Basic Program Information

Department Name:

Geography & Geospatial Technology

Division Name:

Business and Social Sciences

Program Mission(s):

Geography: Geography provides an integrated perspective on social, political, economic, and physical phenomena occurring over space. Geography fulfills transfer requirements for four-year schools and emphasizes themes of the natural and built environment, human caused change to the natural world, and sustainability. Geography challenges students to grow into informed global citizens equipped with the tools to examine and assess the impacts of their actions.

Geospatial Technology: Geospatial technology is the unifying tool with which spatial phenomena is explored. Geospatial technology consists of Geographic Information Systems (GIS), Global Positioning Systems (GPS) and Remote Sensing (RS). The Geographic Information Systems Certificate program provides opportunities for career preparation, lifelong learning and transfer by providing courses that lead to a set of certificates that meet workforce needs.

Please list all Program Review team members who participated in this Program Review:

Name	Department	Position
K. Allison Lenkeit Meezan	GEOG/ GIST	Faculty
Michelle Palma	GEOG/ GIST	Faculty

Total number of Full Time Faculty:	*2*
Total number of Part Time Faculty:	7

Please list all existing Classified positions: None

List all Programs* covered by this review & check the appropriate column for program type:

Program Name	Certificate of Achievement Program	Associate Degree Program	Pathway Program
Geography AA		X	
Geography ADT		X	
Geospatial Technology Certificate of Achievement*	X		
Geospatial Technology AA**	X		

*The CA in GIST is presently housed in the Geography department. The CA in GIST has was completed and submitted to the college curriculum committee in Winter 2013, but changes in state procedure required additional information. **The CA and AA in GIST were resubmitted to the college in May 2014 and submitted to the state in October 2014.

Section 1: Data and Trend Analysis

a. **Program Data:**

Data will be posted on http://foothill.edu/staff/irs/programplans/programreviewdata.php for all measures except non-transcriptable completion. You must manually copy data in the boxes below for every degree or certificate of achievement covered by this program review.

Transcriptable Programs	2011-2012	2012-2013	2013-2014	% Change
GEOG AA/AS	1	2	2	
GEOG ADT	N/A	N/A	N/A	
GIST (GEOG) Certificate of Achievement	11	11	5	

Please provide any non-transcriptable completion data you have available. Institutional Research does not track this data; you are responsible for tracking this data.

Non-Transcriptable Program	2011-2012	2012-2013	2013-2014	% Change
None.				

If you have a non-transcriptable certificate that serves a workforce need, and/or has external certification, please provide a brief narrative explaining the industry need for this certificate, and attach any supporting data.

N/A

If it does not have external certification, and/or is not a workforce program, please provide a brief narrative justifying the need for a certificate that is not state approved, and attach any supporting data.

N/A

b. **Department Level Data:** *Geography*

	2011-2012	2012-2013	2013-2014	% Change
Enrollment	1199	1277	1232	-3.5%
Productivity (College Goal 2013-14: 535)	513	505	510	0.9%
Success	79%	82%	82%	

Full-time FTEF	.6	.3	1.0	236.4%
Part-time FTEF	4.4	4.6	4.6	-0.7%

c. **Department Level Data:** *Geospatial Technology* (new department for 2013-14)

	2011-2012	2012-2013	2013-2014	% Change
Enrollment	--	--	93	
Productivity (College Goal 2013-14: 535)	--	--	349	
Success	--	--	87%	
Full-time FTEF	--	--	0.0	
Part-time FTEF	--	--	0.3	

d. **Associate Degree Transfer (ADT)**

There is a fall 2014 legislated deadline for approval of ADTs (AA-T/AS/T degrees). **If there is a Transfer Model Curriculum (TMC) available in your discipline/program, you are** *required* **to offer an approved AA-T/AS-T.** Indicate the status of your program's ADT:

Check one	Associate Degree Transfer Status
x	**State Approved (GEOG)**
	Submitted to State Chancellor's Office
	Submitted to Office of Instruction
	In Progress with Articulation
	Planning Stage with Department
x	**Not Applicable (GIST)**

If you are required to offer an approved ADT and it has not been state-approved, please comment on the program's progress/anticipated approval date.

N/A

Using the prompts and the data from the tables above, provide a short, concise narrative analysis for each of the following indicators. If additional data is cited (beyond program review data sheet), please indicate your data source(s).

d. **Enrollment trends**: Over the last three years, is the enrollment in your program holding steady, or is there a noticeable increase or decline? Please comment on the data and analyze the trends.

The Geography program enrollment is holding steady. Over the last three years, the program has seen a slight drop in enrollment (1277 to 1232). The department has seen an increase in online course offerings (14.4%) over this time. This is in large part due to the difficulty recruiting faculty to teach traditional face to face classes. The department

recently hired a new full time faculty. It is the goal of the department to utilize our new full time hire to increase the number of face to face course offerings.

The Geospatial Technology department is new and the first year of data collected was 2013-14, making it difficult to analyze long term trends. However, the courses in the GIST department were moved over from the GEOG department upon formation of the new department so anecdotal evidence can be pulled from the individual course data in the GEOG program data. Overall, the enrollment in this department has declined slightly. This is due to a 'pipeline' problem of cancelled sections of the introductory course in the certificate sequence, GEOG/GIST12, Introduction to Geospatial Technology. Three sections of the course were cancelled due to low enrollment in Fall 2012- Fall 2014. This is likely due to a lack of advertising and promotion of the program from the Foothill Marketing office. In addition, with the Certificates of Achievement that were submitted to the state in fall 2014, the department is staged to begin significant outreach efforts to local employers and job seekers interested in upskilling. In addition, the department is planning to continue to promote the GIST classes to the traditional (18-24 year old) student population (see below).

e. **Student Demographics:** Please comment on the enrollment data, comparing the program-level data with the college-level data. Discuss any noticeable differences in areas such as ethnicity, gender, age and highest degree.

The ethnicity and gender profiles of both GEOG and GIST mirror the college as a whole. The GIST program is markedly different in its age and highest degree. GIST students tend to be older and enter the program with higher degrees than the college average. 70% of the students in the GIST program have BA/BS or higher, reflecting the roll of this program as a CTE pathway to skill enhancement. In addition, only 1% of the GIST students are 19 or less (19% college wide), 28% are 20-24 (42% college wide), and 34% are over 40 (12% college wide).

There is a significant opportunity to increase enrollment in the under 24 demographic in the GIST program. The faculty have undertaken several outreach activities to this end: (1) Presentations were made in Fall 2013 and Spring 2014 to the counseling faculty to make them aware of the transferable GIST courses; (2) The faculty have worked with departments such as ANTH, BUSI, HIST, POLI, SOC to add the lower division transferable GIST courses (GIST11 and GIST12) to their AA elective lists; (3) The faculty have held GIS Day activities to celebrate international GIS day in November of each year by holding information booths and interactive activities during the lunch hour in the student dining hall. It is also a goal of the GIST program to increase the marketing allocation for promoting the GIST program outside of the college campus.

f. **Productivity**: Although the college productivity goal is 535, there are many factors that affect productivity, i.e. seat count/facilities/accreditation restrictions. Please evaluate and discuss the productivity trends in *your program*, relative to the college goal and any additional factors that impact productivity. If your productivity is experiencing a declining trend, please address strategies that your program could adopt to increase productivity.

The Geography program productivity (510) is slightly lower than the college goal, but it remains steady. There are several factors that account for the slightly lower than target productivity. First, the seat count in the most commonly offered GEOG class (Physical Geography, GEOG01) is capped at 35 because it is a laboratory science class. Second, the lack of a second full time faculty until this year has limited the on campus presence of course offerings in the higher productivity classes (GEOG02 – Human Geography, GEOG10 – World Regional) which have a seat count of 50. It is the hope of this department that the addition of the new full time faculty member whose area of expertise is in the cultural side of Geography will increase the campus interest and enrollment in these courses.

The GIST program has a lower productivity (349) than the college goal, but it is more in line with other CTE programs. The productivity in this program is also hampered by the 'pipeline' problem discussed in section 'd' above.

g. **Course Offerings:** Review the enrollment trends by course and consider the frequency, variety, demand, pre-requisites, etc. If there are particular courses that are not getting sufficient enrollment or are regularly cancelled due to low enrollment, please discuss how your program is addressing this issue.

The Geography department course enrollments have been growing, in particular, in the online offerings. Enrollment in online courses has increased 14.4% and the number of sections offered has increased 23.8%. The overall enrollment in GEOG01 (Physical Geography, a transferable laboratory science class) has increased 17%. Enrollment in GEOG02, 05 and 10 has decreased slightly, however this is largely because of difficulty recruiting and retaining qualified adjunct faculty to staff these courses. The department has a new full time faculty member whose area of expertise is in the social science side of Geography (GEOG02, 05 and 10) which should help to increase the continuity and on campus presence of Geography and increase enrollment in these courses.

The Geospatial Technology department has experienced a decline in enrollment in the past three years. This is due to several factors. First, the only full time faculty member in GIST was on sabbatical in Fall 2011 and Winter/Spring 2013. The result of this was that there was no faculty for students to contact who were interested in joining the program. In addition, the GIST faculty has been working for over three years to update the program curriculum to bring it into line with national professional guidelines. The curriculum process was slowed by changes in state guidelines and requirements for new certificates of achievement, but in October 2014 the program submitted applications for three transcriptable certificates of achievement and one AA degree to the State Chancellor's office. In the time of this program update, the marketing office has not actively promoted the program, selecting to wait until the new curriculum is in place. As a result, the recruitment of new students to the program has stagnated. One of the resource requests in this program review is for marketing funds to promote the GIST program.

h. **Curriculum and SLOs:** Comment on the currency of your curriculum, i.e. are all CORs reviewed for Title 5 compliance at least every five years and do all prerequisites and co-

requisites undergo content review at that time? If not, what is your action plan for bringing your curriculum into compliance (Please use reports from the Curriculum Office to help you complete this prompt)?

All curriculum in the Geography and GIST program is Title 5 compliant. The courses in the GEOG and GIST departments do not have prerequisites. Each course in the GEOG and GIST department has SLO's entered in the TracDat system, as well as assessments and rubrics.

i.   **Curriculum and SLOs**: What are you doing to ensure that your curriculum is congruent with the most recent developments in your discipline?

The faculty in the Geography department participate in professional organizations to keep current in their discipline and insure the currency of the department curriculum. The faculty attend the California Geographical Society meetings, Cal GIS meetings, and ESRI User Conference. In addition, the faculty are active participants in the C-ID evaluation process, serving as a faculty course reviewer and dialoging with colleagues at other institutions about the curriculum developments in the discipline.

j.   **Innovation**: Please comment on any innovative initiatives within your program, this could include areas regarding sustainability, stewardship of resources, collaboration, grants and/or curriculum.

The Geospatial Technology department has recently completed a multi-year process to update the curriculum to match national model curriculum standards and has applied to the State Chancellor's Office for three transcriptable Certificates of Achievement and one AA degree in GIST.

Section 2: Student Equity and Institutional Standards

As part of an accreditation requirement, the college has established institution-set standards across specific indicators that are annual targets to be met and exceeded. Please comment on how these indicators compare at your program level and at the college level. (For a complete description of the institutional standard, please see the instructional cover sheet)

a. Institutional Standard for Course Completion Rate: 55%
Please comment on your program's course success data, including any differences in completion rates by student demographics as well as efforts to address these differences.

The course completion rate for Geography is 82% for non targeted groups, and 63% for targeted groups. This is in line with the overall college completion rates. Of note, the success rates for African Americans has steadily increased (45% to 63%) and Pacific Islanders (73% to 81%), both higher than the college average. This may be attributed to focused outreach efforts on the part of the faculty to address the equity gap in student's quantitative skills in the laboratory science courses.

The completion rate for the Geospatial Technology courses remains high (88%), likely due to the cohort nature of the classes and the strong motivation of the CTE students upon entering the program.

b. Institutional Standard for Degree Completion Number: 450
Has the number of students completing degrees in your program held steady or increased/declined in the last three years? Please comment on the data, analyze the trends, including any differences in completion rates by student demographics.

No data was provided by the college on degree or certificate completion rates.

The addition of the ADT in Geography has increased the potential for students to obtain a transfer degree.

c. Institutional Standard for Certificate Completion Number (Transcriptable): 325
Has the number of students completing certificates in your program held steady, or increased/declines in the last three years? Please comment on the data, analyze the trends, including any differences in completion rates by student demographics.

The number of students obtaining the transcriptable Certificate of Achievement in Geospatial Technology (currently listed as the Geography CA, waiting for state approval of the GIST CA), is much lower in 2013-14 (5 students) than the number of students who have completed all of the coursework for the Certificate of Achievement (14 students).

According to Institutional Research (email communication with Kuo 11/24/14 based on research request from 10/5/14), between 2010 and 2014, out of the 34 students who completed the requirements in that time frame, 22 graduated (65%). That leaves 12 students between 2009-10 and 2013-14 who completed the requirements but were not conferred an award (35%).

Anecdotal evidence for the reason for this gap in certificates earned versus certificate awarded is based on discussions with GIST students. Students are required to make an appointment to meet with a counselor to apply for their Certificate of Achievement. GIST students are primarily full time working professionals who take GIST courses in the evenings. GIST students have stated that they are unable to book a counseling appointment that fits with their work schedule (eg. on their lunch hour or at the very end of the work day). One student told the GIST faculty that he called on the morning counseling appointments opened for the week for four weeks in a row, and was not able to book an appointment that would fit his work schedule. The student finally gave up.

The GIST program understands that the college wishes to measure program success based on the number of degrees and certificates awarded. However, the faculty urge the college to also consider that the institutional structure (eg. the requirement that students meet with a counselor to receive their AA or CA) may be impeding the award of many AA's and CA's.

d. Institutional Standard for Transfer to four-year colleges/universities: 775

Based on the transfer data provided, what role does your program play in the overall transfer rates? Please comment on any notable trends or data elements related to your program's role in transfer.

No data was provided.

Section 3: Core Mission and Support

Please address all prompts that apply to your program.

Basic Skills Programs (English, ESLL and Math): For more information about the Core Mission of Basic Skills, see the Basic Skills Workgroup website: http://foothill.edu/president/basicskills.php

a. **Please comment on progression in sequenced courses, including ladder programs, alternative pathways and supplemental instruction. How successfully do students progress through the course sequence or pathways?**

b. **Based on your analysis of student success in these pathways, what initiatives or strategies are being considered to increase student success?**

   Transfer Programs: For more information about the Core Mission of Transfer, see the Transfer Workgroup website: http://foothill.edu/president/transfer.php

c. **Please analyze and discuss the available Transfer data regarding your programs, and discuss strategies or initiatives to improve transfer rates.**

No transfer data was provided. The Geography program courses articulate with all available C-ID descriptors which gives students maximum potential for articulation upon transfer. The addition of the ADT to the AA in Geography also facilitates student transfer.

d. Please analyze and discuss Articulation data regarding this program.

The faculty have worked to fully articulate all curriculum with CSU and UC transfer institutions. No specific articulation data was provided by the Instruction office or Institutional Research for consideration with this program review.

Workforce Programs: For more information about the Core Mission of Workforce, see the Workforce Workgroup website: http://www.foothill.edu/president/workforce.php

e. Discuss how this program continues to meet a documented labor market demand?

Foothill College Geospatial Technology program submitted applications to the State Chancellor's Office in October 2014 for three new transcriptable certificates and one AA degree. These are based on model curriculum developed by the GeoTech Center, an NSF Center of Excellence. A member of the Foothill College Geospatial Technology faculty, Allison Lenkeit Meezan, participated in the development of the national model curriculum. These certificates were developed in response to feedback from the program advisory board for the need for more detailed and targeted certificates.

The information used to estimate the Net Annual Labor Demand for the 4 proposed Foothill College Geospatial Technology awards is extrapolated from LMI data and regional employer surveys undertaken by the Foothill College GIST department. The LMI data does not include Geospatial Technology specifically, so the following fields are included in the analysis for Santa Clara County. While we expect our graduates to fill positions throughout the San Francisco Bay Area, this analysis provides a conservative estimate. Based on the feedback from the employer survey and the skills demanded in the different occupational titles, we have estimated the demand for each award type.

The following titles were used. We expect the degree and certificates to fill the need for entry level technicians/analysts as well as those with a Bachelor or Masters degree looking at retraining or job advancement.
- Business Analyst
- Cartographer/Mapping Coordinator
- Engineering Technician
- GIS Technican
- Research Analyst
- Transportation Planner
- Urban Planner

LMI databases do not specifically survey geospatial technology skills. Therefore Foothill College undertook a survey of local and national GIS and geospatial technology job posting websites. The data gathered was for the one month period of August-September 2014.
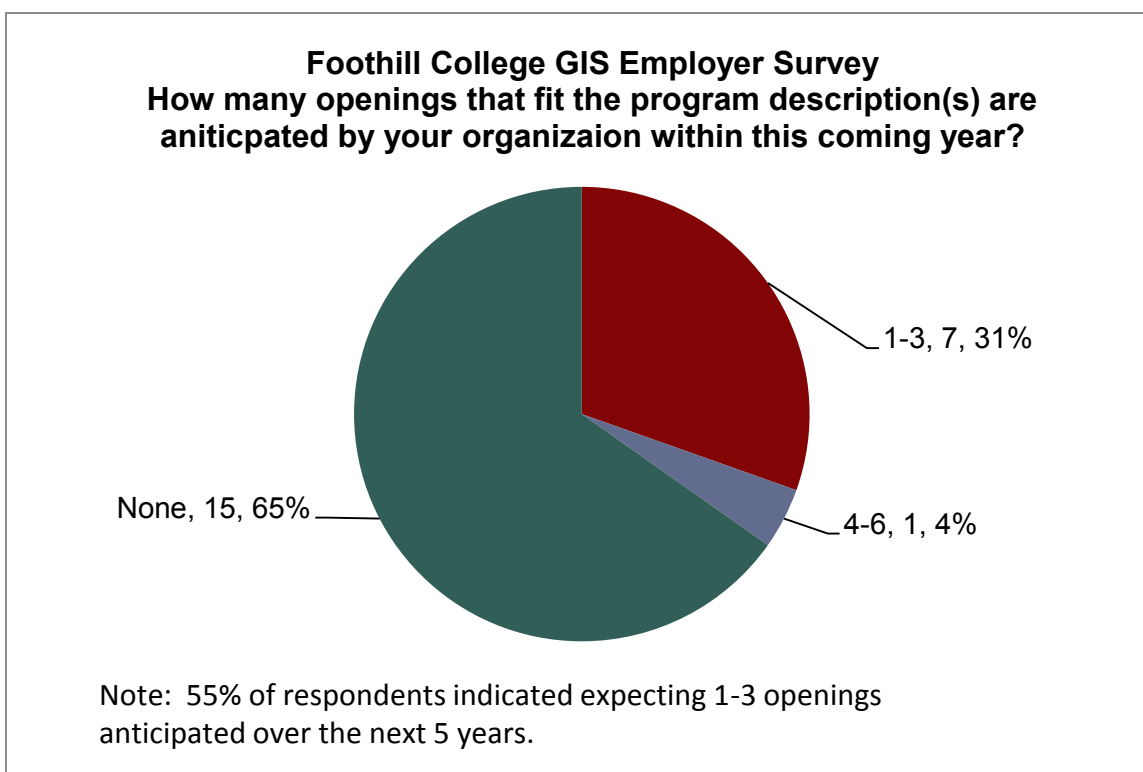
- During the one month period August to September 2014, the Bay Area Automated Mapping Association (www.baama.org) listed 10 job openings for GIS Specialists, GIS Technicians or GIS Analysts. These are local (San Francisco Bay Area specific) jobs. This can be extrapolated to approximately **100 jobs per year locally**.
- GeoSearchInc (http://jobs.geosearch.com/JobSeeker/JobList.aspx) listed over 200 jobs requiring any level of GIS skills for the period of August to September 2014 within the state of California. This was a significant indicator because this survey was the only one which allowed the user to specify multiple skill sets. Geospatial Technology is often a supporting 'tool' skill, rather than a primary employment category. These results can be extrapolated to **2000 jobs per year state wide** which use Geospatial Technology skills.
- GIS Jobs.com (http://www.gisjobs.com/) listed 21 jobs for GIS specialists, technicians or analysts for Northern California for the period of August to September 2014. This can be extrapolated to **210 jobs per year for Northern California.**
- The GIS Jobs Clearinghouse (http://www.gjc.org/gjc-cgi/listjobs.pl), a national job posting site, listed 176 jobs for GIS Technicians, GIS Analysts or GIS Managers for August to September 2014. This can be extrapolated to **1,760 jobs nationally**.

Regional Employer Survey

In the spring of 2014 the Geospatial Technology program completed a survey in of regional employers who employ one or more individuals who use geospatial technology. A student worker contacted each employer and obtained the name and email address of the primary user of geospatial technology. We identified 97 employers in the San Francisco Bay Area who employ one or more individuals who use geospatial technology. We then created a web based survey in Survey Monkey and distributed it to the contact list. There were 15 respondents to the survey.

The results of the survey indicate that there is significant regional demand for geospatial technology training. The survey targeted individuals whose primary responsibility in their organization is geospatial technology. Therefore, while the survey results indicated that the most in-demand training by employers was the Certificate of Achievement III and the AA degree (the two highest unit value awards), evidence from job posting websites such as GeoSearch Inc (http://jobs.geosearch.com/JobSeeker/JobList.aspx) indicates that there is a very large additional demand for lower unit training to use Geospatial Technology skills as a supporting tool rather than a primary occupation, thus also requiring the Certificate of Achievement I and II.

One third of the respondents indicated that they anticipated hiring 1 or more individuals whose primary duties were Geospatial Technology in the coming year. Extrapolating to the sample of 97 employers would result in an estimated total GIS labor market demand, conservatively, of 30 to 50 for this group of employers.

Foothill College GIS Employer Survey
How many openings that fit the program description(s) are aniticpated by your organizaion within this coming year?

1-3, 7, 31%

4-6, 1, 4%

None, 15, 65%

Note: 55% of respondents indicated expecting 1-3 openings anticipated over the next 5 years.

Based on an analysis of the 3 data sources (job postings, employer survey, LMI data) we estimate the following demand for each award type. We consider this to be a conservative estimate.

Net Annual Labor Demand

Associate in Art in Geographic Information Systems Technology	40
Certificate of Achievement in Geographic Information Systems Technology I	60
Certificate of Achievement in Geographic Information Systems Technology II	40
Certificate of Achievement in Geographic Information Systems Technology III	40

This projected employment demand far exceeds the projected number of completers each year.

f. **Analyze your program in relation to other programs in our region**, defined as San Mateo and Santa Clara counties.

There are no other colleges within commuting distance that offer a similar program. Diablo Valley College (65 miles away) is the only other community college that offers an associate degree or transcriptable certificate in Geospatial Technology. The Geospatial Technology program at Foothill has worked closely with the Geographic Information Systems programs at Diablo Valley College and City College of San Francisco (the only two regional colleges with similar programs) through the Bay Area Automated Mapping Association (BAAMA), the regional professional body, to insure that the programs complement each other.

The Diablo Valley College associate in science degree program in Geographic Information Systems/Global Positioning System is designed to prepare students for entry into careers that employ generalized or specialized applications of GIS. Students learn technical and analytical skills for research as well as practical skills necessary to enter the job market and obtain positions with such titles as GIS technician, GIS specialist, GIS analyst, GIS programmer, GIS coordinator, GIS supervisor and GIS manager.

The City College of San Francisco credit Geographic Information Systems program is jointly offered by the Earth Sciences Department (through the Geography program) and the Engineering Department. Students earn a 9 unit certificate of accomplishment (non-transcriptable). Students in this program develop in-depth knowledge of the fundamental concepts and practice of Geographic Information Systems (GIS) and learn hands-on problem-solving skills doing real-world GIS application projects. Students will be able to apply this knowledge and hands-on skills to various fields.

g. **Discuss any job placement and/or salary data available for your students after graduation.**

Based on a review of the market and survey data, students can expect to find jobs as GIS Technicians, GIS Specialists and other jobs which utilize GIS as an enabling tool. Students will be prepared for these positions upon completions of the CA in GIS. The median income that students can expect as a GIS professional in the San Francisco Bay Area is $27.52/hr based on data provided by Foothill Institutional Research.

h. **Please analyze and comment on average salary/wage data in the region, defined as San Mateo and Santa Clara counties.**

Based on the data provided by Institutional Research, the median income for a GIS professional in the San Francisco Bay Area is $27.52 per hour with a regional job growth of 6.9% The data found in the job market surveys referenced in section 'e' above indicate a somewhat higher average hourly wage ($42 per hour). This discrepancy is likely the result of the difference in job titles surveyed (the Institutional Research provided data only surveyed two job categories: Cartographers and Photogrammetrists and Surveyors and Mapping Technicians.

i. **Program accreditation:** If applicable, please describe your program accreditation: the agency, the frequency of the process and the current status of the program by the accrediting body.

There is no accrediting body for this program at the present time.

j. Service to the community: Please describe community service, outreach and special projects or initiatives that the program provides.

N/A

k. Outcomes assessments: If applicable, please describe additional means of outcomes assessment for the program, such as graduate surveys, alumni surveys, employer surveys, national and state licensing board exams, etc.
N/A

l. Please attach minutes from your advisory board meeting(s) and discuss key issues, outcomes and action plans as a result of these meetings.

Attached.

Section 4: Learning Outcomes Assessment Summary

a. **Attach 2013-2014 Course-Level** – Four Column Report for CL-SLO Assessment from TracDat, please contact the Office of Instruction to assist you with this step if needed.

See attached

b. **Attach 2013-2014 Program Level** – Four Column Report for PL-SLO Assessment from TracDat, please contact the Office of Instruction to assist you with this step if needed.

See attached

Section 5: SLO Assessment and Reflection

Based on your assessment data and reflections, please respond to the following prompts:

a. **What curricular, pedagogical or other changes have you made as a result of your CL-SLO assessments?**

The student learning outcome assessments provide an opportunity for discipline faculty to reflect on the learning and assessment process. The faculty who choose to participate in the

process have found the assessment and reflection process to be an opportunity to view teaching in the gestalt. However, the majority of adjunct faculty do not choose to participate, and given the overwhelming part time to full time ratio in this department, there has not been a critical mass of faculty participating in the review and discussion process to implement pedagogical changes.

Despite low levels of voluntary participation among adjunct faculty, the full time faculty has managed to assess as many courses as possible. As a result, changes have been made to improve SLOs to better reflect the key goals of the discipline. For example, it has been determined that all students, regardless of what course they are taking in GIST and GEOG should be able to use maps, graphs and/or Geographic Information Systems to analyze and interpret data and draw valid conclusions.

b. **How do the objectives and outcomes in your courses relate to the program-level student learning outcomes and to the college mission?**

The Geography & GIST program is well mapped and directly links to multiple elements of the college mission. The first program outcome for Geography, *Evaluate core concepts in cultural and physical geography and apply them to contemporary events and issues* maps to the **transfer** mission and directly supports the *communication, critical thinking, and community and global consciousness* institutional learning outcomes. The second program outcome for Geography, *Interpret spatially distributed data and draw valid conclusions by using maps, graphs and/or Geographic Information Systems (GIS)*, maps to the *computation* and *critical thinking* institutional learning outcomes and supports the college missions of **transfer** and **workforce**.

c. **How has assessment of program-level student learning outcomes led to certificate/degree program improvements?   Have you made any changes to your program based on the findings?**

The Geography transfer curriculum is not hierarchical; courses may be taken in any order, so there is no 'capstone' class in Geography in which all students completing the program can be assessed. Therefore if program level assessments are to take place, it must be with full data support from Institutional Research.

The Geography program level assessment requires data from institutional research to examine the success rates of students who have taken one, two, three and more Geography courses. Program level assessment in Geography was not undertaken because of a lack of support from institutional research in providing program level assessment data.

The Geospatial Technology program has completed program level assessments by surveying students in the capstone 'Internship' class. Students and their intern hosts were surveyed about the student skills upon completing the course. Internship hosts were largely satisfied with the

knowledge, skills and abilities of the students who had completed the internship. 95% of the internship hosts responded that they would hire their intern if they currently had a job opening. The updates to the GIST curriculum were largely based on feedback from the professional advisory board (several of whom also hosted student interns).

    d. **If your program has other outcomes assessments at the program level, comment on the findings.**

None.

    e. **What do faculty in your program do to ensure that meaningful dialogue takes place in both shaping and evaluating/assessing your program's student learning outcomes?**

The Geography and Geospatial Technology department holds annual face to face meetings to discuss SLO's and program curriculum. All faculty in the department (full time and part time) are invited and an effort is made to hold the meeting at a time that will not conflict with teaching or work commitments for the adjunct faculty (the Fall 2014 meeting was held at 8:30AM on a Friday). The Fall 2014 meeting was attended by the two full time faculty and two adjunct faculty.

In addition, on a quarterly basis, the full time faculty member contacts each group of faculty teaching each course and encourages a dialog to take place regarding SLO assessment by providing the faculty with a model assessment, and trying to create consensus on the SLO to be assessed for each course, then to build dialog surrounding the results of the assessment. However, the vast majority of adjunct faculty choose to not participate.

    f. **Reviewing your most recent annual program reviews, discuss any emerging trends related to SLO reflections and any action taken.**

Based on analysis of recent annual program reviews, the following trends related to SLOs, have been identified. All targets were met in the courses assessed over the last two years. This indicates that instructors are successfully guiding students toward the appropriate SLOs and that students are achieving what is expected of them. Upon reflection, the department has decided that once a target has been met for a SLO, instructors will move on to another SLO in the sequence for that class. If targets are not met, then that SLO will be reassessed the following year in an effort to close the gap. Once all of the SLOs have been assessed for a course, the department will reevaluate the SLOs and corresponding assessments to make sure that they effectively represent the core curriculum goals and require an appropriate level of effort among students.

Another trend related to SLO reflections is that not enough of the courses are being assessed to create a meaningful picture of the outcomes and trends. The department has requested additional institutional support for requiring adjuncts to conduct SLO assessments. However, these requests have remained unmet. The action taken has been for the full time faculty to continue to try to engage all faculty in the department to undertake SLO assessment, but with no incentive or mandate from the administration these efforts will have little to no effect. As a

result, the assessment organizing, assessing, gathering the assessed data, and entering it into the computer system is left to the full time faculty and represents uncompensated workload creep.

g. **What summative findings can be gathered from the Program Level Assessments?**

Program level assessments were not undertaken because of a lack of support from institutional research in providing program level assessment data. The Geography program level assessment requires data from institutional research to examine the success rates of students who have taken one, two, three and more Geography courses. Because the Geography transfer curriculum is not hierarchical, courses may be taken in any order, so there is no 'capstone' class in Geography in which all students completing the program can be assessed. Therefore if program level assessments are to take place, it must be with full data support from Institutional Research.

The Geospatial Technology department has conducted a program level assessment by surveying students in the capstone 'Internship' class. Students and their intern hosts were surveyed about the student skills upon completing the course. Internship hosts were largely satisfied with the knowledge, skills and abilities of the students who had completed the internship. 95% of the internship hosts responded that they would hire their intern if they currently had a job opening.

Annual Action Plan and Summary: Using the information above, list the program's action steps, the related Core Mission objective, SLO assessment data and the expected impact on student success.

Action Step	Related SLO assessment (Note applicable data)	Related ESMP Core Mission Goals (Basic Skills, Transfer, Work Force, Stewardship of Resources)	How will this action improve student learning/success?
1. **Engage adjunct faculty in participating in SLO process in order to gather meaningful data**	All (so little data was gathered it is not meaningful)	Transfer & workforce	The orderly assessment of student learning outcomes is an annual process required of department faculty. The participation rate in the GEOG/GIST department is very low due to the high number of sections taught by adjuncts and the lack of administrative support to gather SLO data. Therefore once the administration can garner wide spread participation in the

			process, the data can be analyzed and actions can be undertaken that will improve student success.
2			
3			

Section 6: Program Goals and Rationale

Program goals address broad issues and concerns that incorporate <u>some sort of measurable action</u> and connect to Foothill's core missions, <u>Educational & Strategic Master Plan (ESMP)</u>, the division plan, and SLOs. Goals/Outcomes are not resource requests.

List Previous Program Goals/Outcomes from last academic year: check the appropriate status box & provide explanation in the comment box.

Goal/Outcome (This is NOT a resource request)	Completed? (Y/N)	In Progress? (Y/N)	Comment on Status
1. The first goal is to increase outreach for the GIS program and align curriculum with workforce and job needs as well as to build up K-16 curricular partnerships and 4 year university articulation in GIS. The action plan to achieve this goal is to attain 10% release time for the Geography and GIS program chair.	No	No	No funding allocated
2. The second goal of the department is to convene a professional advisory board for the GIS program. To achieve this goal the	Partly	No	No funding allocated for release time. Division B budget funds spent on Advisory Board meeting.

department needs $200 to provide lunch to advisory board members. *If the 10% release time for the program chair is not granted, the department needs $500 to organize and convene the GIS program advisory board.*			
3. Maintain GIS program currency. The action plan to achieve this goal is to acquire the requested funds to pay for the software licenses for ArcGIS and Idrisi software.	Yes	Yes	Funds allocated for annual software license for ArcGIS. One time funds used to pay for software upgrade for IDRISI

New Goals: Goals can be multi-year (in Section 7 you will detail resources needed) **Goal/Outcome (This is NOT a resource request)**	**Timeline (long/short-term)**	**How will this goal improve student success or respond to other key college initiatives?**	**How will progress toward this goal be measured?**
1) The first goal is to increase outreach for the GIS program and align curriculum with workforce and job needs as well as to build up K-16 curricular partnerships and 4 year university articulation in GIS. The action plan to achieve this goal is to attain 10% release time for the	**1 year**	Continue to offer classes with **innovative and engaging teaching methods reflecting high standards of pedagogy** – Note that this is highly dependent on department faculty not being overly burdened with administrative tasks so that they can focus on teaching and students.	The Geographic Information Systems certificate program needs 10% annual release time for a full-time faculty member to administer the GIS CTE program. The GEOG/GIS full time faculty member currently works 4 hours per week conducting GIS-program related outreach, program

Geography and GIS program chair.		**Release time directly supports this Action.**	administration, student mentoring and internship acquisition. However, both the Geography and GIS programs could benefit from additional time and attention to advertising and curricular awareness. These significant demands are placed on the full time Geography/GIS faculty member, and extend beyond the collegial duties expected of all full time faculty.
2) The second goal of the department is to convene a professional advisory board for the GIS program. To achieve this goal the department needs $200 to provide lunch to advisory board members. *If* the 10% release time for the program chair is not granted, the department needs $500 to organize and convene the GIS program advisory board.	Advisory board meeting in spring 2015	Continue to offer classes with innovative and engaging teaching methods reflecting high standards of pedagogy Note that a strong connection to employers and industry are critical to program success, and an advisory board is the most direct and cost effective method to achieve this goal.	This continues to be a critical need of the GIS department to maintain currency.
3) Maintain GIS program currency. The action plan to achieve this goal is twofold. First, acquire the	2014-15	Continue to offer classes with innovative and engaging teaching methods reflecting high standards of	If the software is funded.

requested funds to pay for the software license for ArcGIS; second, to fund attending the ESRI GIS professional user conference and training sessions		pedagogy Note – Current software is necessary to maintain pedagogy standards in this program	
4) Increase student success in online classes by providing alternative delivery methods through video lessons. Resources required for this are funds for transcription services .	1 year	No	Not started
5) Increase student engagement and success in face to face classes by providing additional visual support in class through acquiring 'window shade' style pull down thematic maps and inflatable globes	1 year	No	Not started
6) Increase student success through resources for writing and ESL tutors.	1 year	No	Augment ongoing writing and tutorial centers.

Section 7: Program Resources and Support

Using the tables below, summarize your program's <u>unfunded</u> resource requests. Refer to the Operations Planning Committee website: http://foothill.edu/president/operations.php for current guiding principles, rubrics and resource allocation information.

Full Time Faculty and/or Staff Positions

Position	$ Amount	Related Goal from Table in section 6 and how this	Was position previously approved in last 3 years?

		resource request supports this goal.	(y/n)

Unbudgeted Reassigned Time (calculate by % reassign time x salary/benefits of FT)

Has the program received college funding for reassign time in the last three years? (y/n) No	If yes, indicate percent of time.
Has the program used division or department B-budget to fund reassign time? (y/n) No	

Indicate duties covered by requested reassign time:

Responsibility	Estimated $	Related Goal from Table in section 6 and how this resource request supports this goal.	Est hours per month	% Time
GIST program outreach, K-16 articulation and program partnerships, student advising and advisory board meetings.		Goals #1, & 2	16 hours per month – 10%	

One Time B Budget Augmentation

Description	$ Amount	Related Goal from Table in section 6 and how this resource request supports this goal.	Previously funded in last 3 years? (y/n)
Increase student success through resources for writing and ESL tutors.	$?????	#6	No

Ongoing B Budget Augmentation

Description	$ Amount	Related Goal from Table in section 6 and how this resource request supports this goal.	Previously funded in last 3 years? (y/n)

Facilities and Equipment

Facilities/Equipment Description	$ Amount	Related Goal from Table in section 6 and how this resource request supports this goal.	Previously funded in last 3 years? (y/n)

a. Please review the goals and resource requests that were granted over the last three years and provide evidence that the resource allocations supported your goals and led to student success.

1) Funding for a new full time position was granted in 2014, and a full time faculty member was hired in 2014. By having a second full time faculty member on campus the department increases its presence on campus to support and mentor students, resulting in an increase in student success. Because the new position began in fall of 2014, the data is not yet present to reflect an increase in student success.

Section 8: Program Review Summary

Address the concerns or recommendations that were made in prior program review cycles, including any feedback from Dean/VP, Program Review Committee, etc.

Recommendation	Comments
1. No major recommendations made in prior program review cycles	

a. After reviewing the data, what would you like to highlight about your program?
The Geography and GIST program remains robust.

- Unduplicated headcount in GEOG has increased 5.5% in three years
- Online enrollment in GEOG has increased 14.4% in 3 years
- Overall WSCH in GEOG has held steady (0.2% increase in 3 years)
- Online WSCH has increased 8.9% in 3 years
- The Geography program has grown significantly over the past decade and continues to maintain very high levels of retention and success.
- The GIST program remains a model CTE program with extremely high success rates for targeted groups (81%) and markedly higher enrollment of female students (60%) than average for the Geospatial Technology industry as a whole (38% female).

Section 9: Feedback and Follow Up

This section is for the Dean to provide feedback.

a. **Strengths and successes of the program as evidenced by the data and analysis:**

> The Geography and GIST programs at Foothill are clearly doing an outstanding job serving students by providing high-quality instruction and workforce training. This program review does an excellent job of detailing the ongoing success and growth of the program and the recent changes that have been made to ensure the program grows and moves forward, such as the application for new degress in GIST and the addition of a new full-time faculty member to meet the growing demand in Geography classes both face to face and online. Enrollment and productivity are stable and or growing in most areas and job demand and curriculum currency are both strong. The program has sufficient resources to meet its needs for software and other materials and going forward it will continue to meet a strong demand for transfer, career and workforce courses in the Goegraphy and GIST disciplines.

b. **Areas of concern, if any:**

> A recent decline in GIST enrollment, particularly in the Intro to GIST class, can be addressed through a reinvigorated marketing focus by the Division and the Department. As outlined in the program review, several factors have contributed to a decline in the GIST enrollment in the past year: less consistent marketing support due to turn-over in the marketing department, a faculty sabbatical and changes to curriculum that have delayed having approved degrees. These issues can be addressed and a renewed focus on GIST, particularly coupled with a marketing push related to our move to the new FHDA Education Center in 2016, has the potential to increase GIST enrollment. Lack of SLO assessment by part-time faculty is a concern that must be addressed as this is an area that was identified as "uncompensated workload creep." SLO assessment is not optional.

c. **Recommendations for improvement:**

> Overall, no serious areas for improvement, as many improvements have been made in recent years. A new marketing strategy will be implemented in the coming year, that can hopefully build with the opening of the new FHDA center in 2016. With a new full-time faculty member, the department is working with the Dean to schedule classes differently and open up more face to face classes in Geography.

This section is for the Vice President/President to provide feedback.

d. **Strengths and successes of the program as evidenced by the data and analysis:**

As reflected in this program review, the GEOG/GIST departments are doing an excellent job of serving students. The curriculum is responsive to the needs of the transfer institutions as well as industry. The creation of an ADT and the addition of a new FT faculty member are sure to enhance an already successful program. Enrollment and productivity are strong and the workforce data reflect a vibrant and evolving program.

e. **Areas of concern, if any:**

The program review highlights several areas where the author(s) feel a need for more institutional support. Although the college's resources are stretched at all levels, the Office of Instruction and Institutional Research strives to meet the needs of our faculty, students and programs. Including these concerns in the program review is helpful, but it would be more productive to address these concerns as they arise, rather than doing so through the annual review process.

The goals and plans for the program appear to be on track and there are no significant recommendations for improvement.

f. **Recommendations for improvement:**

g. **Recommended Next steps:**
X___ Proceed as planned on program review schedule
___ Further review/Out of cycle in-depth review

Upon completion of section 9, the Program Review should be returned to department faculty and staff for review, then submitted to the Office of Instruction and Institutional Research for public posting. See timeline on Program Review Cover Sheet.

Foothill College
Department - Geographic Information Systems Technology (GIST)

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up

Department - Geographic Information Systems Technology (GIST) - GIST 11 - INTRODUCTION TO MAPPING & SPATIAL REASONING - Evaluate cartographic products in terms of their aesthetic design and ability to communicate information. - Evaluate cartographic products in terms of their aesthetic design and ability to communicate information. (Created By Department - Geography (GEOG))
 	
Course-Level SLO Status:
Active
	Assessment Method:
	 As a group, collect 6 or more maps that display the same information in different ways. Possible theme ideas include:
	
	   College campuses
	   Light rail/subway system maps
	   City trash collection days
	   Zoos
	   City tourist maps
	   Regional political maps such as 'Europe' or 'The Middle East'
	   Amusement parks
	   Parks or open space areas under different jurisdictions (eg. national park, state park, county park)
	   Whole earth topography
	
	Create a 10 minute presentation that compares the effectiveness of the different maps. Consider the scale, resolution, coordinate systems, data sources, accuracy and the map's purpose/audience. Which maps are most or least effective for their intended purpose? Do any maps employ especially innovative or effective cartography?
	Assessment Method Type:
	Class/Lab Project
	Target for Success:
	Students successfully assess maps in terms of the criteria outlined on their assignment
		06/27/2014 - Students completed the project. 50% of the students completed the project very successfully. 50% of the students completed the project successfully.
		Result:
		Target Met
		Year This Assessment Occurred:
		2013-2014
		Resource Request:
		Additional hard copy map products to help students practice.
			06/27/2014 - As this outcome was successfully met, the action plan is to continue with the present methodology.

Department - Geographic Information Systems Technology (GIST) - GIST 12 - INTRODUCTION TO GEOGRAPHIC	**Assessment Method:** Exam question in which a student is asked to define a GIS		

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
INFORMATION SYSTEMS (GIS) - SLO 1 - Definition - Define a Geographic Information System. (Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method Type:** Exam - Course Test/Quiz **Target for Success:** Student is able to define a GIS		
Department - Geographic Information Systems Technology (GIST) - GIST 12 - INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS (GIS) - SLO 2 - Vector and raster GIS - Identify, compare and Contrast vector and raster GIS. (Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method:** A critical thinking question in which as student is asked to compare and contrast vector and raster GIS **Assessment Method Type:** Exam - Course Test/Quiz **Target for Success:** Student is able to successfully compare and contrast vector and raster GIS	01/06/2014 - A - 17 B - 4 C - 1 D - 0 F - 1 (did not participate) **Result:** Target Met **Year This Assessment Occurred:** 2013-2014 **Resource Request:** None **GE/IL-SLO Reflection:** Keep doing what we are doing.	
Department - Geographic Information Systems Technology (GIST) - GIST 12 - INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS (GIS) - SLO 3 - Cartographic principles - Apply cartographic principles of scale, resolution, projection, data management and spatial analysis to a geographic nature using a GIS. (Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method:** Student undertakes a GIS project in which they are asked to apply cartographic principles of scale, resolution, projections, data management and spatial analysis **Assessment Method Type:** Class/Lab Project **Target for Success:** Student successfully applies cartographic principles of scale, resolution, projections, data management and spatial analysis using a GIS		
Department - Geographic Information Systems Technology (GIST) - GIST 52 - ADVANCED GEOGRAPHIC INFORMATION SYSTEMS (GIS) - SLO 1 - Data conversion - Demonstrate the process of converting analogue data to digital data for us in GIS.	**Assessment Method:** Student is asked to demonstrate how to convert analogue data to digital data using a GIS **Assessment Method Type:** Class/Lab Project		

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
(Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Target for Success:** Student successfully converts analogue data to digital data using a GIS		
Department - Geographic Information Systems Technology (GIST) - GIST 52 - ADVANCED GEOGRAPHIC INFORMATION SYSTEMS (GIS) - SLO 3 - GIS databases - Create new GIS databases. (Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method:** Student is asked to create a new GIS database **Assessment Method Type:** Class/Lab Project **Target for Success:** Student creates a new GIS database that functions correctly	06/27/2014 - This course was taught by an adjunct instructor and no SLO assessment was conducted. **Result:** Target Not Met **Year This Assessment Occurred:** 2013-2014 **Resource Request:** institutional method to evaluate and support adjunct instructors in completing SLO assessments	06/27/2014 - Put an institutional structure in place to support and evaluate adjunct instructors on SLO work.
Department - Geographic Information Systems Technology (GIST) - GIST 54A - SEMINAR IN SPECIALIZED APPLICATIONS OF GEOGRAPHIC INFORMATION SYSTEMS I - SLO 1 - GIS applications - Discuss the diverse applications of Geographic Information Systems. (Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method:** Student summarizes the diverse applications of GIS in multiple reaction papers **Assessment Method Type:** Essay/Journal **Target for Success:** Student demonstrates awareness of the diverse applications of GIS	06/27/2014 - This course was taught by an adjunct instructor and no SLO assessment was conducted. **Result:** Target Not Met **Year This Assessment Occurred:** 2013-2014 **Resource Request:** institutional method to evaluate and support adjunct instructors in completing SLO assessments	06/27/2014 - Provide institutional support and evaluation for adjunct instructors to complete SLO assessments
Department - Geographic Information Systems Technology (GIST) - GIST 58 - REMOTE SENSING & DIGITAL IMAGE PROCESSING - SLO 1 - Definition - Define remote sensing. (Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method:** Student is asked to define remote sensing **Assessment Method Type:** Exam - Course Test/Quiz **Target for Success:** Student successfully defines remote sensing		
Department - Geographic Information			

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
Systems Technology (GIST) - GIST 58 - REMOTE SENSING & DIGITAL IMAGE PROCESSING - SLO 3 - Electromagnetic spectrum and remote sensing - Discuss the physical basis for remote sensing in terms of the electromagnetic spectrum. (Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method:** Student is asked to discuss the physical basis for remote sensing in terms of the electromagnetic spectrum **Assessment Method Type:** Exam - Course Test/Quiz **Target for Success:** Student is able to discuss the physical basis for remote sensing in terms of the electromagnetic spectrum	06/27/2014 - This course was taught by an adjunct instructor and no SLO assessment was conducted. **Result:** Target Not Met **Year This Assessment Occurred:** 2013-2014 **Resource Request:** institutional method to evaluate and support adjunct instructors in completing SLO assessments	06/27/2014 - Provide institutional support and evaluation for adjunct instructors to complete SLO work
Department - Geographic Information Systems Technology (GIST) - GIST 59 - CARTOGRAPHY, MAP PRESENTATION & DESIGN - SLO 1 - Map creation - Create maps that demonstrate an understanding of the fundamentals of composition, color, and symbol selection at different scales. (Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method:** Student is asked to create a map that applies the fundamentals of composition, color, and symbol selection at different scales, as discussed in the class **Assessment Method Type:** Class/Lab Project **Target for Success:** Student is able to successfully create a map that applies the fundamentals of composition, color, and symbol selection at different scales, as discussed in the class	06/27/2014 - This course was taught by an adjunct instructor and no SLO assessment was conducted. **Result:** Target Not Met **Year This Assessment Occurred:** 2013-2014 **Resource Request:** institutional method to evaluate and support adjunct instructors in completing SLO assessments	06/27/2014 - Provide institutional support and evaluation for adjunct instructors to complete SLO work

Foothill College
Department - Geography (GEOG)

Mission Statement: Geography provides an integrated perspective on social, political, economic, and physical phenomena occurring over space. Geography fulfills transfer requirements for four-year schools and emphasizes themes of the natural and built environment, human caused change to the natural world, and sustainability. Geography challenges students to grow into informed global citizens equipped with the tools to examine and assess the impacts of their actions.

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up

Department - Geographic Information Systems Technology (GIST) - GIST 11 - INTRODUCTION TO MAPPING & SPATIAL REASONING - Evaluate cartographic products in terms of their aesthetic design and ability to communicate information. - Evaluate cartographic products in terms of their aesthetic design and ability to communicate information. (Created By Department - Geography (GEOG))
 	
Course-Level SLO Status:
Active
	Assessment Method:
	 As a group, collect 6 or more maps that display the same information in different ways. Possible theme ideas include:
	
	  College campuses
	  Light rail/subway system maps
	  City trash collection days
	  Zoos
	  City tourist maps
	  Regional political maps such as 'Europe' or 'The Middle East'
	  Amusement parks
	  Parks or open space areas under different jurisdictions (eg. national park, state park, county park)
	  Whole earth topography
	
	Create a 10 minute presentation that compares the effectiveness of the different maps. Consider the scale, resolution, coordinate systems, data sources, accuracy and the map's purpose/audience. Which maps are most or least effective for their intended purpose? Do any maps employ especially innovative or effective cartography?
	Assessment Method Type:
	Class/Lab Project
	Target for Success:
	Students successfully assess maps in terms of the criteria outlined on their assignment
		06/27/2014 - Students completed the project. 50% of the students completed the project very successfully. 50% of the students completed the project successfully.
		Result:
		Target Met
		Year This Assessment Occurred:
		2013-2014
		Resource Request:
		Additional hard copy map products to help students practice.
			06/27/2014 - As this outcome was successfully met, the action plan is to continue with the present methodology.

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
Department - Geographic Information Systems Technology (GIST) - GIST 12 - INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS (GIS) - SLO 1 - Definition - Define a Geographic Information System. (Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method:** Exam question in which a student is asked to define a GIS **Assessment Method Type:** Exam - Course Test/Quiz **Target for Success:** Student is able to define a GIS		
Department - Geographic Information Systems Technology (GIST) - GIST 12 - INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS (GIS) - SLO 2 - Vector and raster GIS - Identify, compare and Contrast vector and raster GIS. (Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method:** A critical thinking question in which as student is asked to compare and contrast vector and raster GIS **Assessment Method Type:** Exam - Course Test/Quiz **Target for Success:** Student is able to successfully compare and contrast vector and raster GIS	01/06/2014 - A - 17 B - 4 C - 1 D - 0 F - 1 (did not participate) **Result:** Target Met **Year This Assessment Occurred:** 2013-2014 **Resource Request:** None **GE/IL-SLO Reflection:** Keep doing what we are doing.	
Department - Geographic Information Systems Technology (GIST) - GIST 12 - INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS (GIS) - SLO 3 - Cartographic principles - Apply cartographic principles of scale, resolution, projection, data management and spatial analysis to a geographic nature using a GIS. (Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method:** Student undertakes a GIS project in which they are asked to apply cartographic principles of scale, resolution, projections, data management and spatial analysis **Assessment Method Type:** Class/Lab Project **Target for Success:** Student successfully applies cartographic principles of scale, resolution, projections, data management and spatial analysis using a GIS		

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
Department - Geographic Information Systems Technology (GIST) - GIST 52 - ADVANCED GEOGRAPHIC INFORMATION SYSTEMS (GIS) - SLO 1 - Data conversion - Demonstrate the process of converting analogue data to digital data for us in GIS. (Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method:** Student is asked to demonstrate how to convert analogue data to digital data using a GIS **Assessment Method Type:** Class/Lab Project **Target for Success:** Student successfully converts analogue data to digital data using a GIS		
Department - Geographic Information Systems Technology (GIST) - GIST 52 - ADVANCED GEOGRAPHIC INFORMATION SYSTEMS (GIS) - SLO 3 - GIS databases - Create new GIS databases. (Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method:** Student is asked to create a new GIS database **Assessment Method Type:** Class/Lab Project **Target for Success:** Student creates a new GIS database that functions correctly	06/27/2014 - This course was taught by an adjunct instructor and no SLO assessment was conducted. **Result:** Target Not Met **Year This Assessment Occurred:** 2013-2014 **Resource Request:** institutional method to evaluate and support adjunct instructors in completing SLO assessments	06/27/2014 - Put an institutional structure in place to support and evaluate adjunct instructors on SLO work.
Department - Geographic Information Systems Technology (GIST) - GIST 54A - SEMINAR IN SPECIALIZED APPLICATIONS OF GEOGRAPHIC INFORMATION SYSTEMS I - SLO 1 - GIS applications - Discuss the diverse applications of Geographic Information Systems. (Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method:** Student summarizes the diverse applications of GIS in multiple reaction papers **Assessment Method Type:** Essay/Journal **Target for Success:** Student demonstrates awareness of the diverse applications of GIS	06/27/2014 - This course was taught by an adjunct instructor and no SLO assessment was conducted. **Result:** Target Not Met **Year This Assessment Occurred:** 2013-2014 **Resource Request:** institutional method to evaluate and support adjunct instructors in completing SLO assessments	06/27/2014 - Provide institutional support and evaluation for adjunct instructors to complete SLO assessments
Department - Geographic Information Systems Technology (GIST) - GIST 58 - REMOTE SENSING & DIGITAL IMAGE PROCESSING - SLO 1 - Definition - Define	**Assessment Method:** Student is asked to define remote sensing **Assessment Method Type:** Exam - Course Test/Quiz		

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
remote sensing. (Created By Department - Geography (GEOG))	**Target for Success:** Student successfully defines remote sensing		
Course-Level SLO Status: Active			
Department - Geographic Information Systems Technology (GIST) - GIST 58 - REMOTE SENSING & DIGITAL IMAGE PROCESSING - SLO 3 - Electromagnetic spectrum and remote sensing - Discuss the physical basis for remote sensing in terms of the electromagnetic spectrum. (Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method:** Student is asked to discuss the physical basis for remote sensing in terms of the electromagnetic spectrum **Assessment Method Type:** Exam - Course Test/Quiz **Target for Success:** Student is able to discuss the physical basis for remote sensing in terms of the electromagnetic spectrum	06/27/2014 - This course was taught by an adjunct instructor and no SLO assessment was conducted. **Result:** Target Not Met **Year This Assessment Occurred:** 2013-2014 **Resource Request:** institutional method to evaluate and support adjunct instructors in completing SLO assessments	06/27/2014 - Provide institutional support and evaluation for adjunct instructors to complete SLO work
Department - Geographic Information Systems Technology (GIST) - GIST 59 - CARTOGRAPHY, MAP PRESENTATION & DESIGN - SLO 1 - Map creation - Create maps that demonstrate an understanding of the fundamentals of composition, color, and symbol selection at different scales. (Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method:** Student is asked to create a map that applies the fundamentals of composition, color, and symbol selection at different scales, as discussed in the class **Assessment Method Type:** Class/Lab Project **Target for Success:** Student is able to successfully create a map that applies the fundamentals of composition, color, and symbol selection at different scales, as discussed in the class	06/27/2014 - This course was taught by an adjunct instructor and no SLO assessment was conducted. **Result:** Target Not Met **Year This Assessment Occurred:** 2013-2014 **Resource Request:** institutional method to evaluate and support adjunct instructors in completing SLO assessments	06/27/2014 - Provide institutional support and evaluation for adjunct instructors to complete SLO work
Department - Geography (GEOG) - GEOG 1 - PHYSICAL GEOGRAPHY - SLO 2 - Seasons - Explain the causes of seasons (Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method:** Student is asked a critical thinking question that requires them to describe the causes of seasons **Assessment Method Type:** Exam - Course Test/Quiz **Target for Success:** Excellent (4) Student states that the primary cause of seasons on earth is the 23.5* tilt of the earth off of the plane of the ecliptic.		

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
	Student elaborates to discuss axial parallelism and the shift in the subsolar point and the circle of illumination throughout the year. Competent (3) Student states that the primary cause of seasons on earth is the tilt of the earth off of the plane of the ecliptic. Student partially elaborates using some but not all of the elements listed above. Adequate (2) Student states that the primary cause of seasons on earth is the tilt of the earth, but does not discuss the plane of the ecliptic; AND Student partially elaborates using some elements listed above. Poor (1) Student states that the primary cause of seasons on earth is the tilt of the earth, but does not discuss the plane of the ecliptic; AND Student does not elaborates using some elements listed above. Not Acceptable (0) Student does not state that the primary cause of seasons on earth is the tilt of the earth OR Answer is missing or irrelevant.		
Department - Geography (GEOG) - GEOG 1 - PHYSICAL GEOGRAPHY - SLO 4 - Landform formation - Discuss the formation of major landforms. (Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method:** Student is asked a critical thinking question that requires them to discuss the formation of a major landform on earth **Assessment Method Type:** Exam - Course Test/Quiz **Target for Success:** Excellent (4) Student presents an answer that illustrates an understanding of the factors behind the formation of the landform. The answer includes a discussion of the hydrologic, tectonic and/or weathering processes that affected the formation of that landform. Competent (3) Student presents an answer that illustrates an understanding of the		

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
	factors behind the formation of the landform. The answer includes a discussion of the hydrologic, tectonic and/or weathering processes that affected the formation of that landform but is lacking in a full description of the processes. Adequate (2) Student presents an answer that illustrates the factors behind the formation of the landform, but partially discusses the of the hydrologic, tectonic and/or weathering processes that affected the formation of that landform but is lacking in a full description of the processes. Poor (1) Student presents an answer that defines the landform and may outline some steps in the formation, but significant material is missing from the discussion. Not Acceptable (0) Student does not accurately define or discuss the landform or present specific examples; OR Answer is missing or irrelevant.		
Department - Geography (GEOG) - GEOG 1 - PHYSICAL GEOGRAPHY - SLO 5 - Atmosphere - Discuss the function, temperature profile and composition of the atmosphere. (Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method:** Student is asked a critical thinking question that requires them to describe the function, temperature profile and composition of the atmosphere. **Assessment Method Type:** Exam - Course Test/Quiz **Target for Success:** Excellent (4) Student presents an answer that illustrates an understanding of the composition, temperature and function profiles of the modern atmosphere. Student defines the major gasses found in the homosphere and their relative ratios, describes the temperature profile of the troposphere, stratosphere, mesosphere and thermosphere, and discusses the function of the ozonosphere.		

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
	Competent (3) Student presents an answer that illustrates an understanding of the composition, temperature and function profiles of the modern atmosphere, but one or more elements of the above answer is lacking. Adequate (2) Student presents an answer that describes the composition, temperature and function profiles of the modern atmosphere, but two or more elements of the above answer is lacking. Poor (1) Student presents an answer that describes the atmosphere by composition, temperature or function, but one or more descriptors is missing or inaccurate. Not Acceptable (0) Student does not accurately describe the composition, temperature or function of the atmosphere; OR Answer is missing or irrelevant.		
Department - Geography (GEOG) - GEOG 1 - PHYSICAL GEOGRAPHY - SLO 6 - Water - Discuss the hydrologic cycle, and the distribution and allocation of water resources for humans. (Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method:** Student is asked a critical thinking question that requires them to discuss the hydrologic cycle, and the distribution and allocation of fresh water resources for humans **Assessment Method Type:** Exam - Course Test/Quiz **Target for Success:** Excellent (4) Student presents an answer that illustrates an understanding of the elements of the hydrologic cycle and presents a discussion of the distribution and allocation of fresh water resources for humans. Competent (3) Student presents an answer that illustrates an understanding of the elements of the hydrologic cycle. One or more elements of the hydrologic cycle may be missing, AND the student presents a discussion of the distribution and allocation of fresh water resources for humans. OR	01/06/2014 - Exam question: Discuss the water cycle. Pay special attention to the transfer of energy and the effects on weather. Excellent: 14 Competent: 22 Adequate: 9 Poor: 6 Not Acceptable: 5 **Result:** Target Met **Year This Assessment Occurred:** 2013-2014 **Resource Request:** Continued support for online instruction **GE/IL-SLO Reflection:** The majority of the Not acceptable and Poor students were online. We need to continue to support online instruction and encourage students to reflect whether they are well	

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
	Student presents an answer that illustrates an understanding of the elements of the hydrologic cycle AND the student presents a discussion of the distribution and allocation of fresh water resources for humans that has significant elements missing or inaccurate. Adequate (2) Student presents an answer that illustrates an understanding of the elements of the hydrologic cycle. Two or more elements of the hydrologic cycle may be missing, AND the student presents a discussion of the distribution and allocation of fresh water resources for humans that has elements that are missing or inaccurate. Poor (1) Student presents an answer that illustrates an understanding of the elements of the hydrologic cycle. Three or more elements of the hydrologic cycle may be missing, AND the discussion of the distribution and allocation of fresh water resources for humans is incomplete or missing. Not Acceptable (0) Student does not accurately describe the hydrologic cycle; OR Answer is missing or ir	suited to online instruction prior to enrolling in online classes	
Department - Geography (GEOG) - GEOG 1 - PHYSICAL GEOGRAPHY - SLO 7 - Human-environment interaction - Analyze patterns and consequences of human environment interaction. (Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method:** Student is asked a critical thinking question that requires them to analyze patterns and consequences of human environment interaction **Assessment Method Type:** Exam - Course Test/Quiz **Target for Success:** Excellent (4) Student presents an answer that illustrates an understanding of the biotic and abiotic elements that are affected by human action. Student provides specific examples and accurately integrates elements from the atmosphere, hydrosphere and or lithosphere	01/06/2014 - I assessed this SLO using the following short answer question on the final exam: Above we see an image of what is called a "Dead Zone" off the Southern California Coast. What is a "dead zone"? Why do dead zones occur? How do humans contribute to dead zone formation? Results: (62 Students Total) Rating Excellent Competent Adequate Poor Not	

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
	where relevant. Competent (3) Student presents an answer that illustrates an understanding of the biotic and abiotic elements that are affected by human action, but one or more elements are not discussed. Student provides specific examples but may not accurately integrate them with the atmosphere, hydrosphere and or lithosphere. Adequate (2) Student presents an answer that illustrates the biotic and abiotic elements that are affected by human action, but one or more elements are not discussed. Specific examples are mentioned but not connected to the discussion. Poor (1) Student presents an answer that notes the biotic and abiotic elements that are affected by human action, but one or more elements are not discussed. Specific examples are not mentioned. Not Acceptable (0) Student does not present an answer that notes the biotic and abiotic elements that are affected by human action; OR Answer is missing or irrelevant.	Acceptable # of Students 34 15 6 1 6* Percentage 55% 24% 10% 2% 10% *All 6 "Not Acceptable" answers noted above were the result of questions that had been left blank. **Result:** Target Met **Year This Assessment Occurred:** 2013-2014 **Resource Request:** None **Resource Request:** None **GE/IL-SLO Reflection:** Keep up the good work **GE/IL-SLO Reflection:** Keep up the good work	
Department - Geography (GEOG) - GEOG 10 - WORLD REGIONAL GEOGRAPHY - SLO 1 - Drawing conclusions - Use maps, graphs and/or Geographic Information Systems (GIS) to analyze and interpret data and draw valid conclusions (Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method:** Students are presented with a choropleth map relevant to the course material and asked to interpret it using the map key. **Assessment Method Type:** Exam - Course Test/Quiz **Target for Success:** Excellent (4) Student accurately applies the map key to identify the relevant location(s), and draws valid conclusions based on the thematic map. Competent (3) Student accurately applies the map key to identify relevant location(s), conclusions are drawn that are partially but		

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
	not completely valid based on the thematic map, or a major element of the conclusion is omitted. Adequate (2) Student accurately applies the map key to identify the relevant location(s), conclusions are drawn that are inaccurate. Poor (1) Student does not accurately apply the map key to identify the relevant locations(s), and conclusions are drawn that are inaccurate. Not Acceptable (0) Student does not accurately apply the map key to identify the relevant location(s) and conclusions are not drawn, or answer is missing or irrelevant.		
Department - Geography (GEOG) - GEOG 10 - WORLD REGIONAL GEOGRAPHY - SLO 2 - Geographic themes and concepts - Apply major geographic themes and concepts to explain the origins and development of major nations and regions. (Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method:** Student is asked a critical thinking question that asks them to apply major geographic themes and concepts to explain the origins and development of major nations and regions using specific examples. **Assessment Method Type:** Exam - Course Test/Quiz **Target for Success:** Excellent (4) Student accurately analyzes how geographic themes and concepts explain regional and national development. Student includes a discussion and accurate examples of sequent occupance, population growth and movement, political and economic development. A minimum of three specific examples are used. Competent (3) Student accurately analyzes how geographic themes and concepts explain regional and national development. Student includes a discussion and accurate examples of most but not all of the following: sequent occupance, population growth and movement, political and economic development. A minimum of two specific	01/06/2014 - This SLO was evaluated using exam questions as well as a term paper. Students were asked to write about a country of their choice as long as neither they nor their parents were born or lived more than 1 year in that country. The reason for this specificity is to encourage students to learn in depth about a country with which they are not familiar. Findings: Students were overall very successful at meeting this SLO. They were asked to write on a country and to use the major geographic themes as the foundation of their paper. There were very few students who did not comply with the requirement to use major geographic themes. For instance, two students wrote short history papers that did not really address geographic issues. Given the results of this assessment, describe what changes will be made, if any. At this time I do not plan to make changes to this assignment as it works well for helping students achieve success with this SLO.	

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Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
	examples are used. Adequate (2) Student accurately analyzes how geographic themes and concepts explain regional and national development. Student includes a discussion and accurate examples of some but not all of the following: sequent occupance, population growth and movement, political and economic development. A minimum of one specific example is used. Poor (1) Student accurately analyzes how geographic themes and concepts explain regional and national development. Student includes a discussion and accurate examples of at least two of the following: sequent occupance, population growth and movement, political and economic development. No specific examples are used. Not Acceptable (0) Answer is missing or irrelevant.	**Result:** Target Met **Year This Assessment Occurred:** 2013-2014 **Resource Request:** None **GE/IL-SLO Reflection:** Given the results of this assessment, describe what changes will be made, if any. At this time I do not plan to make changes to this assignment as it works well for helping students achieve success with this SLO.	
Department - Geography (GEOG) - GEOG 2 - HUMAN GEOGRAPHY - SLO 1 - Drawing conclusions - Use maps, graphs and/or Geographic Information Systems (GIS) to analyze and interpret data and draw valid conclusions (Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method:** Students are presented with a choropleth map relevant to the course material and asked to interpret it using the map key. **Assessment Method Type:** Exam - Course Test/Quiz **Target for Success:** Excellent (4) Student accurately applies the map key to identify the relevant location(s), and draws valid conclusions based on the thematic map. Competent (3) Student accurately applies the map key to identify relevant location(s), conclusions are drawn that are partially but not completely valid based on the thematic map, or a major element of the conclusion is omitted.		

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
	Adequate (2) Student accurately applies the map key to identify the relevant location(s), conclusions are drawn that are inaccurate. Poor (1) Student does not accurately apply the map key to identify the relevant locations(s), and conclusions are drawn that are inaccurate. Not Acceptable (0) Student does not accurately apply the map key to identify the relevant location(s) and conclusions are not drawn, or answer is missing or irrelevant.		
Department - Geography (GEOG) - GEOG 2 - HUMAN GEOGRAPHY - SLO 3 - Human relationship with the natural world - Analyze relationships between humans and the natural world in which they live. (Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method:** Student is asked a critical thinking question that requires them to analyze relationships between humans and the natural world in which they live using specific examples. **Assessment Method Type:** Exam - Course Test/Quiz **Target for Success:** Excellent (4) Student accurately analyzes these relationships in the context of the specific examples used in class. Answer accurately utilizes geography terminology introduced in the course. A minimum of three accurate examples are used. Competent (3) Adequate (2) Poor (1) Not Acceptable (0) Student does not accurately define culture OR Answer is missing or irrelevant.		
Department - Geography (GEOG) - GEOG 2 - HUMAN GEOGRAPHY - SLO 4 - Population growth and change - Discuss patterns of population growth and change around the world. (Created By Department -	**Assessment Method:** Student is asked a critical thinking question that requires them to discuss patterns of population growth and change around the world	01/06/2014 - Assessment: Students read about population in the text as well as a lecture focused on population issues around the world. Embedded exam questions required students to analyze and describe patterns of	

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method Type:** Exam - Course Test/Quiz **Target for Success:** Excellent (4) Student illustrates an understanding of the historic patterns of population growth and movement in different parts of the world and the major population growth stages defined by the agricultural revolution, industrial revolution and medical/high tech revolution. Answer includes specific examples that accurately relate history and current events to two or more regions in the world. Competent (3) Student presents an answer that illustrates an understanding of the historic patterns of population growth in different parts of the world and the major population growth stages defined by the agricultural revolution, industrial revolution and medical revolution. Answer includes examples that accurately relate history and current events to two or more regions in the world. Adequate (2) Student presents an answer that illustrates the factors behind the formation of the landform, but partially discusses the of the hydrologic, tectonic and/or weathering processes that affected the formation of that landform but is lacking in a full description of the processes. Poor (1) Student presents an answer that defines the landform and may outline some steps in the formation, but significant material is missing from the discussion.	population growth and change around the world. Findings: Most students do well with this SLO, however, I find they tend overall to think about population in terms of China and India being a "problem" and every place else balanced. There was also some confusion for students when faced with an exam question, as well as class discussions, about population issues being about more than just numbers of people. The population lecture includes population pyramids and extensive information, which helps students understand population issues are not just about how many people live in a country or region. Given the results of this assessment, describe what changes will be made, if any: I plan to change the term paper assignment to more directly address issues of population growth and change. I am still in the planning stages of how to accomplish this, but may use a compare/contrast format or ask them to look at specific issues and the relationship with population growth/migration/change. **Result:** Target Met **Year This Assessment Occurred:** 2013-2014 **Resource Request:** None **GE/IL-SLO Reflection:** Given the results of this assessment, describe what changes will be made, if any: I plan to change the term paper assignment to more directly address issues of population growth and change. I am still in the planning stages of how to accomplish this, but may use a compare/contrast format or ask them to look at specific issues and	

		the relationship with population growth/migration/change.	
Department - Geography (GEOG) - GEOG 36Y - INDEPENDENT STUDY IN GEOGRAPHY - SLO 1 - Assessment using geographical perspective - assess complexities and patterns of issue/project covered using a geographic perspective (Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method:** A portfolio review of student project that examines the complexities and patterns of an issue using the geographic perspective **Assessment Method Type:** Portfolio Review **Target for Success:** Student examines the complexities and patterns of an issue using the geographic perspective		
Department - Geography (GEOG) - GEOG 5 - INTRODUCTION TO ECONOMIC GEOGRAPHY - SLO 1 - Drawing conclusions - Use maps, graphs and/or Geographic Information Systems (GIS) to analyze and interpret data and draw valid conclusions (Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method:** : Students are presented with a choropleth map relevant to the course material and asked to interpret it using the map key. **Assessment Method Type:** Exam - Course Test/Quiz **Target for Success:** Excellent (4) Student accurately applies the map key to identify the relevant location(s), and draws valid conclusions based on the thematic map. Competent (3) Student accurately applies the map key to identify relevant location(s), conclusions are drawn that are partially but not completely valid based on the thematic map, or a major element of the conclusion is omitted. Adequate (2) Student accurately applies the map key to identify the relevant location(s), conclusions are drawn that are inaccurate. Poor (1) Student does not accurately apply the map key to identify the relevant locations(s), and conclusions are drawn that are inaccurate. Not Acceptable (0) Student does not		

| | accurately apply the map key to identify the relevant location(s) and conclusions are not drawn, or answer is missing or irrelevant. | | |
| Department - Geography (GEOG) - GEOG 5 - INTRODUCTION TO ECONOMIC GEOGRAPHY - SLO 2 - Economic activities - Examine how society organizes its economic activities over space at both a local, regional and global scale. (Created By Department - Geography (GEOG))

Course-Level SLO Status:
Active | **Assessment Method:**
Student is asked a critical thinking question that requires them to examine how society organizes its economic activities over space at a local, regional and global scale using specific examples.
Assessment Method Type:
Exam - Course Test/Quiz
Target for Success:
Excellent (4) Student accurately analyzes how society organizes its economic activity over space. Students discuss industrial location, transportation networks, and natural resource activity at all three scales. A minimum of three specific examples are accurately discussed.
Competent (3) Student accurately analyzes how society organizes its economic activity over space. Students discuss industrial location, transportation networks, and natural resource activity at some but not all of the above scales. A minimum of two specific examples are accurately discussed.
Adequate (2) Student analyzes how society organizes its economic activity over space. Students discuss industrial location, transportation networks, and natural resource activity at some but not all of the above scales. A minimum of one specific examples are accurately discussed.
Poor (1) Student analyzes how society organizes its economic activity over space. Students discuss industrial location, transportation networks, and natural resource activity at some but not all of the above scales. No specific examples are | | |

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
	accurately discussed. Not Acceptable (0) Answer is missing or irrelevant.		
Department - Geography (GEOG) - GEOG 5 - INTRODUCTION TO ECONOMIC GEOGRAPHY - SLO 3 - Economic development and prosperity - Compare and contrast economic development and prosperity as they relate to human geography and the distribution of natural resources. (Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method:** Student is asked a critical thinking question that requires them to compare and contrast economic development and prosperity as they relate to human geography and distribution of natural resources using specific examples. **Assessment Method Type:** Exam - Course Test/Quiz **Target for Success:** Excellent (4) Student accurately both compares and contrasts global economic relationships between more and lesser developed regions using a minimum of three specific examples. Competent (3) Student accurately both compares and contrasts global economic relationships between more and lesser developed regions using a minimum of two specific examples. Adequate (2) Student compares or contrasts global economic relationships between more and lesser developed regions using a minimum of one specific examples. Poor (1) Student compares or contrasts global economic relationships between more and lesser developed regions. Specific examples are not used. Not Acceptable (0) Answer is missing or irrelevant.	01/06/2014 - Assessment: Students were assigned to write a commodity chain analysis of a product that included harvesting, use, and disposal of natural resources. We read Travels of a T-shirt, so students had a very good example of commodity chain analysis of a natural resource. Findings: Most students achieved this SLO at an excellent or competent level. One of the changes made to this assignment since Fall 2012 was to include maps and visual analysis of the commodity chain. This change helped students better understand the concept of commodity chains as well as the impact in different regions on natural resources. Interestingly the students who struggled with this assignment did so because they didn't understand that items such as an iPhone have a relationship with natural resources. This research paper assignment is an effective tool to help students understand the relationships between development and prosperity as well as human geography and natural resources. It is a good way of helping students understand those relationships in depth. Given the results of this assessment, describe what changes will be made, if any: I plan to include a couple of new lectures that more directly address the relationships between manufacturing products and natural resources. I also plan to include an article on the coffee commodity chain. This is currently available to students as an optional resource, but I find most of them don't use it so next time I will include it as a requirement.	

Course-Level SLOs	Means of Assessment & Targets for Success / Tasks	Assessment Findings/Reflections	Action Plan & Follow-Up
		Result: Target Met **Year This Assessment Occurred:** 2013-2014 **Resource Request:** None **GE/IL-SLO Reflection:** Given the results of this assessment, describe what changes will be made, if any: I plan to include a couple of new lectures that more directly address the relationships between manufacturing products and natural resources. I also plan to include an article on the coffee commodity chain. This is currently available to students as an optional resource, but I find most of them don't use it so next time I will include it as a requirement.	
Department - Geography (GEOG) - GEOG 54B - SEMINAR IN SPECIALIZED APPLICATIONS OF GEOGRAPHIC INFORMATION SYSTEMS II - SLO 1 - GIS project - Create and present a GIS project. (Created By Department - Geography (GEOG)) **Course-Level SLO Status:** Active	**Assessment Method:** Student is asked to create and present a GIS project **Assessment Method Type:** Class/Lab Project **Target for Success:** Student successfully creates and presents a GIS project		