

# Experiment 5: Operational Amplifier

## Student Group

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# Experiment 5: Operational Amplifier

- Circuits on the breadboard
- Inverting operational amplifier
- Non-inverting operational amplifier
- Operational amplifier as current source
- Operational amplifier as active filter

## Preparation for the laboratory

- [Block 21 — Op-Amp Basics](#)
- [Block 22 — Negative-feedback Op-Amp Circuits](#)
- [Block 23 — Comparator Circuits](#)
- [Block 24 — Wrap-up and Applications](#)

## Preparation for the oral short exam

For this experiment, you should be able to apply and explain the following concepts:

1. “golden rules” for the negative feedback, idealized operational amplifier
2. Inverting operational amplifier
  1. Gain of inverting operational amplifier
  2. Sum of currents at inverting input (KCL)
  3. Voltage at inverting input relative to GND (KVL)
3. Non-inverting operational amplifier
  1. Gain of non-inverting operational amplifier
  2. Operational amplifier used as current source (principle of function)
  3. Operational amplifier used as low-pass filter, cut-off frequency calculation (Sallen-Key configuration)

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