# REPORT STRUCTURE

* Theory part
  + How musical instruments create sound

<https://www.open.edu/openlearn/history-the-arts/music/how-do-musical-instruments-produce-sound>

<https://hearinnh.org/how-do-instruments-make-sound/>

<https://www.dkfindout.com/uk/science/sound/making-music/>

* + Explain filters

Filters in general

<https://www.sciencedirect.com/topics/physics-and-astronomy/digital-filters>

<https://everything.explained.today/Digital_filter/>

<https://123.physics.ucdavis.edu/week_5_files/filters/digital_filter.pdf>

Butterworth filter

<https://everything.explained.today/Butterworth_filter/>

<https://www.electrical4u.com/butterworth-filter/>

* Explain Jupyter Notebook
* Learning goals
  + Student demonstrates transition between analogue and digital signal processing
  + Student can apply high/low/band/notch filters in a practical setting
  + Student demonstrates her/his DSP skills in the lab sessions
  + Student can explain the basic of Fourier series and can apply it in a practical setting
  + Student can implement IIR and Butterworth filters with given parameters
  + Student can elaborate on the signal acquisition, filtering, the application of signal processing and the use in an IOT environment
  + Student can do applied research based on digital signal processing
* Research questions from the assignment? WHAT DOES THIS MEAN
* Schematic overview of the contributors

# INTRODUCTION

# THEORY (CHANGE THIS TITLE)