Introduction to Phonetics and Phonology – UiL OTS

Monday	
Theme	Sound as a linguistic unit: Phonemics
Description	Speech sounds seem like a given in lay conversations on language. But when can we say that two sounds are "the same"? And does this depend on specific languages? We will use the method of contrast (meaning-distinguishing sound difference) to investigate this, and we will briefly look at beatboxing to see how linguistic meaning is important to studying speech(-like) sounds. Finally, we will look at the variable realizations of individual phonemes and learn how we can determine the rules by which these realizations are controlled.
Topics	• Linguistic sound: discrete vs. continuous • Phonemes: language-specific units • Contrast between words as a research tool • Case study: Beatboxing • Allophony: variation in the realization of phonemes

Tuesday		
Theme	Sound as vibration: Acoustics	
Description	Physics tells us that sound is vibration. What kinds of vibrations are made when we speak (a) language? We will investigate these types of vibrations, and we will learn how to analyze these in ways that extract linguistically relevant information. For this, we will use a widely used open-source software package, PRAAT. We will also look at how you can fool a human listener by manipulating vibration. Finally, we will look at how acoustic phenomena influence the shape of words and even languages themselves.	
Topics	• Speech sound as acoustics • Periodic, aperiodic vibration • Formants	• Manipulation of acoustics • Sonority: an influence on the shape of words • Dispersion: an influence on sound inventories

Wednesday	
Theme	Sound as muscle movement: Articulation
Description	All linguistic sound is produced by a particular source: the human vocal tract. We will learn some essentials about its anatomy, and we will look at some common configurations and movements that the vocal tract exhibits in speech. We will then look at the types of speech sounds we see across languages. Finally, we will turn to the connection between neighbouring speech sounds (co-articulation), the influence of which we will see both in the way neighbouring words adapt to each other and in the way individual words are shaped.
Topics	• Vocal tract anatomy and movement • Typology of speech sounds across languages • Connections between sounds: co-articulation • Co-articulation and the shape of words

Thursday	
Theme	Sound as organization: Melody and rhythm
Description	Speech is organized in music-like fashion: it has melody and rhythm, often combined under the header of "prosody". These are characteristics that transcend individual speech-sounds and often make connections with other domains of language. We will first look at tone and stress in words, which, depending on the language, can be defined by the lexicon, by the sound system, or by a combination of the two. Words are put together into phrases defined by melodic and rhythmical cues, which interface with sentence structure (syntax). Finally, we will look at intonational melodies and how these interact with the meaning aspects of language (semantics/pragmatics).
Topics	• Prosody: melody and rhythm of language • Tone and stress: interaction with the lexicon • Phrasing: interaction with syntax • Intonation: interaction with semantics/pragmatics

Friday	
Theme	Sound as cognitive science: Learning
Description	The sound characteristics of each language are ultimately a cognitive matter: speakers encode them in their minds to be able to segment speech into meaningful units, recognize words, and be able to create and accept new words of the language. This also means that a child must internalize this information from the data available to them. This process of language acquisition poses an important problem in the study of sound systems of language, because infants acquire language relatively quickly, efficiently, and universally, while the evidence necessary to internalize the correct system is often sparse. We will look at some potential solutions to this problem, including the hypothesis of innate biases in favour of finding (certain types of) sound structure. Such biases have also been proposed for other domains of

	language, such as syntax. Finally, we will look at some computer simulations that test such cognitive hypotheses by simulating aspects of language acquisition.
Topics	• Speech sound and cognition • The puzzle of language acquisition • Innate biases in language acquisition • Computer simulation of language acquisition