

SOAR - UNH

UNH Chemistry Placement Testing

Who has to take the chemistry placement test?

Any new first year student and any transfer student who plans to take a college chemistry course as a requirement for their major. If you are not planning to take chemistry courses, you need not take this placement exam.

What is a chemistry placement test?

A placement test is a test to help us place you in the chemistry course that best suits your background and needs. It will help measure how much you remember of the chemistry you learned from your high school chemistry courses.

Why are placement tests given?

Placement tests are given so that the University of New Haven can place you into a chemistry course that is appropriate for your major and for your current level of ability. The test is used to help us and you find the correct course at the correct level of difficulty for you to begin your college career.

UNH offers several possible courses that have different prerequisites and are required for different majors.

CH103 Introduction to General Chemistry (with lab- CH104)

- This course is arranged for students with little or no preparation from high school chemistry classes. The course prepares students who will be required to take the CH115-CH116 (and labs CH117-CH118) series and focuses on quantitative skills.

CH105 Introduction to General Chemistry with Organic Chemistry (including lab)

- This class is presented to students fulfilling the general science requirement. It covers a wide area of chemistry topics. In general, it is directed at students who will not be taking further chemistry classes. Many students who are Fire Science majors take this course.

CH115 General Chemistry (with lab CH117)

- This is the standard first year college chemistry course. The prerequisites for this course are successful completion of a year of high school chemistry and demonstrated mathematics skills, minimally completion of M115 Pre-Calculus or its equivalent. This course focuses on quantitative problem solving. This course is required for many other chemistry courses taken by science and engineering students.

What is the UNH chemistry placement test like?

The test is a short answer questionnaire followed by 10 multiple choice questions. Calculators are permitted and will be helpful. There is a 0.5hr time limit on the test. Please bring a pencil and your SCIENTIFIC CALCULATOR.

When is the chemistry placement test given?

Most entering students take the test during the summer SOAR sessions. Students not participating in one of the SOAR sessions must make separate arrangements with either the UNH Department of Chemistry or the UNH Office of Academic Services.

If I have AP credit for Chemistry, do I have to take the chemistry placement test?

If you come to the SOAR program prior to having received your AP score, you should take the placement test. Once UNH has received your AP results, we may adjust your chemistry placement. If you receive a score of 3 or higher on the AP Chemistry exam, we will award you UNH credit for General Chemistry I.

Should I study for the placement test?**YES!!**

A sample of the chemistry placement test is located elsewhere on this web site. Especially if you have significant chemistry in high school and plan to major in a field of science or engineering, it will probably help you to take the sample test and to review those areas of high school chemistry in which you are weak. If you are majoring in a science or engineering field, you will want to complete the first level of chemistry courses as quickly as possible since often courses in your chosen field depend heavily on these chemistry courses.

Can I fail a placement test?

A placement test is not about passing or failing. The goal is to help us and you find the appropriate beginning level of college chemistry for you. If you start too low, you will not be challenged and you will be wasting valuable time; if you start too high, you will be frustrated and will probably not succeed. We hope this questionnaire and placement exam will help us determine the best chemistry course for you.

How soon will I know the results?

Because the UNH chemistry placement test is a short multiple choice test, you will learn your score and appropriate chemistry course you should take soon after you finish the test.

Sample test and answers

Sample Chemistry Placement Exam

NAME _____

MAJOR (if known) _____

Have you had high school chemistry? Yes No

If Yes:

What high school: _____

When: _____

How did you do? Very well Just OK Poorly

Did you have more than one year of high school chemistry or advanced placement chemistry? Yes No

If Yes: Would you be interested in an enriched general chemistry course for more advanced students? Yes No

General questions:

- Which equation is **not** balanced? _____
 - $\text{K}_2\text{CrO}_4 + \text{Pb}(\text{NO}_3)_2 \rightarrow 2\text{KNO}_3 + \text{PbCrO}_4$
 - $4\text{Fe}_3\text{O}_4 + \text{O}_2 \rightarrow 6\text{Fe}_2\text{O}_3$
 - $\text{C}_7\text{H}_{16} + 15\text{O}_2 \rightarrow 7\text{CO}_2 + 8\text{H}_2\text{O}$
 - $3\text{AgNO}_3 + (\text{NH}_4)_3\text{PO}_4 \rightarrow \text{Ag}_3\text{PO}_4 + 3\text{NH}_4\text{NO}_3$
 - $2\text{Al}_2\text{O}_3 \rightarrow 4\text{Al} + 3\text{O}_2$
- Avogadro's number is? _____
 - 6.02×10^{-23} atoms/mole
 - 6.02×10^{22} atoms/mole
 - 6.02×10^{23} atoms/mole
 - 0.0821 atoms/mole
 - none of the above
- Which is a characteristic of nonmetals: _____
 - good conductors of heat
 - gain electrons to become anions
 - malleable
 - ductile
 - none of the above
- How many grams of mercury in 5.2×10^{-4} L of mercury (density 13.6 g/ml) _____
 - 7.07×10^0 g
 - 7.07×10^2 g
 - 3.82×10^{-3} g
 - 3.82 g
 - 3.82×10^3 g

5. Which statement about isotopes is **incorrect**: _____
- ^1H , ^2H and ^3H are isotopes
 - isotopes have the same atomic number
 - isotopes vary in the number of neutrons
 - isotopes have the same mass number
 - isotopes have different atomic masses
6. Which statement is **not true** about gases? _____
- as temperature increases volume decreases
 - as temperature increases pressure increases
 - as pressure increases volume decreases
 - as amount of gas increases pressure increases
 - as amount of gas increases volume increases
7. Which statement is **true** about acids: _____
- gives a high $[\text{H}^+]$ when dissolved in water
 - has a high pH
 - are unionized
 - are nonelectrolytes
 - are all binary compounds
8. If the theoretical yield for a reaction is 9.6g and the actual yield is 8.7g, the percent yield is: _____
- 100%
 - 110%
 - 91%
 - 87%
 - 75%
9. How many g of hydrogen (2g/mole) are made from the reaction of 10 g of sodium (23g/mole) by the reaction (assume an excess of water): _____
- $$2 \text{Na} + 2 \text{H}_2\text{O} \rightarrow 2 \text{NaOH} + \text{H}_2$$
- 0.43 g of hydrogen
 - 0.87 g of hydrogen
 - 1.74 g of hydrogen
 - 5.0 g of hydrogen
 - 10.g of hydrogen
10. Octane is _____
- an organic compound with eight carbons
 - a fuel
 - a hydrocarbon
 - an alkane
 - all of the above

Sample Chemistry Placement Exam – Answers

1. c

2. c

3. b

4. a

5. d

6. a

7. a

8. c

9. a

10. e