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We will discuss a compactification of the moduli space of degree $d \geq 5$ surfaces in \mathbb{P}^3 , i.e. a parameter space whose points correspond to such surfaces and their degenerations. Using the KSBA framework and the minimal model program, we consider these surfaces as divisors D in \mathbb{P}^3 and study the moduli space of pairs (\mathbb{P}^3, D) . These tools allow us to explicitly understand the singular pairs arising as degenerations of (\mathbb{P}^3, D) and give a modular description of the compactification. (Received August 27, 2018)