Fire engineers use their knowledge of fire behavior, fire dynamics, and the properties of materials to design and implement systems and strategies to prevent, detect, and suppress fires.Materials Engineering oMaterialsScience: studywhatmakesmaterials strong, stiff,fracture,fatigue, conductive, corrode, etc.uk/intmic/ Ceramic Engineering oNon–metallicminerals,clays,silicates(sand).Militaryengineering Military engineering is the application of engineering principles and techniques to the design, construction, and maintenance of military structures, facilities, and systems.Optical engineering Optical engineering is a field that involves the study and application of physical phenomena and technologies related to the generation, manipulation, and detection of light.Aerospace Engineering oCommercial&militaryaircraft, missiles,spacecraft.) – Selectrightmaterialforthejob(mechanical, electrical,thermal,chemicalproperties,costs).com/ Metallurgical Engineering oExtractiveMetallurgy: removemetalfromores, refine,alloy.oPhysicalMetallurgy: studystructure (microstructure),properties, processing –>products.htm# Architectural Engineering oArchitectsareprimarily concernedwithspaceuse andaesthetics.This can include the design and construction of fortifications, roads, bridges, airfields, and other infrastructure, as well as the development of military equipment and technology.ENGINEERINGJOBFUNCTIONS ?Anotherwaytounderstandtheengineering professionistoexamineengineersfromthe perspectiveoftheworktheydoorthejobfunctions theyperform.Theory,designand implementationof software(anintangible product).Ocean Engineering NavalArchitecture Mining/GeologicalEngr.Fireengineering Fire engineering is the application of science and engineering principles to protect people, property, and the environment from the destructive effects of fire.It encompasses a wide range of areas such as optics, photonics, image science, and more.ENGINEERINGASAPROFESSION& ENGINEERING ETHICS ?WhenyoureceiveyourB.Industrial Engineering oDevelopefficientwaystouseresourcesfora processortomakeaproduct.Petroleum Engineering oFindandextractoiland naturalgas.Chemical Engineering oUsetraininginengineeringandchemistry tocreateusableproducts.http://www.Nuclear Engineering oDesign,constructandoperatenuclearpower plant.oAgriculturalequipment, processes,structures.Systems Engineering oDesign,developandoperatelarge,complex systems.?Followingisadescriptionoftheninemain engineeringjobfunctions.S. degreeinengineering,you willjointheengineeringprofession.oManageoverall manufacturingprocess..