

Williammoaks construct crafter guide

Or

How I learned to stop worrying and build an army of mechanical slaves



So my friend, like me, you want to create an army of unloving servants. But you don't feel evil enough to build an army of undead. What options are there for the less evil megalomaniac? Constructs! They don't think, they don't feel, and they won't stop fighting when you die, the perfect soldier. But they aren't perfect. Nothing is. In this guide, I will try to expose the advantages and limitations of constructs. Never forget, you're doing this because it's cool, not because it's optimal. But we can try to make it as optimal as possible.

I'll be using the traditional treantmonk standard:

Red: Just awful. Unless you're able to make it impossibly cool, avoid at all costs

Orange: These can approach decency. But be aware of your limits.

Green: Generally good.

Blue: The best you can get.

This guide uses information from all main line hardcovers and several smaller books, with the Technology guide as a notable recent addition.. All reference feats/traits/etc. can be found on the d20pfsrd or paizo PRD.

As a first note, always clear the use of craft construct with your DM first. Many DMs may simply not want it to be used, either because they don't know the rules well enough, or consider them to be risky to their campaign. Make sure your DM is okay with it before building up to it.

Roles of the construct crafter

Crafter:

He requires the 2 most useful crafting feats to get here. Craft wondrous items and craft magic arms and armor can save a fortune to your party in the long term, so be sure to never let them buy magical items you can make.

Battlefield control:

This is for those who build large groups of constructs, mainly using animated objects. With this you can "swarm" individuals and, using aid another, hit even the most hardened targets. This does get problematic at higher level when damage resistance becomes more common, but you can always use them your little guys as flanking buddies.

You can also do this more effectively with Terra-Cotta Soldiers, that get bonuses for proximity to each other. Plus, you can change their weapons and feats if you build custom ones. This gives them tremendous versatility. They can be used to create rains of arrows, shieldwalls, and anything else you need.

Beastmaster

This involves building a few incredibly powerful constructs and using them like you would a warrior. Unfortunately, this is not a good idea. Most constructs have unavoidable caster level requirements that means that your average level will generally be one to levels ahead of the construct's CR. That's not even counting the fact that these high level constructs are prohibitively expensive. You might as well use the money to better equip another party member. If you really want to play this role, use conjuration, you'll get similar effects at a fraction of the price.

The weirdo

This mainly has to do with creative use of the various different kinds of constructs. This role is difficult to play, but very rewarding. For example, you want to build a vehicle, but don't want to bother with vehicle rules? Craft an animated wagon, an animated galleon or an animated airship. Controls itself, follows your (basic) commands, and no need for a drive skill. You can use

clockwork spies as suicide bombers, caryatid columns to defend your base, and anything you can imagine.

This is perhaps the least aggressive use of the skill, but also one of the most risky from a metagame perspective. Make sure your GM is willing to allow you to do this kind of thing before building a flying castle that'll ruin his whole campaign.

Common-use spells

There are several spells that construct crafters use endlessly. You can function without one or two (it's a mere +5 DC per spell on the craft check) but it'll be very difficult to craft otherwise.

Geas/Quest: The most commonly used spell in crafting construct, it is essential for most of them

Animated objects: Second most common spell, this one can also have useful battlefield applications, if you prepare a few objects to animate in advance.

Limited Wish/Wish: The wish spells are fairly common, and is already something most casters should have anyway.

Keen Edges: A surprisingly common spell for some of the fancier constructs. Limited use for a caster though.

Cat's grace: This spell is used mainly for high dexterity constructs. Not extremely common, but still important.

Telekinesis: A few constructs require this, though I don't understand why.

Animate dead: A common spell used for a number of undead-like constructs, like bone golems.

False life: Also used for undead-like, super creepy constructs (like the soulbound doll)

Magic Jar: Used for a number of constructs that need trapped souls to function, it can become important.

Permanency: This one is only really useful for animated objects, but since they're so important, I thought it should be noted.

Other useful spells:

These spells aren't specifically used in the crafting process, but they can be quite useful otherwise.

[Make whole \(greater\)](#): This essential if you want to heal your constructs. Unfortunately, there aren't a lot of good construct healing methods beyond normal repair (that can fail).

Rapid repair: This is basically regeneration for constructs, but better. A must-have.

Crafter's fortune: A +5 on any crafter's check, great for a first level spell.

Fabricate: This is a questionable spell. Some people believe you can use it to fulfill the crafting component of you construct. However, the spell does specify that for anything that requires a high degree of craftsmanship, you still need a craft check. I would tend to think that construct qualify, so talk to your DM before assuming you can use this to build an army with a snap of your fingers.

Memory of function: Basically, this is raise dead for objects & constructs, at the cost of 10000 gp. This is of dubious use for cheap constructs, and of great use for more expensive ones. Beware of using it on enemy constructs however.

Common-use Skills

Unfortunately, crafting constructs isn't just a question of casting and forgetting. You've got to build them too, and there are a number of them that you've pretty much got to have.

Spellcraft: While it isn't the most common craft golem skill, it is used for animated objects, making it pretty much essential.

Craft (sculpture) : Did you expect anything else? This represent more than $\frac{3}{4}$ of the pre-existing constructs.

Craft (clockwork): While less common than sculpted constructs, clockwork constructs present certain distinct advantages that are not to be ignored.

Craft (armor/weapons): A number of constructs have this dichotomy. I would prioritize armor, since there are several cases where craft (armor) is needed and not craft (weapons).

Craft (leather)/heal: A number of undead-like constructs need these skills.

Knowledge (engineering): I would recommend this for anyone going into a high level game, since several constructs that are mechanically elaborate need this skill to be crafted.

So, there are a hell of a lot of skills, but not enough skills points in the average caster to go around. How do you mitigate the situation? Headband (s) of vast intelligence +2. A single one of those can max your skill ranks in a single skill after 24 hours of wearing it. It extends your crafting time by one day, but that isn't a lot considering the average construct crafting time. You can craft them cheap, and for a mere 10000 gold, you can max out 5 different skills whenever you need to.

Classes:

Base Classes:

Wizard

This is pretty much a given. They have access to all the most useful spells, all the most useful skills, and a number of useful arcane discoveries as well. Crafting constructs was intended for this class.

Arcane schools:

While most schools are perfectly acceptable, avoid **sin magic**. You need to have access to as many spell schools as possible. They are all used in construct crafting, though some more than others. Sin magic is the only thing that forbids a spell school, so with normal opposition schools things will work properly. I personally prefer the “**metal**” **elemental school**, since several of its spells are concerned with constructs.

Honorable mention: **Universalist arcane crafter**:

This basically gives you a bonus crafting feat. If you have a dearth of feats you want to take, this can be a good idea. But the loss of the extra spell per level hurts. And the abilities aren't terribly interesting. It's not terribly critical.

Familiar: **valet archetype**:

This can be quite useful at low level, when you want every bonus you can get. And cooperative crafting is a HUGE time saver. It fits flavor-wise too. You'll have to be more careful with your familiar though.

Witch

Surprisingly, the witch can synergize well with construct crafting. She gets most of the most useful spells, and a few clerical spells necessary for a few specific constructs. It isn't ideal, but it can work.

Cleric

After a deep review, it seems like this can work quite well. While they might have some difficulties building the constructs, once they're built, you have some sweet abilities. The “Forge” variant channeling allows you to heal constructs very effectively. There are a number of cool religion themed constructs as well. Clerics are also among the best buffers, allowing you to keep your construct army in prime condition.

There are a few limits: you're lacking a lot of spells and your low INT will always penalize you on the craft checks. The artifice domain will compensate for this a little, as can the chaos

domain. I would recommend being a human, both for the extra skill points and the “focused study” racial ability. 3 free skill focus feats will help you immensely.

Magus

The magus has the same problem as the cleric, he simply lacks SO MANY SPELLS. He could gain them, but not before fairly high level. I’m playing one of these as a construct crafter, and he isn’t able to take the greatest advantage of these skills unfortunately. However, certain construct modifications can be really useful for the magus.

Any non-spellbook caster:

No. Just no. Limited available spells and low INT will always condemn the sorcerer, bard, oracle and summoner to being unable to contribute much to construct crafting.

Honorable mention: Lore oracle

The lore oracle is a strange form of oracle that can get major bonuses on all intelligence skills. Unfortunately, he’s still charisma dependent for spellcasting. Plus, he has a very limited selection of known spells. It would be usable, but not optimal.

Honorable mention: Impossible bloodline sorcerer.

This strange sorcerer bloodline has some nice item crafting bonuses. Cool, though not the greatest.

Prestige Classes:

Mage of the third eye:

This PrC gets a number of abilities that allow it to more quickly build constructs as well as heal them faster. It’s complementary, but a plain wizard can get similar advantages. [I have a guide on this class as well.](#)

Mystic Theurge:

This can be useful for crafting in general because of the occasional need to use divine as well as arcane spells (I’m looking at you, clay golem). If you do chose this path, maximize you wizard levels over your cleric levels, since the clerical spells needed are generally lower level than the arcane ones.

Souleater

The ability to “absorb” souls can be extremely useful, since several types of constructs specifically require a bound soul. They can also use their soul points to count towards the cost of

any item they craft. The hitch, however, is that you must be evil. Unless you're in an evil campaign, you can't really play it.

Races:

While most races present no particular advantage, one does.

Dwarf: While it does not have an int. bonus, the wizard Favored class bonus does allow you to boost the speed of production for one type of magic item. It can be quite worth it for constructs, as taking this for five levels doubles your speed, and for 10 levels triples it.

The Constructs Themselves:

So, which constructs are "the best"? I was wondering that myself for a while. It's fairly difficult to compare them because of the fact that CR doesn't scale linearly. Two CR 2 animated objects are not equal to one CR 4 construct. However, after some basic cost-benefit analysis, as well as forum-trawling, I was able to establish relative values on a few basic forms of constructs.

Animated Objects

By far, the cheapest and best constructs. They will never be anything more than bruisers, but they can be given a great number of useful abilities (like grab) to help you control your foes. Even the largest ones are fairly cheap to enchant, with a colossal one costing a mere 17000 gold. It is important to note however that you have to pay for the actual object separately. If you want an animated castle, it'll cost you a castle. Since you'll mostly be using cheap, commonplace materials, you shouldn't worry too much about it however.

Golems

Ah golems, the oldest and best known of constructs. And some of the least useful. Unfortunately, golems are VERY expensive (even in comparison to other constructs). However, some golems have special abilities/power that make up for the cost. Before choosing to build a golem, make sure you have a good idea how you want to use it, and whether you can afford it long term.

Terra Cotta constructs

These constructs are particularly interesting. They're fairly cheap for a CR 6/7 construct, have no weaknesses, gain bonuses when they are with others of their kind, and know feats. And you can choose whichever feats/weapons you want them to have when you craft them. I haven't had a chance to test it yet, but a small group of these with teamwork feats could be terrifying.

Clockwork constructs

Their prices vary from average to high, but clockwork constructs have one huge advantage: they are the easiest to heal. Build a fairly cheap clockwork servant, and he'll keep your guys going as long as you want.

Graven guardians:

These relatively low CR constructs have a very peculiar ability: they can gain one power associated to a specific deity domain. They go from bonus feats to a spell like ability. They can fly, they can power attack, and many other things. They seem to be the easiest to make "low-level" construct.

Caryatid Column

I find these guys pretty cool, but they are expensive for their CR. This is because of their numerous powers. Immunity to magic, and the ability to shatter weapons makes them effective defenders. However, these are much more useful to a DM than to a player.

Rune guardian

For a CR 1 construct, it's quite costly. But it can cast a great number of spells. I wouldn't recommend this for a player, but for a DM these can be great. In large numbers, they can easily overwhelm players with their endless spells. Quite dangerous. But don't forget, each rune guardian can only get ONE kind of spell.

Everything else

The currently available constructs are a real mixed bag. They can go from surprisingly powerful for the price (like a Tiberolith) to shockingly expensive despite the coolness (like the Caryatid Column). The usefulness also varies quite significantly. It's up to you, the player, to show critical thinking. I will make note of particularly useful/useless constructs in the future, but for the moment it's up to you.

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Useful Feats

Not a lot of these unfortunately. But you make do with what you can get.

Craft wondrous item & Craft magic arms and armor

This basically DOUBLES the value of your party's money. This is awesome when a DM doesn't block it. Then again, if a DM blocks these, this guide is useless to you.

Craft construct

Essential if you want to create constructs. While this isn't optimal in most campaigns, but in this case, you've got to have it.

Arcane discovery: Arcane Builder

25% faster building, and a +4 to any checks for building your specified magic item. If you can convince you DM to allow you to use it while not a wizard, it will be a godsend at lower levels.

Arcane discovery: Golem Constructor

This is an excellent feat for any wizard who just wants to get a cheap golem, but would rather not spend 3 feats. Probably the best option for anyone who just wants to have a golem bodyguard.

Skill focus

Always nice to have some help on the craft DCs. If you're human, you can take focused study, and get 3 skill focuses for free. Put the others in spellcraft or any other craft skill.

Cooperative crafting

While this isn't useful to you, it could be for your teammates. If you're missing the spells, you need all the help you can get. However, a valet archetype familiar can get you this for free, so it can be quite worth it.

Improved familiar

While this might seem unusual, this can be a great feat IF you are a lawful neutral. [The inevitable arbiter](#) get "make whole" 3/day. With the familiar's fly speed, such a familiar can be great for maintaining your constructs.

A [homunculus](#) can also be considered. For the cost of 10 potions of make whole (3000 gp) you can also give it the capacity to cast make whole, though only once per day. The homunculus is also very thematic.

The same can be said for the [clockwork familiar](#). Its usefulness in this context is quite debatable however.

Useful Traits

Patient calm

In one craft skill, you can "take 12" instead of "take 10". Since most craft checks can be treated as take 10s, this is a basic +2.

Hedge magician:

Reduce all crafting prices by 5% for all magical items. This is a godsend. You could actually make a profit on your crafting. Awesome.

Spark of creation:

From a rare book, this is basically hedge magician with a bonus on a craft skill. It's awesome.

Theoretical magician

+2 on spellcraft. Always good.

Clan artisan

+2 on any craft skill. Also always good.

Construct crafter

While this trait seems adapted to you, it isn't. It gives a mere +1 one on alchemy, and unless you build endless alchemical golems, not terribly useful.

Toilcrafter

While this synergizes well with master craftsman, it gives just too little. Forget it.

Construct modifications

Ultimate Magic comes with a number of potentially useful construct modifications. The value of these can vary quite a lot, but it can be worth it for the higher-CR constructs that you want to improve.

Basic Modifications:

Armor modification

One of the simplest modifications, it basically enchants your golem as armor. Useful, if boring.

Hit Dice modification

I leave this one uncolored because I'm not sure how to use it. I'm going to need more research or the help of an experienced DM before pronouncing myself on the usefulness of this modification.

Weapon modification

For any construct that uses weapons, this is a godsend. Remember those Terra Cotta soldiers I mentioned earlier? They get keen after their first turn in battle automatically. Give them scimitars or falchions, and see them crit their way to heaven. Plus, the only cost is that of the weapon, whether enchanted or not.

Ability score modification

This ability can be useful, but like armor modification, it's rather boring. Still, it's VERY cheap, so it's definitely worth it. It's not clear whether you can stack ability modifications though.

Complex Modifications

These rather elaborate modifications are all prohibitively expensive, but can be very useful if used wisely.

Bioconstruct modifications

These modifications, of varying use, have one HUGE disadvantage: if you get a crit, they get destroyed. Forever. See if your DM will allow you anything to reduce the odds of this, because the expense is not one you want to pay twice.

Heart:

Gives the construct CON, makes them partially healable. Not worth it.

Brain

This on the other hand has potential. Your construct can now use skills and feats, basically making it a lesser PC (kinda like a cohort). If you have some way to limit its chances of receiving crits, this can be quite useful for some of the more expensive constructs. For lower level constructs, you're probably better off giving your construct intelligence as a construct special ability, and design a completely new one.

Construct armor

This... is a weird ability. It looks like it should allow you to have mech armor, but not quite. If you check the wording, it seems that the armor acts as a mere HP-sink, since you can't use it's STR/DEX/AC while you're inside. I could see as useful for a magus, but it's kind of a let-down for a full caster. I guess they didn't want to create a mechanical synthesis summoner.

Crafter's eyes

Unless you plan on using your construct as a spy (which seems unlikely, since few of them are stealthy), this isn't worth it. Especially at an 8000 gp cost.

Runes/Shatter stashes

Both of these modifications just don't seem worth it. Activation on a critical hit for the shatter stash makes it undesirable. While the "Rune-Carved" modification can be useful, the prices are terribly high. Only 1 seems to be worth the price:

Rune of shielding

This can at least save you one spell slot for your first fight. +4 AC is nothing to sneeze at, and its 1200 gp, it's worth it.

Shield Guardian

This is a fairly useful modification, especially for the berserking golems. While I find it expensive, others have indicated that it turns a golem into an extremely effective bodyguard/tank. I am disappointed that it can only be used on golems, but that's a small limit.

Cost-Benefit Analysis

I'm an engineer by training, so I tend to like to be able to reduce my analysis to numbers. That doesn't always work, and the ill-defined nature of challenge rating progression makes definitive analysis difficult. So I did a fairly simple Cost/CR analysis.

$$\text{Value Ratio} = \frac{\text{Crafting Cost}}{CR^n}$$

Here, n is a factor that determines CR progression value. I haven't taken the time to do an exhaustive analysis of the situation, since the CR progression is fairly inconsistent, as is CR attribution in the first place. However, I tested the formula out for $n = 1, n = 2$ just to get an idea of how to compare creatures of the same CR. This is what it gives me, for all the paizo-made constructs.

| Construct | Type | Crafting Cost (gold) | CR | Ratio n=1 | Ratio n=2 |
|------------------|------------|----------------------|-----|-----------|-----------|
| Animated Objects | tiny | 1000 | 0.5 | 2000 | 4000 |
| | small | 1500 | 2 | 750 | 375 |
| | medium | 2500 | 3 | 833 | 278 |
| | large | 3500 | 5 | 700 | 140 |
| | huge | 5500 | 7 | 786 | 112 |
| | gargantuan | 7500 | 9 | 833 | 93 |
| | colossal | 8500 | 11 | 773 | 70 |
| Terra-Cotta | Soldier | 10000 | 6 | 1667 | 278 |

| | | | | | |
|------------------|-------------|--------|-----|-------|------|
| | Horsemen | 10000 | 7 | 1429 | 204 |
| Akaruzug | | 95000 | 14 | 6786 | 485 |
| Aluum | | 40000 | 10 | 4000 | 400 |
| Angelic guardian | | 12000 | 5 | 2400 | 480 |
| Caryatid Column | Normal | 7000 | 3 | 2333 | 778 |
| Cephalophore | | 18500 | 8 | 2313 | 289 |
| Clockwork | Dragon | 175000 | 16 | 10938 | 684 |
| | Familiar | 7500 | 2 | 3750 | 1875 |
| | Goliath | 160000 | 18 | 8889 | 494 |
| | Leviathan | 70000 | 12 | 5833 | 486 |
| | Servant | 4000 | 2 | 2000 | 1000 |
| | Soldier | 19000 | 6 | 3167 | 528 |
| | Spy | 750 | 0.5 | 1500 | 3000 |
| Cobra | Adamantine | 10000 | 3 | 3333 | 1111 |
| | Darkwood | 2500 | 2 | 1250 | 625 |
| | Iron | 2000 | 2 | 1000 | 500 |
| | Mithral | 5000 | 3 | 1667 | 556 |
| Golem | Adamantine | 350000 | 19 | 18421 | 970 |
| | Alchemical | 18000 | 9 | 2000 | 222 |
| | Behemoth | 165000 | 17 | 9706 | 571 |
| | Bone | 21000 | 8 | 2625 | 328 |
| | Brass | 100000 | 14 | 7143 | 510 |
| | Cannon | 105000 | 15 | 7000 | 467 |
| | Carrion | 5500 | 4 | 1375 | 344 |
| | Clay | 21500 | 10 | 2150 | 215 |
| | Clockwork | 65000 | 12 | 5417 | 451 |
| | Coral | 30500 | 9 | 3389 | 377 |
| | Flesh | 10500 | 7 | 1500 | 214 |
| | Fossil | 65000 | 12 | 5417 | 451 |
| | Glass | 17000 | 8 | 2125 | 266 |
| | Ice | 9500 | 5 | 1900 | 380 |
| | Iron | 80000 | 13 | 6154 | 473 |
| | Marrowstone | 22500 | 8 | 2813 | 352 |
| | Mask | 12500 | 4 | 3125 | 781 |
| | Mithral | 150000 | 16 | 9375 | 586 |
| | Noqual | 153000 | 18 | 8500 | 472 |
| | Stone | 55000 | 11 | 5000 | 455 |
| | Wax | 7000 | 3 | 2333 | 778 |
| | Wood | 8800 | 6 | 1467 | 244 |
| Guardian | Doll | 3600 | 3 | 1200 | 400 |
| | Gargoyle | 25000 | 8 | 3125 | 391 |

| | | | | | |
|-------------------------|--------|--------|----|------|------|
| | Golden | 24300 | 6 | 4050 | 675 |
| | Graven | 9500 | 5 | 1900 | 380 |
| Homunculus | | 1050 | 1 | 1050 | 1050 |
| Juggernaut | | 130000 | 18 | 7222 | 401 |
| Necrophidius | | 4250 | 3 | 1417 | 472 |
| Rune guardian | | 3500 | 1 | 3500 | 3500 |
| Scarecrow | | 8000 | 4 | 2000 | 500 |
| Sentinel Hut | | 18000 | 8 | 2250 | 281 |
| Ship in a bottle | | 2600 | 2 | 1300 | 650 |
| Ship Sentinel | | 12750 | 7 | 1821 | 260 |
| Skull Ripper | | 15500 | 9 | 1722 | 191 |
| Soulbound doll | | 2300 | 2 | 1150 | 575 |
| Taotieh | | 55000 | 11 | 5000 | 455 |
| Th. Sentinel, bronze | | 11000 | 3 | 3667 | 1222 |
| Th. Sentinel, marble | | 12500 | 4 | 3125 | 781 |
| Tiberolith | | 24000 | 10 | 2400 | 240 |
| Tophet | | 22500 | 10 | 2250 | 225 |
| Tupilaq | | 10500 | 7 | 1500 | 214 |
| Urannag | | 17500 | 8 | 2188 | 273 |

The before last column provides the relevant information. The direct comparison between constructs of the same CR will give a good idea of which ones are most cost efficient. However, be aware that the CR itself may poorly represent the power of the individual construct.

The last column is experimental. I was hoping it would give me some insight on whether higher CR should be worth more money.

In progress: Useful feats, Useful traits, Useful construct modifications, various examples of interesting constructs/ construct crafter builds, how to design you own.