Part 2 – Comprehensive Program Review Fall 2010

Program Name: **Chemistry**

A. PAST: Review of Program Performance, Objectives, and Outcomes for the Three Previous Academic Years: 2006-07, 2007-08, 2008-09

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

   Chemistry had no objectives for the last three years.

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 file: PgmRew1011_CHEM. The following Data Tables are included
   1. Enrollment Count at Census
   2. Number of Sections
   3. Average Number of Students per Section
   4. Student Success Rate
   5. Student Retention Rate
   6. Grade Distribution
   7. Full Time Equivalent Student (FTEs)
   8. Full Time Equivalent Faculty (FTEf)
   9. FTEs per FTEf

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 no program-level SLOs for Agriculture Business, Agriculture Science, Computer Science, General Science, Life Science, Physical Science, Pre-Engineering majors.

   However, there is data from the course-level SLOs, provided below:

Fall 2009 – Spring 2010	
1. Course Number & Date of Assessment Cycle Completion	**Course: Chemistry 204** **Date: Spring 2010** Outcome 1: perform an experiment, Public speaking rubric, ISLO2 Outcome 2: creates a presentation on the results of the experiment, Public speaking rubric, ISLO4
2. People involved in summarizing and evaluating data	**Jim Fisher**
3. Data Results **Briefly summarize the results of the data you collected.**	Outcome 1, and Outcome 2: Students were given an unknown containing three samples. Students were observed for 2 days as to how well of a separation scheme the developed, different separation techniques used and how which analytical tools they used. On the third day, students presented their findings. They were graded on their presentation as outlined in the lab rubric. Average score was 17 out of 20.
1. Course Number & Date of Assessment Cycle Completion	**Course: Chemistry 202** **Date: Fall 2009, Spring 2010** Outcome 1: Submit a procedure before lab, Laboratory portfolio and assessment, ISLO2 Outcome 2: experimental documentation, Laboratory portfolio and assessment, ISLO3 Outcome 3: post experiment assessment, Laboratory portfolio and assessment, ISLO4
2. People involved in summarizing and evaluating data	**Jim Fisher**
3. Data Results **Briefly summarize the results of the data you collected.**	Outcome 1, Outcome 2, and Outcome 3: Each student submitted a prelab, based on the experiment they were going to perform. Each student was observed working in the lab. At the end of lab, each student submitted their results. Each student was graded all three outcomes as a combined score. The average score was 9 out of 10.

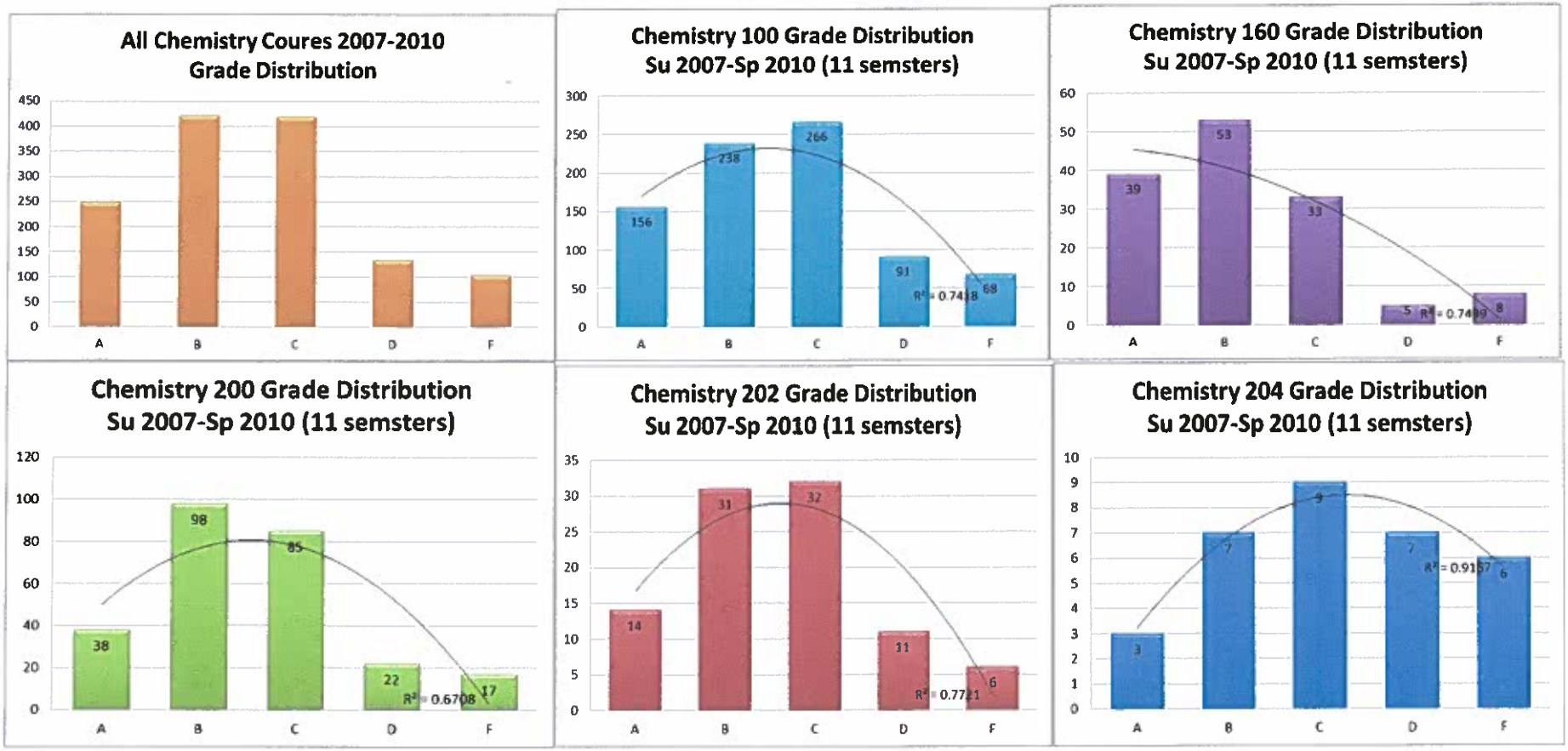
1. Course Number & Date of Assessment Cycle Completion	**Course: Chemistry 200** **Date: Fall 2009, Spring 2010** Outcome 1: Summarize Procedures, Laboratory portfolio, ISLO2 Outcome 2: Collect data, Laboratory portfolio, ISLO3 Outcome 3: perform calculations, Laboratory portfolio, ISLO4
2. People involved in summarizing and evaluating data	**Jim Fisher**
3. Data Results Briefly summarize the results of the data you collected.	**Outcome 1, Outcome 2, and Outcome 3:** Each student prepared a detailed pre-lab, which they used in the lab to perform an experiment. Students used their form to collect data. At the end of lab students used the same form to do their calculations. The average score was 9 out of 1
1. Course Number & Date of Assessment Cycle Completion	**Course: Chemistry 100** **Date: Fall 2009, Winter 2010, and Spring 2010** Outcome 1: read lab before class and perform experiment, Laboratory grading rubric, ISLO2 Outcome 2: working alone to complete experiment, Laboratory grading rubric, ISLO3 Outcome 3: collect data, perform calculations, Laboratory grading rubric, ISLO4
2. People involved in summarizing and evaluating data	**Jim Fisher**
3. Data Results **Briefly summarize the results of the data you collected.**	Outcome 1, Outcome 2, and Outcome 3: Students were observed during a lab designated as an SLO lab, and graded according the laboratory grading rubric found in the student lab manual. Students were observed during lab as to how well they worked alone and completed the calculations. Students were graded on their findings and calculations. The average score was 9 out of 10.
Fall 2008 -Spring 2009	
1. Course Number & Date of Assessment Cycle Completion	**Course: Chemistry 204** **Date: Spring 2009** Outcome 1: perform an experiment, Public speaking rubric, ISLO2 Outcome 2: creates a presentation on the results of the experiment, Public speaking rubric, ISLO4

2. People involved in summarizing and evaluating data	**Jim Fisher**
3. Data Results Briefly summarize the results of the data you collected.	Outcome 1, and Outcome 2: Each student was evaluated both in the lab as well as their presentation. Results were combined into a total score and given to the student. The average score was 16 out of 20 points. These scores were added to their total point total.
1. Course Number & Date of Assessment Cycle Completion	**Course: Chemistry 202** **Date: Fall 2009** Outcome 1: Submit a procedure before lab, Laboratory portfolio and assessment, ISLO2 Outcome 2: experimental documentation, Laboratory portfolio and assessment, ISLO3 Outcome 3: post experiment assessment, Laboratory portfolio and assessment, ISLO4
2. People involved in summarizing and evaluating data	**Jim Fisher**
3. Data Results Briefly summarize the results of the data you collected.	Outcome 1, Outcome 2, and Outcome 3: Each student submitted a prelab, based on the experiment they were going to perform. Each student was observed working in the lab. At the end of lab, each student submitted their results. Each student was graded all three outcomes as a combined score. The average score was 8.5 out of 10
1. Course Number & Date of Assessment Cycle Completion	**Course: Chemistry 200** **Date: Fall 2009** Outcome 1: Summarize Procedures, Laboratory portfolio, ISLO2 Outcome 2: Collect data, Laboratory portfolio, ISLO3 Outcome 3: perform calculations, Laboratory portfolio, ISLO4
2. People involved in summarizing and evaluating data	**Jim Fisher**

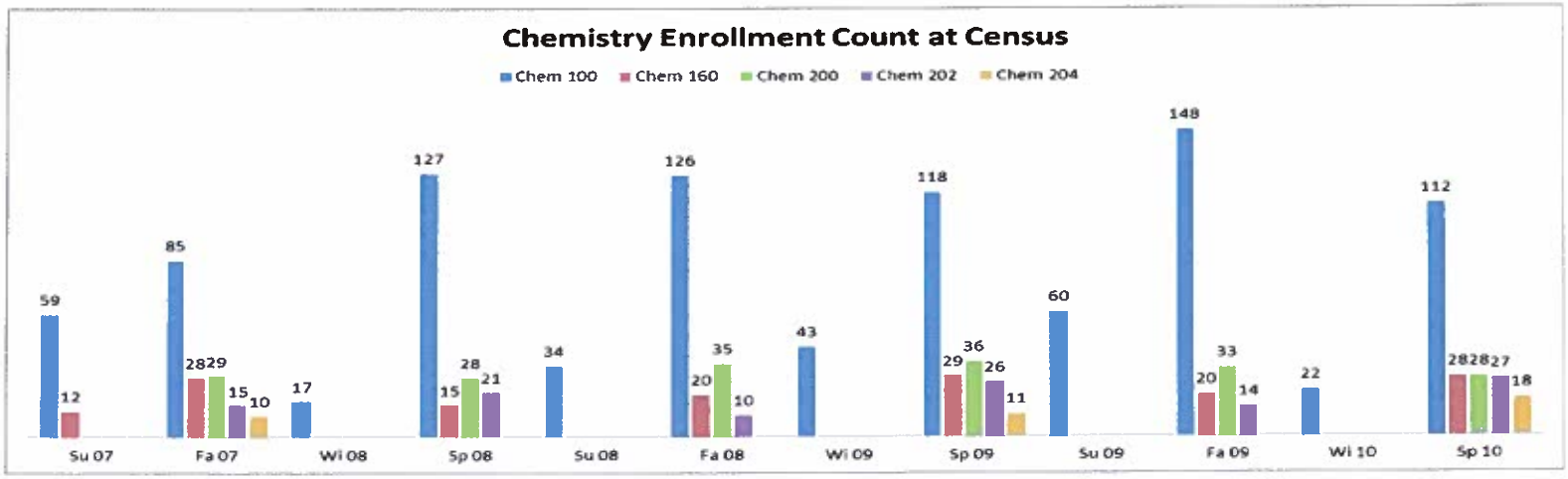
3. Data Results Briefly summarize the results of the data you collected.	Outcome 1, Outcome 2, and Outcome 3: Each student prepared a detailed pre-lab, which they used in the lab to perform an experiment. Students used their form to collect data. At the end of lab students used the same form to do their calculations. The average score was 8 out of 10
1. Course Number & Date of Assessment Cycle Completion	**Course: Chemistry 100** **Date: Spring 2009, Summer 2009, Fall 2009** Outcome 1: Investigate, Public speaking rubric, ISLO4 Outcome 2: Summarize, Public speaking rubric, ISLO4 Outcome 3: Presentation, Public speaking rubric, ISLO1
2. People involved in summarizing and evaluating data	**Jim Fisher**
3. Data Results Briefly summarize the results of the data you collected.	Outcome 1, Outcome 2, and Outcome 3: Each student received a score-card on how well they performed each of the three SLO outcomes. A total score was recorded for each student. The points from each outcome were combined into a score reflecting their overall performance, and how well they investigated, summarized and presented their topic. The average score was 13/20 for all 181 students. Each student's SLO score represented 1% of their total score, or equivalent to 1/5 of an exam.

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.)

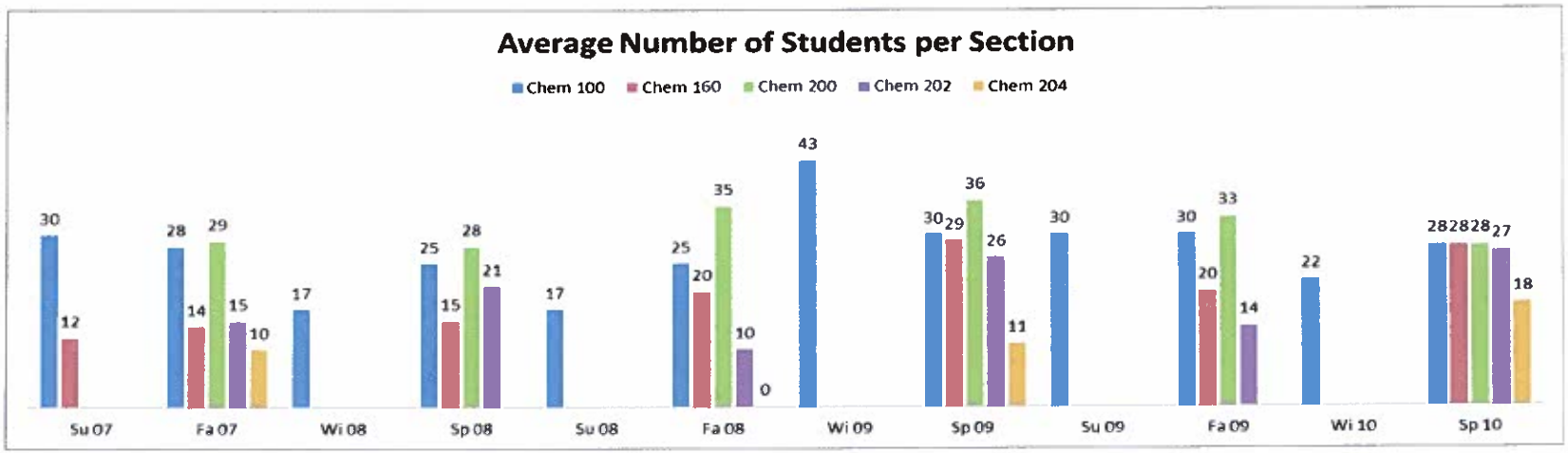
1. Grades of B and C predominate, while grades of A nearly equal Grades of D and F. In each class, grade distribution fit well to a Gaussian curve, reflecting the near median score of B and C.



2. Enrollment Count
    a. **Steady enrollment** indicated from "Enrollment Count"
    b. **Increases in LOWER level courses = Increases in UPPER level courses**
        i. Note previous Chemistry 100 enrollment influences future Chemistry 160 and Chemistry 200 enrollment
        ii. Higher Chemistry 200 enrollment directly influences future Chemistry 202 and Chemistry 204 enrollment

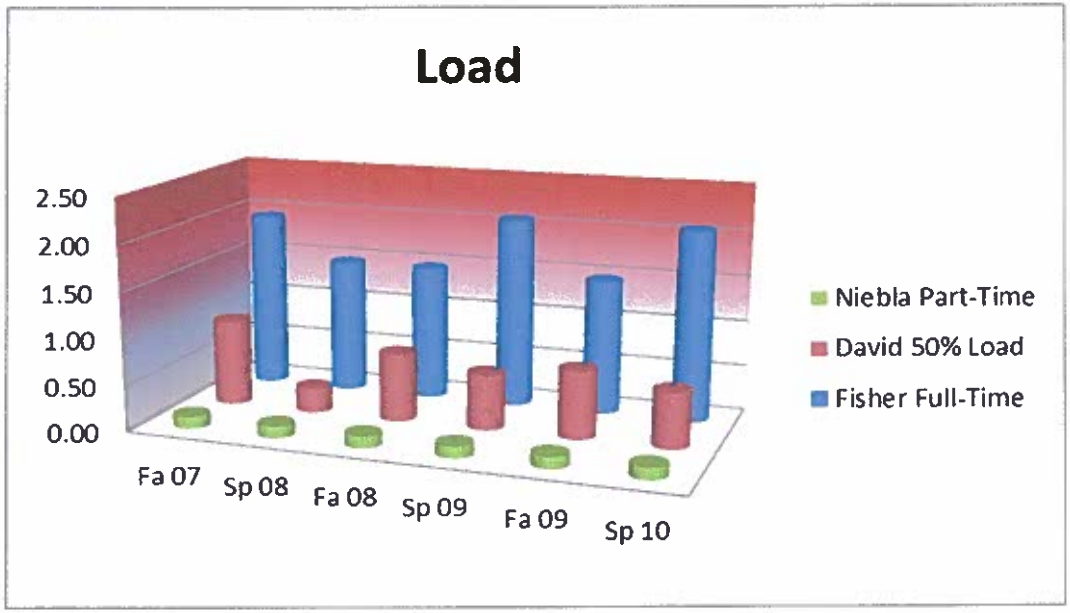


Average Number of Students Per Section
    a. The average number of students in each class remains **full,** and the average for Chemistry 160 students increases.
    b. Increases in class size are probably due in part to moving to the new Science building where student expectation and confidence are high.



3. Full Time Equivalent Faculty (FTEF): **1.5 instructors doing the work of 3 instructors.**
    a. For 3 instructors
        i. Fisher: Full-Time Chemistry
        ii. David: 50% Chemistry, 50% Biology
        iii. Niebla: adjunct

    This represents a normal total load of 1.75 FTEF per semester
    b. Fisher's load is constantly at 2, David's is very close to 1, which shows that 1.5 instructors are doing the work of 3.



FTEF: Load	Fa 07	Sp 08	Fa 08	Sp 09	Fa 09	Sp 10
Fisher Full-Time	1.93	1.47	1.47	2.07	1.47	2.07
David 50% Load	0.93	0.27	0.74	0.60	0.74	0.60
Niebla Part-Time	0.13	0.13	0.13	0.13	0.13	0.13
Load 1.75 for 3 instructors	1.75	1.75	1.75	1.75	1.75	1.75
Total	3.00	1.87	2.34	2.80	2.34	2.80
Difference	**+1.25**	**+0.12**	**+0.59**	**+1.05**	**+0.59**	**+1.05**

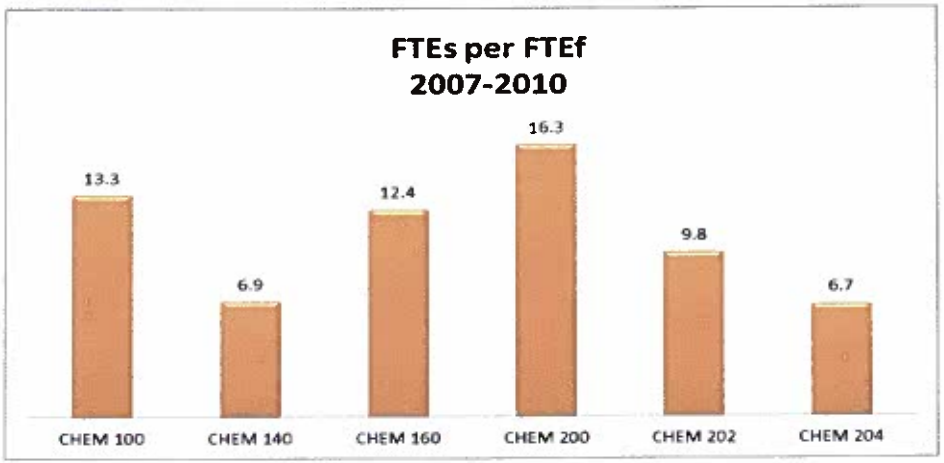
4. Ratio of FTEs to FTEF

a. The ratio between total FTEs and total FTEFs, by semester, remains consistent from semester to semester, indicating both high demand and that classes are full
b. Winter lags due to changes in the number of sections offered from year to year and a winter session was just added to the calendar

	Fall	Spring	Summer	Winter
FTEs Total	135.1	148.2	34.7	21.7
FTEF Total	11.13	10.93	2.8	2.4
Ratio	**12.14**	**13.56**	**12.39**	**9.04**

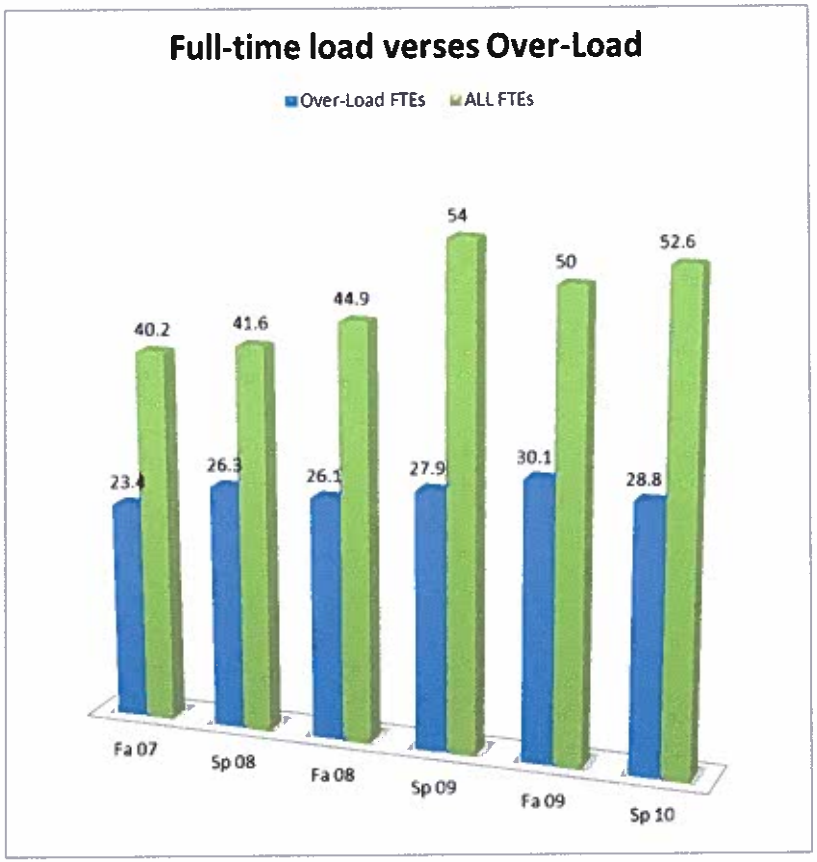
FTEs per FTEF

a. Raw data showing the ratio of Full-Time Equivalent Student generated for each Full-Time Equivalent Faculty unit
b. Chemistry 200 shows highest demand per instructor.
c. Chemistry 140 is now Chemistry 160, demand for that class is high
d. Chemistry 202 shows lower class size because it is not required for all science majors.
e. Chemistry 204 shows a continued interest by students when the class is offered.



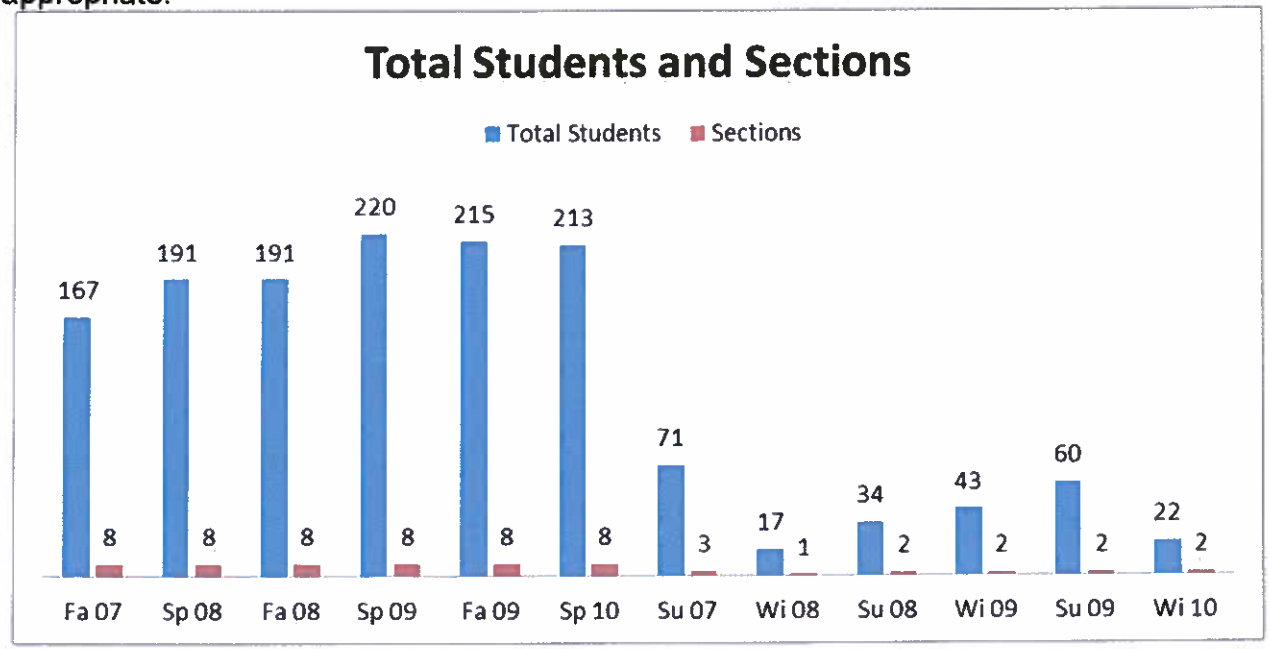
5. Number of FTEs generated Over Normal Load

a. The green bar shows all FTEs generated by semester.
b. The blue bar shows the number of FTEs generated as overload.
c. In every semester, more than 50% of all chemistry classes are taught as overload



B. PRESENT: Snapshot of the State of the Program in the Current Semester: Fall 2009

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.



Chemistry Students

- **Faculty**: Serving about 200 students a semester, in 8 sections between the equivalent of 2 full-time instructors; one full-time, one assigned 50%, and one adjunct.
- **Staff**: 2Full time lab technicians who serve all science classes including Chemistry, Physics, Biology, Anatomy and Physiology, Astronomy, Geology, Agriculture, and Zoology
- **New Science building**: 2 new chemistry labs

i. Fisher, full-time chemistry instructor, whose average teaching load is 28 units a semesters
   a. Every semester he instructs Chemistry 202, 200, 100
   b. Organic Chemistry 206 or 204 are trying to be added to a regular class offering once a year
   c. However, if Chemistry 204 or 206 do not make quota, the class is replaced with another section of Chemistry 100

d. This of course is a problem. First the fact that Chemistry 204 and 206, new classes are not being offered enough for from semester to semester-year to year, which would only encourage students to enroll in upper level chemistry classes. And, the fact that when the upper level classes are replaced with a lower level chemistry course how quickly the lower level class fills.

ii. David, assigned as a 50% instructor, has a workload split between Biology and Chemistry, typically teaching 15 units of chemistry and 20 hrs of biology
   a. Each semester he teaches Chemistry 100, 160
   b. Each semester teaches 2 sections of microbiology
   c. There is more need for this instructor to teach more Biology classes because
      i. we have few biology instructors
      ii. more lab space since moving into the new science building
      iii. more demand for biology classes, especially microbiology

iii. One part-time instructor teaching 1 class per semester
   a. In a semester classes taught are: Chemistry 100 at night
   b. He teaches both fall and spring

iv. Staff has 2 full time lab technicians serving all science classes

v. New Science building:
   a. Two new chemistry labs, chemical storage area, equipment storage area and a new lab tech area including dry chemical, wet chemical and equipment storage all added January 2010.
   b. Chemicals now stored in proper areas
   c. Adding an additional chemistry laboratory had made it possible to offer more high-demand chemistry courses at different times of the day.

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.)

Economic Negative effects

1. State budget is uncertain
2. Imperial County is the poorest county in the United States
3. Imperial County as the highest unemployment in the United States

Currently the chemistry program caters mainly to nursing and agriculture students. It is possible to attract more science majors to the chemistry program. However, due to the current uncertain economic environment, Imperial Valley College is not willing to put the resources into developing more science major's students. The limited financial resources hamper then number of upper level courses offered from semester to semester. This of course is only exacerbated by the fact that we do not have enough faculty teaching chemistry. In addition, in an area of the country where we have so many unemployed, education needs to be promoted more, as a way to bring economic opportunities to the people in the area.

Economic Positive effects

1. Renewable energy markets appear to be emerging in our county
2. We can only go up from here

Possible industrial opportunities may open in the area. These jobs will bring both technical level and skilled workers into the area. The impact to the chemistry program might be economic growth to the area, which could bring economic stability to Imperial Valley College, as well as students with an increased awareness of science related goals, seeking more educational opportunities. It's possible that an increases awareness and interest in science may stimulate interest in more chemistry course offerings, and the ability to hire another chemistry instructor.

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

Continuous flow of students from Low to upper level chemistry course

1. We've offered Organic Chemistry 204 successfully twice, and unsuccessfully once due to lack of enrollment.
2. Students ask for Organic Chemistry 206. Due to lack of enrollment, this class has not been offered yet.
3. Scheduling classes has been difficult
   i. Students transfer before taking upper level chemistry courses
   ii. Students get out of sequence, end up taking physics because it is a 3 semester class and skip Chemistry 204 and 206
   iii. Flow of students from Chemistry 100 through to Chemistry 204/206 is interrupted by scheduling conflicts in physics
   iv. Chemistry 204/206 may not be offered in 2011/2012 due to above problems just mentioned
   v. One solution is to hire a full-time tenured track chemistry instructor
4. Not enough chemistry 100 and 200 classes are being offered to populate the upper level classes. Students transfer and do not have time to wait for the kind of schedule we currently offer for organic chemistry. A solution is to hire another chemistry instructor
5. Need a mechanism to attract more students to upper level chemistry courses
6. More classes cannot be offered, due to current workload of current instructors

Technology in the classroom

7. Obtain software site license for Chem Office. Upper level chemistry courses need software to help them analyze data generated in lab, as well as help them prepare their laboratory write-ups. This software is typically available to students taking upper level chemistry courses at UCSD, SDSU, etc. so exposing our students to this type of software will keep them up to date with their college counterparts when they transfer.
8. File server for faculty for on and off campus file access. Currently, many faculty are using USB drives or carrying their computers home with them. This of course is neither a secure nor an efficient method for backing files up between home, office, and classroom. Having a file server for faculty will allow them to access files from home, office and classroom. These files can be secured, verses having students possibly intercepting a USB drive full of grades and other private class information.

C. FUTURE: Program Objectives for the Next Three Academic Years: 2010-11, 2011-12, 2012-2013.

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.

Goals:

1. Increase students transfer opportunities (Educational Master Plan Goal #1)
2. Attract more students to upper level chemistry courses (Educational Master Plan Goal #1)
3. Education of K-12 students and instructors (Educational Master Plan Goal #2)

1. Increase students transfer opportunities
   i. Offer more lower courses such as Chemistry 100, 200 and 202 that are prerequisites to upper level courses
   ii. Offer upper level organic chemistry courses Chemistry 204, and 206

2. Attract more students to upper level chemistry courses by hiring both a full-time chemistry and physics instructor to offer more classes. This will:
   - Increase the number of science courses offered in Chemistry, Physics and ultimately Math.
   - Design a schedule that allows more flexibility for students taking lower level courses

3. Education of K-12 students and instructors
   i. Hire a new chemistry instructor so they can provide local K-12 students/instructors with:
      a. Teach renewable energy topics to K-12 Instructors, in workshops, so they can incorporate those ideas into their labs
      b. Design hands-on labs for visiting K-12 graders on days devoted to renewable energy
   ii. Look into grant opportunities to
      a. Establish "Science-Night" funding to middle schools
      b. Provide training to K-12 grade instructors on renewable energy topics.

Time-Line

	2010-11		2011-12		2012-2013	
	Fall	Spring	Fall	Spring	Fall	Spring
Goal 1	Increase students transfer opportunities					
i	Offer 6 sections of Chem 100, offer 2 sections of Chem 200	Increase Chem 100 to 7 sections, offer 2 sections of Chem 200	Offer 8 sections of Chem 100, and offer 2 sections of Chem 200	Keep 8 sections of Chem 100, Offer 2 sections both Chem 200/202	Keep previous course offering the same and	Keep previous course offering the same and
ii					Offer Chem 204 each fall semester	Offer Chem 206 each spring semester
Goal 2	Attract more students to upper level chemistry courses					
			Hire both a chemistry and physics instructor			
Goal 3	Education of K-12 students and instructors					
i				Newly hired chemistry instructor works on designing workshops for K-12 instructors	Implementation of workshops to instructors	Newly hired chemistry instructor works on designing labs for visiting K-12 students
ii			Investigate Grant opportunities	Write Grants	Implementation of grants	Implementation of grants

Outcome

	2010-11		2011-12		2012-2013	
	Fall	Spring	Fall	Spring	Fall	Spring
Goal 1	Increase students transfer opportunities					
i	One extra section of Chem 100 added, adding 20% more students to Chem 100 then previous semester, and 2 sections of Chem 200 added, almost doubling Chem 200 enrollment from previous sememster	Increase Chem 100 to 7 sections adding 15% more students then previous, offer 2 sections of Chem 200 with double the 2009/2010 enrollment	Offer 8 sections of Chem 100 adding 15% more students than previous semester, and offer 2 sections of Chem 200 with double the 2009/2010 enrollment	Offer 1 more section both Chem 202	All 8 sections of Chem 100 remain full, as well as the 2 sections of both Chem 200 and Chem 202	Keep previous course offering the same and
ii					Offer Chem 204 each fall semester	Offer Chem 206 each spring semester
Goal 2	Attract more students to upper level chemistry courses					
		Being hiring process for new instructor	Hire both a chemistry instructor			
Goal 3	Education of K-12 students and instructors					
i			Discuss with new instructor their objective to being preparing for workshops for K-12 instructors, and students	Design and test workshops on trial K-12 instructors	Implementation of workshops to instructors to a wider audience Design workshops for K-12 students	Design and test workshops for visiting K-12 students
ii		Search for HIS STEM grants for Workshops	Write grants with a group of interested instructors	Upon accepting of grant, begin design and testing	Implementation of grants	Implementation of grants

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.
   A. Currently, all chemistry courses are written with the minimum SLO requirements
   B. Improvements to these SLO's are always considered each semester
   C. As the institution expands the SLO requirements, the chemistry SLO requirements will also become more comprehensive
   D. We plan to develop program-level SLO's for the General Science, Life Science, and Physical Science majors by the end of the 2010-2011 academic year. We plan to implement them in the Fall 2011 semester, and data obtained will be used to improve the program.

3. Identify any resources needed to accomplish these objectives. Identify any obstacles toward accomplishment and the plan to surmount these obstacles.
   A. Funding to hire another chemistry faculty to add both more classes and start community outreach programs
   B. Funding to purchase a site license for Chem Office for upper level chemistry courses for students use to prepare for their lab reports and for students familiarity with standard UC, CS upper level chemistry course software.
   C. Access to on and off campus file backup to provide faculty access to files that are current and avoid security problems associated with lose of data from USB drives.

4. Identify any outside factors that might influence your program during the next three years.
   A. Fluctuations in state funding that would prevent hiring another instructor
   B. Fluctuations in state funding that would prevent adding more classes

Program Review - Chemistry 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	
CHEM 100	85	126	148	359	127	118	112	357	59	34	60	153	17	43	22	82	951
CHEM 140	28			28					12			12					40
CHEM 160		20	20	40		29	28	57									97
CHEM 200	29	35	33	97	28	36	28	92									189
CHEM 202	15	10	14	39	21	26	27	74									113
CHEM 204	10			10		11	18	29									39
Total	167	191	215	573	176	220	213	609	71	34	60	165	17	43	22	82	1429

Chemistry 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	
CHEM 100	3	5	5	13	5	4	4	13	2	2	2	6	1	2	2	5	37
CHEM 140	2			2					1			1					3
CHEM 160		1	1	2	1	1	1	3									5

CHEM 200	1	1	1	3	1	1	1	3									6
CHEM 202	1	1	1	3	1	1	1	3									6
CHEM 204	1			1		1	1	2									3
Total	8	8	8	24	8	8	8	24	3	2	2	7	1	2	2	5	60

Chemistry Program
Average Number of Students per Section

	Fall				Spring				Summer				Winter				Grand Total
Course	2007	2008	2009	Total	2008	2009	2010	Total	2007	2008	2009	Total	2008	2009	2010	Total	
CHEM 100	28	25	30	28	25	30	28	27	30	17	30	26	17	22	22	21	26
CHEM 140	14			14					12			12					13
CHEM 160		20	20	20	15	29	28	24									22
CHEM 200	29	35	33	32	28	36	28	31									32
CHEM 202	15	10	14	13	21	26	27	25									19
CHEM 204	10			10		11	18	15									13
Avg.	21	24	27	24	24	28	27	26	24	17	30	24	17	22	22	21	24

Chemistry 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	
CHEM 100	66%	71%	63%	67%	56%	70%	68%	65%	63%	71%	83%	72%	82%	67%	84%	78%	70%
CHEM 140	100%			100%					83%			83%					92%
CHEM 160		85%	60%	73%	87%	90%	68%	81%									78%
CHEM 200	86%	91%	82%	86%	50%	67%	61%	59%									73%
CHEM 202	60%	90%	79%	76%	81%	73%	44%	66%									71%
CHEM 204	70%			70%		55%	33%	44%									53%
Avg.	76%	84%	71%	77%	68%	71%	55%	64%	73%	71%	83%	75%	82%	67%	84%	78%	72%

Chemistry 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	
CHEM 100	74%	85%	85%	81%	81%	80%	85%	82%	92%	91%	90%	91%	94%	88%	93%	92%	86%
CHEM 140	100%			100%					92%			92%					96%
CHEM 160		90%	80%	85%	87%	93%	89%	90%									88%

CHEM 200	86%	97%	94%	92%	82%	89%	61%	77%									85%
CHEM 202	73%	100%	93%	89%	95%	88%	63%	82%									85%
CHEM 204	90%			90%		82%	78%	80%									83%
Avg.	85%	93%	88%	88%	86%	86%	75%	82%	92%	91%	90%	91%	94%	88%	93%	92%	86%

Grade Distribution

Program	Term	Sem.	Yr.	Course	A	B	C	D	F	CR	P	Other	W	Total	Success Rate	Retention Rate
CHEM	200730	Sum.	2007	CHEM100	13	12	12	9	8			0	5	59	62.7%	91.5%
CHEM	200810	Fall	2007	CHEM100	15	18	23	3	4			0	22	85	65.9%	74.1%
CHEM	200815	Win.	2008	CHEM100	3	8	3	2				0	1	17	82.4%	94.1%
CHEM	200820	Spr.	2008	CHEM100	10	20	41	12	19			1	24	127	55.9%	81.1%
CHEM	200830	Sum.	2008	CHEM100	9	9	6	7				0	3	34	70.6%	91.2%
CHEM	200910	Fall	2008	CHEM100	17	31	41	11	7			0	19	126	70.6%	84.9%
CHEM	200915	Win.	2009	CHEM100	7	13	9	9				0	5	43	67.4%	88.4%
CHEM	200920	Spr.	2009	CHEM100	13	31	39	7	3			1	24	118	70.3%	79.7%

CHEM	200930	Sum.	2009	CHEM100	15	22	13	3	1			0	6	60	83.3%	90.0%
CHEM	201010	Fall	2009	CHEM100	23	27	44	14	17			1	23	149	63.1%	84.6%
CHEM	201015	Win.	2010	CHEM100	11	17	9	3	1			0	3	44	84.1%	93.2%
CHEM	201020	Spr.	2010	CHEM100	20	30	26	11	8			0	17	112	67.9%	84.8%
CHEM	200730	Sum.	2007	CHEM140	2	4	4		1			0	1	12	83.3%	91.7%
CHEM	200810	Fall	2007	CHEM140	8	8	12					0		28	100.0%	100.0%
CHEM	200820	Spr.	2008	CHEM160	3	5	5					0	2	15	86.7%	86.7%
CHEM	200910	Fall	2008	CHEM160	7	6	4		1			0	2	20	85.0%	90.0%
CHEM	200920	Spr.	2009	CHEM160	11	13	2		1			0	2	29	89.7%	93.1%
CHEM	201010	Fall	2009	CHEM160	3	5	4	1	3			0	4	20	60.0%	80.0%
CHEM	201020	Spr.	2010	CHEM160	5	12	2	4	2			0	3	28	67.9%	89.3%
CHEM	200810	Fall	2007	CHEM200	4	10	11					0	4	29	86.2%	86.2%
CHEM	200820	Spr.	2008	CHEM200	5	4	5	6	3			0	5	28	50.0%	82.1%
CHEM	200910	Fall	2008	CHEM200	5	17	10	1	1			0	1	35	91.4%	97.1%
CHEM	200920	Spr.	2009	CHEM200	9	30	33	12	12			0	12	108	66.7%	88.9%
CHEM	201010	Fall	2009	CHEM200	6	10	11	3	1			0	2	33	81.8%	93.9%

CHEM	201020	Spr.	2010	CHEM200	9	27	15					0	33	84	60.7%	60.7%
CHEM	200810	Fall	2007	CHEM202	2	5	2		2			0	4	15	60.0%	73.3%
CHEM	200820	Spr.	2008	CHEM202	4	5	8	3				0	1	21	81.0%	95.2%
CHEM	200910	Fall	2008	CHEM202	1	3	5	1				0		10	90.0%	100.0%
CHEM	200920	Spr.	2009	CHEM202	4	8	7	2	2			0	3	26	73.1%	88.5%
CHEM	201010	Fall	2009	CHEM202	1	5	5	2				0	1	14	78.6%	92.9%
CHEM	201020	Spr.	2010	CHEM202	2	5	5	3	2			0	10	27	44.4%	63.0%
CHEM	200810	Fall	2007	CHEM204	2	2	3	1	1			0	1	10	70.0%	90.0%
CHEM	200920	Spr.	2009	CHEM204		3	3	2	1			0	2	11	54.5%	81.8%
CHEM	201020	Spr.	2010	CHEM204	1	2	3	4	4			0	4	18	33.3%	77.8%

Chemistry Program
Full Time Equivalent Student (FTEs)

	Fall				Spring				Summer				Winter				Grand
Course	2007	2008	2009	Total	2008	2009	2010	Total	2007	2008	2009	Total	2008	2009	2010	Total	Total
CHEM 100	17.6	26.1	30.7	74.4	26.3	24.5	23.2	74.0	12.4	7.1	12.6	32.2	3.4	9.0	9.3	21.7	202.3
CHEM 140	5.8			5.8					2.5			2.5					8.3

CHEM 160		4.8	4.8	9.5		6.9	6.7	13.5									23.1
CHEM 200	9.0	10.9	10.3	30.2	8.7	11.2	8.7	28.6									58.8
CHEM 202	4.7	3.1	4.4	12.1	6.5	8.1	8.4	23.0									35.1
CHEM 204	3.1			3.1		3.4	5.6	9.0									12.1
Total	40.2	44.9	50.0	135.1	41.6	54.0	52.6	148.2	14.9	7.1	12.6	34.7	3.4	9.0	9.3	21.7	339.7

Chemistry Program
Full Time Equivalent Faculty (FTEf)

	Fall				Spring				Summer				Winter				Grand
Course	2007	2008	2009	Total	2008	2009	2010	Total	2007	2008	2009	Total	2008	2009	2010	Total	Total
CHEM 100	1.20	2.00	2.00	5.20	2.00	1.60	1.60	5.20	0.80	0.80	0.80	2.40	0.40	0.80	1.20	2.40	15.20
CHEM 140	0.80			0.80					0.40			0.40					1.20
CHEM 160		0.47	0.47	0.93		0.47	0.47	0.93									1.87
CHEM 200	0.60	0.60	0.60	1.80	0.60	0.60	0.60	1.80									3.60
CHEM 202	0.60	0.60	0.60	1.80	0.60	0.60	0.60	1.80									3.60
CHEM 204	0.60			0.60		0.60	0.60	1.20									1.80
Total	3.80	3.67	3.67	11.13	3.20	3.87	3.87	10.93	1.20	0.80	0.80	2.80	0.40	0.80	1.20	2.40	27.27

Chemistry 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	
CHEM 100	14.7	13.1	15.3	14.3	13.2	15.3	14.5	14.2	15.5	8.9	15.8	13.4	8.5	11.3	7.7	9.0	13.3
CHEM 140	7.3			7.3					6.3			6.3					6.9
CHEM 160		10.2	10.2	10.2		14.8	14.3	14.5									12.4
CHEM 200	15.0	18.1	17.1	16.8	14.5	18.7	14.5	15.9									16.3
CHEM 202	7.8	5.2	7.3	6.7	10.9	13.5	14.0	12.8									9.8
CHEM 204	5.2			5.2		5.7	9.3	7.5									6.7
Avg.	10.6	12.2	13.6	12.1	13.0	14.0	13.6	13.6	12.4	8.9	15.8	12.4	8.5	11.3	7.7	9.0	12.5