

Low-resolution LAMOST and Keck spectra of blue supergiant stars distributed over the disks of the Local Group spiral galaxies M31 and M33 are analyzed to determine stellar effective temperatures, gravities, metallicities, and reddening. Logarithmic metallicities at the center of the galaxies (in solar units) of  $0.30 \pm 0.09$  and  $0.11 \pm 0.04$  and metallicity gradients of  $-0.37 \pm 0.13$  dex/R25 and  $-0.36 \pm 0.16$  dex/R25 are measured for M31 and M33, respectively. For M33 the 2D distribution of metallicity indicates a deviation from azimuthal symmetry with an off-center peak. The flux-weighted gravity–luminosity relationship (FGLR) of blue supergiant stars is used to determine a distance modulus of  $24.51 \pm 0.13$  mag for M31 and  $24.93 \pm 0.07$  mag for M33. For M31 the FGLR distance agrees well with other methods. For M33 the FGLR-based distance is larger than the distances from Cepheids studies, but it is in good agreement with work on eclipsing binaries, planetary nebulae, long-period variables, and the tip of the red giant branch.