1116-03-66 **Carl Jockusch*** (jockusch@math.uiuc.edu), Department of Mathematics, University of Illinois at Urbana-Champaign. *Imperfect algorithms, asymptotic density, and Turing degrees.*

I will consider partial algorithms for subsets of ω which answer correctly on a set of (asymptotic) density 1. A set $A \subseteq \omega$ is said to be *generically computable* if there is a partial computable function φ which agrees with A on its domain and has a domain of density 1. A set $A \subseteq \omega$ is said to be *coarsely computable* if there is a (total) computable function f which agrees with A on a set of density 1. I will consider the Turing degrees of sets which have various Boolean combinations of these properties. I will also discuss the corresponding weaker notions where "density 1" is weakened to "lower density at least r" for a given real number r in the unit interval. This leads to two natural assignments of real numbers in the unit interval to subsets of ω and to Turing degrees, corresponding to the weakened versions of generic and coarse computability. I will look at the relationship between these two assignments and their respective ranges. This is joint work with a number of people, including Uri Andrews, Mingzhong Cai, David Diamondstone, Rod Downey, Denis Hirschfeldt, Steffen Lempp, Tim McNicholl, and Paul Schupp. (Received September 10, 2015)