

# About skilling

Skills increase everytime a skill event occurs. Each skill has different skill events that increase the skill, and a skill event may additionally be *worthy* or *unworthy*.

(Note: This page is about skill gains from direct combat with NPCs. It does not include skill bonuses from other sources e.g. Christmas Stars and New Pilot 1st and 10th NPC kills)

For the purposes of this guide  $\text{\$skill}_{\text{\{pilot\}}}$  is defined as the pilot's base skill (before crew, diversity, boost and combat mode bonuses and penalties).  $\text{\$skill}_{\text{\{npc\}}}$  is defined as the base skill that the NPC has.

NPCs do not have combat mode, diversity, crew or boost effects, so their base value is always their effective value.

The efficiency of skilling drops very rapidly when a pilot surpasses an NPC's skill (when the skill gain becomes unworthy). A pilot who's base skill level is 1 point higher than the NPC's skill level receives 50% of the worthy skill gain they would have previously received. When 5 points above an NPC's skill level the pilot receives only 10% of the worthy gain.

## Skill events

### Tactics

#### Worthy

- NPC fires one laser shot at pilot,  $\text{\$skill}_{\text{\{pilot\}}} < \text{\$skill}_{\text{\{npc\}}}$
- NPC fires one missile at pilot,  $\text{\$skill}_{\text{\{pilot\}}} < \text{\$skill}_{\text{\{npc\}}}$
- Pilot lands one critical hit with laser against NPC (regardless of NPC skill)
- Pilot lands one critical hit with missile against NPC (regardless of NPC skill)

#### Unworthy

- NPC fires one laser shot at pilot,  $\text{\$skill}_{\text{\{pilot\}}} \geq \text{\$skill}_{\text{\{npc\}}}$
- NPC fires one missile at pilot,  $\text{\$skill}_{\text{\{pilot\}}} \geq \text{\$skill}_{\text{\{npc\}}}$

## Hit accuracy

### Worthy

- Pilot fires one laser shot at NPC,  $\$skill_{\{pilot\}} \lt skill_{\{npc\}}\$$
- Pilot fires one missile at NPC,  $\$skill_{\{pilot\}} \lt skill_{\{npc\}}\$$

### Unworthy

- Pilot fires one laser shot at NPC,  $\$skill_{\{pilot\}} \ge skill_{\{npc\}}\$$
- Pilot fires one missile at NPC,  $\$skill_{\{pilot\}} \ge skill_{\{npc\}}\$$

## Maneuver

### Worthy

- NPC fires one laser shot at pilot,  $\$skill_{\{pilot\}} \lt skill_{\{npc\}}\$$
- NPC fires one missile at pilot

### Unworthy

- NPC fires one laser shot at pilot,  $\$skill_{\{pilot\}} \ge skill_{\{npc\}}\$$
- Pilot jumps through wormhole

## Weaponry

### Worthy

- Pilot lands one laser shot against NPC,  $\$skill_{\{pilot\}} \lt skill_{\{npc\}}\$$
- Pilot lands one missile shot against NPC,  $\$skill_{\{pilot\}} \lt skill_{\{npc\}}\$$

### Unworthy

- Pilot lands one laser shot against NPC,  $\$skill_{\{pilot\}} \ge skill_{\{npc\}}\$$
- Pilot lands one missile shot against NPC,  $\$skill_{\{pilot\}} \ge skill_{\{npc\}}\$$

## Engineering

### Worthy

- NPC lands one laser shot against pilot,  $\$skill_{\{pilot\}} \lt skill_{\{npc\}}\$$
- NPC lands one missile shot against pilot,  $\$skill_{\{pilot\}} \lt skill_{\{npc\}}\$$

## Unworthy

- NPC lands one laser shot against pilot,  $\text{skill}_{\text{pilot}} \geq \text{skill}_{\text{npc}}$
- NPC lands one missile shot against pilot,  $\text{skill}_{\text{pilot}} \geq \text{skill}_{\text{npc}}$

## Skill gain

Everytime a worthy skill event occurs, the respective skill will increase by the following amount (where  $\text{skill}_{\text{pilot}}$  and  $\text{skill}_{\text{npc}}$  are the pilot's current skill level and the NPC's skill level respectively):

$$\text{skillgain}_{\text{worthy}}(\text{skill}_{\text{pilot}}) = \frac{1 - \frac{\lfloor \text{skill}_{\text{pilot}} \rfloor}{200}}{\lfloor \text{skill}_{\text{pilot}} \rfloor^2}$$

The formula for unworthy skill gains is not known, but the best known approximation is:

$$\text{skillgain}_{\text{unworthy}}(\text{skill}_{\text{pilot}}, \text{skill}_{\text{npc}}) = \frac{\text{skillgain}_{\text{worthy}}(\text{skill}_{\text{pilot}})}{(\text{skill}_{\text{pilot}} - \text{skill}_{\text{npc}} + 1)^{1.3}}$$

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