(1) Let $n = 3$ and consider submanifolds $V(f)$ in $\mathbb{CP}^3$ defined by the equation $f(x_0, x_1, x_2, x_3) = 0$, where $f$ is a homogeneous polynomial of degree $d$. Assuming it is smooth, the manifold $V(f)$ has complex dimension two and is therefore known as a complex surface. Find the Chern classes and Euler characteristic in the cases $d = 2, 3, 4$ (known as quadric, cubic, and quartic surfaces respectively).

(2) Again let $n = 3$ and consider submanifolds $V(f_1, f_2)$ in $\mathbb{CP}^3$ defined two equations $f_1 = f_2 = 0$, where $f_1$ and $f_2$ are homogeneous polynomials of degrees $d_1$ and $d_2$. Since $V(f_1, f_2)$ has complex dimension one it is called complex curve (also a Riemann surface). Find the Chern classes of $V(f_1, f_2)$ as a function of $d_1$ and $d_2$. Using the fact that the integral of $h \in H^2(\mathbb{CP}^3)$ over $V(f_1, f_2)$ is $d_1 \cdot d_2$, find the Euler characteristic and genus of $V(f_1, f_2)$. 