

Part 2 – Comprehensive Program Review

Fall 2010

Program Name:

Geology

A. PAST: Review of Program Performance, Objectives, and Outcomes for the Three Previous Academic Years: 2007-08, 2008-09, 2009-2010

1. List the objectives developed for this program during the last comprehensive program review.

As this is our first comprehensive program review for Geology, there are no objectives from any previous comprehensive program review.

2. Present program performance data in tabular form for the previous three years that demonstrates the program's performance toward meeting the previous objectives. Include the following standard program performance metrics as well additional program specific metrics, if any.
 - a. For teaching programs this data should include at least the following: Enrollment at census, number of sections, fill rate, retention rate, success rate, and grade distribution for each course in the program, during each semester and session of the previous three academic years. In addition, the Full Time Equivalent Faculty (FTEF) and Full Time Equivalent Students (FTES) and the ratio of FTES per FTEF should be presented for the program for each semester and session.
 - b. For non teaching programs this data should include the following: TBD

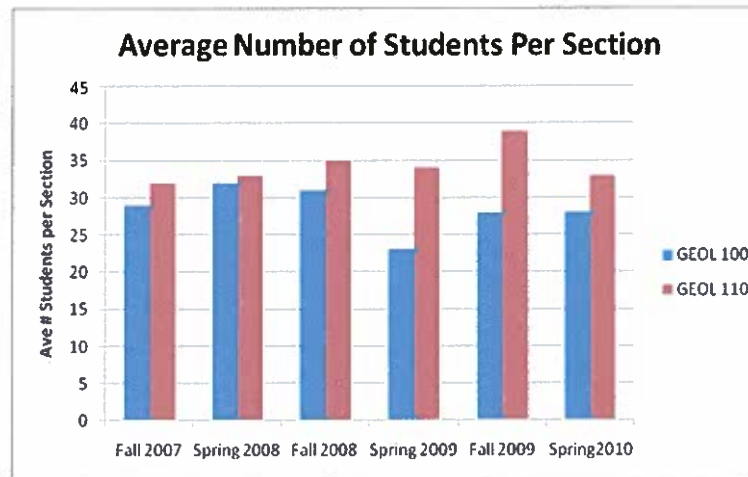
See attached data.

3. Present student learning or service area outcomes data that demonstrate the program's continuous educational and/or service quality improvement. Include the following standard information and metrics as well as additional program specific metrics, if any.

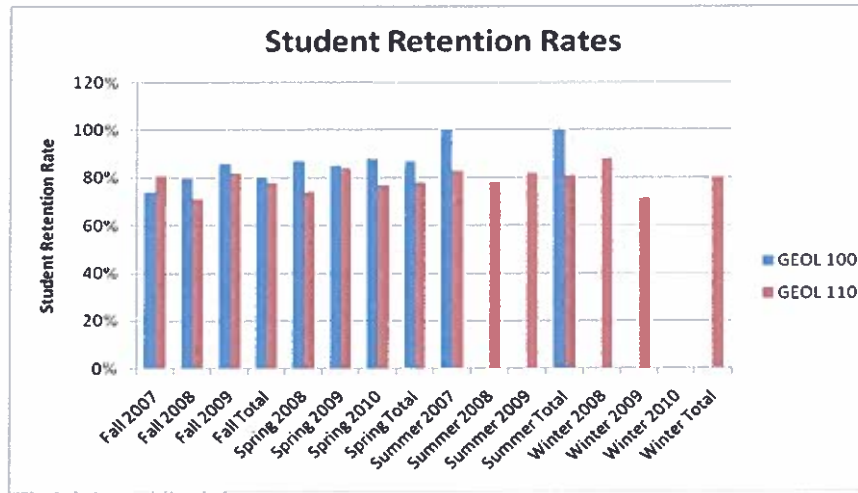
List the program level outcomes, goals or objectives and show how these support the Institutional Student Learning Outcomes. Identify the method(s) of assessment used for each of the program level outcomes. Provide a summary of the outcome data for the program, including course and program level data as appropriate.

There are currently no program-level SLOs for the Anthropology, General Science, Life Science, or Physical Science majors.

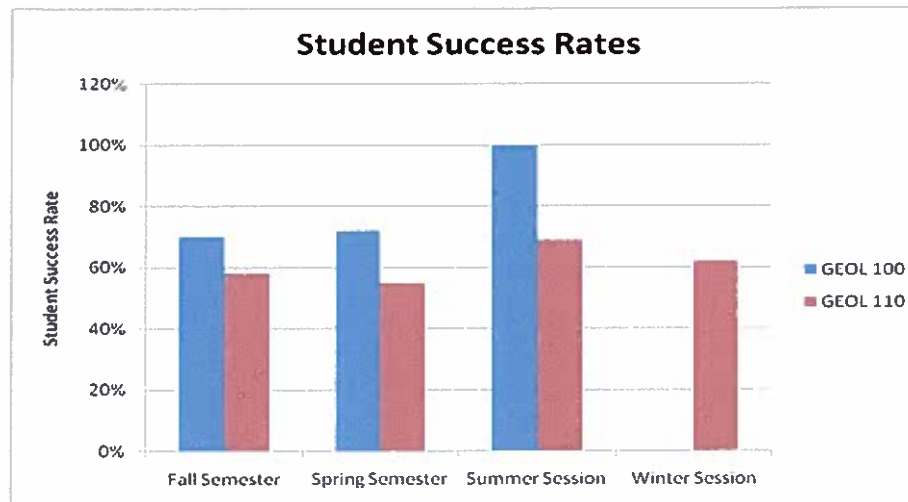
4. Analyze the data presented visually (graphs, diagrams, etc.) and verbally (text) as appropriate, present any trends, anomalies, and conclusions. Explain the program's success or failure in meeting the objectives presented above in item one. Explain the ways that the program utilized the student learning or service area outcome data presented in item three to improve the program (changes to curriculum, instructional methodology, support services, etc.)



- A. Enrollment: The data presented spans the time period from the Summer of 2007-Spring 2010. I was hired during Fall 2004 when no Geology program existed. When I began teaching courses in the new Geology curriculum the class enrollment was very low (at times 3-4 students per class). The data presented shows that enrollment has increased since the program began and generally every course offered is at least filled to capacity.



B. Retention: The data shows the retention rate for Geology 100 is higher during Spring semesters (87%) when compared to Fall semesters (80%); the retention for Fall semesters, however, has increased since this data was collected. The retention rate for Geology 110 does not show any trends but the average for Fall and Spring semesters are consistent (78%). The Summer data for Geology 110 applies strictly to online classes and show a slightly higher retention rate (81%) then the face-to-face/online combination data for Fall and Spring semesters. Overall, the retention rate for all classes is 83% during this time period.



C. Success: The Fall and Spring semester data show Geology 100 students attain better success rates than Geology 110 students. Geology 110 student success rates improve over summer and winter sessions.

Additional Information: The geology program did not exist when I began teaching during 2004. The beginning years were tough while I established and promoted the courses. Today the program is successful and for several semesters we added an adjunct geology instructor to teach one course per semester. I believe the enrollment objective has been met, the classes usually fill to capacity (and commonly above capacity) every semester. The retention rate is also good. This rate is generally higher for Geology 100 courses which I believe is partially attributed to the online courses (only offered for Geology 110) where retention rates are generally lower compared to face-to-face courses. The success rate is notably better for Geology 100 courses. This is a lab course with a lower enrollment cap. I believe the reason for a better success rate in Geology 100 courses is tied to more opportunity/variety of assignments inherent in a lab course. I have also observed that a higher number of students taking the Geology 100 courses seem to be better prepared academically and further along in their college coursework than Geology 110 students. This may be because students in Geology 110 are taking the class to fulfill their Physical Science class requirement, and therefore are mostly underprepared for the amount of work they need to do to be successful in the class. In addition, Geology 100 has a lab component to it, which better helps students learn the material by providing hands-on experience in the class. Another factor is the online course offering of Geology 110 where retention and success rates are commonly lower than face-to-face classes. The success rate does, however, increase for Summer and Winter Geology 110 courses (strictly online). It appears the compact nature of these sessions improves student success.

B. PRESENT: Snapshot of the State of the Program in the Current Semester: Fall 2010

1. Give a verbal description of the program as it exists at the present time. Include information on current staffing levels, current student enrollments, student learning or service are outcome implementation, number of majors, and/or other data as appropriate.

A. Currently Geology classes are taught by one full-time faculty member. I believe we are not meeting the student demand for Geology courses. I consistently fill my classes above cap. Our teaching resources are maximized and we will not be able to offer additional sections to meet expanding student need without hiring more instructors.

B. SLOs were identified for Geology 100 (Physical Geology) and Geology 110 (Earth and Space Science) in the Fall 2008 semester and assessments are underway. SLOs will be indentified and assessed for Geology 100 and 110 in the Spring 2011 semester. Geology 120 (Geology of National Parks) is currently on hold (due to budget constraints and loss of Winter Intersession; it was last taught Winter Session of 2008) and SLOs will not be developed at this time.

Course	SLOs	Method of Assessment	Outcomes
Geology 100	Global Awareness	Short research/interpretive report	60% success rate (passing grade on report)
Geology 110	Critical Thinking Skills	Earthquake rubric	65% success rate (passing grade on rubric)

2. Verbally describe any outside factors that are currently affecting the program. (For example: changes in job market, changing technologies, changes in transfer destinations, etc.)

The Federal Government is emphasizing math and science education which might create more jobs in the future and impact career choices and course choices at IVC by creating more interest in Geology courses.

3. List any significant issues or problems that the program is immediately facing.

A decreased IVC/California State budget will prevent us from hiring more faculty to teach additional courses, and limited course offerings will not allow the students to get the full Geology education that we can provide.

C. FUTURE: Program Objectives for the Next Three Academic Years: 2010-11, 2011-12, 2012-13

1. Identify the program objectives for the next three academic years, making sure these objectives are consistent with the college's Educational Master Plan goals. Include how accomplishment is to be identified or measured and identify the planned completion dates. If any objectives are anticipated to extend beyond this three-year period, identify how much is to be accomplished by the end of this review period and performance measures.

Objective	Completion Indicators	Completion Date	EMP Goal #
Develop more course offerings in the following areas to expand the program: meteorology, oceanography and historical geology. This would require one additional full-time faculty member for the geology program to allow IVC to have a Geology major.	Course approvals. Employment data. New course offerings.	Spring 2013	1
Increase sections of current course offerings. I am the only instructor in the geology program at present. Hire an additional full-time faculty member for the geology program and/or hire an adjunct to teach two additional courses.	Number of sections of classes offered. Employment data.	Fall 2012	2
Develop an internship program for geology students, placing them in federal, state and local government offices.	Creation of internship courses or curriculum. Institutional enrollment data.	Fall 2013	1

2. Identify how student learning or service area outcomes will be expanded and fully implemented into the program. Include a progress timeline for implementation and program improvement.

Student learning outcomes are being implemented in both Geology offerings in AY 2010-2011. The SLO implementation and data does not support any additional work that is needed since the institutional learning outcomes are inherent in the Geology coursework (they are now and were prior to SLO implementation).

We plan to develop program-level SLOs for the General Science, Life Science, and Physical Science majors by the end of AY 2010-2011. They will be implemented in the Fall 2011 semester, and improvements will be made to Geology classes based on the assessed data.

3. Identify any resources needed to accomplish these objectives. Identify any obstacles toward accomplishment and the plan to surmount these obstacles.

The new science building has helped tremendously in improving the geology course offerings. I can't accomplish the objectives in the table above without an additional full-time faculty member to assist in developing new course offerings and expanding the current offerings. The major obstacle today is our budget and the State's budget; without money we cannot hire additional full-time or adjunct faculty members.

4. Identify any outside factors that might influence your program during the next three years.

If the money becomes available to hire an adjunct geology instructor it might be difficult finding a qualified instructor in the valley (the past adjunct is no longer available to pick-up teach courses).

Also, meeting the needs of our basic skills students is a significant challenge so they have a better chance to successfully complete courses in Geology. The Geology program is going to need to work with our campus community to identify ways to partner with the ESL, English and Counseling programs to provide new opportunities and programs to improve student success.

**Program Review - Geology Program
Enrollment Count at Census**

Course	Fall				Spring				Summer				Winter				Grand Total
	2007	2008	2009	Total	2008	2009	2010	Total	2007	2008	2009	Total	2008	2009	2010	Total	
GEOL 100	58	61	83	202	63	48	56	167	9			9					378
GEOL 110	161	175	155	491	167	170	168	505	64	50	55	169	17	45		62	1227
GEOL 120													4			4	4
Total	219	236	238	693	230	218	224	672	73	50	55	178	21	45		66	1609

**Geology Program
Number of Sections**

Course	Fall				Spring				Summer				Winter				Grand Total
	2007	2008	2009	Total	2008	2009	2010	Total	2007	2008	2009	Total	2008	2009	2010	Total	
GEOL 100	2	2	3	7	2	2	2	6	1			1					14
GEOL 110	5	5	4	14	5	5	5	15	2	2	2	6	1	2		3	38
GEOL 120													1			1	1
Total	7	7	7	21	7	7	7	21	3	2	2	7	2	2		4	53

**Geology Program
Average Number of Students per Section**

Course	Fall				Spring				Summer				Winter				Grand Total
	2007	2008	2009	Total	2008	2009	2010	Total	2007	2008	2009	Total	2008	2009	2010	Total	
GEOL 100	29	31	28	29	32	23	28	28	9			9					27
GEOL 110	32	35	39	35	33	34	33	34	32	25	28	28	17	23		21	32
GEOL 120													4			4	4
Avg.	31	34	34	33	33	31	32	32	24	25	28	25	11	23		17	30

**Geology Program
Student Success Rate**

Course	Fall				Spring				Summer				Winter				Grand Total
	2007	2008	2009	Total	2008	2009	2010	Total	2007	2008	2009	Total	2008	2009	2010	Total	
GEOL 100	70%	74%	66%	70%	68%	76%	70%	72%	100%			100%					75%
GEOL 110	62%	53%	59%	58%	53%	61%	52%	55%	70%	65%	71%	69%	76%	47%		62%	61%
GEOL 120													100%			100%	100%
Avg.	66%	63%	62%	64%	60%	68%	61%	63%	85%	65%	71%	77%	88%	47%		74%	68%

Geology Program

Student Retention Rate

Course	Fall				Spring				Summer				Winter				Grand Total
	2007	2008	2009	Total	2008	2009	2010	Total	2007	2008	2009	Total	2008	2009	2010	Total	
GEOL 100	74%	80%	86%	80%	87%	85%	88%	87%	100%			100%					86%
GEOL 110	81%	71%	82%	78%	74%	84%	77%	78%	83%	78%	82%	81%	88%	71%		80%	79%
GEOL 120													100%			100%	100%
Avg.	77%	76%	84%	79%	81%	84%	82%	82%	91%	78%	82%	86%	94%	71%		86%	83%

Grade Distribution

Program	Term	Sem.	Yr.	Course	A	B	C	D	F	CR	P	Other	W	Total	Success Rate	Retention Rate
GEOL	200730	Sum.	2007	GEOL100	9							0		9	100.0%	100.0%
GEOL	200810	Fall	2007	GEOL100	13	17	10		1			1	15	57	70.2%	73.7%
GEOL	200820	Spr.	2008	GEOL100	13	8	22	4	7			1	8	63	68.3%	87.3%
GEOL	200910	Fall	2008	GEOL100	17	17	11	2	2			0	12	61	73.8%	80.3%
GEOL	200920	Spr.	2009	GEOL100	13	17	5	3	1			0	7	46	76.1%	84.8%
GEOL	201010	Fall	2009	GEOL100	10	21	24	7	9			0	12	83	66.3%	85.5%
GEOL	201020	Spr.	2010	GEOL100	7	19	14	6	3			1	7	57	70.2%	87.7%

GEOL	200730	Sum.	2007	GEOL110	26	11	8	3	3			2	11	64	70.3%	82.8%
GEOL	200810	Fall	2007	GEOL110	46	32	21	7	22			0	31	159	62.3%	80.5%
GEOL	200815	Win.	2008	GEOL110	12		1		2			0	2	17	76.5%	88.2%
GEOL	200820	Spr.	2008	GEOL110	35	30	23	9	26			1	43	167	52.7%	74.3%
GEOL	200830	Sum.	2008	GEOL110	20	9	3	3	3			0	11	49	65.3%	77.6%
GEOL	200910	Fall	2008	GEOL110	24	33	37	17	13			5	50	179	52.5%	72.1%
GEOL	200915	Win.	2009	GEOL110	10	8	3	3	8			0	13	45	46.7%	71.1%
GEOL	200920	Spr.	2009	GEOL110	25	42	37	13	25			2	27	171	60.8%	84.2%
GEOL	200930	Sum.	2009	GEOL110	10	13	16	3	3			0	10	55	70.9%	81.8%
GEOL	201010	Fall	2009	GEOL110	15	46	30	9	27			0	28	155	58.7%	81.9%
GEOL	201020	Spr.	2010	GEOL110	23	39	25	5	36			0	39	167	52.1%	76.6%
GEOL	200815	Win.	2008	GEOL120	4							0		4	100.0%	100.0%

**Geology Program
Full Time Equivalent Student (FTEs)**

Course	Fall				Spring				Summer				Winter				Grand Total
	2007	2008	2009	Total	2008	2009	2010	Total	2007	2008	2009	Total	2008	2009	2010	Total	

GEOL 100	12.0	12.6	17.2	41.9	13.1	9.9	11.6	34.6	1.9			1.9					78.4
GEOL 110	16.6	18.1	22.6	57.3	17.3	17.6	23.8	58.6	6.6	5.1	5.7	17.4	1.7	4.6		6.3	139.6
GEOL 120													1.0			1.0	1.0
Total	28.7	30.7	39.8	99.1	30.3	27.5	35.4	93.2	8.5	5.1	5.7	19.3	2.7	4.6		7.3	218.9

**Geology Program
Full Time Equivalent Faculty (FTEf)**

Course	Fall				Spring				Summer				Winter				Grand Total
	2007	2008	2009	Total	2008	2009	2010	Total	2007	2008	2009	Total	2008	2009	2010	Total	
GEOL 100	0.80	0.80	1.20	2.80	0.80	0.80	0.80	2.40	0.40			0.40					5.60
GEOL 110	1.00	1.00	0.80	2.80	1.00	1.00	1.00	3.00	0.40	0.40	0.40	1.20	0.20	0.40		0.60	7.60
GEOL 120													0.47			0.47	0.47
Total	1.80	1.80	2.00	5.60	1.80	1.80	1.80	5.40	0.80	0.40	0.40	1.60	0.67	0.40		1.07	13.67

**Geology Program
FTEs per FTEf**

Course	Fall				Spring				Summer				Winter				Grand Total
	2007	2008	2009	Total	2008	2009	2010	Total	2007	2008	2009	Total	2008	2009	2010	Total	
GEOL 100	15.0	15.8	14.3	15.0	16.3	12.4	14.5	14.4	4.7			4.7					14.0

GEOL 110	16.6	18.1	28.2	20.5	17.3	17.6	23.8	19.5	16.5	12.9	14.1	14.5	8.5	11.6		10.6	18.4
GEOL 120													2.1			2.1	2.1
Avg.	15.9	17.1	19.9	17.7	16.8	15.3	19.7	17.3	10.6	12.9	14.1	12.0	4.0	11.6		6.8	16.0