

This pre and post class survey was developed by the Evaluations Team from the ModularCHEM Consortium and ChemLinks Coalition Systemic Reform Projects. It was developed using data from a series of interviews and focus groups across 10 campuses consisting of three liberal arts colleges, two research universities, two state universities, two historically-black colleges, and one community college. The participants on each campus were selected using a stratified random design for gender, ethnicity, and major. The interviews and focus groups explored students' experiences in chemistry classes, including their interest and engagement, the effect of course organization and teaching on their thinking and learning experiences, their views of the nature of science, and their view of their own learning experiences. The words used in these surveys correspond to the language used by students.

Spring 98 Post-class Chemistry Survey

Instructions

This survey is part of a larger effort to meet the needs of students taking general chemistry at colleges and universities across the country. Your individual answers are completely confidential and will not be seen by your professor or TA. Your survey will never be identified individually in any presentation (written or oral) of the information. Only the combined data from many students will be used.

The survey is in two parts. Part one consists of statements to which we would like you to rate your level of agreement. If the statement does not apply to you (for example, if it describes working in groups and you never worked in a group in this class) please select "not applicable." If you are completely unfamiliar with the ideas mentioned in the statement, please select "don't know."

Part two asks for some general background information about you, so that we can better tailor our chemistry courses to the students who take them.

In order to match the survey you fill out at the beginning of the course with the survey you fill out at the end of the course, we are asking you to identify yourself by filling in **your full Student ID number**. Upon receiving each of your surveys, we will use an algorithm to alter your ID number, so that you cannot be identified from the information in the database.

Please write your
Student ID in the
Project ID box.

For example:

Project I.D.										
1	2	3	4	5	6	7	8	9	0	6
6	2	3	4	5	6	7	8	9	0	1
1	2	6	4	5	6	7	8	9	0	3
1	2	3	4	5	6	7	6	9	0	8
1	2	3	4	5	6	6	8	9	0	7
1	6	3	4	5	6	7	8	9	0	2
1	2	3	4	5	6	7	8	6	0	9
1	2	3	4	5	6	7	8	9	6	0
1	2	3	6	5	6	7	8	9	0	4
1	2	3	4	5	6	7	8	9	0	

Thank you for participating by filling out this survey. You are making a contribution to our effort to improve your chemistry courses.

PART 1: Expectations and Class Experiences

Please use the 7-point scale to indicate your agreement or disagreement with each statement.

Record all responses on your scantron form.

		strongly disagree	disagree	neutral	agree	strongly agree	not applicable	don't know
ORGANIZATION								
1	It is important to me that a course provide time for discussing ideas.	1	2	3	4	5	6	7
2	This course was organized so that we were encouraged to discuss ideas.	1	2	3	4	5	6	7
3	I like courses that encourage me to discover some of the ideas for myself.	1	2	3	4	5	6	7
4	The structure of this course enabled me to discover some of the ideas of chemistry for myself.	1	2	3	4	5	6	7
5	Being able to ask questions is important to my learning.	1	2	3	4	5	6	7
6	The pace of this course was too fast for me to understand the material.	1	2	3	4	5	6	7
7	In this course I was encouraged to participate in hands-on activities.	1	2	3	4	5	6	7
LAB								
8	Often in lab I didn't understand the concept behind the lab experiment.	1	2	3	4	5	6	7
9	I like labs where I get to help design an experiment to answer a question.	1	2	3	4	5	6	7
10	This course provided opportunities for me to help design experiments to answer a question.	1	2	3	4	5	6	7
11	It was clear how the lab experiments fit into this course.	1	2	3	4	5	6	7
12	Doing labs in this class was like following a recipe in a cookbook.	1	2	3	4	5	6	7
13	The lab manual for this course was well-written (easy to understand).	1	2	3	4	5	6	7
NATURE OF SCIENCE								
14	This course improved my understanding of what chemists do.	1	2	3	4	5	6	7
15	Science, as it is practiced in the real world, is objective and unbiased.	1	2	3	4	5	6	7
16	Chemists work to uncover universal laws that already exist in nature.	1	2	3	4	5	6	7
17	Chemists construct theories that explain what they observe in nature.	1	2	3	4	5	6	7
18	It is important to be skeptical about the results of scientific experiments.	1	2	3	4	5	6	7

COMPLEXITY AND UNDERSTANDING		strongly disagree disagree neutral agree strongly agree					not applicable	don't know
		1	2	3	4	5		
19	This course helped me see how chemistry is connected to other disciplines like math, biology, geology, physics, engineering, or astronomy.	1	2	3	4	5	6	7
20	I prefer problems that have one right answer to problems that are open-ended.	1	2	3	4	5	6	7
21	This course helped me feel more comfortable with the idea that some questions have no single right answer.	1	2	3	4	5	6	7
22	I understood most of the ideas presented in this course.	1	2	3	4	5	6	7
23	In this course, the exams and assignments reflected the course work.	1	2	3	4	5	6	7
24	The computer assignments in this course (if any) helped me to learn the chemistry.	1	2	3	4	5	6	7
25	By the end of this course, I knew where and how to look up information.	1	2	3	4	5	6	7
26	By the end of this course, I felt able to apply the concepts presented.	1	2	3	4	5	6	7
27	Taking this class has helped me understand newspaper and other articles I read about science.	1	2	3	4	5	6	7
28	This course helped me get better at seeing alternative approaches to a problem.	1	2	3	4	5	6	7
29	I value being able to apply chemistry ideas to everyday situations.	1	2	3	4	5	6	7
30	This course encouraged me to apply chemistry ideas to everyday situations.	1	2	3	4	5	6	7
OVERALL								
31	I enjoyed taking this chemistry course	1	2	3	4	5	6	7
32	I would recommend this chemistry course to my friends	1	2	3	4	5	6	7

Assuming that all the following activities are equally well-implemented, **I learn well by ...**

	strongly disagree	disagree	neutral	agree	strongly agree	not applicable	don't know
33 doing homework assignments.	1	2	3	4	5	6	7
34 using diagrams and other visual media.	1	2	3	4	5	6	7
35 using computer-based materials.	1	2	3	4	5	6	7
36 reading a (good) textbook.	1	2	3	4	5	6	7
37 working with my lab partner.	1	2	3	4	5	6	7
38 getting good help / tutorial aid.	1	2	3	4	5	6	7
39 doing hands-on activities.	1	2	3	4	5	6	7
40 listening to lecture.	1	2	3	4	5	6	7
41 giving one-on-one explanations.	1	2	3	4	5	6	7
42 doing in-class exercises.	1	2	3	4	5	6	7
43 preparing presentations.	1	2	3	4	5	6	7
44 writing papers.	1	2	3	4	5	6	7
45 completing lab notebooks or lab reports.	1	2	3	4	5	6	7
46 reading and re-reading materials.	1	2	3	4	5	6	7
47 working in a group.	1	2	3	4	5	6	7
48 working on my own.	1	2	3	4	5	6	7

I know I understand when ...

49 I can work problems in the book.	1	2	3	4	5	6	7
50 I can apply ideas to new situations.	1	2	3	4	5	6	7
51 I get a good grade on an exam.	1	2	3	4	5	6	7
52 I can explain the ideas to someone else.	1	2	3	4	5	6	7
53 I can see how concepts relate to one another.	1	2	3	4	5	6	7

Taking this course has increased my interest in ...

54 science in general.	1	2	3	4	5	6	7
55 chemistry in general.	1	2	3	4	5	6	7
56 taking more chemistry.	1	2	3	4	5	6	7
57 pursuing a chemistry-related major.	1	2	3	4	5	6	7
58 pursuing a science-related field.	1	2	3	4	5	6	7
59 working with others to learn science.	1	2	3	4	5	6	7

PART 2: Background Information

- 60** Which of the following categories represents your age?
1. 19 years or under
 2. 20 years
 3. 21 years
 4. 22 years
 5. 23-29 years
 6. 30-40 years
 7. over 40 years
- 61** Which of the following represents your year in college?
1. First year
 2. Sophomore
 3. Junior
 4. Senior
 5. Senior +1
 6. Graduate Student
 7. Post-professional degree
- 62** What is your gender?
1. Female
 2. Male
- 63** What is your intended major? (please choose only one)
1. Biological sciences
 2. Chemistry / Chemical engineering
 3. Environmental sciences
 4. Other science / Engineering
 5. Business / Policy
 6. Social sciences
 7. Humanities / Arts
- 64** What is the field of your intended career? (please choose only one)
1. Science / Engineering
 2. Medical / Dental / Other Health Care
 3. Teaching K-12
 4. Business / Policy
 5. Social sciences
 6. Humanities / Arts
 7. Undecided/Other
- 65** Why did you enroll in this course? (please choose only one)
1. Interested in chemistry and it is required for my major
 2. Interested in chemistry and it is NOT required for my major
 3. Not particularly interested in chemistry, but it is required for my major
 4. No definite plans yet, but thought I might need it later
 5. Other
- 66** How many college chemistry courses had you taken before this one?
1. 1 course
 2. 2 courses
 3. 3 courses
 4. 4 or more courses
 5. 0 courses
- 67** How many more chemistry courses do you plan to take?
1. 1
 2. 2
 3. 3
 4. 4
 5. 5
 6. 6 or more
 7. 0

68 How many more courses do you plan to take in math and science (excluding chemistry)?

- | | | |
|------|--------------|------|
| 1. 1 | 4. 4 | |
| 2. 2 | 5. 5 | 7. 0 |
| 3. 3 | 6. 6 or more | |

69 On average, how many hours per week do you spend on this course outside of the class and lab?

1. Less than 2 hours
2. 2-4 hours
3. 4-6 hours
4. 6-8 hours
5. 8-10 hours
6. More than 10 hours
7. Don't know

70 Based on past experience, what grade do you expect to receive in this class?

- | | | | |
|------------|-------------|-------------|-----------|
| 1. A to A- | 2. B+ to B- | 3. C+ to C- | 4. D to F |
|------------|-------------|-------------|-----------|

71 What was your **Math SAT** score?

1. under 400
2. 400–490
3. 500–590
4. 600–690
5. 700–800
6. don't recall

72 What was your **Verbal SAT** score?

1. under 400
2. 400–490
3. 500–590
4. 600–690
5. 700–800
6. don't recall

73 **What is your ethnicity?** Please select only **one** category.

(If not listed under Question 72, please select "None of the above" and continue looking in Question 73.)

1. Mixed/multi-ethnic (Please write in your ethnic identifications at the top of the Scantron form.)
2. Pakistani or East Indian
3. Black/African-American
4. Latino or other Hispanic
5. Chicano/Mexican
6. Native American/Alaskan
7. None of the above. Please continue below.

74 **What is your ethnicity?** (continued)

If you selected a category from Question 72 above, please select "None of the above"

1. Chinese
2. Japanese
3. Korean
4. Pacific Islander
5. Other Asian
6. White/Caucasian/European
7. None of the above.

Thank You!