Face images convey rich information which can be perceived as a superposition of low-complexity components associated with attributes, such as facial identity, expressions, and activation of facial action units (AUs). For instance, low-rank components characterizing neutral facial images are associated with identity, while sparse components capturing non-rigid deformations occurring in certain face regions reveal expressions and AU activations. In this paper, the discriminant incoherent component analysis (DICA) is proposed in order to extract low-complexity components, corresponding to facial attributes, which are mutually incoherent among different classes (e.g., identity, expression, and AU activation) from training data, even in the presence of gross sparse errors. To this end, a suitable optimization problem, involving the minimization of nuclear-and ℓ_1-norm, is solved. Having found an ensemble of class-specific incoherent components by the DICA, an unseen (test) image is expressed as a group-sparse linear combination of these components, where the non-zero coefficients reveal the class(es) of the respective facial attribute(s) that it belongs to. The performance of the DICA is experimentally assessed on both synthetic and real-world data. Emphasis is placed on face analysis tasks, namely, joint face and expression recognition, face recognition under varying percentages of training data corruption, subject-independent expression recognition, and AU detection by conducting experiments on four data sets. The proposed method outperforms all the methods that are compared with all the tasks and experimental settings.