The design project contains a set of specifications:

- Power supply: +15V relative to the ground;
- Total quiescent current drawn from the power supply: no larger than 8 mA;
- No-load voltage gain (at 1 kHz): |A vo | = 50 (± 10%);
- Maximum no-load output voltage swing (at 1 kHz): no smaller than 8 V peak to peak;
- Loaded voltage gain (at 1 kHz and with R L = 1 kΩ): no smaller than 90% of the no-load
- voltage gain;
- Maximum loaded output voltage swing (at 1 kHz and R L = 1 kΩ): no smaller than 4 V peak to peak;
- Input resistance (at 1 kHz): no smaller than 50 kΩ;
- Amplifier type: inverting or non-inverting;
- Frequency response: 20 Hz to 50 kHz (−3dB response);
- Type of transistors: BJT;
- Number of transistors (stages): no more than 3;
- Resistances permitted: values smaller than 220 kΩ from the E24 series;
- Capacitors permitted: 0. 1 μF, 1. 0 μF, 2. 2 μF, 4. 7 μF, 10 μF, 47 μF, 100 μF, 220 μF;
- Other components (BJTs, diodes, Zener diodes, etc.): only from your ELE404 lab kit.

Other specifications:

- The output voltage must be free from distortions (clipping, etc.) in all test conditions. The source resistance, R s , must be 600 Ω for all tests.
- The designed amplifier must be AC-coupled for the load and the signal source, but the coupling between its intermediate stages may be of AC or DC type as per the designer's choice.
- There are no restrictions in terms of using NPN or PNP transistors.