Similar company

LAB MATE

Video: https://www.youtube.com/watch?time\_continue=87&v=r4f1RN2axaA

Website: https://www.labmate.us/

# Contractual Engineering

## What is our Mission?

Our primary goal is to match your engineering project, idea or need with an expert, or team of experts in your local area to complete your project in the most efficient way possible.

## What is Contractual Engineering?

Contractual Engineering connects entrepreneurs, start-ups, inventors, manufactures, and average joes to the nation’s best product designers, certified CAD technicians and Professional Engineers in your local area. Our engineering support ranges from basic product development designs to highly complex mathematical problem solving. We have a worldwide network of technical expertise that covers a wide range of skills to fit any engineering service.

## How it works?

The 4 step process (QCCC),: The Questionnaire, The Call, The Connection, The Contract

1. Questionnaire -Use your best judgement in filling out the questionnaire.
   1. This helps us categorize the level of engineering expertise your project may require.
2. Call- One of our technical support staff will contact you regarding your project.
   1. This is a FREE 15min discovery call to get a better understanding of the skill set required. There is absolutely no pressure to disclose any proprietary information or even use our services.
3. Connection- We match your project specifications with an engineer that has desirable skill set to suit your needs.
4. Contract – Once you have matched with an engineer, you may ask them to sign an Non-Disclosure Agreement (NDA) if you have one. If you don’t no worries, our engineers are under contract to not disclose or pursue any information that maybe communicated between parties without written permission. Then a contract between you and the engineer will be discussed on compensation and an estimated number of hours.

## Why you need Contractual Engineering?

Due to our massive network of engineers we have cross collaboration within our company that allows engineers to get answers to complex solutions faster and in more efficient manner that will save you money.

# Trying to decide your projects discipline or scope?

## Mechanical Engineering

Not sure if a mechanical engineer is what you’re looking for? At the most basic level a mechanical engineer provides engineering services related to movement. If you’re trying to create or patent anything related to the construction of machinery, tools, or a consumer invention then a mechanical engineer probably fits your job. Contractual engineering has extensive network that offers experts in computer aided design (CAD) (Solidworks, Fusion 360), 3D printing, machinery, robotics, medical devices, manufacturing, industrial equipment, instrumentation, aerospace i.e. drones, hydraulics, pneumatics, pressure vessels, gears, bearings, belts and pulleys, power screws, fits and tolerances, codes and standards, strength of materials, Fluid dynamics, Thermodynamics, Heat Transfer, Heating ventilating and air conditioning (HVAC), psychrometrics, refrigeration, heat exchangers, condensers / evaporators, compressors, combustion, pumps, actuators, boilers, composites, American Society of Mechanical Engineers (ASME) standards and codes, Society of Automotive Engineers (SAE) standards and codes, vibration, professional engineering review and stamping, consulting on design recommendations and many more.

## Civil Engineering

Not sure if a civil engineer is what you’re looking for? A civil engineer’s primary focus is to design and build, generally large non-moving structures. Although the civil engineering discipline covers a wide verity projects at the most basic level the majority of work is designing (buildings, bridges, houses, tunnels, utilities, dams, highways and roads) the infrastructure for the economy. This infrastructure encompasses five main categories: civil construction, geotechnical, structural, transportation, water resources and environmental. If your trying to design a new tree house, boat dock or gazebo for your backyard, make an addition to your home, or build a coffee shop around the corner a civil engineer is what you may need. Since safety is of upmost importance and most of these projects have human life in, on or around, state codes often require a Professional Engineer to review and certify designs are safe. \*For warning, most civil projects will require a Professional Engineer to review and stamp (certify) any designs. This allows the requester (you) to transfer liability of your design failing to the hands of a licensed engineer. Contractual Engineering offers a variety of services to facilitate any sort of civil engineering request. Some of our most popular services include engineering designs using CAD software (Revit, Civil 3D, or Solidworks), structural analysis, geotechnical surveying, professional engineering review and stamping, and lastly consulting on design, feasibility studies and cost estimating.

We also offer expertise in foundation settlement, dead and live loading, trusses, footings, retaining walls, hydrology, open- channel flow, runoff analysis (rational and SCS/NRCS method, hydrographic application, runoff time of concentration), detention / retention ponds, pressure conduit, traffic volumetrics, soil classification and boring log interpretation, soil properties, concrete, structural steel, material test methods, compaction, site development, excavation and embankment, lifting and rigging, quality control process (QA/QC), formwork, shoring, bracing, anchorage for stability, OSHA regulations and hazard identification /abatement, work zoning and public safety, component design and detailing (horizontal, vertical members, systems, connections, foundations) International Building Code (IBC), American Concrete Institute (ACI 318, 530), Precast/Prestressed Concrete Institute (PCI Design Handbook), Steel Construction Manual (AISC), National Design Specification for Wood Construction (NDS), LRFD Bridge Design Specifications (AASHTO), Minimum Design Loads for Buildings and Other Structures (ASCE 7), American Welding Society (AWS D1.1, D1.2, and D1.4), OSHA 1910 General Industry and OSHA 1926 Construction Safety Standards, traffic engineering, capacity analysis and transportation planning, highway safety analysis, accident analysis, curve elements, super-elevation, interchanges, roundabouts, barrier design, Americans with Disabilities Act (ADA) design considerations, railroad, signals, pavement, drainage, depletions, storm-water management, aquifers, well analysis, wastewater collection and treatment, water quality, oxygen dynamics, total maximum daily load (TMDL) (e.g., nutrient contamination, DO, load allocation), biological contaminants E. chemical contaminants including bioaccumulation, surveying, potholing, drinking water distribution and treatment, storage, flocculation, filtration, hardness and softening of water and disinfection

## Electrical Engineering

Not sure if an Electrical Engineer is what you’re looking for? Electrical engineering has a wide variety of specialties in the engineering field. The discipline is generally broken down into two sections, electrical power or controls and communication. Many engineering projects have great overlap between mechanical, electrical and computer disciplines, but often electrical or computer is just a piece of the puzzle to the overall project. You may want to select an electrical engineer only if the majority of your project is related to electrical or control design. For example: If you are trying to install new lighting in your garage, you want to upgrade your power panel, you need help designing an electrical circuit or circuit board or your trying to use a programmable logic controller (PLC) then an electrical engineer should be your choice. If you believe the majority of the work of your project falls in a different category, please select a different discipline. The engineer that will conduct most of the work for your project will bring further expertise on board when needed. Furthermore, Contractual Engineering offers expertise in anything related to circuit analysis, measurement and instrumentation, safety and reliability, signal processing, digital systems, digital logic, digital components, electromagnetics, electromagnetic fields, guided waves, antennas, electronics, electronic circuits, electronic components and applications, control systems, analysis and design of analog or digital control systems, communications, modulation techniques, noise and interference, communication systems, codes and standards (NFPA 70, NEC, ANSI c2, NESC, NFPA 70E), transformers, lighting, surge protection, hazardous area classification (NFPA 497, 499, 30B), three phase circuits, alternating current (AC), direct current (DC), devices and power electronic circuits, rotating machines and electrical power devices, induction and synchronous machines, transmission and distribution, protection, fault current analysis, Institute of Electrical and Electronics Engineers (IEEE) standards and codes, professional engineering review and stamping, consulting on design recommendations and many more.

## Computer

Not sure if a computer engineer, a programmer or a scientist is what you’re looking for? Since the creation of the what we now consider a modern computer (thanks to Alan Turning’s “Turning Machine” in 1936) there has been an explosion of applications and uses for these wonderful tools. As this is one of the broadest categories of engineering / fields, it can be sometimes hard to classify exactly what set of skills or expertise one shall need. There is great overlap between electrical engineers and computer engineers as they work closely to develop these magnificent processing machines. At the most basic level if you need help with anything related to computers, computer programming, purchasing computers or software, designing a new app, programming a CNC machine or setting up a cryptocurrency mining operation a computer engineer, programmer or scientist is what you may need. We understand “computer” is a broad statement but due to Contractual Engineering’s worldwide network of engineers the odds are we have expert in the field of what you are looking for.

We currently offer services and experts in the following list: setting up cryptocurrency mining operations, cloud computing, cloud storage, cloud backup (mirroring), app design, software installation, purchasing or customer service for engineering software, Computer numerical control (CNC) machine programing, personalized training (Microsoft products, engineering CAD or CAM software, product data management (PDM), and many more), computer components, computer component design, computer systems, number representation, character representation, encoding schemes, error detection and correction, data compression, encryption, cyber security, computer architecture, computer organization and processor design, embedded systems, system architecture, memory systems, system performance, hardware, standard modular devices (multiplexers) programmable devices, serialization and deserialization, combinational and sequential circuits, implementation technology (FPGA, ASIC), arithmetic hardware (ALU, FPU), synchronous, asynchronous, testability, tristate logic, system design (datapath /control), digital electronics, solid-state devices, operating parameters, data conversion and instrumentation, circuit implementation, timing design and analysis, hardware description languages, testbench development, abstraction levels (RTL, Structural, Behavioral) and hierarchical design, synthesis issues, verification (assertions, coverage), embedded system software, operating systems, real-time operating systems, computer security, device drivers, interrupts and exception handling, firmware (BIOS), application development, software design, quality assurance, software fundamentals, development tools (debuggers, disassemblers, trace tools (emulators), computer networks, network protocols and standards, network configuration / topology, wireless configuration, wired configuration, optical configuration, hardwire configuration, safety, security, privacy, cyber physical systems (distributed sensing, self-configuration, mobile network systems), professional engineering review and stamping, consulting on design recommendations.

Additionally we offer programming in: Excel, Python, C, Java, C++, C#, R, JavaScript, PHP, Go, Swift, Arduino, Ruby, Assembly, Scala, Matlab, HTML, Shell, Perl, Visual Basic, Cuda, Lua, Rust, SQL, Processing, Haskell, Objective-C, Delphi, Fortran, D, VHDL, Julia, Prolog, LabView, Verilog, Lisp, Erlang, SAS, Ada, ABAP, Cobol, Clojure, Scheme, TCL, J, Ocaml, Ladder Logic, Forth and Actionscript

# What is Professional Engineering License (PE stamp), and why you might want it.

# Do you need a patent? Confused on the process? How we can help.

# What is engineering analysis i.e. FEA, CFD

# Commonly asked questions

How long does a patent take?

Why is a NDA a good idea?

## Extra fluff Not sure where I want to put it yet.

ensure that every project is met with exceptional customer service and is completed in

To provide exceptional engineering support by ensuring projects are met with collaboration, careful design parameters and In-other words we are the E-harmony of engineering services.

We provide part-time work for highly intellectual students, Certified technicians and engineers

efficiency, place for anyone that needs engineering support or expertise on a project.