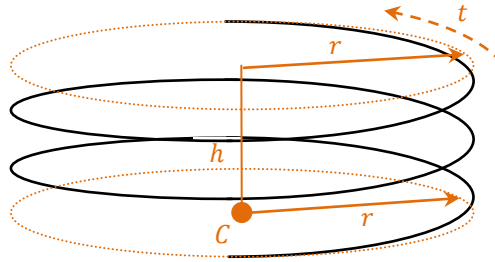


Parametric Helix

A helix can be created from a parametric equation with a single parameter t , a radius r , a height of h , and a centerpoint C . t is used to drive the rotation of the spiral as well as its vertical distance.



$$\begin{aligned}x &= x_c + r \cdot \cos(2\pi N \cdot t) \\y &= y_c + r \cdot \sin(2\pi N \cdot t) \\z &= z_c + h \cdot t\end{aligned}$$

The quantity N represents the number of turns the spiral will make throughout the distance h . The pitch P of the helix can therefore be calculated by:

$$P = \frac{h}{N}$$

An example of a helix sampled uniformly in t is shown below.

