Large-scale multireference configuration-interaction (MRCI) calculations using the all-electron scalar-relativistic Douglas-Kroll-Hess (DKH) Hamiltonian, as well as a relativistic energy-consistent small-core pseudopotential (SPP) for uranium, have been performed to study the low-lying electronic ΔS states of uranium monohydride UH with term energies below 0.5 eV. After taking spin-orbit effects into account both DKH/MRCI and SPP/MRCI calculations predict a $^4I_{9/2}$ ground state. The calculated ground state molecular constants of both approaches show a good agreement with each other (MRCI+Q, DKH: $R_e=2.021$ Å, $\omega_e=1483$ cm$^{-1}$, $D_e=2.79$ eV; SPP: $R_e=2.011$ Å, $\omega_e=1497$ cm$^{-1}$, $D_e=2.85$ eV), as well as with available experimental data ($\omega_e=1424$ cm$^{-1}$ in argon matrix).