

Top Ten Things

Deaf and Hard-of-Hearing Students Would Like Teachers to Do

1. Don't use words like "this" and "that" as referents in the class or lab.

For example, in the lab don't use sentences like "move these things over there." Instead use proper names – including technical terminology – when referencing items, for example: "Move the small beaker to the table by the window." Allow time for students (and an interpreter or captionist if present) to reference the item or location so that the proper association is made. When you are more specific it helps all students, hearing or deaf, to understand.

2. Have PowerPoint and lecture notes available to the students before class.

Providing these materials ahead of the class makes it easier for deaf and hard-of-hearing students to prepare for class and, as importantly, provides a context for class discussions. Make sure that support service providers (interpreter, notetaker, tutor, and/or captionist) are provided with access to the material too – either through a hard copy provided in advance of the class, if possible, or through some other source such as email or posted on the web.

3. Treat all students equally.

When students register for your class they are all there to learn, although each has different skills and understanding. Keep in mind that although deaf and hard-of-hearing students have special needs they are basically the same as hearing students. You set the tone – perhaps without realizing it – for the entire class; make sure it is one in which all students are treated equally.

4. Have a positive/flexible attitude.

A positive and flexible attitude helps everyone. You are a model for your students. We encourage you to be open in your interactions with deaf and hard-of-hearing students in your classes.

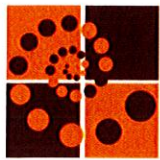
5. Interpreters are not always an accurate reflection of students when voicing for them.

Be patient when an interpreter voices for students. Deaf and hard-of-hearing students use diverse communications skills. If you do not understand the student's question or statement, ask for it to be repeated, and consider that the interpreter may not be voicing accurately and/or may need time to clarify unclear information with the student.

6. Be aware of "process time," the time required to process information into another language.

Slow down! We know it's tough, but the rapid pace of instruction is one of the top areas of classroom concern by deaf, hard-of-hearing, and hearing students.

Recognize that there is a processing time of 5-10 seconds between what you say and the time that an interpreter signs the material to students. This has significant implications, particularly in an interactive classroom. If you ask for class participation (to answer questions, state opinions, give examples, etc.) allow the necessary time for your statement to be interpreted before calling on a student. This will provide an equal opportunity for deaf and hard-of-hearing students to participate.



7. When presenting visual material, (for example, showing PowerPoint slides, using a document camera, etc.) give students time to read before moving on.

This allows students to absorb information before you begin to explain the content – and will minimize later confusion. Allow ample time for deaf and hard-of-hearing students to read presented media before you begin to speak.

Consider using a document camera or visualizer to display documents via a projector or on a TV screen. This will allow deaf and hard-of-hearing students to study the projected documents while simultaneously receiving information from their interpreters, and provides all students with the opportunity to make meaningful and direct connections between the documents and the information discussed.

8. Allow deaf students to have access to the first few rows in class on the first day.

The principal concern is that all students can see you clearly. Deaf and hard-of-hearing students frequently need to sit at or near the front of the room in order to have a clear view of you, of the interpreter, of the captioning, and of any classroom materials. However this orientation also means that when hearing students are contributing to the class, the deaf and hard-of-hearing students will not know who is speaking. We encourage you to identify the speaker, have the speaker pause to allow him/her to be identified, and then speak. If smooth communication is not possible, repeat the student statement yourself.

9. Don't force groups of deaf/hearing students to work together – before you establish groups, ask students privately for their preferences in group assignments.

Ask the deaf and hard-of-hearing students before class for their preferences regarding group organization, and of their need for an interpreter, captionist, or notetaker. This can be crucial to finding a satisfactory solution for your particular environment and available resources. If you force students to work together, uncomfortable situations may arise.

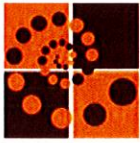
10. If you are using a laser pointer, allow the pointer to remain on the object for an extended period of time.

By allowing the pointer to remain positioned, deaf and hard-of-hearing students will be able to locate its position, read the content there, and return their attention to you (and an interpreter or captionist if present).

Handout provided by DeafTEC and Class Act at <http://www.deaftec.org>. DeafTEC and Class Act have been funded in part by the National Science Foundation, the Fund for Improvement of Postsecondary Education (FIPSE), and Demonstration Projects to Ensure Students with Disabilities Receive Quality Higher Education, US Department of Education. The Center is housed at the National Technical Institute for the Deaf, one of the nine colleges of the Rochester Institute of Technology (NTID/RIT) in Rochester, New York.



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About DeafTEC

DeafTEC: Technological Education Center for Deaf and Hard-of-Hearing Students is a National Science Foundation Advanced Technological Education National Center of Excellence. *DeafTEC*'s goal is to successfully integrate more deaf and hard-of-hearing individuals into the workplace in highly-skilled technician jobs in which these individuals are currently underrepresented and underutilized.

The year 2015 marked the 25th anniversary of the Americans with Disabilities Act (ADA), the landmark civil rights legislation that ensures equal access for persons with disabilities. Although some progress has been made, people with disabilities, particularly Americans who are deaf or hard-of-hearing, continue to be employed at rates much lower than the rest of the population. *DeafTEC* will reduce this inequity by increasing the access that deaf and hard-of-hearing students have to career information, to a technical education, and to unrestricted employment.

DeafTEC is housed at the National Technical Institute for the Deaf, one of the nine colleges of the Rochester Institute of Technology in Rochester, NY. NTID was established in 1965 to reverse the long history of under-employment and unemployment among our nation's deaf and hard-of-hearing citizens. Over 1,300 deaf and hard-of-hearing students are fully mainstreamed on RIT's campus with 17,000 hearing students.

Regional Partnership Model

DeafTEC is developing a model within targeted regions of the country through partnerships among high schools, community colleges, and industry with the goal of building a mutually supportive professional community that will improve access to technological education and employment for deaf and hard-of-hearing students. DeafTEC partners offer the following within their regions:

- **Professional Development for Educators and Employers**
 - For high school teachers and community college faculty, workshops on universal design and best teaching practices, and instructional materials and strategies to help deaf and hard-of-hearing students improve writing and math skills.
 - For employers, workshops on developing the sensitivity and skills to successfully integrate deaf and hard-of-hearing individuals into the workplace.
- **STEM Career Awareness for Deaf and Hard-of-Hearing Students**
 - Activities to introduce middle and high school students to STEM careers.
 - Activities for recruiting and retaining students in STEM technician programs.

DeafTEC Regional Educational Partners

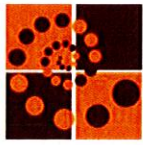
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| California <ul style="list-style-type: none">• California School for the Deaf, Riverside• TBD | Florida <ul style="list-style-type: none">• Florida School for the Deaf and the Blind• Florida State College at Jacksonville |
| Texas <ul style="list-style-type: none">• Texas School for the Deaf• Austin Community College | Midwest <ul style="list-style-type: none">• Hinsdale South High School• Harper College |

Industry Partners

- AT&T
- Cisco Systems, Inc.
- ConMed Corporation
- Lockheed Martin
- Motorola Solutions, Inc.
- Qualcomm, Inc.
- Solar Turbines, Inc.
- The Dow Chemical Co.

<http://www.deaftec.org>





DeafTEC

Technological Education Center for Deaf and Hard-of-Hearing Students

Online Resources

On a broad, national level, DeafTEC is building a comprehensive collection of resources for high schools and community colleges that educate deaf and hard-of-hearing students in STEM-related programs and for employers hiring deaf and hard-of-hearing individuals (www.deaftec.org/resources):

- **STEM Career Awareness.** Videos of successful deaf and hard-of-hearing STEM professionals and information on careers in Information Technology, Engineering/Manufacturing and Lab Science.
- **Best Practices for Teaching.** Extensive resources on effective strategies for teaching deaf and hard-of-hearing students with an emphasis on Universal Design for Instruction.
- **Writing Resources.** Articles and videos providing a Writing in the Disciplines approach in STEM courses for improving student writing and helping students "write to learn."
- **Math Resources.** Strategies for making the learning of math more accessible to deaf and hard-of-hearing students including a collection of signed, captioned, and voiced online math tutorials.
- **Employer Resources.** E-learning modules that will help employers successfully integrate deaf and hard-of-hearing individuals into the workplace.
- **STEM ASL Sign Dictionary.** Signs for technical vocabulary used in Information Technology, Lab Science and Engineering/Manufacturing to standardize usage and assist in students' understanding of technical concepts.

Curricular Materials

New curricula and course materials are being developed for online national distribution related to:

- **STEM Career Awareness** for deaf and hard-of-hearing middle and high school students.
- **Job Readiness Skills** for deaf and hard-of-hearing college students.
- **Best Practices for Teaching Deaf and Hard-of-Hearing Students** for teacher preparation programs.

Veterans with Hearing Loss Initiative

Among veterans returning home from active military service, the most common service-connected disabilities are hearing impairments. DeafTEC is developing resources for community college instructors to address the unique academic challenges that student veterans with hearing loss face in STEM programs.

Dual Credit

RIT/NTID STEM courses are being offered for credit to deaf and hard-of-hearing high school students across the country, and articulation agreements are being developed to help transition deaf and hard-of-hearing students from high school to college.

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