Solve in integers: $3x + 5y + 7z = 11$.

$(3,5,7) \mid 11$

$1 \mid 11$

$z = \frac{11 - 3x - 5y}{7}$

$11 - 3x - 5y \equiv 0 \pmod 7$

$3x + 5y \equiv 4 \pmod 7$

$3x + 5y \equiv 4 + 7w \qquad (w \in \mathbb{Z})$

$y = \frac{4 + 4w - 3x}{5}$

$4 + 4w - 3x \equiv 0 \pmod 5$

$3x \equiv 4 + 2w \pmod 5$

$3x \equiv 9 + 12w \pmod 5$

$\therefore x_n = 3 + 4w$

$y = \frac{4 + 4w - 9 - 12w}{5}$

$= -1 - w$

$y_n = -1 - w$

$z = \frac{11 - 9 - 12w + 5 + 5w}{7}$

$= 1 - w$

$\boxed{(3 + 4n, \; -1 - n, \; 1 - n)}$

$9 - 5 + 7 = 11$

$21 - 10 + 0 = 11$