Strange properties of curves lying on a smooth quadric

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Every curve (i.e. an effective divisor) lying on a smooth quadric $Q = \mathbf{P}^1 \times \mathbf{P}^1$ is given by a bi-homogeneous bi-graded polynomial F(u, u', v, v') in the bi-homogeneous bi-graded ring G(Q) = K[u, u', v, v']. Since every such polynomial is given through a matrix, it is natural to study the curves of Q using such matrices. A particular effort is dedicated in understanding the geometrical meaning of the rank of these matrices.