

16 Essential Science and Health Skill Sets

We asked the people who interview our students for careers in science and health about the skill sets they are seeking. They say that these are the 16 most important skills and that students often have trouble giving convincing answers about them.

- **Acquiring Knowledge.*** Absorbing concepts and facts in formal and informal situations. Accessing sources of information and testing their validity. Connecting related ideas. Balancing broad-based learning with a capacity for specialization in a given subject. Maintaining an active, inquisitive mind.
- **Balancing Work/Life.*** Giving time to each of the important dimensions of life: work, family, personal interests, community, spiritual. Remaining flexible when one or more dimensions need extra attention. Paying attention to personal needs and showing sensitivity to the balance needs of others. Realizing the interconnected nature of all dimensions.
- **Communicating Effectively.*** Tailoring messages to a specific audience. Interpreting messages accurately. Writing concisely. Speaking clearly. Presenting professionally and in a manner that captivates the audience. Listening well. Understanding how to craft a persuasive argument.
- **Contributing to a Team.*** Recognizing and validating the perspectives of team members. Identifying individual strengths (yours and others) and harnessing them for the group. Building consensus. Knowing when to lead, when to follow. Appreciating group dynamics.
- **Developing Professional/Technical Skills.*** Mastering tools or techniques that improve workflow. Knowing the potential and the limits of a technology or method, as well as its best application. Acquiring formal training when appropriate; respecting formal standards. Continually upgrading skills and keeping abreast of new technologies or methods.
- **Embracing Change.*** Accepting the inevitability of change; recognizing its cyclical and sometimes persistent nature. Seeing change as opportunity. Understanding how people respond to change; helping others move forward.
- **Managing Time and Priorities.*** Breaking large assignments into manageable tasks; organizing action steps in a logical sequence. Separating essential from non-essential, urgent from trivial, with regard to stakeholder interests. Developing plans; imposing structure when necessary. Staying on task; restricting distractions. Adjusting to continual changes.
- **Navigating across Boundaries.*** Comprehending the relationship between the parts and the whole. Recognizing common interests. Respecting norms and values of other domains. Acknowledging “turf” but not being deterred by it. Adjusting quickly to new environments.

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- **Performing with Integrity.*** Acting consistently. Keeping one's word. Following through. Operating from a code of ethics. Making principled decisions. Treating others fairly. Behaving in a "transparent" manner. Accepting responsibilities and admitting mistakes.
- **Solving Problems.*** Defining contexts. Gathering information from reliable sources. Viewing from multiple perspectives. Developing and testing hypotheses. Approaching with a win-win orientation. Collaborating. Envisioning resolution.
- **Thinking Critically.*** Sifting through mounds of data to identify pertinent elements; sorting data by relevance. Applying qualitative or quantitative measures to detect trends. Making sense of disparate or conflicting information. Recognizing assumptions inherent in analysis.
- **Working in a Diverse Environment.*** Valuing others. Embracing difference; regarding group diversity as a strength. Understanding one's own identity development. Admitting and eradicating personal biases. Demonstrating commitment to diversity through supportive actions.
- **Self-Motivation.** Showing initiative to undertake a task or activity without another's directive or supervision. Motivated to do or achieve something because of one's own enthusiasm or interest, without needing pressure from others.
- **Enthusiasm/Commitment.** A strong internal feeling, motivation or desire which often results in goal and action specific behavior. Absorbing or controlling possession of the mind by any interest or pursuit; lively interest.
- **Empathy.** The fact or power of sharing the feelings of another, compassion, or commiseration. An ability to recognize and describe another individual's perspective accurately. Demonstrating the ability to actively listen and understand the experience of another.
- **Curiosity.** The desire to learn or know about anything or something in particular; inquisitiveness.

***Also one of the 12 Essentials for Success from MSU's Career Services Network**