

CAD Design & 3D Modeling Services

What We Offer

3D CAD Modeling

Transform sketches, concepts, or existing products into detailed 3D CAD models using industry-standard software (Fusion 360, SolidWorks).

Parametric Design

Create flexible, editable models that can be easily modified as your design evolves.

Technical Assemblies

Design multi-part assemblies with proper mates, constraints, and motion studies for mechanical products.

Technical Drawings

Generate 2D engineering drawings with dimensions, tolerances, and specifications for manufacturing.

Design for Manufacturing

Optimize your designs for 3D printing, CNC machining, or traditional manufacturing methods.

Reverse Engineering

Measure and model existing products to create accurate CAD files for reproduction or modification.

Our Process

1. Consultation

We meet with you (in-person or virtually) to understand your project requirements, constraints, and goals.

2. Concept Development

We create initial sketches or rough models to ensure we're aligned on the design direction before investing in detailed modeling.

3. Detailed CAD Modeling

We develop fully detailed, parametric 3D models with proper dimensions, tolerances, and features.

4. Review & Revision

We present the models for your review and incorporate your feedback (includes up to 2 rounds of revisions).

5. Final Deliverables

We provide native CAD files, STEP files, technical drawings, and any other formats you need.

Deliverables

Standard CAD Package Includes:

- Native CAD files (Fusion 360 or SolidWorks)
- STEP files for universal compatibility
- STL files for 3D printing
- 2D technical drawings (PDF)

- Bill of Materials (BOM)
- Exploded assembly views (if applicable)

Optional Add-ons:

- Photorealistic renderings
- Animation/motion studies
- Multiple design variations
- Design optimization consulting

Our Expertise

Background: Our team holds master's degrees in 3D Visualization and Game Art Development, with extensive experience in:

- Mechanical product design
- Consumer products and prototypes
- Custom parts and assemblies
- Design for 3D printing and additive manufacturing
- Reverse engineering and product replication

Software Proficiency:

- Fusion 360
- SolidWorks
- Blender (for organic/artistic designs)
- Meshmixer (for 3D print optimization)

Designer vs. Engineer: What's the Difference?

Important Clarification

We want to be transparent about our services: **we are 3D designers, not licensed mechanical engineers.**

What This Means:

We CAN provide:

- Detailed 3D CAD models and technical drawings
- Parametric modeling and assemblies
- Design for manufacturing recommendations
- Standard tolerances and fits (following industry standards)
- Reverse engineering and product modeling
- Design optimization for 3D printing

We do NOT provide:

- Engineering analysis (FEA, CFD, thermal analysis)
- PE-stamped engineering drawings
- Structural calculations or load analysis
- Regulatory compliance certification
- Engineering liability or performance guarantees
- Material engineering specifications

When You Need an Engineer:

If your project requires engineering calculations, stress analysis, safety certifications, or PE-stamped drawings for regulatory compliance, we recommend working with a licensed mechanical engineer. We're happy to collaborate with engineers on projects that require both CAD modeling and engineering validation.

For Most Projects:

If you need accurate 3D models, technical drawings, and design files for prototyping or manufacturing, our CAD design services are exactly what you need. The majority of product development, prototyping, and custom part projects don't require engineering analysis—just quality CAD work.

Seamless Prototyping

Design + Print Under One Roof

One of the biggest advantages of working with Sunset3DPrint is our in-house 3D printing capability. When you need to move from CAD to physical prototype:

- No translation errors** - The designer who created your CAD files also prints them
- Faster iteration** - Test, modify, and reprint quickly
- Cost-effective** - No middleman between design and fabrication
- Local service** - Personalized attention to your project

Pricing

Hourly Rate

\$75/hour for CAD design and modeling work

Typical Projects:

- Simple parts: 2-5 hours (\$150-375)
- Moderate assemblies: 8-15 hours (\$600-1,125)
- Complex products: 20-40 hours (\$1,500-3,000)

Fixed-Price Projects

For well-defined projects, we offer fixed pricing to give you cost certainty.

Process:

1. You describe your project requirements
2. We provide a detailed scope and fixed quote
3. No surprises - you know the exact cost upfront

Free Initial Consultation

We offer a free 30-minute consultation to discuss your project, review your requirements, and provide a preliminary estimate.

Frequently Asked Questions

Do I need CAD files if I just want to 3D print something?

If you already have a clear idea or sketch, we can create the CAD files and print your part in one seamless process. Many customers come to us with just a concept and leave with a finished product.

Can you work from sketches or photos?

Yes! We can create CAD models from hand sketches, photos, measurements, or even just verbal descriptions. The more information you provide, the more accurate we can be.

What if I need to make changes later?

Because we create parametric CAD models, changes are easy. We can modify dimensions, features, or entire sections of the design without starting from scratch.

Do you sign NDAs?

Absolutely. We understand that many projects involve proprietary or confidential information. We're happy to sign mutual non-disclosure agreements before discussing project details.

Can you help with patent drawings?

We can create detailed CAD models and technical drawings that may be useful for patent applications, but we recommend working with a patent attorney or patent illustrator for official patent drawings.

What if my project needs engineering analysis?

We can recommend local mechanical engineers we've worked with, or you can bring your own engineer to the project. We're happy to collaborate and provide CAD models for engineering validation.

How long does a typical project take?

Simple parts: 1-2 weeks

Moderate assemblies: 2-3 weeks

Complex products: 3-6 weeks

Rush services available for urgent projects.

Industries We Serve

- **Inventors & Entrepreneurs** - Product development and prototyping
- **Small Manufacturers** - Custom parts and tooling
- **Architects** - Architectural models and visualization
- **Artists & Designers** - Sculptural and decorative objects
- **Hobbyists & Makers** - Personal projects and custom modifications
- **Educational Institutions** - Student projects and research
- **Medical & Dental** - Custom devices and anatomical models

Get Started

Ready to bring your idea to life?

Contact us for a free consultation:

 **Call:** (305) 766-0654

 **Email:** info@sunset3dprint.com

 **Website:** www.sunset3dprint.com

Services Page Content

CAD Design & 3D Modeling

Need your idea turned into a detailed 3D model? Our CAD design services transform concepts, sketches, or existing products into production-ready digital files.

Services Include:

- 3D CAD modeling and parametric design
- Technical assemblies and mechanical design
- 2D engineering drawings with tolerances
- Reverse engineering and product replication
- Design for 3D printing and manufacturing

Perfect for: Inventors, product developers, businesses, and anyone who needs professional CAD work.

Pricing: Starting at \$75/hour or fixed-price quotes available

FAQ Page Content

CAD Design Services

Q: What's the difference between a 3D designer and a mechanical engineer?

A: 3D designers create detailed CAD models, technical drawings, and assemblies based on specifications. Mechanical engineers perform calculations, analysis (stress, thermal, flow), and provide engineering validation. For most prototyping and product development projects, you need quality CAD design. Engineering analysis is typically required for safety-critical applications, regulatory compliance, or complex mechanical systems.

At Sunset3DPrint, we're 3D designers with master's degrees in 3D visualization. We create professional CAD models but don't provide engineering analysis or PE-stamped drawings.

Q: Can you design my product idea?

A: Yes! We work with inventors and entrepreneurs to turn concepts into CAD models. We'll discuss your requirements, create initial designs, and refine them based on your feedback. Once the CAD model is finalized, we can also 3D print prototypes right here in our shop.

Q: How much does CAD design cost?

A: Our hourly rate is *75/hour*. Simple parts typically take 2 – 5 hours (150-375), while complex assemblies may take 20-40 hours (\$1,500-3,000). For well-defined projects, we offer fixed-price quotes so you know the exact cost upfront. Contact us for a free consultation and estimate.

Q: What CAD software do you use?

A: We primarily use Fusion 360 and SolidWorks, which are industry-standard CAD programs. We can deliver files in native formats or universal formats like STEP and STL that work with any CAD software.

Q: Do you sign NDAs for confidential projects?

A: Absolutely. We understand that many product development projects involve proprietary information. We're happy to sign a mutual non-disclosure agreement before discussing project details.

Q: Can you reverse engineer an existing product?

A: Yes! We can measure an existing product and create accurate CAD models for reproduction, modification, or documentation. This is useful for creating replacement parts, improving existing designs, or when original CAD files are unavailable.

Pricing Page Content

CAD Design & 3D Modeling Services

Hourly Rate: \$75/hour

What's Included:

- Professional 3D CAD modeling
- Parametric design (easy to modify)
- Technical assemblies
- 2D engineering drawings
- Native CAD files + STEP files
- Up to 2 rounds of revisions

Typical Project Costs:

Project Type	Hours	Price Range
Simple Part	2-5 hrs	\$150-375
Moderate Assembly	8-15 hrs	\$600-1,125
Complex Product	20-40 hrs	\$1,500-3,000
Reverse Engineering	5-15 hrs	\$375-1,125

Fixed-Price Quotes Available

For well-defined projects, we offer fixed pricing:

- You know the exact cost upfront
- No hourly surprises
- Clear scope and deliverables
- Includes specified revisions

Request a free consultation and quote: (305) 766-0654

About Page Content

Our Expertise

3D Design & Visualization

Our team holds master's degrees in 3D Visualization and Game Art Development, bringing professional-level CAD design and modeling expertise to every project. We specialize in transforming ideas into detailed, production-ready 3D models for prototyping and manufacturing.

Services:

- Professional CAD design and modeling
- Technical assemblies and mechanical design

- 3D printing and rapid prototyping
- Product development consulting
- Design for manufacturing

Transparency:

We believe in honest communication with our clients. We're 3D designers with advanced technical skills, not licensed mechanical engineers. We create detailed CAD models, technical drawings, and assemblies—but we don't provide engineering analysis, calculations, or PE-stamped drawings. For projects requiring engineering validation, we're happy to collaborate with mechanical engineers.

Contact Page Content

CAD Design Consultation

Need help turning your idea into a 3D model?

Free 30-minute consultation available:

- Discuss your project requirements
- Review sketches or concepts
- Get a preliminary cost estimate
- Learn about our design process

Schedule your consultation:

 Call (305) 766-0654

 Email info@sunset3dprint.com