

STEM Skills Survey

Default Question Block

The survey consists of nine questions. Please take the next five to ten minutes to answer the questions.

In what year in school are you?

- Freshman
 Sophomore
 Junior
 Senior
 Other

What is your major or intended major (if you have more than one, select all that are applicable)?

- Undecided -
 Agricultural and Life Sciences
- Education: Biology
- Microbiology
- Education: Chemistry
- Dairy Science
- Agricultural Biochemistry
- Education: Kinesiology and Health
- Nutritional Science
- Electrical Engineering
- Veterinary Medicine
- Agriculture and Life Sciences Exploration
- Environmental Science
- Physical Education (Kinesiology and Health)
- Mathematics
- Undecided - Engineering
- Animal Ecology
- Food Science
- Preprofessional Health Programs
- Software Engineering
- Aerospace Engineering
- Athletic Training (Kinesiology and Health)
- Forestry
- Zoology (Biology)
- Statistics
- Agricultural Systems Technology
- Biochemistry
- Genetics
- Agricultural Engineering
- Earth Science
- Civil Engineering
- Bioinformatics and Computational Biology
- Global Resource Systems
- Agricultural Studies
- Education: Earth Science
- Computer Science
- Biological Pre-Medical Illustration
- Insect Science
- Agronomy
- Education: Physics
- Construction Engineering
- Biological Systems Engineering
- Kinesiology and Health
- Biophysics
- Geology
- Industrial Engineering
- Biology
- Kinesiology and Health major (Athletic Training)
- Horticulture
- Meteorology
- Mechanical Engineering
- Botany (Biology)
- Kinesiology and Health major (Community and Public Health)
- Chemistry
- Physics
- Materials Engineering

- Culinary Science
- Kinesiology and Health major (Exercise Science)
- Chemical Engineering
- Pre-Human Medicine
- Agriculture and Life Sciences Education
- Diet and Exercise
- Kinesiology and Health major (Physical Education Licensure)
- Computer Engineering
- Psychology
- Other
- Dietetics
- Kinesiology and Health major (Pre-Health Professions)

Please rank how important it is for you to obtain the following science process skills (examples of such skills are listed in the left column) by the time you graduate with an undergraduate degree.

| | Unimportant | Of little importance | Moderately important | Important | Very important |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Interpreting data: graphs and data | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Interpreting data: ability to construct an argument from data | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Understanding basic statistics | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Reading and evaluating primary literature | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Conducting an effective literature search | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Ability to create a testable hypothesis | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Ability to design an experiment: Identifying and controlling variables | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Ability to design an experiment: Proper alignment of experiment and hypothesis | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Ability to design and experiment: Development of proper controls | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Creating the appropriate graph from data | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Communicating results: Oral | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Communicating results: Written | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Creating a bibliography and proper citations of references | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Working collaboratively to accomplish a task | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Being an effective peer mentor | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Working independently when needed | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Knowing when to ask for guidance | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

| | Unimportant | Of little importance | Moderately important | Important | Very important |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Being able to infer plausible reasons for failed experiments | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Being able to effectively monitor their own learning process | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Problem solving/ critical thinking | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Which of the following skills are the most important for your career goals? Choose the 3 that are most import to you.

- Interpreting data
- Understanding basic statistics
- Reading and evaluating primary literature
- Ability to design an experiment
- Communicating results: oral and written
- Working collaboratively to accomplish a task
- Working independently when needed
- Knowing when to ask for guidance
- Being able to effectively monitor their own learning progress
- Problem solving/ critical thinking

Which of the following skills are the least important for your career goals to acquire? Please choose 3.

- Interpreting data
- Understanding basic statistics
- Reading and evaluating primary literature
- Ability to design an experiment
- Communication results: oral and written
- Working collaboratively to accomplish a task
- Working independently when needed
- Knowing when to ask for guidance
- Being able to effectively monitor their own learning progress
- Problem solving/ critical thinking

What other such skills do you think you should acquire by the time you graduate?

What percentage of time do you estimate that you spend learning science process skills (as opposed to content) in your science classes?

Do you feel that the amount of time you spend learning science process skills is sufficient for your career goals?

- Yes
-

No

What fraction of time in your classes do you think should be spent on these skills as opposed to content?

Other comments?

Thank you for completing the survey. If you have any questions, please contact Dr. Elizabeth Addis at addis@iastate.edu