Optical conductivity in dynamic Hubbard model GIANG BACH, Department of Physics, University of Alberta, Edmonton, Alberta, Canada, T6G 2J1, JORGE HIRSCH, Department of Physics, University of California, San Diego, La Jolla, California, 92093-0319, FRANK MARSIGLIO, Department of Physics, University of Alberta, Edmonton, Alberta, Canada, T6G 2J1 — The Dynamic Hubbard model is a candidate to capture the physics of two-band Hubbard models, such as the enhancement of critical Hubbard $U$ for the Mott transition. A pseudo-spin $1/2$ auxiliary field, which modifies the Coulomb $U$ interaction based on the on-site occupancy of electrons, breaks the electron-hole symmetry normally associated with the Hubbard model. The dependence of optical conductivity on the number of particles also reveals the effect of the pseudo-spin on the spectral weight distribution as a function of frequency.