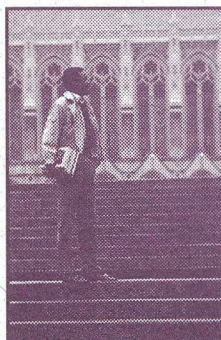


Ready & Able

COLLEGE ENTRY LEVEL EXPECTATIONS

Colorado's public college and university faculty believe that a student's success in college significantly depends on high school preparation. College faculty have developed a set of expectations of what a college student ought to know and be able to do. These expectations are based on actual freshman class assignments.

The college entry level expectations apply to freshmen who are recent high school graduates. In addition to these expectations, students enrolling in a specific course or a specific major will have additional academic expectations. These expectations parallel college general education requirements.



*College faculty expect freshmen
to be proficient in:*

Communication: writing, reading, speaking

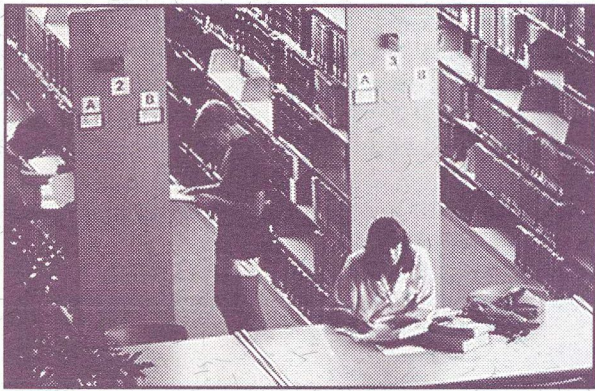
Mathematics

Humanities: literature, fine arts, foreign language

*Social Science: civics, economics,
geography, history*

*Science: biology, chemistry, physics,
earth and space science*





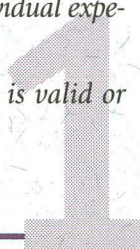
READING EXPECTATIONS

Students are expected to read and understand a variety of reading materials. They will need the following reading skills to complete freshman assignments:

- *Vary reading speed and method (survey, skim, review, question, and master) according to the type of material and purpose.*
- *Read at a 12th grade level. A typical freshman reading assignment may be to read two or three short stories or a play such as "Fences" or "Oedipus" in one week. A typical freshman math assignment may be to read a chapter (25 pages) for the next class discussion.*
- *Recognize and separate main ideas from other interesting points in an article.*
- *Infer the meaning of unfamiliar words by using contextual clues or breaking common root words from prefixes and suffixes.*

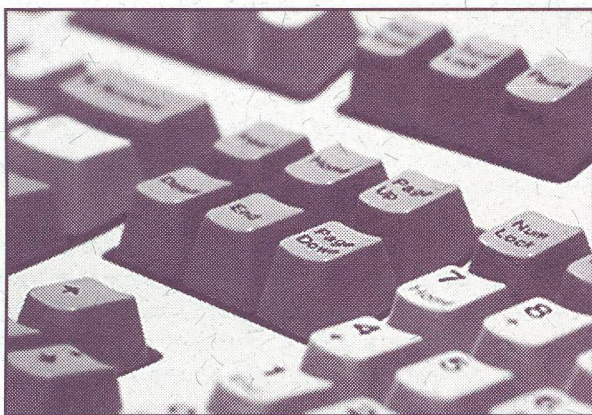
They will need to apply the following thinking skills to reading:

- *Recognize the different purposes and types of writing (i.e., descriptive, persuasive, imaginative, biographical).*
- *Recognize the historical context of a work of art or literature.*
- *Interpret material by connecting individual experiences to written material.*
- *Determine if an author's argument is valid or flawed.*



They will need to develop research skills to locate information in various sources. Freshmen will be asked to prepare a research plan, list potential information sources, collect information, and decide what is most important by using:

- *Online or library catalogs to find information about a topic;*
- *Computer databases or print indexes to find information in magazines; and*
- *Reference books, encyclopedias, back issues of newspapers or magazines, compact disks, and videos.*



WRITING EXPECTATIONS

Students are expected to vary writing style for various readers. They will be expected to:

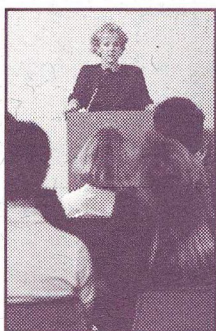
- *Understand that the writing process includes formulating ideas, selecting and developing an idea, refining an idea, evaluating the written product, correcting errors and rewriting.*
- *Generate and recognize a thesis statement.*
- *Organize ideas into logical paragraphs and papers.*
- *Support an idea or opinion with relevant and specific material.*
- *Clarify writing by using simpler language or creating transitions between paragraphs.*
- *Submit papers prepared on a computer or word processor.*

Freshmen are expected to vary writing style for **various purposes**. They should have experience writing the following assignments before entering college:

- *A paragraph that describes observations and uses appropriate technical terms.*
- *A two-page paper (approximately 500 words) that expresses one main point.*
- *A five-page research paper (approximately 1,000 words) with footnotes and bibliography listing books, periodicals, and electronic sources.*
- *A short response that supports or opposes a position on a real world issue.*
- *A poem or short story.*
- *Assignments that use writing to analyze, argue, and explore new ideas.*
- *Assignments that use imagination, rhetoric, and descriptive words.*

Freshmen are expected to write papers that are "virtually error-free" and understandable. Virtually error-free means that grammar, mechanics, and spelling are correct.

Freshmen are expected to understand the various forms of plagiarism and the acceptable ways for using other people's words in writing.

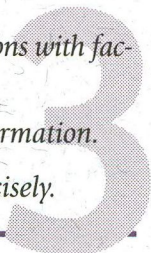


SPEAKING AND LISTENING EXPECTATIONS

Students are expected to discuss subjects informally and formally in most college classes.

In one-on-one situations, freshmen are expected to:

- *Initiate and participate in conversations with faculty or other students.*
- *Ask focused questions to obtain information.*
- *Answer questions logically and concisely.*



In small groups, freshmen are expected to:

- *Participate in discussions by adding ideas, supplying facts, or asking questions.*
- *Explain the reasoning used to solve a problem.*
- *Express and support a personal position on an issue even if it differs from that of other people.*

When making a **formal presentation**, freshmen are expected to:

- *Prepare a three to five-minute speech that states a main idea, uses specific information to support the idea, and concludes by summarizing the main points.*
- *Understand the differences and effects of written and oral presentations.*
- *Present a short speech without a microphone to a group of 20 people.*
- *Use different presentation styles and vocabulary that fit the topic, audience, and occasion.*
- *Summarize a position on a topic in three to five sentences.*

Freshmen will need the following skills to communicate effectively in their classes:

- *Organize information for audience interest and understanding.*
 - *Use charts, photos, or diagrams to emphasize a main point in a speech.*
 - *Use language that is clear, vivid, and suitable for the occasion and the audience.*
 - *Use language that is sensitive to gender and ethnic differences.*
 - *Use good grammar and pronunciation.*
 - *Vary speed, voice pitch, and intensity level when talking.*
 - *Follow written and spoken instructions.*
 - *Identify the main points in lectures and discussions.*
 - *Take accurate notes that outline important points.*
 - *Summarize or interpret another person's point of view.*
-

MATHEMATICS EXPECTATIONS

Students are expected to solve problems in a variety of classes and explain the reasoning used to solve the problem. They will be expected to:



Use numbers and sets of numbers to solve problems or explain ideas.

- *Represent and use numbers in a variety of forms (i.e., fractions, decimals, percents, exponents, absolute values, and scientific notation).*
- *Convert a value from one form to another (i.e., reduce the dose of a medication from ounces to milliliters or convert architectural dimensions from fractions to decimals).*
- *Use common sense to judge if a solution is reasonable when solving problems involving real numbers.*

Use algebraic methods to describe and model patterns and functions involving numbers, shapes, data, and graphs.

- *Explain algebraic equations and inequalities.*
- *Set up and solve linear equations with two unknowns.*
- *Understand the difference between a function and an equation.*
- *Perform operations involving functions.*
- *Model real-world events (i.e., distance-time relationships, compound interest) using functions, equations, inequalities, and graphs.*
- *Graph equations and understand that a graph represents all the values that satisfy an equation, and two equations are satisfied at the same time if the graphs intersect.*

Use data collection and analysis, statistics, and probability to set up and solve problems.

- *Calculate averages, medians, and mode from a data set of 20 items.*

- Calculate simple probabilities for coin tossing, jury verdicts, or game situations.
- Construct different combinations from a data set. (For example, how many different combinations exist if a basketball team has 10 players?)
- Use a personal computer to enter and analyze data.

Apply geometric concepts, properties, and relationships to problems.

- Use a variety of tools to construct two and three-dimensional shapes.
- Identify simple differences between geometric properties of planes and spheres.
- Understand and use the properties of symmetry, similarity, and congruence.
- Construct multiple geometric transformations using rotation, reflection, or translation.
- Calculate the surface areas and volumes of regular shapes (i.e., triangles, rectangles, parallelograms) and irregular shapes.

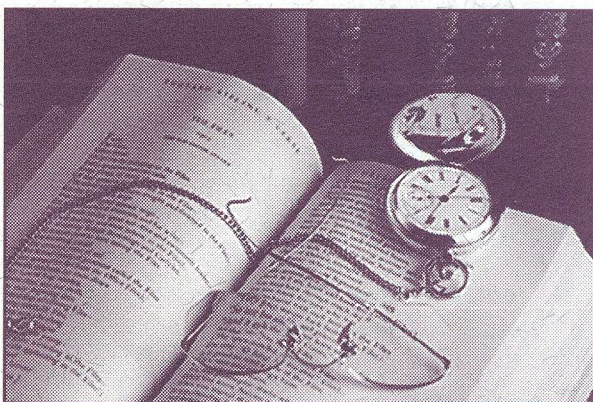
Use a variety of tools to measure quantities.

- Read and interpret scales used on graphs and maps.
- Use formulas to solve measurement problems.
- Use rates of change to calculate unknown quantities (i.e., use a specified growth rate to calculate Colorado's projected population levels).
- Apply trigonometric ratios to solve problems (i.e., calculate distances and angles that are hard to directly measure).

Understand the various techniques and mathematical operations for calculating solutions. Freshmen will need the following skills to complete freshman assignments in a variety of courses:

- Perform basic arithmetic operations (i.e., addition, subtraction, multiplication, division).
- Select and use appropriate arithmetic operations for solving multi-step problems.

- *Follow mathematical rules (i.e., rules of equations, order of operations, conversion from one form to another).*
- *Use the appropriate method depending on the problem and the amount of time available (i.e., mental math, estimating, pencil and paper, graphing calculator, or computer).*



HUMANITIES: LITERATURE, FINE ARTS, and FOREIGN LANGUAGE EXPECTATIONS

Students will be expected to:

- *Know what defines literary quality, including characterization, style, theme, and diction.*
- *Know what defines artistic or musical quality.*
- *Know the characteristics that tend to define each stylistic era such as Renaissance, Classical, Romantic.*
- *Identify similarities in an author's or artist's style with that of other authors or artists.*
- *Relate ideas in literature to the present time (i.e., George Orwell's 1984 view of technology and the television series X-Files).*
- *Describe how images and themes reinforce the meaning in a novel, poem, play, painting, or musical composition.*
- *Analyze the characteristics of a creative work using the appropriate terminology.*
- *Relate literature to the historical and political events of the time.*

- *Relate visual and performing arts to the literature and history of the time and, if relevant, to the personal history of the artist.*

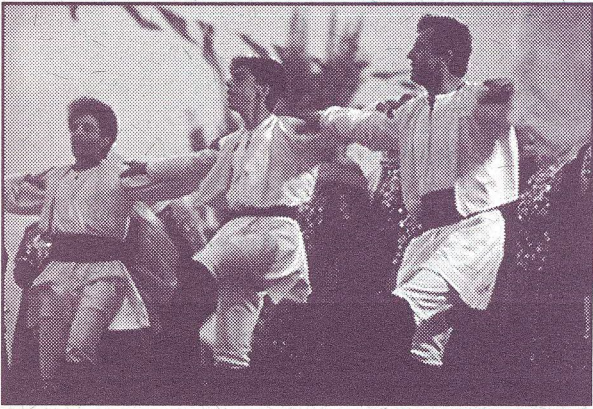
Freshmen should have the following experiences before entering college. They should have:

- *Read a variety of American fiction and poetry from early period to contemporary works such as James Fenimore Cooper, Mark Twain, Willa Cather, e.e. cummings, and T.S. Eliot.*
- *Read work written by major authors and poets of other countries such as Shakespeare, and Tolstoy.*
- *Created a work of art such as poem, short story, painting, sculpture, musical composition.*
- *Participated in a dance, choral group, band, orchestra, play performance.*

FOREIGN LANGUAGE EXPECTATIONS

Many colleges require the study of a foreign language for college graduation. After completing two years of foreign language in high school, freshmen are expected to:

- *Understand and respond to oral directions given in the language.*
 - *Orally express personal ideas using idiomatic expressions and understandable pronunciation.*
 - *Ask and answer questions in culturally appropriate ways using vocabulary suitable to the subject and the situation.*
 - *Understand simple reading assignments without using a dictionary.*
 - *Write simple compositions based on everyday situations.*
 - *Use the correct forms of regular verbs and common irregular verbs to describe actions and situations.*
 - *Use appropriate forms of nouns and adjectives.*
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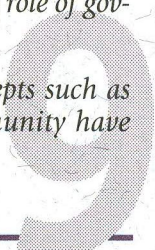


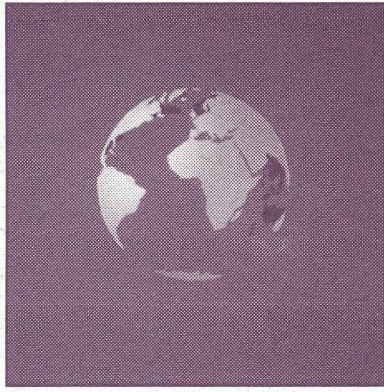
- *Demonstrate a working vocabulary to write about home, family, school, weather, and other everyday topics.*
- *Develop an understanding of the cultures of the people who speak the language.*
- *Demonstrate an awareness of appropriate cultural behaviors in everyday situations.*
- *Identify geographic regions where the language is spoken.*

SOCIAL SCIENCE EXPECTATIONS

Students will be expected to draw conclusions and interpret geographic information from various types of maps and geographic tools. They will be expected to:

- *Recognize the economic and political importance of places such as the Suez Canal.*
- *Demonstrate a basic understanding of how political unrest can affect economies.*
- *Understand the major processes of human geography, such as migration, land use, and water.*
- *Know the basic concepts of economics, including scarcity, choice, supply and demand, opportunity costs, the function of money, and the role of government.*
- *Understand the way that key concepts such as power, liberty, equality, and community have been used throughout history.*





- Trace the development of the concept of equality in the United States. This includes knowing people and events that were significant in the development process.
- Describe the foundations, processes, and basic principles of various forms of government.
- Know the basic concepts contained in the Declaration of Independence, the Constitution, the Bill of Rights, and the Gettysburg Address.
- Discuss current U.S. economic, defense, and foreign trade positions and their political relationship to other nations.
- Track the candidates and issues during a local, state, or national election.
- Know the major events of U.S., European, and world history.
- Know the key people and key turning points of U.S. history.
- Construct a time line of significant events for a particular country or era (i.e., Renaissance).
- Understand how evidence is evaluated, and some of the complexities historians face when evaluating evidence.
- Describe the social organization of various societies, including their roles, power, privileges, and traditions.
- Understand how social, economic, and political events in one area of the world can affect events and conditions in other regions.

- Trace major developments such as industrialization, civil rights, and democratic government.
- Compare and contrast different forms of government to the United States constitutional system.
- Discuss how a current world event, like the Bosnian conflict, may change government, the economy, the surrounding countries, or the lives of the people living in the country.

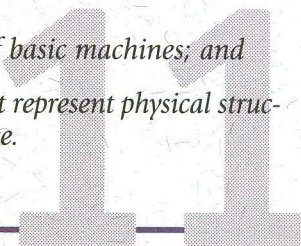
Freshmen will need the following map skills to complete freshman assignments in a variety of courses. They will be expected to:

- Draw generally accurate two-dimensional maps.
- Use atlases to answer basic questions relating to climate, natural vegetation, and growing seasons.
- Infer from physical features shown on a map, the natural processes that shaped the Earth's surface patterns.
- Use maps, globes, or other geographic tools to locate places with a small number of geographic reference points (i.e., north of Italy, west of a mountain range) within three to five minutes.

SCIENCE EXPECTATIONS

Students will be expected to know the following chemistry and physics material in a variety of freshman classes:

- Properties and structure of matter;
- Forms of energy and ways to identify, measure, and calculate energy transfer and matter transformation;
- Conservation of matter and energy;
- Chemical changes (i.e., combustion, simple chemical reactions);
- Concepts of physical interactions (i.e., velocity, force, power);
- Operating principles of basic machines; and
- Symbolic equations that represent physical structure or chemical change.



Freshmen will be expected to use basic **biology** knowledge in a variety of freshman classes to:

- *Describe the structure and function of a cell;*
- *Explain how simple molecules can build larger organic molecules within living organisms;*
- *Identify organisms based on physiological characteristics;*
- *Explain how species can change through mutation and natural selection and how these changes affect an ecosystem (i.e., adaptation, interdependence);*
- *Describe the systems of the human body (i.e., nervous, muscular) and the factors that influence how the human body functions;*
- *Discuss the basic concepts of chromosomes, genes (DNA), and cell specialization;*
- *Explain the basic concepts of heredity, environment, adaptation, and change;*
- *Distinguish between instinctive and learned behavior; and*
- *Understand the reproductive processes of plants and animals.*

Freshmen will be expected to use the following basic **space and earth science** knowledge in a variety of freshman classes:

- *Components of the universe;*
- *Origin and development of the earth system;*
- *Composition and characteristics of the Earth's structure;*
- *Fundamental weather processes;*
- *Sources and patterns of water (i.e., water cycle); and*
- *Motion and energy processes of the solar system (i.e., rotation, revolution).*

Freshmen will be expected to compare and contrast how people use technology differently. For example, a class may discuss how countries use nuclear technology to achieve various goals.

Freshmen will be expected to apply scientific thinking to real problems and understand common connections. They will be expected to:

- *Understand that knowledge changes as new information becomes available and new theories replace old ones.*
- *Recognize that knowledge gained from studying one part of the universe can often be applied to other parts.*
- *Recognize that progress in science affects and is affected by economics, politics, and cultural values.*
- *Read and understand issues discussed in the science sections of publications such as **Time Magazine**, **Newsweek**, and **U.S. News and World Report**.*
- *Identify cause and effect relationships.*

Freshmen will be expected to have experience designing science experiments, proposing hypotheses, and evaluating experiment results. They will be expected to:

- *Understand the relationships between observations and models.*
- *Have direct, hands-on biology, chemistry, and physics laboratory experience in high school.*
- *Use scientific thinking to analyze results or present findings.*





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