Fourier Integral	Fourier Transform	Inverse Fourier Transform
Complex form of Fourier Integral $f(x) = \frac{1}{2\pi}\int_{-\infty}^{\infty}\int_{-\infty}^{\infty} f(t)\cdot e^{iu(t-x)}dt\,du$	$F[f(u)] = \int_{-\infty}^{\infty} f(t).e^{iut}dt$	$f(x) = \frac{1}{2\pi}\int_{-\infty}^{\infty} F[f(u)]e^{-iux}du$
Fourier Integral $f(x) = \frac{1}{\pi}\int_{0}^{\infty}\int_{-\infty}^{\infty} f(t)\cos u(t-x)dt\,du$		
Fourier Sine Integral $f(x) = \frac{2}{\pi}\int_{u=0}^{\infty}\sin ux\int_{t=0}^{\infty} f(t)\sin ut\,dt\,du$	$F_S[f(u)] = \int_{t=0}^{\infty} f(t).\sin ut\,dt$	$f(x) = \frac{2}{\pi}\int_{u=0}^{\infty} F_s[f(u)]\sin ux\,du$
Fourier Cosine Integral $f(x) = \frac{2}{\pi}\int_{u=0}^{\infty}\cos ux\int_{t=0}^{\infty} f(t)\cos ut\,dt\,du$	$F_c[f(u)] = \int_{t=0}^{\infty} f(t).\cos ut\,dt$	$f(x) = \frac{2}{\pi}\int_{u=0}^{\infty} F_c[f(u)]\cos ux\,du$

Note: There is no uniformity in the notations of Fourier integrals and Fourier transforms. Sometimes λ or ω are used in place of u **and** s in place of t