Amount</b>	<b><u>\$14,700 per semester or \$29,000 per year</u></b>	

## STRATEGIC ACTION PLAN # 2

Describe Strategic Action Plan: (formerly called short-term goal)	<p>*The initial goal is to <b>rebuild</b> our current Introductory GIS (Geographic Information System) Course as this is required for the <b>new AA-T program</b> for students to transfer to CSU's and UC's. This would also allow our students to complete their AA degrees at Fullerton College rather than transferring without a degree from FC, as they are currently doing, and declaring a geography major after they transfer. (Note KPI data on transfers in section 2.0)</p> <p>*In comparison with other community college institutions, such as Golden West and Saddleback, the enrollments are low and slow at the start. With this in mind it is critical that a class be supported each semester even with low initial enrollment until the program builds.</p> <p>(The high WSCH/FTE show that geography and most other social science courses support the lower enrollment in other divisions, we would like to see this, for once, benefit our department and our division.)</p> <p>Students cannot complete our Geography AA-T degree here at Fullerton which makes it very difficult develop majors when they cannot complete the necessary coursework at Fullerton College. At this time, we have no choice but to send our students to CSUF through cross enrollment. We feel strongly with support and time this class will be easily self-supporting and provide needed technical and important employable skills to meet the needs of our student population.</p> <p><b>Note:</b> *The Geography Department completed the GIS curriculum component for the new police science certificate during the preceding program review cycles. With budget cuts leaving us with no faculty to teach the courses, the FC curriculum committee recommended we remove all but the introductory GIS course from curriunet. Now that there is potential funds for faculty, equipment and software, it is suggested we again work with Police Science and criminal justice to bring back some of those deleted courses. The SS Dean at Cypress is now opposing all of our GIS classes, even though Cypress does not have any connection to our Fullerton College's Police Science program. According to past agreement, this curriculum is only taught on the Fullerton Campus.</p>
List College goal/objective the plan meets:	<p>College Goal #1: Promote student success Obj. #3: Increase the number of degrees and certificates awarded Obj. #4: Increase the number of transfers, preferably with AA or AA-T degrees in geography.</p>
Describe the SAP: (Include persons responsible and timeframe.)	<p>The Geography faculty is committed to implementing a Geographic Information System (GIS) Program here at Fullerton. In order to accomplish this goal we need institutional support from college administrators and funding. Initially we need to operationalize our introductory GIS course on campus with regularity. Next, we will</p>

outreach to other departments and divisions on campus e.g. police science, criminal justice, science and business for additional coordination of the GIS program Now that there are potential funds for faculty, equipment and software, it is suggested we start again by working with Police Science and Criminal Justice to bring back some of those deleted courses.

(Side note: Dr. Vurdien told me he would definitely approve this program—Hope he holds to that.)

Additionally, other disciplines like science and business have moved ahead with GIS in their disciplines. The spatial aspect of this program should **be housed in the geography department** in order for students to be well versed in **interpretation and analysis of the spatial data**, which is important for improved accuracy in the uses and applications of GIS. Because of lack of and withdrawn funding as a result of campus budget cuts, we have been unable to enact a complete GIS program and hire a faculty to implement it.

**Note:**

*We have discussed this with our part-time faculty and, because of the amount of work and campus outreach required to get this program off to a good start, part-times have told us they are not willing to take this on unless it will open up a full-time position. This was also reiterated by one our adjunct faculty, Laszlo Maryhazy, who has generously provided the following information about what is needed to reinitiate this program*

**Implementation:**

The following information was provided by one of our adjunct faculty, Laszlo Maryhazy, who has worked in the professional field of GIS and also taught these courses part time at Saddleback and Golden West Community Colleges.

**Aspects with limited additional Financial Resources:**

The computer hardware needs are minimal and may already be present on campus. The GIS courses are often taught, initially at least, in an existing computer-lab on campus - one that is already set up for computer-based program instruction and shared among several departments. For example, there is likely such a lab already set up somewhere for instructing things like CAD (computer-aided design/drafting), computer programming, game development, office automation, and similar courses. It is often cheapest and easiest to simply arrange to have the GIS software loaded onto an existing environment such as this rather than set-up a separate, dedicated computer lab just for GIS. With a bit of coordination and scheduling with other user-departments, this may be an option if money/resources are a big issue. If GIS interest grows, it may be prudent later to set-up a dedicated Geography Department lab, but initial costs can be kept quite low by utilizing existing facilities.

	<p>If the preference is for a dedicated GIS lab, and you have both the classroom space and budget, then the hardware requirements can be easily met with standard off-the-shelf Windows-based machines at a reasonable cost. I recommend NOT using laptops for a number of reasons i.e. The screen sizes are much too small to display the large maps and multi-window GUI (user interface) working environment of a typical GIS session. There simply is not enough screen ‘real-estate’ to accomplish effective multiple map and data maneuvering to do GIS analysis. GIS can and often is used on laptops in the field, of course, for utilities, planners, and others – but is NOT good for ‘creating’ GIS and doing the analysis and integration –and especially for learning – where ‘bigger is better’ with respect to students. Also, laptops are very expensive to modify with the extra RAM, hard-drive space, networking needs, etc. to “do” GIS.</p> <p>The existing computers in our lab downstairs (R-1416) <i>might</i> be adequate, although larger screens and perhaps beefing up the RAM and some other enhancement may be necessary. Also, that room, if it were to be used would need some re-arranging, as computers that are all facing walls, as is the current set-up, is NOT a good way to instruct a computer-based class. They should all face the instructor and the front of the classroom.</p>	
<p>What <i>Measurable Outcome</i> is anticipated for this SAP?</p>	<p>To increase geography transfer students by increasing the number of students who complete the AA-T at Fullerton college other than elsewhere. We anticipate increasing our degrees by 30% to 50% per year as measured against the previous two years (2012 and 2013).</p>	
<p>What specific aspects of this SAP can be accomplished without additional financial resources?</p>	<p>None</p>	
<p>If additional financial resources would be required to accomplish this SAP, please complete the section below. Keep in mind that requests for resources must follow logically from the information provided in this self-study.</p>		
<b>Type of Resource</b>	<b>Requested Dollar Amount</b>	<b>Potential Funding Source</b>
<p>Personnel</p>	<p>One new faculty position for a person who can both teach general geography classes and implement the GIS set-ups required. Approximately \$78,000/year</p>	<p>Campus faculty funding and/or an additional 6 units Additionally, both full-time faculty in geography are nearing retirement (over age 66 yr.) and a replacement could be hired with these GIS skills.</p>
<p>Facilities</p>	<p>Use of the existing SS Lab (R#1416) or other campus facilities to begin with. Little or no extra cost at this time.</p>	
<p>Equipment</p>	<p>NA</p>	
<p>Supplies</p>	<p>NA</p>	
<p>Computer Hardware</p>	<p>25 windows based desk top computers @ \$1500 each for a <b>total of a \$37,500 outlay which</b></p>	<p>Campus Technical Budget</p>

	<b>could be shared by the Anthropology and Psychology departments as well.</b>	
Computer Software	<p><b>Approximately \$3000 for a ESRI “floating license” for ARC-GIS</b></p> <p><b>Note:</b> The computer software is almost always ESRI’s ArcGIS environment (not ArcView, which hasn’t been used as teaching tool for quite a number of years). Currently, ArcGIS is actually a suite of products and modules that come bundled from ESRI (much like Microsoft Office is a bundled suite of office products). The latest version (ArcGIS10.2) includes ArcMap, ArcCatalog, ArcGlobe, ArcScene, and ArcGIS Administrator. The license for education usually includes a few add-on modules such as ArcGIS 3D, Network Analyst, and a few others, that allow for things like topographic perspective mapping, routing, an</p> <p>Like Microsoft, Apple, and other technology companies, ESRI has very cost-effective programs for educational institutions that make getting the software incredibly inexpensive. I have contacts at ESRI that can help with this when the time comes, but for budgeting purposes, a typical contract is an annual license that includes most of the bundled components I mentioned above, in a “floating license” arrangement for less than \$3,000. The floating license let’s additional user ‘seats’ to be installed in learning resource centers, libraries, faculty offices, etc., for student and faculty use, so long as “not-more-than” the license limit is logged-on at any given time (typically 100</p>	Campus Technical Budget and/or SS Division Budget.

	or 200 users – so rarely ever an issue at a community college). This is an amazing bargain.	
Training	\$2000 ESRI training if needed	Campus Staff Development
Other	NA	
<b>Total Requested Amount</b>	Total start up expense is <b>approximately \$45,200</b> plus a full time faculty addition of approx. \$ 78,000/year which could be offset by a replacement faculty with these skills for those soon to be retiring in the department.	See Above

### STRATEGIC ACTION PLAN # 3

<p>Describe Strategic Action Plan: (formerly called short-term goal)</p>	<p>Better access to transportation e.g. buses and mini vans and monies for entry fees for on-site student- instructor interaction. This would serve to increased number of students who could participate in these valuable learning experiences. . As many of our current students come from culturally diverse and lower income segments of the population, this is often the critical experience that awakens their appreciation and desire to continue their educational experience and meet academic goals that were initiated by the <i>first hand</i> field experiences.</p> <p>The goal is that by increasing the number of Geography <b>Field Experiences</b> we will better address the needs of under-prepared students including Hispanic and African American Students and to increase our success rates among all students through “real world” experiential learning.</p> <p>*Geographic Field Experiences provide some of the richest and most personally rewarding activities for students. This experiential learning serves to emphasize concretely the understanding of geographic principles, processes, patterns and analysis. There is no replacement for “being there.” Field opportunities act as a catalyst for improving critical thinking by observing and asking more in depth questions for deeper understanding.</p>
<p>List College goal/objective the plan meets:</p>	<p><b>Goal 1</b></p> <ul style="list-style-type: none"> <li>Obj. 1: Address the needs of under-prepared students</li> <li>Obj. 2: Increase course retention and success</li> <li>Obj. 4: Increase the number of transfers in geography</li> </ul> <p><b>Goal 2</b></p> <ul style="list-style-type: none"> <li>Obj. 1: Address the needs of English language learners</li> <li>Obj. 2: Increase retention rates of Hispanic (50% of student population) and African-American students (3% of student population) by 5% annually.</li> <li>Obj. 3: Increase success rates of Hispanic and African-American students in line with retention rates.</li> <li>Obj.4: Increase success rates of Hispanic and African-American students by 2% annually</li> </ul>
<p>Describe the SAP: (Include persons responsible and timeframe.)</p>	<p>We would like to increase our field experience offerings by 2-4 field trips per core course per semester.</p> <p>Within 1 year we should start to see improvements in retention and success by extending these opportunities to more students.</p> <p>Responsible Faculty would be the current two full time faculty in the geography department (Claudia Lowe and Susan Grabiell)</p>
<p>What <i>Measurable Outcome</i> is anticipated for this SAP?</p>	<p>To increase the number of student participants in field excursions and to increase student success for those who participate.</p>

	<p>We would expect at least a 5%-10% increase per semester of student participation as a result of increased access to participation.</p> <p>We would expect to see at least a 2% increase in student success by those participating in these opportunities.</p>
<p>What specific aspects of this SAP can be accomplished without additional financial resources?</p>	<p>Most likely 25% can be accomplished by increasing the number of instructor led field trips. However, since this usually means instructors must take an additional 8 to 36 hours or more of their time on weekends, etc. We would need to add a reasonable incentive to increase faculty participation by offering extra units to offset their ever-increasing workload. This would be especially important for adjunct participation given the extra work load and important to the geography department since 50% of our courses are taught by adjunct faculty.</p>

If additional financial resources would be required to accomplish this SAP, please complete the section below. Keep in mind that requests for resources must follow logically from the information provided in this self-study.

Type of Resource	Requested Dollar Amount	Potential Funding Source
Personnel	\$100 per faculty participant per activity, up to a total of \$1000 per semester	Staff Development or Program Review
Facilities	Better access to well-maintained college buses and mini vans	
Equipment	NA	
Supplies	NA	
Computer Hardware	NA	
Computer Software	NA	
Training	NA	
Other	NA	
<b>Total Requested Amount</b>	\$1000/semester or \$2000/year min.	



### STRATEGIC ACTION PLAN # 4

Describe Strategic Action Plan: (formerly called short-term goal)	Develop a “Geography Speakers Bureau” to bring professional geographers into the classrooms or have special presentations by topic experts from the business community.
List College goal/objective the plan meets:	Goal 1 To promote student success Obj. #1-4 Goal 2 To reduce the achievement gap. Obj. #1-4 Goal 3 To strengthen connections to the community. Obj. 3
Describe the SAP: (Include persons responsible and timeframe.)	To bring on campus field experts to present topical issues, promote discussions relevant to geography and increase exposure to Professional Geographers and what they do.  Strengthen ties to local businesses and industries and inform students of the required geographic skills needed in the job markets of today.  Responsible Faculty would be the current two full time faculty in the geography department (Claudia Lowe and Susan Grabiell)
What <i>Measurable Outcome</i> is anticipated for this SAP?	Increase geographic interest, improve retention and success rates and increase the number of majors and degree completions in the geography program. This would be done with participating student surveys and comparing related student retention and success rates.
What specific aspects of this SAP can be accomplished without additional financial resources?	50% without funds 50% with professional expert funds for top business and industry speakers.

If additional financial resources would be required to accomplish this SAP, please complete the section below. Keep in mind that requests for resources must follow logically from the information provided in this self-study.

Type of Resource	Requested Dollar Amount	Potential Funding Source
Personnel	Speakers/semester 2-4 at PER of \$100/speaker. Total Max. \$400/semester or max. \$800/year	Staff Development or Program Review Funds or other funds unknown to us at this time.
Facilities	Classroom or in some cases a campus auditorium size space, depending on the speaker or group. Likely no extra expense needed.	
Equipment	NA	
Supplies	NA	
Computer Hardware	NA	
Computer Software	NA	
Training	NA	
Other	NA	
<b>Total Requested Amount</b>	\$400/semester or \$800/year min.	

STRATEGIC ACTION PLAN # 5		
Describe Strategic Action Plan: (formerly called short-term goal)	Replacement faculty for the two that are soon to retire (both over age 66) to allow for a departmental transition rather than having all new faculty at once with no introduction to our program	
List College goal/objective the plan meets:	Goal #1 To promote student success through continuity Goal #2 To reduce the achievement gap by hiring new faculty with new ideas and to increase our faculty diversity.	
Describe the SAP: (Include persons responsible and timeframe.)	New/Replacement hires for retiring faculty. (Both over age 66) Timeframe: 1-2 years max. Faculty Hiring Committee Campus and Division personal and budget committee	
What <i>Measurable Outcome</i> is anticipated for this SAP?	New Energy and reduce the student-faculty age, gender and ethnicity gap.	
What specific aspects of this SAP can be accomplished without additional financial resources?	NONE However, there would likely be a budget reduction as new faculty cost the college considerably less than long term faculty.	
If additional financial resources would be required to accomplish this SAP, please complete the section below. Keep in mind that requests for resources must follow logically from the information provided in this self-study.		
Type of Resource	Requested Dollar Amount	Potential Funding Source
Personnel	Two full-time faculty replacement. Cost savings from lower starting wages and benefits. As much as \$50,000 to start in the initial decrease in wages and benefits. Faculty hiring committee	Campus Funds.
Facilities	NA	
Equipment	NA	
Supplies	NA	
Computer Hardware	NA	
Computer Software	NA	
Training	NA	
Other	NA	
<b>Total Requested Amount</b>	Two full-time faculty replacement. Cost savings from lower starting wages and benefits. As much as \$50,000 to start in the initial decrease in wages and benefits.	

## 7.0 Long Term Plans

Describe the long term plans (four-six years) for your program. Please consider future trends in your narrative. (Identifying financial resources needed for these plans is optional.)

- Within the next 4 years the geography department would like to add at least 1-2 additional full time faculty in order to replace retirements, expand the geography program offerings, increase faculty diversity and get our GIS Program started again to meet AA-T requirements.. **SAP #5**
- Within 4 to 6 years, the geography faculty would like to have a dedicated GIS/Geography Lab to house a campus wide cross-disciplinary program for learning and using GIS as a tool and a skill for analysis. **SAP #2**
- Within 4 years the Geography Department would like to have institutionalized the Graduate Intern-Mentor Program. **SAP #1.**
- In 4 to 6 years we would like to close the learning gap among ethnic groups, and increased student success rates to a minimum of 75% to 80%. **SAP #1**
- Within 4 years we would like to expand the “Speakers Bureau” concept to include all of the Social Science Departments. Cross fertilization of knowledge and learning is critical in today’s Global Universe of work and international cooperation. **SAP #4**
- In 4 to 6 years the department would like to coordinate with Education and Child Development to develop a strong introductory secondary teaching set of courses.
- Within 4 to 6 years the department would like to increase the number of geography field trip experiences to all geography classes on a monthly basis if possible. This, of course, would require more faculty and faculty support. **SAP #3**
- Within the next 4 years the department would like to increase the Physical and Environmental Geography Courses that fit within the STEM program. And encourage faculty and students to become more involved in the program.

## 8.0 Self-Study Summary

This section provides the reader with an overview of the highlights, themes, and key elements of this self-study. It should not include new information that is not mentioned in other sections of this document.

In summary, the Geography Department is strongly committed to reducing the achievement gap and increasing student success through a number of different goals and strategies.

The data shows the geography department needs to focus more of our efforts on providing additional attention and support for under-prepared students. The department is proposing a Graduate Student Intern-Mentor Program that is self-sustaining and addresses the needs of discipline specific academic remediation not addressed by the Basic Skills Program of Reading, Writing and Math. By using Graduate Students, they are knowledgeable in the basic skills of geography, and, they can serve as mentor role models for how to be a successful learner for our under-prepared students. SAP #1

Given the new course requirements for the AA-T, we need to add GIS to our course line-up to allow students to declare geography as a major and complete their AA and AA-T degrees at Fullerton College before they transfer. Often they do this after they transfer because they cannot complete all of the courses. This should also serve to generate more majors.

We also need to up-our-game by increasing the number and availability of field trip experiences to further develop concrete geographic knowledge that leads to asking more relevant geographic questions, searching for logical answers and improvement in student critical thinking skills. These field experiences lead to deeper global understanding of local-global environments and their inhabitants.

The department also believes that by increasing the number of focus speakers from the community, it will alert students in our classrooms, to learn and discuss hot button issues involving geography in the 21st Century; this serves to increase student awareness of the world we live in and to teach students to be better decision makers. Additionally it will expose them to the world of work by introducing them to the many and varied types of jobs geographers do and occupations available for geographers. According to the most recent US Labor Report, geography employment is increasing at a rate of 29% per year which is extremely high for any discipline or occupation.

The department is also looking to partner with the Education and Child Development Department to readdress the goals of supporting the California Teacher Education Program. In the State of California, Geography is a required course for both the Primary and Secondary Teaching Credential. We would like to recreate one Teacher Focused Section of Global Geography and Human/Cultural Geography with a focus on teaching teachers how to teach Geography in the Secondary School System.

And finally, we are in desperate need for two new faculty hires to replace upcoming retirements of our only two full time faculty who are over the age of 66. This would allow the program to up the energy level, bring in new techniques and skills in the fields of Geography and Education, increase faculty diversity and to set-up our GIS program to meet AA-T transfer degrees in geography.

## Geography Department Program Review 2014-2015

### Appendix Attachments:

1. KPI Geography Report 2013-14 – Fullerton College Office of Institutional Research
2. Chancellor's Office Data Sheets:
  - a. Student Enrollment by Ethnicity Status for Fullerton College
  - b. Retention and Success Data Sheets for Fullerton college department comparisons with four other collage geography department which are HIS schools from 2010 to F 2014.
    - Chaffey College
    - Cypress College
    - Rio Hondo College
    - Santa Ana College
  - c. Program Awards and Degree Comparisons-4 colleges
  - d. Grade Distributions by the four schools
  - e. U.S. Bureau of Labor Statistics: Occupational Outlook Handbook
  - f. Ten Best Jobs for Geography Graduates
  - g. STEM Employment by Occupation Type 2011

Please do not lose above data sheets. My Program Review of 2012, the data sheets were lost somewhere between the SS Deans Office and Program Review Office. Therefore, there were deductions for not having the data sheets that supported all of my charts and Graphs. Thanks, C. Lowe



# KEY PERFORMANCE INDICATOR REPORT 2013 - 2014

## Geography

Key Performance Indicator	2009-2010			2010-2011			2011-2012			2012-2013			2013-2014				
	Su	Fa	Sp	An	Su	Fa	Sp	An	Su	Fa	Sp	An	Su	Fa	Sp	An	
Course Information																	
Courses Offered		3	3	3		3	3	7		4	5	5		3	5	4	5
Sections Offered		12	13	25		11	11	19		12	20	32		4	18	22	44
Student Information																	
Advisors		17	19	26		18	15	22		13	7	14		20	20	11	15
New Majors		3	1	4		3	2	5		3	0	3		2	1	1	2
Enrollments		616	682	1,298		644	680	1,324		639	789	1,428		616	886	1,502	1,880
FTEs		65	71	136		68	71	139		63	87	149		59	86	145	182
SSCH		1,940	2,129	4,069		2,026	2,137	4,163		2,004	2,595	4,598		9,215	2,297	11,511	6,808
Program Resources																	
FTE Faculty		2.3	2.9	5.1		3.0	3.2	6.2		2.1	3.7	5.8		2.3	3.9	6.2	10.2
Program Efficiency																	
Program Size		51.3	52.5	51.9		58.5	61.8	60.2		58.1	41.5	47.6		51.3	44.3	46.9	42.7
Ill Rate (Census)		104%	107%	105%		109%	111%	110%		111%	97%	103%		109%	92%	98%	93%
SSCH per FTEF		862	747	798		675	668	671		945	697	787		3,972	592	1,857	671
Program Outcomes																	
Degrees Awarded				3				0								3	
Certificates Awarded				0													
Transfers																	
Course Retention Rates																	
Overall		87%	81%	84%		80%	82%	81%		83%	85%	84%		82%	84%	83%	80%
Females		88%	79%	83%		86%	85%	85%		83%	85%	84%		85%	86%	85%	81%
Males		87%	82%	84%		76%	81%	78%		83%	84%	84%		80%	83%	81%	80%
African American		72%	83%	78%		63%	52%	57%		70%	95%	83%		90%	81%	84%	70%
Hispanic American		84%	83%	83%		75%	87%	82%		78%	86%	86%		86%	86%	86%	84%
Asian American		100%	91%	95%		78%	62%	71%		92%	85%	88%		71%	77%	75%	77%
Hispanic/Latino		86%	79%	82%		83%	82%	82%		80%	81%	81%		80%	84%	82%	82%
Native American		100%	86%	92%		40%	86%	67%		82%	75%	78%		63%	100%	82%	83%
Other Non-White		80%	100%	90%		71%	75%	73%		89%	67%	83%		50%	67%	57%	
Specific Islander		100%	57%	77%		100%	80%	86%		100%	80%	89%		67%	86%	80%	50%
White		90%	80%	85%		83%	85%	84%		88%	89%	89%		85%	85%	85%	88%
Unknown		93%	77%	85%		81%	91%	85%		94%	79%	86%		100%	81%	88%	60%
Course Success Rates																	
Overall		62%	61%	61%		49%	53%	51%		59%	63%	62%		53%	55%	54%	56%
Females		61%	58%	60%		53%	53%	53%		58%	66%	62%		54%	57%	56%	57%
Males		62%	63%	62%		46%	53%	49%		60%	61%	61%		53%	53%	53%	55%
African American		34%	69%	52%		25%	22%	24%		30%	55%	43%		38%	27%	31%	32%
Hispanic American		69%	67%	67%		61%	60%	60%		61%	62%	62%		71%	66%	68%	65%
Asian American		53%	55%	54%		33%	23%	29%		71%	69%	70%		47%	57%	54%	59%
Hispanic/Latino		58%	61%	59%		42%	44%	43%		50%	60%	56%		43%	51%	48%	50%
Native American		100%	71%	85%		20%	57%	42%		82%	50%	65%		25%	67%	47%	56%
Other Non-White		80%	100%	90%		57%	25%	45%		56%	33%	50%		50%	67%	57%	
Specific Islander		67%	29%	46%		100%	60%	71%		75%	40%	56%		33%	57%	50%	0%
White		64%	58%	61%		57%	65%	61%		69%	70%	69%		63%	59%	61%	70%

California Community Colleges Chancellor's Office

Student Enrollment Status Summary Report

		Fall 2013	Fall 2013
		Student Count	Student Count (%)
Fullerton Total		24,075	100.00%
	First-Time Student Total	3,751	15.58%
	African-American	154	4.11%
	American Indian/Alaskan Native	7	0.19%
	Asian	360	9.60%
	Filipino	106	2.83%
	Hispanic	2,057	54.84%
	Multi-Ethnicity	99	2.64%
	Pacific Islander	22	0.59%
	Unknown	197	5.25%
	White Non-Hispanic	749	19.97%
	First-Time Transfer Student Total	2,172	9.02%
	African-American	114	5.25%
	American Indian/Alaskan Native	7	0.32%
	Asian	334	15.38%
	Filipino	82	3.78%
	Hispanic	873	40.19%
	Multi-Ethnicity	97	4.47%
	Pacific Islander	7	0.32%
	Unknown	106	4.88%
	White Non-Hispanic	552	25.41%
	Returning Student Total	2,974	12.35%
	African-American	92	3.09%
	American Indian/Alaskan Native	5	0.17%
	Asian	366	12.31%
	Filipino	75	2.52%
	Hispanic	1,432	48.15%
	Multi-Ethnicity	94	3.16%
	Pacific Islander	16	0.54%
	Unknown	91	3.06%
	White Non-Hispanic	803	27.00%
	Continuing Student Total	15,109	62.76%
	African-American	408	2.70%
	American Indian/Alaskan Native	56	0.37%
	Asian	1,796	11.89%
	Filipino	445	2.95%
	Hispanic	7,758	51.35%
	Multi-Ethnicity	472	3.12%
	Pacific Islander	52	0.34%
	Unknown	457	3.02%
	White Non-Hispanic	3,665	24.26%
	Special Admit Student Total	69	0.29%
	African-American	1	1.45%
	Asian	10	14.49%
	Filipino	2	2.90%
	Hispanic	19	27.54%
	Multi-Ethnicity	4	5.80%

Approved May 8, 2014  
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California Community Colleges Chancellor's Office  
Credit Course Retention/Success Rate Summary Report

	Fall 2011	Fall 2011	Fall 2011	Fall 2011	Fall 2011	Fall 2011	Fall 2011	Fall 2011	Fall 2011	Fall 2011	Fall 2011	Fall 2011	Fall 2011	Fall 2011	Fall 2011	Fall 2011	Fall 2011	
	Enrollment Count	Credit	Retention Count	Success Count	Retention Rate	Success Rate	Enrollment Count	Retention Count	Success Count	Retention Rate	Success Rate	Enrollment Count	Retention Count	Success Count	Retention Rate	Success Rate	Enrollment Count	Retention Count
Chaffey Total	463	418	295	90.28%	63.71%	463	418	295	90.28%	63.71%	463	418	295	90.28%	63.71%	404	354	278
Non Distance Education Methods	463	418	295	90.28%	63.71%	463	418	295	90.28%	63.71%	463	418	295	90.28%	63.71%	404	354	278
Cypress Total	719	630	534	87.62%	74.27%	719	630	534	87.62%	74.27%	719	630	534	87.62%	74.27%	645	546	455
Delayed Interaction (Internet Based)	103	82	66	79.61%	64.08%	103	82	66	79.61%	64.08%	103	82	66	79.61%	64.08%	106	83	58
Non Distance Education Methods	616	548	468	88.96%	75.97%	616	548	468	88.96%	75.97%	616	548	468	88.96%	75.97%	539	463	397
Rio Hondo Total	333	257	187	77.18%	56.16%	333	257	187	77.18%	56.16%	333	257	187	77.18%	56.16%	350	303	190
Delayed Interaction (Internet Based)	148	105	64	70.95%	43.24%	148	105	64	70.95%	43.24%	148	105	64	70.95%	43.24%	161	134	62
Non Distance Education Methods	185	152	123	82.16%	66.49%	185	152	123	82.16%	66.49%	185	152	123	82.16%	66.49%	189	169	128
Santa Ana Total	429	339	248	79.02%	57.81%	429	339	248	79.02%	57.81%	429	339	248	79.02%	57.81%	432	358	252
Non Distance Education Methods	429	339	248	79.02%	57.81%	429	339	248	79.02%	57.81%	429	339	248	79.02%	57.81%	432	358	252

Report Run Date As Of : 11/20/2014 8:37:39 AM

California Community Colleges Chancellor's Office  
Credit Course Retention/Success Rate Summary Report

	Fall 2010	Fall 2010	Fall 2010	Fall 2010	Fall 2010	Fall 2010	Fall 2012	Fall 2012	Fall 2012	Fall 2012	Fall 2012	Fall 2012	Fall 2012	Fall 2012	Fall 2012	Fall 2013	Fall 2013	Fall 2013	
	Enrollment Count	Credit	Retention Count	Success Count	Retention Rate	Success Rate	Enrollment Count	Retention Count	Success Count	Retention Rate	Success Rate	Enrollment Count	Retention Count	Success Count	Retention Rate	Success Rate	Enrollment Count	Retention Count	Success Count
Chaffey Total	556	464	336	83.45%	60.43%	556	404	354	278	87.62%	68.81%	556	404	354	278	68.81%	405	359	225
Non Distance Education Methods Total	556	464	336	83.45%	60.43%	556	404	354	278	87.62%	68.81%	556	404	354	278	68.81%	405	359	225
Geographic Information Systems-220610	24	18	18	75.00%	75.00%	24						24							
Geography-220600	532	446	318	83.83%	59.77%	532	404	354	278	87.62%	68.81%	532	404	354	278	68.81%	405	359	225
Cypress Total	834	679	544	81.41%	65.23%	834	673	571	477	84.84%	70.88%	834	673	571	477	66.6%	666	597	506
Delayed Interaction (Internet Based) Total	136	103	76	75.74%	55.88%	136	106	83	58	78.30%	54.72%	136	106	83	58	78.30%	165	148	92
Geography-220600	136	103	76	75.74%	55.88%	136	106	83	58	78.30%	54.72%	136	106	83	58	78.30%	165	148	92
Non Distance Education Methods Total	698	576	468	82.52%	67.05%	698	567	488	419	86.07%	73.90%	698	567	488	419	73.90%	666	597	506
Geographic Information Systems-220610							28	25	22	89.29%	78.57%		28	25	22	89.29%	50	42	37
Geography-220600	698	576	468	82.52%	67.05%	698	539	463	397	85.90%	73.65%	698	539	463	397	73.65%	616	555	469
Rio Hondo Total	206	186	147	90.29%	71.36%	206	185	153	74	82.70%	40.00%	206	185	153	74	82.70%	165	148	92
Delayed Interaction (Internet Based) Total	92	79	47	85.87%	51.09%	92	185	153	74	82.70%	40.00%	92	185	153	74	82.70%	165	148	92
Geographic Information Systems-220610	26	20	12	76.92%	46.15%	26	24	19	12	79.17%	50.00%	26	24	19	12	79.17%	165	148	92
Geography-220600	66	59	35	89.39%	53.03%	66	161	134	62	83.23%	38.51%	66	161	134	62	83.23%	165	148	92
Non Distance Education Methods Total	114	107	100	93.86%	87.72%	114	279	254	210	91.04%	75.27%	114	279	254	210	91.04%	301	286	247
Geographic Information Systems-220610	90	86	79	95.56%	87.78%	90	90	85	82	94.44%	91.11%	90	90	85	82	94.44%	108	101	93
Geography-220600	24	21	21	87.50%	87.50%	24	189	169	128	89.42%	67.72%	24	189	169	128	89.42%	193	185	154
Santa Ana Total	403	332	254	82.38%	63.03%	403	432	358	252	82.87%	58.33%	403	432	358	252	82.87%	412	347	257
Non Distance Education Methods Total	403	332	254	82.38%	63.03%	403	432	358	252	82.87%	58.33%	403	432	358	252	82.87%	412	347	257
Geography-220600	403	332	254	82.38%	63.03%	403	432	358	252	82.87%	58.33%	403	432	358	252	82.87%	412	347	257

Report Run Date As Of : 11/20/2014 7:46:41 AM

California Community Colleges Chancellor's Office  
Program Awards Summary Report

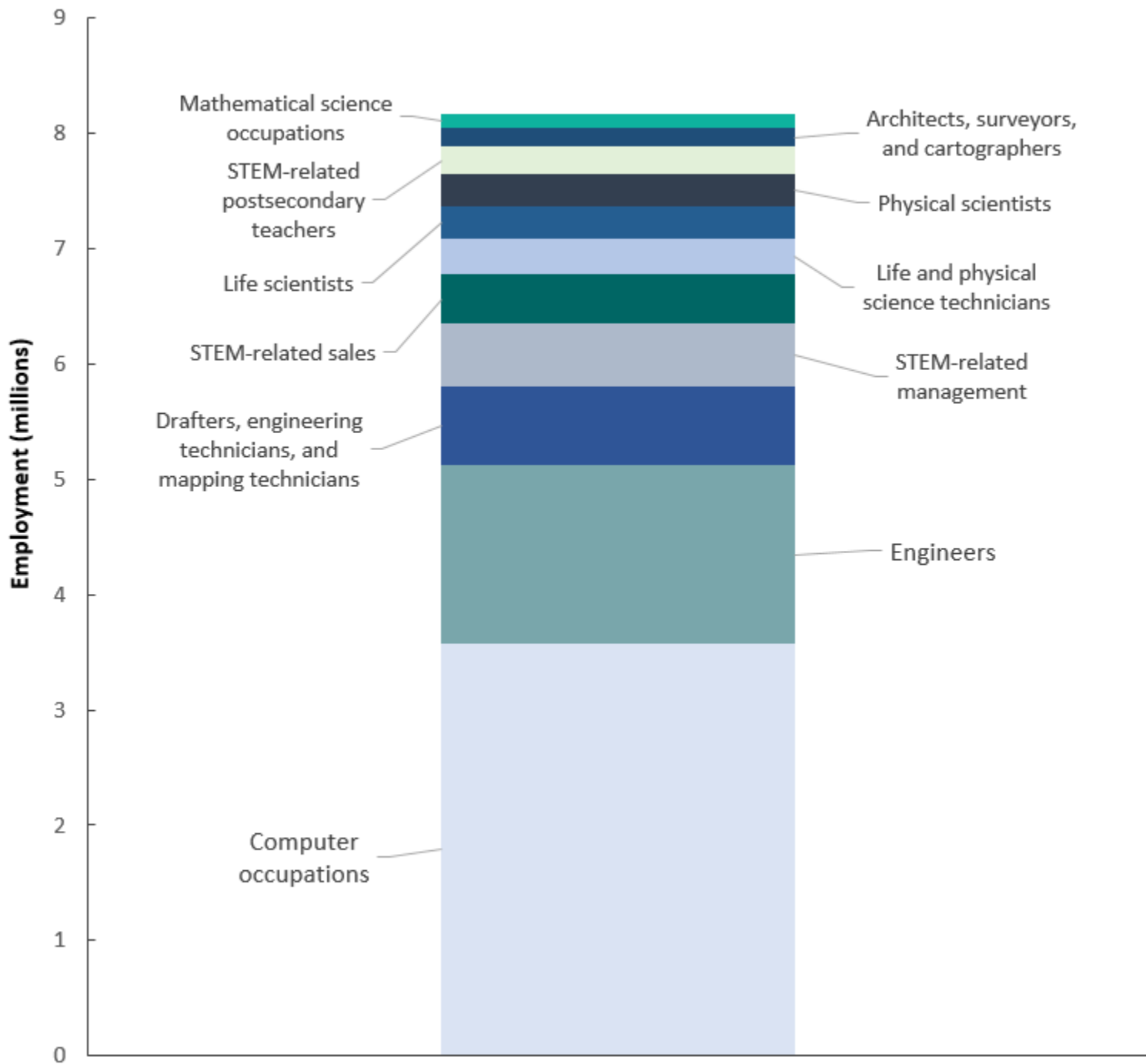
	Annual 2011-2012	Annual 2012-2013	Annual 2013-2014
Chaffey Total			1
Associate of Science (A.S.) degree			1
Cypress Total			3
Associate in Arts for Transfer (A.A.-T) Degree			2
Associate of Arts (A.A.) degree			1
Fullerton Total		3	3
Associate of Arts (A.A.) degree		3	3
Santa Ana Total	5	2	3
Associate of Arts (A.A.) degree	5	2	3

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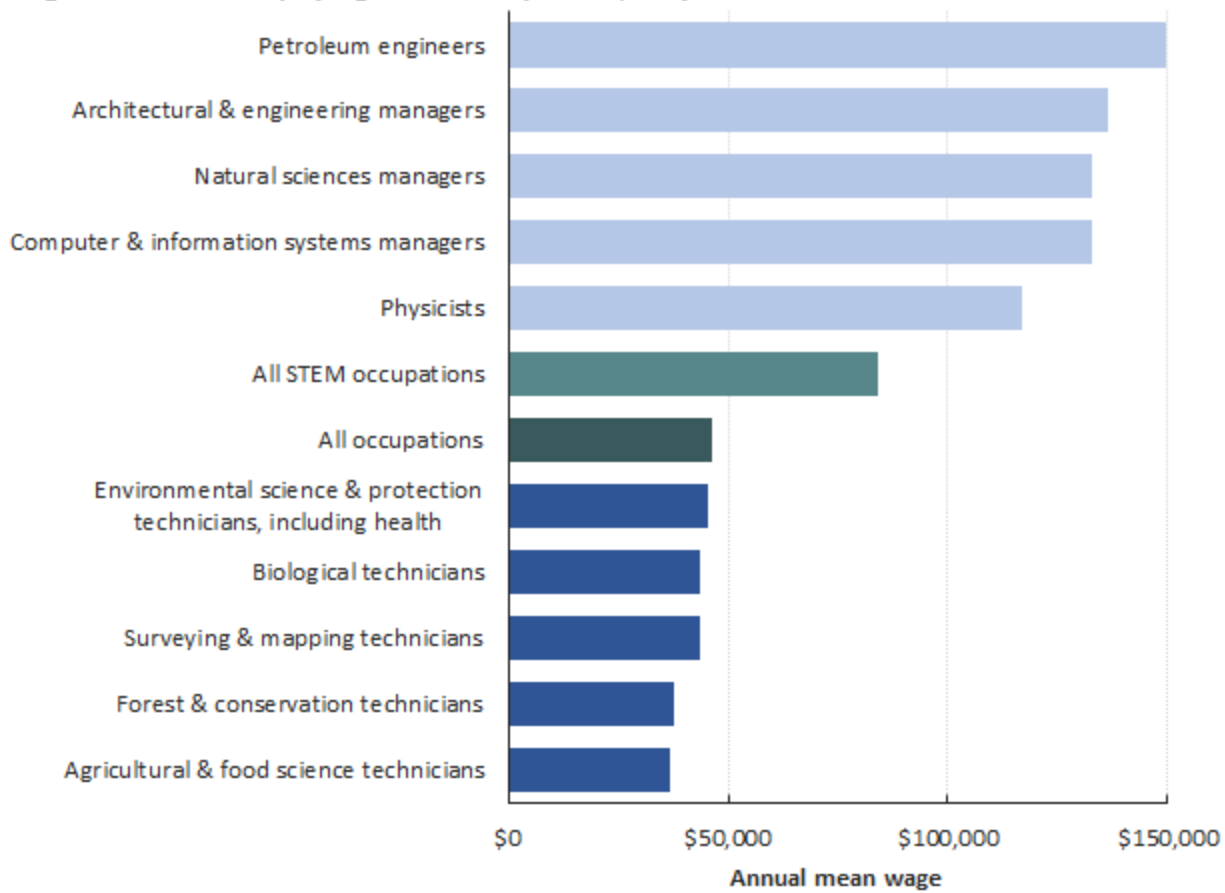
	Fall 2011	Fall 2011	Fall 2012	Fall 2012	Fall 2013
	Credit Grade Count	Credit Grade Count (%)	Credit Grade Count	Credit Grade Count (%)	Credit Grade Count
<b>Chaffey Total</b>	56,312	21.58%	51,159	19.85%	54,210
Grade A	16,084	28.56%	14,783	28.90%	16,046
Grade B	12,891	22.89%	11,961	23.38%	12,583
Grade C	8,784	15.60%	8,087	15.81%	8,694
Grade D	3,366	5.98%	2,862	5.59%	3,372
Grade F	7,152	12.70%	6,271	12.26%	7,512
Pass	1,709	3.03%	1,744	3.41%	1,042
No Pass	390	0.69%	385	0.75%	
Incomplete No Credit	134	0.24%	125	0.24%	96
Dropped	804	1.43%		0.00%	56
Withdrew	4,997	8.87%	4,941	9.66%	4,809
Military Withdrawal	1	0.00%		0.00%	
<b>Cypress Total</b>	44,730	17.14%	41,115	15.95%	43,262
Grade A	13,521	30.23%	12,276	29.86%	12,674
Grade B	10,515	23.51%	9,939	24.17%	10,412
Grade C	7,418	16.58%	6,809	16.56%	7,006
Grade D	2,108	4.71%	2,009	4.89%	2,200
Grade F	3,148	7.04%	2,881	7.01%	3,200
Pass	1,463	3.27%	1,161	2.82%	1,311
No Pass	190	0.42%	308	0.75%	189
Incomplete No Credit	86	0.19%	24	0.06%	33
Report Delayed	3	0.01%	1	0.00%	4
Withdrew	6,271	14.02%	5,704	13.87%	6,233
Military Withdrawal	7	0.02%	3	0.01%	
<b>Fullerton Total</b>	49,144	18.84%	49,667	19.27%	69,231
Grade A	15,108	30.74%	14,337	28.87%	17,611
Grade B	10,606	21.58%	10,638	21.42%	14,523
Grade C	7,910	16.10%	8,175	16.46%	11,069
Grade D	2,410	4.90%	2,626	5.29%	3,824
Grade F	3,788	7.71%	4,656	9.37%	6,832
Pass	1,406	2.86%	1,254	2.52%	2,682
No Pass	314	0.64%	228	0.46%	624
Incomplete No Credit	79	0.16%	69	0.14%	60
Report Delayed	4	0.01%	4	0.01%	11
Withdrew	7,515	15.29%	7,676	15.45%	11,995
Military Withdrawal	4	0.01%	4	0.01%	
<b>Rio Hondo Total</b>	48,594	18.62%	48,740	18.91%	45,802
Grade A	13,350	27.47%	12,520	25.69%	12,459
Grade B	8,418	17.32%	8,646	17.74%	8,588
Grade C	6,022	12.39%	6,350	13.03%	6,200
Grade D	2,257	4.64%	2,394	4.91%	2,291
Grade F	5,367	11.04%	6,117	12.55%	6,534
Pass	2,709	5.57%	3,539	7.26%	3,379
No Pass	1,348	2.77%	1,142	2.34%	1,120
Incomplete No Credit	56	0.12%	13	0.03%	19
Report Delayed	71	0.15%	50	0.10%	26
Dropped	1,641	3.38%	1,691	3.47%	369

## STEM employment by type of STEM occupation, May 2013



Source: U.S. Bureau of Labor Statistics.

### Highest and lowest paying STEM occupations, May 2013



Note: Light bars indicate highest paying STEM occupations; dark bars indicate lowest paying STEM occupations.

# U.S. Bureau of Labor Statistics

## OCCUPATIONAL OUTLOOK HANDBOOK

Life, Physical, and Social Science >

### Geographers

### Summary

#### Quick Facts: Geographers

[2012 Median Pay](#)

\$74,760 per year  
\$35.94 per hour

[Entry-Level Education](#)

Bachelor's degree

[Work Experience in a Related Occupation](#)

None

[On-the-job Training](#)

None

[Number of Jobs, 2012](#)

1,700

[Job Outlook, 2012-22](#)

29% (Much faster than average)

[Employment Change, 2012-22](#)

500

# 10 Best Jobs For Geography Graduates

By [Annette Smith](#) | 10/10/2010 |

These 10 best jobs for geography graduates prove that "geographer" isn't the only possible career. People study geography for many reasons, including the desire to learn more about the world's landscapes, environments, and societies. Geography students usually develop a range of skills that future employers value immensely. Technology, research, writing, and analytical skills are transferable to a variety of positions. Here are some of the best jobs around for people with a degree in geography.

**Physical Geographer.** Okay, some geography graduates do actually work as geographers. Geographers study the earth's many features. They usually work in one of two branches, physical or cultural. Physical geographers, or earth science geographers, study the physical aspects of the earth—land, climate, soil, vegetation, animals, and water.

**Cultural Geographer.** Cultural geographers are actually social scientists. They study human activity and social issues in a specific geographic region. They usually specialize in specific areas—for example, economic geography, political geography, and medical geography.

**GIS Analyst/Programmer.** Utility companies and municipal governments often hire GIS analysts or programmers to review data and create maps. GIS professionals use various digital technologies, including geographic information systems (GIS), to track information like client addresses, service territory, and archeological sensitivities.

**Geoscientist.** Geoscientists study the earth's physical aspects, such as composition and structure. They also study the earth's geologic history by analyzing rock and water. Geoscientists specialize in specific areas—seismology, for instance. Some professionals work in the field, while others work in research positions in colleges and universities, or for the federal government.

**Hydrologist.** Hydrologists specialize in underground or surface water. They study precipitation and water movement. Using sensing technology, they monitor regional and global water cycles. Hydrologists are employed in a variety of fields, including environmental science, and civil and environmental engineering.

**Surveyor/Surveying Technician.** Surveyors map and measure the earth. Although they use special equipment, their data comes from ground measurements rather than satellite images. "Detective work" also plays a role in the profession, as surveyors spend a lot of time inside, gathering maps, deeds, and blueprints. They often supervise a team of surveying technicians to assist with measurements and data collection.

**Cartographer/Photogrammetrist.** Some geography graduates may enjoy employment as cartographers or Photogrammetrist. Cartographers and Photogrammetrist are mapping professionals who gather, analyze, interpret, and map geographic data from surveys and photographs. These professionals often work for government agencies, publishers, or news media.

**Urban and Regional Planners.** Some geography graduates become urban and regional planners. Urban planners usually work for municipal governments, in wealthy, growing communities. Regional planners deal with a larger environment. Urban and regional planners combine land use and transportation planning to improve their communities.

**Geography Instructor.** Geography graduates may choose to share their love of geography in a teaching role. Teaching can be a very rewarding career, whether in a high school setting or in a college or university. Geography professors research geographic issues as an ongoing part of their work.

**Researcher/Freelance Writer.** A geography major with writing skills can work as a researcher and freelance writer. Many writers with geography backgrounds perform research and write articles for magazines and newspapers. A job as a science writer or travel writer may be just the ticket for a geography graduate.

**Division Deans' or appropriate Immediate Management Supervisor (IMS)  
Response Page**

*I concur with the findings contained in this Program Review.  
S. B. Viltz, Interim Dean, Social Sciences.*

*I concur with the findings contained in this Program Review with the following exceptions (include a narrative explaining the basis for each exception):*

*Area of exception:*

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*I do not concur with the findings contained in this Program Review (include a narrative exception):*

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