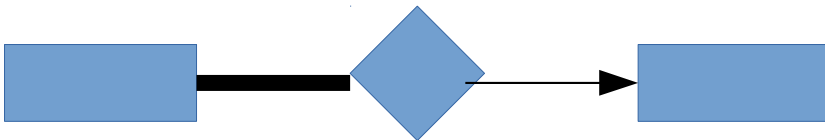
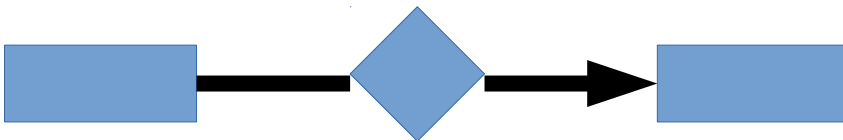


The dark or double arrow from Professor to Teaches defines a participation constraint, meaning every professor must teach ***at least one*** class.



The arrow from into Course defines an *at most one* limitation on the Teaches relationship. When coupled with the same *at least one* participation constraint from above (the dark line between professor and teaches) the combination define an ***exactly one*** relationship.



The same *exactly one* relationship from above is defined by the dark line from Teaches to Professor combined with the arrow from Teaches into Course. The addition of the dark or double line into Course adds a participation constraint requiring that every Course is taught by *at least one* professor.