What does “Design Engineer” do?

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-Justification

It is important to learn mechanics and design courses through university classes, but it is difficult **to know how our learning is applied and used in the actual field.**

This task is important to us because we can be a practical engineer by recognizing what a company demands from design engineers.

-Outline

1. Job description
- Turbine design engineer (Hanwha Techwin)
- Tire design engineer (SUMITOMO)
- Large power system design engineer (CATERPILLAR)
- Brake design engineer (Hyundai Mobis)
- Transmission design engineer (General Electric)

2. comparing with what we have imagined
3. Conclusions
4. The road ahead
5. References

-Job description

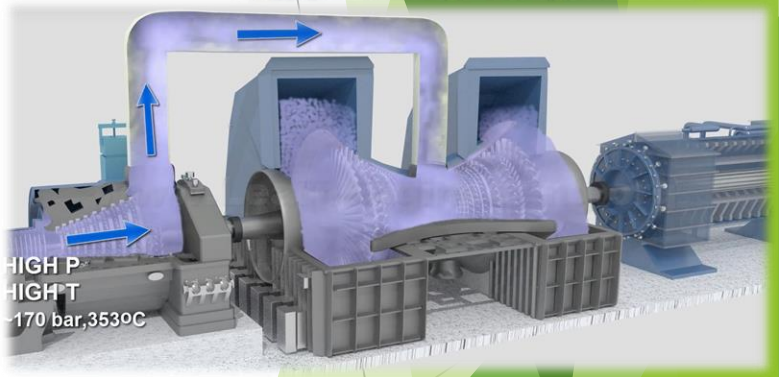
: Gas **turbine** design engineer

Hanwha Techwin

1. Introduction:

Industrial gas turbines operate at high pressure and high temperature

→Super heat resistant / lightweight material technology is required



2. Knowledge ,skill and ability:

Knowledge about gas turbine ,compressor ,generator and rotation machinery is required.

Ability to control light weight materials ,heat resisting materials.

3. Competency:

- Challenging : Attitude to understand, explore, and solve problems creatively
- Customer focus : Understand and respond to customer needs

→ economy efficiency

-Job description

: Gas turbine design engineer

Hanwha Techwin

4. prospect:

Gas turbine technology has a great impact on other industries.

Influence on the development of other industrial technologies

It is also possible to be a entrepreneur based on engineering knowledge and experiences about turbine.

-Job description

: Tire design engineer

SUMITOMO RUBBER INDUSTRIES

1. Introduction:

Sumitomo Rubber USA manufactures and sells a wide range of automotive tires internationally. Such as passenger cars, trucks, buses and motorcycles

2. Position summary:

Participate in new tires design activities from initial concept
through prototype manufacturing and release for mass production.

-Job description

: Tire design engineer

SUMITOMO RUBBER INDUSTRIES

3.Essential functions/duties:

Determine specific tire design based on required tire performance using tire force properties, tire and vehicle dynamics

Be cognizant of the importance of the business's relationships with Sumitomo Rubber USA's Original Equipment partners, and constantly strive to exceed their expectations.

4.Required skills and ability:

AutoCad, Catia or related 3D CAD experience required
Excellent verbal and written interpersonal communication skills

-Job description

: Design engineer with LPSD

CATERPILLAR®

1.introduction:

LPSD Design engineer is a person who is involved in manufacturing special large sized machinery.

(LPSD = Large power system division)

-Job description

: Design engineer with LPSD

2. Position summary:

Design various air systems, fluid systems and other engine systems

Working directly with the engine architect to identify space claims (some kind of a CAD)

3. Required abilities:

Use of 3D CAD packages such as CREO / Pro-E / Solid works

Understanding of manufacturing principles and processes

-Job description

: Brake design engineer

HYUNDAI MOBIS driving science

1.Key tasks:

Supporting automotive brake design and development

2. Responsibilities:

Support all STEP release and upload 2D and 3D drawings by CAD

Act as Liaison Mechanical CAD Engineer and coordinate with MOBIS HQ and OEM for concept design → Communicating ability

-OEM(original equipment manufacturing)
: Produce products ,following demands of purchaser)

-Job description
:Brake design engineer

3.Requirements and skills:

About 5+ years of experience in Mechanical CAD design.
Bachelor degree in Mechanical Engineering.

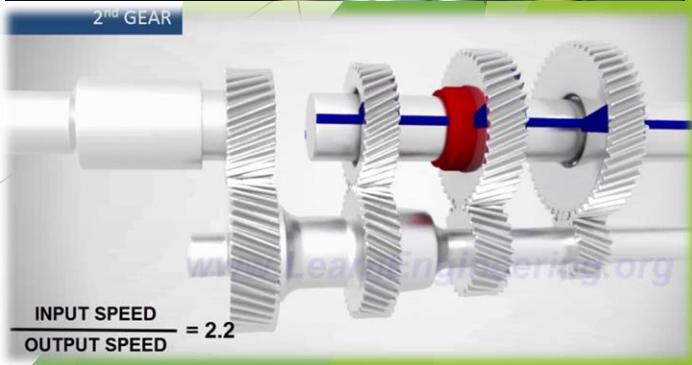
4.Collaborative Working Relationships

Work and communicate with: Local Customer, Local team members, Research engineers from Korea. Your project may accompany HQ research engineers remotely or on your business site.

-Job description

Mechanical Transmission Design Engineer

General Electric Company(GE)



1.Role:

Expected to perform design production and customer support activities with particular focus to gearbox components and module design.

2.Responsibilities:

Involvement into technical assessment and management of fielded products performance, and into production processes, activities aimed at improving product manufacturability and producibility.

-Job description

Mechanical Transmission Design Engineer

:General Electric Company(GE)

3. Requirements and abilities:

Master Degree in Mechanical/Aeronautical Engineering from an accredited university

Experience and Use of design tools such as CAD, FEM (Finite elements method)

Coordinate activities with other Company departments and Suppliers to implement product improvements (cost-out activities)

→ Communicating and economy efficiency

-Comparing

	Turbine Design engineer	Tire Design engineer	Transmission Design engineer	Brake Design engineer	LPSD Design engineer
Required main skills and ability.	Heat resisting material / Thermo Dynamics	Dynamics of tire and vehicle	Mechanism Design of gear	Dynamics	Using 3D CAD
Common ground	Basic Knowledge about Material engineering (for products design) Using Design program CAD (Catia, Solid works, etc..) Communicating with other engineers and customers Ability to express opinions technically				

-Conclusions

As a good engineer, it is important to learn mechanics courses at school to design products.
But there are more important things for us to work in the enterprise.

It is our ability to **recognize** exactly how the courses we have learned are applied in the actual field, **communicate** with other people, **express** my opinions and **coordinate** with them.

we should be aware of those and strive to become a practical engineer.

-The road ahead

Be practical engineer that industry demands

-References

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→(Hanwha Techwin)