ABSTRACT. Let W/C be a degeneration of smooth varieties so that the special fiber has normal crossing singularity. In this paper, we first construct the stack of expanded degenerations of W. We then construct the moduli space of stable morphisms to this stack, which provides a degeneration of the moduli spaces of stable morphisms associated to W/C. Using a similar technique, for a pair (Z, D)of smooth variety and a smooth divisor, we construct the stack of expanded relative pairs and then the moduli spaces of relative stable morphisms to (Z, D). This is the algebro-geometric analogue of Donaldson-Floer theory in gauge theory. The construction of relative Gromov-Witten invariants and the degeneration formula of Gromov-Witten invariants will be treated in the subsequent paper.