



## Orthogonal Complements

### 1 Why

TODO

### 2 Definition

The *orthogonal complement* of a subset of an inner product space is the set of vectors which are orthogonal to every vector in the subset.

#### 2.1 Notation

Let  $(V, \mathbf{F})$  be a vector space and  $U \subset V$ . We denote the orthogonal complement of  $U$  by  $U^\perp$ .