

CONCERNS OF TEACHERS OF CHEMISTRY IN 1952

The following are questions and topics submitted by different college chemistry teachers invited to the "Conference of College Chemistry Teachers" held at Monmouth College, November 14 and 15, 1952. The items were transmitted to Professor W. S. Haldeman before the meeting. He prepared the list which follows and sent a copy to Ed Haenisch at Wabash College for his use in planning for organization of the conference at the initial session on November 14.

1. Conduction of a freshman course which is primarily terminal but feeds a few into upper course, - using a bridging problems course
2. Variation in program for non-chemistry major students and majors
3. Quantitative analysis and physical chemistry courses for pre-medical students
4. Seminar (senior) - research and thesis programs
5. Place and amount of qualitative analysis in general and analytical chemistry programs
6. Balance between theoretical and descriptive chemistry for beginning students
7. Use of reaction mechanisms, resonance concepts, etc., in organic chemistry
8. Keeping small classes in the face of administrative pressure against them
9. Inferiority complex of some students when asked to take chemistry with those who had a high school course before entering college
10. Type of laboratory work and how to write up results
11. How much instrumental work should be used in analytical courses?
12. How should laboratory work be evaluated in college chemistry?
13. Why are the natural sciences somewhat minimized in college curricula?
14. Is it desirable to spend time presenting the historical aspects of chemistry in a beginning course?
15. How to make the chemistry laboratory an effective teaching tool
16. Texts have been greatly increased in content in recent years. How can one select wisely older material to be deleted, and select new material to be incorporated?

17. How can we present to the non-science majors the fundamentals of physical science so as to be able to use the vocabulary and appreciate the work of science and scientists more fully?
18. What constitutes an adequate background in the fine arts, language, mathematics, history, social science, politics, philosophy, etc., for the training of the future chemist?
19. What influence can be used with the chemistry major to induce him to spend the time in mathematics, modern language, physics, and long hours in the laboratory to prepare himself for his skills when his probable remuneration will be less than that of other young men who go through much less strenuous training - such as salesmanship?
20. What topics constitute an adequate course in introductory physical chemistry? What additional topics would most adequately supplement this to produce a superior presentation?
21. How can the electronic concept of bindings of non-polar or weakly polar substance most adequately be incorporated into the introductory organic chemistry course presentation to make a type of a systematic presentation rather than the older memory type -- type reactions rather than the specific reaction - example: Cannizzaro reaction?
22. Lack of time and funds in small colleges to do research necessary to keep the teacher from growing stale
23. Difficulty in getting students to think, not only in chemistry but also in taking a broad perspective of life: How do experienced teachers deal with this attitude?
24. I cannot cover as much subject matter in general chemistry now as I did in former years. Is this partly due to the type of students and their attitudes? Or is the change due to the teacher? Has any one else noticed a similar change? A similar change is noticed in organic chemistry.
25. Should consideration of aliphatic and aromatic compounds be considered separately or given simultaneously?
26. What should be done about non-science students in a class that has mostly science students?
27. How many hours credit should be required in chemistry for majors? (See ACS requirements)
28. Should a student who plans to go to graduate school in chemistry take more or less undergraduate chemistry than the student who plans to do industrial work?
29. Give a discussion on how to teach General Chemistry to students who lack the necessary training in mathematics. Not certain where the fault lies but it is a problem that has to be met.

30. I am especially interested in the relationship of research and the teaching load in liberal arts colleges. Much money is available: how can we make our colleges worthy of some of these gifts?
31. Since several of our mid-west liberal arts colleges have received Standard Oil Company (Indiana) scholarships, could there be an "off-the-record" meeting for the discussion of the use of the fund?
32. The approach to the teaching of beginning chemistry is a problem that should be discussed.
33. How can we teach physical chemistry to girls who are not prepared in mathematics for the problems but who need the physical chemical principles?
34. Qualitative organic analysis course for liberal arts colleges should be discussed.
35. Should organic chemistry precede or follow the teaching of qualitative (inorganic) analysis?
36. Discussion of A.C.S. accrediting of departments in liberal arts colleges
37. Discussion of senior research, honors work, and the like
38. Should students in women's colleges be offered training in "instrumental analysis?" Most of our girls expect to teach or qualify as medical technologists.
39. What are the advantages of the semi-micro methods in organic preparations?
40. The needs of the college for a liberal arts beginning course and the needs of science majors for a beginning course: Can these needs be satisfied in a single course?
41. The problem of specialization of the student in preparation for graduate school versus completing requirements for the liberal arts
42. The problem of the "chemistry major who hopes to enter dental or medical school:" Should we offer a "watered down major?"
43. Techniques for correlation of chemistry with the other fields in the college
44. The use of standardized examinations -- do they test for understanding and concepts which should be taught in the liberal arts?
45. The devising of the objective type examinations which will stimulate thought rather than merely test for facts

46. The place of undergraduate research in the liberal arts
47. The place of departmental libraries in liberal arts colleges
48. The problem of library budgets for chemistry being considered on the same par as library budgets for the humanities and the social sciences
49. The certification of the small college by the A.C.S.
50. The provision of tailored "service courses" to students in science related fields such as pre-medicine, pre-dental, home economics, etc.
51. The teaching of chemistry versus training for special interests
52. Chemistry as related to the objectives of a Christian College
53. The cultivation of reading, writing, and mathematical abilities through the study of chemistry
54. Subject matter and content: What should be included and what should be omitted? Streamlining is necessary to tell the fundamentals and keep up interest.
55. Problem of student attitude: Many students are not trained well to do the heavier college work. Methods for guiding and improving attitudes of students to be thorough in their work.
56. Extra curricular programs: Students often spend too much time and energy on these activities to the neglect of their academic effort.
57. The problem of small enrollment in chemistry! How can we sell the subject to the student body and to the community?