Suppose by way of contradiction that T and T' are two distinct minimum spanning trees of G. Since T and T' have the same number of edges, but are not equal, there is some edge e' in T' but not in T. If we add e' to T, we get a cycle C. Let e be the most expensive edge on this cycle. Then by the Cycle Property, e does not belong to any minimum spanning tree, contradicting the fact that it is in at least one of T or T'.

[1] ex150.396.359