Chapter 13.1 of the textbook for ECON 205 can also help you.

The Lagrangian method of solving constrained optimization is the most frequently used method in economics. If you have a function $f(x, y, z,...)$ and you want to either maximize or minimize it with respect to a constraint given by $g(x, y, z,...) = c$, then you setup the Lagrangian as: $\mathfrak{L} = f(x, y, z,...) + \lambda(c - g(x, y, z,...))$. Note that since $g(x, y, z,...) = c$, you have just added $\lambda*0 = 0$. Adding zero does not change the value of the equation.

You now have one equation with one additional unknown, λ. Anytime you maximize or minimize, you take the partial derivative with respect to each variable, one at a time. Set each of the partial derivatives equal to zero. Do not forget to take the derivative with respect to λ. Then solve the equations simultaneously.

For example, if you want to minimize xy subject to $x + 3y = 6$, the Lagrangian equation is given by: $\mathfrak{L} = xy + \lambda(6-(x + 3y))$. I would distribute the negative sign through the parentheses, and you may want to distribute the λ too. I generally do not. This distribution gives: $\mathfrak{L} = xy+ \lambda(6 - x - 3y)$. Now take all three partial derivatives. (They are just like regular derivatives, but you treat the other variables as constants.) These can be written as either $\partial\mathfrak{L}/\partial x$ or as $\mathfrak{L}'_x$ where x is the variable which you are taking the derivative with respect to. The results of the derivatives are given as: $\mathfrak{L}'_x = y + \lambda(-1) = 0$, $\mathfrak{L}'_y = x + \lambda(-3) = 0$, $\mathfrak{L}'_\lambda = 6 - x - 3y = 0$. Note that when you take the derivative with respect to λ, you will get your original constraint again. If you rewrite it, you will get $6 = x + 3y$.

Given the way the equations usually work, it is almost always easiest to solve the first two equations for λ and then set them equal. Then solve for x or y and substitute into the last equation. Here you will get $y = \lambda$ and $x = 3\lambda \Rightarrow \lambda = x/3$. So $x/3 = y$ or $y = 3x$. Substitute that equation into the last equation and get: $6 - 3y - 3y = 0$. So $6 - 6y = 0$. Thus, $y = 1$, $x = 3$, and $\lambda = 1$. **I would double check your work** by substituting the values of x and y into your constraint to make sure that your answer is feasible, and substitute them back into both equations for λ.

λ represents the change in the value of the objective function (f) that results from a unit relaxation of the constraint (c). In this example, $f(x, y) = 3*1 = 3$. If the constraint is changed to $x + 3y = 7$, then λ tells us that the function's value will go up by approximately 1. (Reworking the example will show that f will actually increase by 1.083333.)