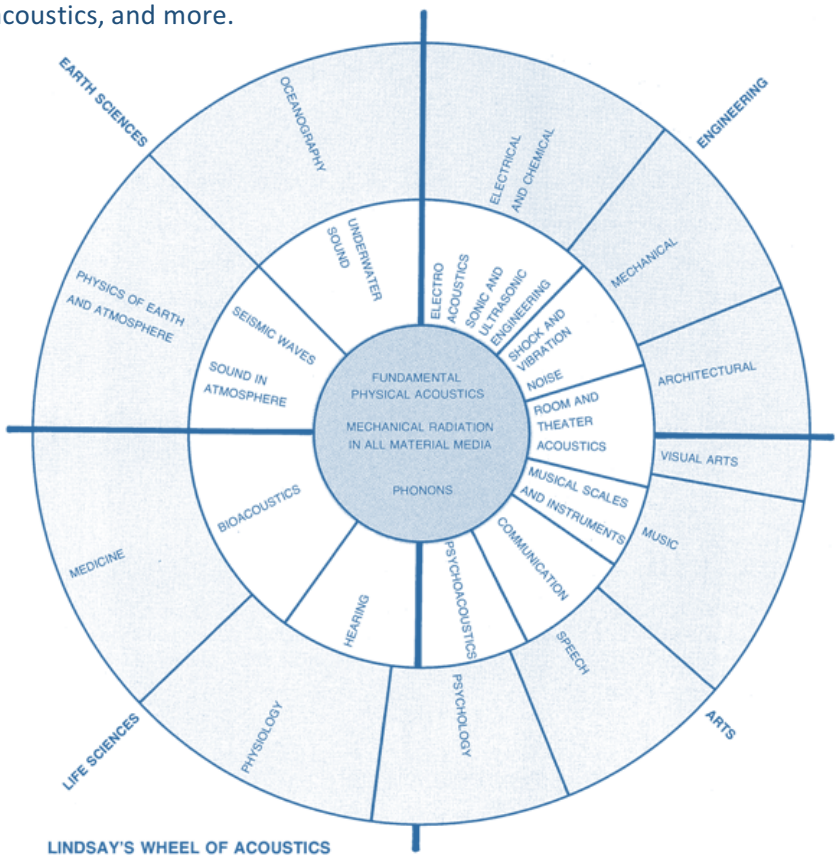
What is **ACOUSTICS**?

Since you're already looking into **acoustics**, you may already know about the wide variety of topics it covers. However, many people mistakenly think that the science of acoustics is strictly musical or architectural in nature. Acoustics is defined as the science that deals with the production, control, transmission, reception, and effects of sound. This includes noise control, SONAR for underwater exploration and navigation, ultrasound for medical imaging, electroacoustic communication, architecture, seismology, bioacoustics, and more.

Below is "**Lindsay's Wheel of Acoustics**", created by R. Bruce Lindsay which describes the scope of acoustics starting with the four broad fields of Earth Sciences, Engineering, Life Sciences, and the Arts. The outer circle lists the various broad disciplines one may study to prepare for a career in acoustics. The inner circle lists the fields within acoustics to which various disciplines naturally lead.



What do **ACOUSTICIANS** do?

Remember that there are many different kinds of acousticians. A **bioacoustician** might research bird populations to determine whether or not man made noise disrupts their behavior. An **audiologist** can diagnose hearing impairments. A hearing scientist can conduct research about hearing loss prevention. An **architectural acoustician** could design an opera house so that people in the audience can enjoy the music to the fullest. A **noise specialist** could do work to reduce noise caused by airplanes, cars and trains. An underwater acoustician might design sophisticated sonar hardware to explore the ocean floor while an acoustician interested in ultrasound could develop medical equipment to destroy kidney stones.

This is just a small example of what some acousticians do! Here are the 13 main areas of study:

Acoustical Oceanography
Animal Bioacoustics
Architectural Acoustics
Biomedical Acoustics
Engineering Acoustics
Musical Acoustics
Noise
Physical Acoustics
Psychological & Physiological Acoustics
Signal Processing in Acoustics
Speech Communication
Structural Acoustics & Vibration
Underwater Acoustics

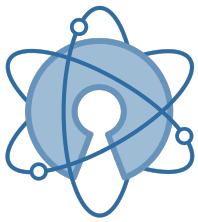
Have questions? Want to learn more? Go to **acousticalsociety.org**

Why should I study **ACOUSTICS**?

The field is VERY **interdisciplinary** and offers diverse career opportunities based on your interests and expertise. Acousticians generate valuable information which can be used in many fields to examine and apply the science of sound. Studying acoustics can lead to **job opportunities** in 3 main categories: academia, industry, and government.

- With a graduate degree in acoustics you could teach and do research at a college or university.
- Acousticians work in different departments such as physics, engineering, speech and hearing, mathematics, computer science, audiology, biomedicine, ocean sciences, music, and linguistics.

- Many large companies often employ acousticians to study the acoustics and vibrations of the systems/products that the company develops, maintains, or studies.
- Acousticians can be found in consulting companies that provide services in building acoustics and noise and vibration control.

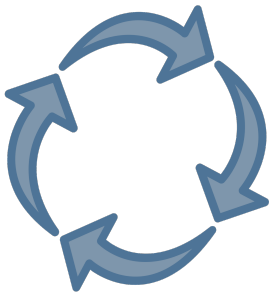


- Acousticians find careers conducting research on various topics in government laboratories and organizations.
- Acousticians are employed by the National Institute for Occupational Safety and Health (NIOSH), the National Oceanic and Atmospheric Administration (NOAA), and Military

How can I get into **ACOUSTICIS**?

Take a look at "Lindsay's Wheel of Acoustics." The number of courses related to acoustics at your school might be limited. General topics in physics, aerodynamics, engineering, speech and hearing, and anatomy will provide good foundational knowledge for acoustics.

You may need to consider applying to an institution that offers graduate degrees in acoustics. On the Acoustical Society of America website, you can search the Directory of Graduate Education in Acoustics to find the right program for you.



Many universities offer individual acoustics courses through different departments, so be sure to search the course catalogue offerings at your institution. You can also get involved in research by seeking out faculty members at your school conducting acoustic research.

Join the Acoustical Society of America to discover more possibilities from active members of the academic and professional community. Participate in regional and student ASA Chapters to explore your field of interest. Attend ASA

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