and of course

$$c_1(T(L)) = 2;$$

it follows that

$$c_1(N_{L/S}) = 0.$$

$\ulcorner$

$T(\mathbb{P}^5)$ is the holomorphic tangent bundle of $\mathbb{P}^5$ $\Rightarrow$ By the formula on P 409, $c_1(T(\mathbb{P}^5)) = 6\omega$, $\omega \in H^2(\mathbb{P}^5, \mathbb{Z})$ the class of a hyperplane. $\Rightarrow$ $c_1(T(\mathbb{P}^5))|_L = 6\omega(L)$ $= (6H \cdot L) = 6$.

Lemma. U vector space, V, W subspaces. s.t $V+W = U$. Then $\dfrac{U}{V \cap W} = U/V \oplus U/W$.

proof) $V \cap W = \langle a_1 \cdots a_l \rangle$ a_i's base

$V = \langle a_1, \cdots a_l, b_1 \cdots b_m \rangle$. a_i's b_j's base

$W = \langle a_1 \cdots a_l, c_1 \cdots c_n \rangle$.

$\Rightarrow \langle a_1 \cdots b_1 \cdots c_1 \cdots \rangle = V + W = U$.

$\Rightarrow \dfrac{U}{V \cap W} = \langle b_j + V \cap W, c_k + V \cap W \rangle$, $U/V = \langle c_i + V \rangle$

and $U/W = \langle b_{l'} + W \rangle$ $\Rightarrow \dfrac{U}{V \cap W} = U/V \oplus U/W$.

By the lemma above, since $T(X) = T(F)|_X \cap T(G)|_X$ and $(T(F) + T(G))|_X = T(\mathbb{P}^5)|_X$,

$$N_{X/\mathbb{P}^5} = \frac{T(\mathbb{P}^5)|_X}{T(X)} = \frac{T(\mathbb{P}^5)|_X}{T(F)|_X} \oplus \frac{T(\mathbb{P}^5)|_X}{T(G)|_X} = N_{F/\mathbb{P}^5} \oplus N_{G/\mathbb{P}^5}.$$