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Most people have heard the term civil engineer, yet few know exactly what these highly-trained professionals do. Among other things, theyre the heroes who design, build, and maintain bridges, roads, and utility infrastructure. In this article, well explore:What it takes to become a civil engineerTheir origin storyThe training required and some of the best schools for civil engineersHistoric and current engineering featsSpecializations within the fieldWhat makes civil engineers superhumanNot only are engineers planners and doers, theyre also imagineers, people who see and create things out of nothing. Some of the characteristics that make good engineers include being:Analytical:Engineers must be able to evaluate situations, consider options, and determine how to make things work effectively. This includes finding ways to build better bridges at lower costs, improving traffic flow, and installing utility systems that will last a long time.Detail-oriented:Engineering projects are made up of countless details. A tiny oversight could lead to calamity. Theymust understand how the smallest parts of a project work and connect with each other to create sound, stable, and safe structures.An excellent communicator:Engineers interact with countless people every day, explaining complex concepts in ways everyone can understand.Curious: The field of engineering is changing all the time. Engineers must be open to exploring different options and learning new things.Creative:Great bridges and other structures dont just happen. Engineers imagine and design them. It takes a lot of creativity to develop amazing structures like the Golden Gate, the Brooklyn, and the Gateshead Millennium bridges.A logical thinker: Its one thing to possess unbridled creativity. Engineers must take it to the next level and use logic to pull all the pieces together to bring their ideas to life.Good with numbers: Every building project is backed up by math. Engineers do complex calculations to ensure structures can withstand gravity and other powerful forces.A problem solver: Design projects involve solving problems. Bridge engineers have to figure out how to move traffic from one side of a natural or manmade barrier to the other and ensure a structure can withstand forces like hurricanes and earthquakes, all while making sure the bridge is attractive and enhances its natural environment.A team player:It takes many people to build and maintain bridges. Being able to interact with all personality types is critical for success.Tech savvy:Engineers utilize complex computer software every day. Being technologically literate is a requirement for the job.The earliest superhero engineersCivil engineers could make a claim to the title of worlds oldest profession. Along with military engineering, the field can be traced back to ancient times.Engineering began when humans stopped living as wandering nomads and decided to settle near each other and build shelters in urban centers. Around the same time, transportation became important, and some civil engineers designed and developed things like basic roads and bridges, the wheel, and boats.Some of the first major civil engineering projects include:Projects left to rightEgyptian pyramids,Circa 2700-2500 B.C.The pyramids at Giza are among the largest structures ever built. They are the only survivors of the original seven wonders of the ancient world.Qanat water management system,Circa 1000 B.C.This advanced system delivered water to arid areas in ancient Persia.Greek Parthenon,Circa 447-438 B.C.This former temple built on the acropolis in Athens was dedicated to the goddess Athena. Even in its ruined state, it is still considered one of the most beautiful buildings ever built.The Roman Appian Way,Circa 310 B.C.This was a critical stone thoroughfare that connected Rome with Brindisi in southeast Italy. It supported warfare and trade. Sections of the roadway still survive today.The Romans deserve a special mention in the engineering hall of fame. They accomplished extraordinary engineering feats throughout their vast ancient empire, including developing harbors, bridges, dams, roads, sports and entertainment venues, and aqueducts.Transition to the modern eraWhile civil engineers differentiated themselves from their military counterparts in ancient times, the distinction diminished in the Middle Ages. The first person to officially call himself a civil engineer in the modern era was John Smeaton. Back in 1771, he and a group of other engineers formed the Smeatonian Society of Civil Engineers. The group met regularly over dinner to discuss engineering-related issues and advances.A few decades later, in 1818, the Institution of Civil Engineers was founded in London. Ten years later, the group received a royal charter, which officially recognized civil engineering as a profession in the United Kingdom. Among the first types of engineering projects outlined in the charter were the development of roads, bridges, and urban drainage systems.Education and trainingEarly engineers were self-taught, transferring knowledge from one generation to the next.The first U.S. college to offer civil engineering courses was Norwich University, back in the early 1800s. The first degree in the field was awarded by Rensselaer Polytechnic Institute in 1835.Today, people working in the profession usually hold Bachelors degrees in civil engineering. They study heavy concentrations of physics, advanced math, and project management and design. After taking some general civil engineering courses, students choose an area of specialization.An undergraduate degree is enough to begin the process of earning industry accreditation and getting a job in the field. However, many students choose to pursue advanced degrees that allow them to specialize even more and potentially earn higher incomes.There are solid engineering programs offered at colleges all over the United States. Some of the best-ranked ones according to College Choice include:University of Illinois Urbana-ChampaignPurdue University West LafayetteGeorgia Institute of TechnologyUniversity of Minnesota Twin CitiesTexas A&M University College StationNext steps toward becoming a civil engineerIn most advanced countries (including the United States), earning a degree is only the first step toward becoming a civil engineer. Once someone gets a degree, they must meet requirements that include doing a prescribed amount of hands-on work and passing a series of exams. Once a civil engineer is certified in the U.S., they can prepare, sign, seal, and submit plans to public authorities for approval.Legal requirementsFrom a legal and regulatory standpoint, certified engineers must comply with the requirements of the contracts they sign. They can be held legally responsible if their work fails. At the extreme, they will be subject to criminal charges for failures, injuries, and deaths. Engineers must also work within building codes and environmental regulations.Civil engineering sub-disciplinesThe lead engineers on a job partner with specialized engineers. Some of the most common civil engineering sub-disciplines involved in bridge projects include:Construction engineers, who help plan and develop construction sites, including getting equipment and materials delivered to building locations and preparing them for development. Some are involved in business activities like drafting and reviewing contracts, hiring workers, ordering supplies, and monitoring budgets.Earthquake engineers, who specialize in designing structures that can survive in earthquake-prone areas. They focus on the impact that seismic activity could have on bridges and related utility installations.Environmental engineers, who are becoming more important on bridge construction sites. They ensure that structures dont affect the local environment negatively during demolition and construction and after a project is complete.Geotechnical engineers, who ensure rocks and soil can support the bridges built on and in them. They are key to developing things like piers, foundations, and retaining walls.Water resources engineers, who play a role on projects that cross creeks, rivers, and other waterways or that are built around wet lands. They focus on the impact it could have on water quality.Hydraulic engineers, who play a key role designing bridges that span waterways. They provide input on how the flow of water in, around, and through a bridge could affect its structural integrity.Structural engineers, who oversee the overall design, analysis, and integrity of bridges. They make sure the structures perform as required by identifying and analyzing the loads that will act on them and the stresses and forces that could affect them.Transportation engineers, who plan how cars, trucks, trains, bicycles, and pedestrians cross bridges and how bridges connect with roads, tunnels, tracks, terminals, and other transportation-related infrastructure. They also manage bridges after theyre completed.Municipal and urban engineers, who focus on how bridges and utility installations connect with the broader urban tapestry. They oversee situations where multiple development projects must connect together as a whole when completed.Forensic engineers, who are brought in when bridges and other structures fail or dont function as intended. They investigate the cause of failures or issues and come up with ways to make improvements in the future.Todays superheroesCheck out some of these amazing projects recently developed by todays superhero engineers:2nd image by Glabb (Own work) [CC BY-SA 3.0], via Wikimedia Commons. 3rd image by Glabb (Own work) [CC BY-SA 3.0], via Wikimedia CommonsPort Mann Bridge, Vancouver, B.C., CanadaThis bridge, opened in 2012, is the second longest and widest in the world. It uses 288 cables to support its almost 7,000-foot length.Aizhai Suspension Bridge, ChinaThis is one of the worlds highest and longest suspension bridges. It connects two tunnels across the Dehang Canyon. It spans almost 4,000 feet, and the mountains on either end anchor its towers.Liuchonghe Bridge, ChinaAnother Chinese wonder, this is the second-highest cable-stayed bridge in the world. It rises more than 1,000 feet above the Liuchonghe River. The designers made the most of its spectacular setting.Becoming an engineerInterested in learning more about civil engineers, the superheroes of the design and construction industry? The American Society of Civil Engineers website is a good place to start. It has information about education and career opportunities, along with links to interesting publications and extensive libraries. It could help you get started in the field or take your career to the next level. ,the free encyclopedia that anyone can edit.117,185 active editors 7,001,964 articles in EnglishThe English-language Wikipedia thanks its contributors for creating more than seven million articles! Learn how you can take part in the encyclopedia's continued improvement.Members of the victorious Blondie crewThe Boat Race 2018 took place on 24March. Held annually, The Boat Race is a side-by-side rowing race between crews from the universities of Oxford and Cambridge along a 4.2-mile (6.8km) tidal stretch of the River Thames in south-west London, England. For the third time in the history of the event, the men's, the women's and both reserves' races were all held on the Tideway on the same day. The women's race saw Cambridge lead from the start, eventually winning by a considerable margin to take the overall record to 4330 in their favour. In the women's reserve race, Cambridge's Blondie (crew pictured) defeated Oxford's Osiris by nine lengths. The men's reserve race was won by Cambridge's Goldie, who defeated Oxford's Isis by a margin of four lengths. The men's race was the final event of the day and completed a whitewash as Cambridge won, taking the overall record to 8380 in their favour. The races were watched by around 250,000 spectators live, and broadcast around the world. (Fullarticle...)Recently featured: Radar, Gun Laying, Mk.I and Mk.IIAndrea NavageroNosy KombaArchiveBy emailMore featured articlesAboutKitty Marion... that Kitty Marion (pictured) was force-fed over 200 times during a hunger strike?... that the North Korean destroyer Choe Hyon is the largest ship constructed for the Korean People's Navy?... that after the release of High and Low, director Akira Kurosawa received telephone calls imitating his film that threatened to kidnap his daughter?... that May Bradford Shockley is why Silicon Valley is where it is?... that the conservation of a goat might endanger the survival of Aquilegia paui?... that Joy Laking predicted in a school writing assignment that within ten years she would be making a living as an artist?... that the Taiwanese restaurant chain Formosa Chang drew inspiration from McDonald's for its non-greasy atmosphere and corporate practices?... that Haridas Mitra had his death sentence commuted after the intervention of Mahatma Gandhi?... that "Steve's Lava Chicken" recently became the shortest song to enter the UK Top 40?ArchiveStart a new articleNominate an articleNgg wa Thiong'oKenyan writer and activist Ngg wa Thiong'o (pictured) dies at the age of 87.In sumo, nosato Daiki is promoted to yokozuna.In association football, Liverpool win the Premier League title.In motor racing, lex Palou wins the Indianapolis 500.In basketball, the EuroLeague concludes with Fenerbahe winning the Final Four Playoff.Ongoing: Gaza warM23 campaignRussian invasion of UkrainetimelineSudanese civil wartimelineRecent deaths: Harrison Ruffin TylerPhil RobertsonMary K. GaillardPeter DavidAlan YentobGerry ConnollyNominate an articleMay 31: Dragon Boat Festival in China and Taiwan (2025); World No Tobacco DayBessarion455 Petronius Maximus, the ruler of the Western Roman Empire, was stoned to death by a mob as he fled Rome ahead of the arrival of a Vandal force that sacked the city.1223 Mongol invasion of Kievan Rus': Mongol forces defeated a Kievan Rus' army at the Battle of the Kalka River in present-day Ukraine.1468 Cardinal Bessarion (pictured) announced his donation of 746 Greek and Latin codices to the Republic of Venice, forming the Biblioteca Marciana.1935 A magnitude-7.7 earthquake struck Balochistan in British India, now part of Pakistan, killing between 30,000 and 60,000 people.2013 An extremely large, powerful, and erratic tornado struck Central Oklahoma, killing eight people and injuring more than 150 others.Albertino Mussato (d.1329)Joseph Grimaldi (d.1837)Dina Boluarte (b.1962)Mbaye Diagne (d.1994)More anniversaries: May 30May 31June 1ArchiveBy emailList of days of the yearAboutCucumis metuliferus, the African horned cucumber, is an annual vine in the cucumber and melon family, Cucurbitaceae. Its fruit has horn-like spines, hence the name "horned melon". The ripe fruit has orange skin and lime-green, jelly-like flesh. It is native to Southern Africa, where it is a traditional food. Along with the gemsbok cucumber and the citron melon, it is one of the few sources of water during the dry season in the Kalahari Desert. This photograph, which was focus-stacked from 25 separate images, shows two C.metuliferus fruits, one whole and the other in cross-section.Photograph credit: Ivar LeidusRecently featured: Ignace TonenAustralian white ibisHell Gate BridgeArchiveMore featured picturesCommunity portal The central hub for editors, with resources, links, tasks, and announcements.Village pump Forum for discussions about Wikipedia itself, including policies and technical issues.Site news Sources of news about Wikipedia and the broader Wikimedia movement.Teahouse Ask basic questions about using or editing Wikipedia.Help desk Ask questions about using or editing Wikipedia.Reference desk Ask research questions about encyclopedic topics.Content portals A unique way to navigate the encyclopedia.Wikipedia is written by volunteer editors and hosted by the Wikimedia Foundation, a non-profit organization that also hosts a range of other volunteer projects: CommonsFree media repository MediaWikiWiki software development Meta-WikiWikimedia project coordination WikibooksFree textbooks and manuals WikidataFree knowledge base WikinewsFree-content news WikiquoteCollection of quotations WikisourceFree-content library WikispeciesDirectory of species WikiversityFree learning tools WikivoyageFree travel guide WiktionaryDictionary and thesaurusThis Wikipedia is written in English. Many other Wikipedias are available; some of the largest are listed below. 1,000,000+ articles DeutschEspaolFranaisItalianoNederlandsPolskiPortugusSvenskaTing Vit 250,000+ articles Bahasa IndonesiaBahasa MelayuBn-lm-gCataletinaDanskEestiEsperantoEuskaraMagyarNorsk bokmlRomnSimple EnglishSloveninaSrpskiSrpskohrvatskiSuomiTrkeOzbekcha 50,000+ articles AsturianuAzrbaycancaBosanskiFryskGaeilgeGalegoHrvatskiKurdLatvieuLietuviNorsk nynorskShqipSlovenina Retrieved from " 2This article is about the year 455. For other uses, see 455 (disambiguation).This article needs additional citations for verification. Please help improve this article by adding citations to reliable sources. Unsourced material may be challenged and removed.Find sources:"455"news newspapers books scholar JSTOR (April 2019) (Learn how and when to remove this message)Calendar yearYearsMillennium1stmillenniumCenturies4thcentury5thcentury 6thcenturyDecades430s440s450s 460s470sYears452453454455 456457458vte455 by topicLeadersPolitical entitiesState leadersReligious leadersCategoriesBirthsDeathsDisestablishmentsvte455 in various calendarsGregorian calendar455CDLVAb urbe condita1208Assyrian calendar5205Balinese saka calendar376377Bengali calendar139 138Berber calendar1405Buddhist calendar999Burmese calendar183Byzantine calendar59635964Chinese calendar (WoodHorse)3152 or 2945to (WoodGoat)3153 or 2946Coptic calendar171172Discordian calendar1621Ethiopian calendar447448Hebrew calendar4215421 6Hindu calendars- Vikram Samvat511512- Shaka Samvat376377- Kali Yuga35553556Holocene calendar10455Iranian calendar167 BP 166 BPIslamic calendar172 BH 171 BHJavanese calendar340341Julian calendar455CDLVKorean calendar2788Minguo calendar1457 before ROC1457Nanakshahi calendar1013Seleucid era766/767 AGThai solar calendar997998Tibetan calendar(male Wood-Horse)581 or 200 or 572to(female Wood-Goat)582 or 201 or 571King Genseric sacks Rome (455)Year 455 (CDLV) was a common year starting on Saturday of the Julian calendar. At the time, it was known as the Year of the Consulship of Valentinianus and Anthemius (or, less frequently, year 1208 Ab urbe condita). The denomination 455 for this year has been used since the early medieval period, when the Anno Domini calendar era became the prevalent method in Europe for naming years.March 16 Emperor Valentinian III, age 35, is assassinated by two Hunnic retainers of the late Flavius Aetius, while training with the bow on the Campus Martius (Rome), ending the Theodosian dynasty. His primicerius sacri cubiculi, Heraclius, is also murdered.March 17 Petronius Maximus, former domesticus ("elite bodyguard") of Aetius, becomes (with support of the Roman Senate) emperor of the Western Roman Empire. He secures the throne by bribing officials of the imperial palace. Maximus consolidates his power by a forced marriage with Licinia Eudoxia, widow of Valentinian III.Maximus appoints Avitus, most trusted general, to the rank of magister militum and sends him on an embassy to Toulouse, to gain the support of the Visigoths. He elevates his son Palladius to Caesar and has him marry Eudocia, eldest daughter of Valentinian III.May 31 Maximus is stoned to death by an angry mob while fleeing Rome. A widespread panic occurs when many citizens hear the news that the Vandals are plundering the Italian mainland.June 2 Sack of Rome: King Genseric leads the Vandals into Rome, after he has promised Pope Leo I not to burn and plunder the city. Genseric sacks the city for a period of two weeks. Eudoxia and her daughters, Eudocia and Placidia, are taken hostage. The loot is sent to the harbour of Ostia and loaded into ships, from whence the Vandals depart and return to Carthage.July 9 Avitus is proclaimed Roman emperor at Toulouse, and later recognised by the Gallic chiefs in Viernum (near Arles).September 21 Avitus enters Rome with a Gallic army. He restores the imperial authority in Noricum (modern Austria) and leaves a Gothic force under Remistus, Visigoth general (magister militum), at Ravenna.The Ostrogoths conquer Pannonia and Dalmatia.Battle of Aylesford: Prince Vortimer rebels against the pro-Anglo-Saxon policies of his father, Vortigern. He is defeated in the battle at Aylesford (Kent). Hengist and his son Oisc become king of Kent. Horsa and Catigern, brother of Vortimer, are killed. The Britons withdraw to London (according to the Anglo-Saxon Chronicle).Skandagupta succeeds Kumaragupta I as ruler of the Gupta Empire (India). During his reign he crushes the Hun invasion; however, the expense of the wars drains the empire's resources and contributes to its decline.Gaero becomes king of the Korean kingdom of Baekje.[1]Earliest recorded date at Chichen Itza on the Yucatn Peninsula (Mexico) (approximate date).Barter economy replaces organized trade as Romans and other citizens desert their towns for the countryside, where they will be less vulnerable to barbarian raids (approximate date).The city of Vindobona (Vienna) is struck by an epidemic that spreads through the Roman provinces. The disease is probably streptococcus or a form of scarlet fever with streptococcus pneumoniae (approximate date).Rusticus, archbishop of Lyon (approximate date)Wang Baoming, empress of the Southern Qi (d. 512)March 16Valentinian III, emperor of the Western Roman Empire (b. 419)Heraclius, Roman courtier (primicerius sacri cubiculi)May 31 Petronius Maximus, emperor of the Western Roman EmpireBiyu of Baekje, king of Baekje[1]Catigern, prince and son of Vortigern (approximate date)Horsa, leader of the Anglo-Saxons (approximate date)Kumaragupta I, ruler of the Gupta Empire (India)Niall Noigiallach, High King of Ireland (approximate date)Palladius, son of Petronius Maximus (approximate date)Prosper of Aquitaine, disciple and Christian writer (approximate date)^ a b "List of Rulers of Korea". www.metmuseum.org. Retrieved April 20, 2019.Retrieved from " 3One hundred years, from 301 to 400Millennia1stmillenniumCenturies3rdcentury4thcentury5thcenturyTimelines3rdcentury4thcentury5thcenturyState leaders3rdcentury4thcentury5thcenturyDecades300s310s320s330s340s350s360s370s380s390sCategories:Births Deaths Establishments DisestablishmentsvteEastern Hemisphere at the beginning of the 4th century CE.Eastern Hemisphere at the end of the 4th century CE.The 4th century was the time period from 301 CE (represented by the Roman numerals CCCI) to 400 CE (CD) in accordance with the Julian calendar. In the West, the early part of the century was shaped by Constantine the Great, who became the first Roman emperor to adopt Christianity. Gaining sole reign of the empire, he is also noted for re-establishing a single imperial capital, choosing the site of ancient Byzantium in 330 (over the current capitals, which had effectively been changed by Diocletian's reforms to Milan in the West, and Nicomedeia in the East) to build the city soon called Nova Roma (New Rome); it was later renamed Constantinople in his honor.The last emperor to control both the eastern and western halves of the empire was Theodosius I. As the century progressed after his death, it became increasingly apparent that the empire had changed in many ways since the time of Augustus. The two-emperor system originally established by Diocletian in the previous century fell into regular practice, and the east continued to grow in importance as a centre of trade and imperial power, while Rome itself diminished greatly in importance due to its location far from potential trouble spots, like Central Europe and the East. Late in the century Christianity became the official state religion, and the empire's old pagan culture began to disappear.[citation needed] General prosperity was felt throughout this period, but recurring invasions by Germanic tribes plagued the empire from 376[1][2] CE onward. These early invasions marked the beginning of the end for the Western Roman Empire.In China, the Jin dynasty, which had united the nation prior in 280, began rapidly facing trouble by the start of the century due to political infighting, which led to the insurrections of the northern barbarian tribes (starting the Sixteen Kingdoms period), which quickly overwhelmed the empire, forcing the Jin court to retreat and entrench itself in the south past the Yangtze river, starting what is known as the Eastern Jin dynasty around 317. Towards the end of the century, Emperor of the Former Qin, Fu Jin, united the north under his banner, and planned to conquer the Jin dynasty in the south, so as to finally reunite the land, but was decisively defeated at the Battle of Fei River in 383, causing massive unrest and civil war in his empire, thereby leading to the fall of the Former Qin, and the continued existence of the Eastern Jin dynasty.According to archaeologists, sufficient archaeological evidence correlates of state-level societies coalesced in the 4th century to show the existence in Korea of the Three Kingdoms (300/400668 CE) of Baekje, Goguryeo, and Silla.Historians of the Roman Empire refer to the "Long Fourth Century" to the period spanning the fourth century proper but starting earlier with the accession of the Emperor Diocletian in 284 and ending later with the death of Honorius in 423 or of Theodosius II in 450.[3]See also: Christianity in the 4th centuryGregory the Illuminator mosaic, converted Armenia from Zoroastrianism to ChristianityContemporary bronze head of Constantine I (r. 306337 AD)Early 4th century Former audience hall now known as the Basilica, Trier, Germany, is built.Early 4th century The Gupta Empire is established.301: Armenia first to adopt Christianity as state religion.304439: The Sixteen Kingdoms in China begins.306337: Constantine the Great, ends persecution of Christians in the Roman Empire (see also Constantinian shift) and Constantinople becomes new seat of government (New Rome).Tikal had a population of about 100,000 when it was conquered by Teotihuacan, less than a fourth of its peak population[4]320: Butuan Boat One, the oldest known Balangay, a multi-purpose ship native to the Philippines is built.325328: The Kingdom of Aksum adopts Christianity.325: Constantine the Great calls the First Council of Nicaea to pacify Christianity in the grip of the Arian controversy.335380: Samudragupta expands the Gupta Empire.337: Constantine the Great is baptized a Christian on his death bed.350: About this time the Kingdom of Aksum conquers the Kingdom of Kush.350400: At some time during this period, the Huns began to attack the Sassanid Empire.[2]350: The Kutai Martadipura kingdom in eastern Borneo produced the earliest known stone inscriptions in Indonesia known as the Mulavarman inscription written in the Sanskrit language using Pallava scripture.[5]Mid-4th century Dish, from Mildenhall, England, is made. It is now kept at the British Museum, London.Mid-4th century Wang Xizhi makes a portion of a letter from the Feng Ju album. Six Dynasties period. It is now kept at National Palace Museum, Taipei, Taiwan, Republic of China.365: An earthquake with a magnitude of at least eight strikes the Eastern Mediterranean. The following tsunami causes widespread destruction in Crete, Greece, Libya, Egypt, Cyprus, and Sicily.376: Visigoths appear on the Danube and are allowed entry into the Roman Empire in their flight from the Huns.378: Battle of Adrianople: Roman army is defeated by the Visigoth cavalry. Emperor Valens is killed.378395: Theodosius I, Roman emperor, bans pagan worship, Christianity is made the official religion of the Empire.378: Siyaj K'ak' conquers Waka on (January 8), Tikal (January 16) and Uaxactun.Wall painting of the Council of Constantinople (381) in the Stavropoleos monastery, Romania381: First Council of Constantinople reaffirms the Christian doctrine of the Trinity by adding to the creed of Nicaea.383: Battle of Fei River in China.395: The Battle of Canhe Slope occurs.395: Roman emperor Theodosius I dies, causing the Roman Empire to split permanently.Late 4th century: Cubiculum of Leonis, Catacomb of Commodilla, near Rome, is made.Late 4th century: Atrium added in the Old St. Peter's Basilica, Rome.For a more comprehensive list, see Timeline of historic inventions 4th century.The Stirrup was invented in China, no later than 322.[6][1]Kama Sutra, dated between c.400 BC to c. 300 AD.[7][8]Iron pillar of Delhi, India is the world's first Iron Pillar.[citation needed]Trigonometric functions: The trigonometric functions sine and versine originated in Indian astronomy.[9]Codex Sinaiticus and the Codex Vaticanus Graecus 1209, are the earliest Christian bibles.[10][11]Book of Steps, Syriac religious discourses.[citation needed]^ a b "The invention and influences of stirrup". Archived from the original on December 3, 2008.^ a b Roberts, J: "History of the World". Penguin, 1994.^ The Long Fourth Century 284450: Continuity and Change in the Later Roman Empire ed. S. McGill, C. Sogno and E. Watts (Cambridge 2008).^ "The Maya: Glory and Ruin". National Geographic Magazine. Archived from the original on April 9, 2008.^ "The Austronesians: Historical and Comparative Perspectives". ANU Press. Archived from the original on 2013-12-25. Retrieved 2013-04-29.^ Lee, Adela C.Y. "The stirrup and its effect on chinese military history". Silkroad Foundation.^ Sengupta, J. (2006). Refractions of Desire, Feminist Perspectives in the Novels of Toni Morrison, Michle Roberts, and Anita Desai. Atlantic Publishers & Distributors. p.21. ISBN978-81-269-0629-1. Archived from the original on 4 May 2016. Retrieved 7 December 2014.^ Kakar, Sudhir; Doniger, Wendy (2003). Kamasutra. Oxford; Toronto: Oxford University Press. pp.xi. ISBN978-0-19-283982-4.^ Bag, A.K. (1979). 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Retrieved 16 March 2013.Retrieved from " 4The following pages link to 4th century External tools(link counttransclusion countsorted list) See help page for transcluding these entriesShowing 50 items.View (previous 50 | next 50) (20 | 50 | 100 | 250 | 500)List of decades, centuries, and millennia (links | edit)Religion in pre-Islamic Arabia (links | edit)Rosetta Stone (links | edit)20th century (links | edit)15th century (links | edit)16th century (links | edit)17th century (links | edit)18th century (links | edit)14th century (links | edit)1st century (links | edit)13th century (links | edit)397 (links | edit)12th century (links | edit)11th century (links | edit)7th century (links | edit)10th century (links | edit)9th century (links | edit)8th century (links | edit)6th century (links | edit)5th century (links | edit)3rd century (links | edit)2nd century (links | edit)405 (links | edit)4th century BC (links | edit)432 (links | edit)200s (decade) (links | edit)300s (decade) (links | edit)1st century BC (links | edit)2nd century BC (links | edit)3rd century BC (links | edit)5th century BC (links | edit)6th century BC (links | edit)400s (decade) (links | edit)310s (links | edit)320s (links | edit)321 (links | edit)21st century BC (links | edit)11th century BC (links | edit)286 (links | edit)476 (links | edit)385 (links | edit)7th century BC (links | edit)410 (links | edit)325 (links | edit)380s (links | edit)381 (links | edit)470s (links | edit)430s (links | edit)430 (links | edit)510s (links | edit)View (previous 50 | next 50) (20 | 50 | 100 | 250 | 500)Retrieved from " WhatLinksHere/4th_century" Since our founding as a public university for New South Wales in 1949, UNSW has remained dedicated to advancing the public good. Over 75 years of global change, we have worked to create a positive societal impact through transformative education, innovative research, and meaningful global engagement. In 2025, we are proud to launch the UNSW Strategy: Progress for All alongside our inaugural Societal Impact Framework (SIF). Our fleet is built to meet a wide range of project needs. We offer trusted and specialized bridge access equipment for inspections, maintenance, and utility work. Whether its a tight clearance or a challenging span, we have the machine for your project. Planning a project with complex bridge access requirements? Leverage our industry knowledge and equipment insights. Well help you plan the best approach and select the ideal equipment for the job. We source the right tools, equipment, materials, and logistics, including any underbridge access requirements, to support your projects specific scope and timeline. Our expert crews handle the entire processfrom conduit installation to structural repairsusing advanced bridge inspection equipment and proven methods. After installation, we provide ongoing inspection, monitoring, and maintenance services to protect your infrastructure and ensure long-term performance. Share copy and redistribute the material in any medium or format for any purpose, even commercially. Adapt remix, transform, and build upon the material for any purpose, even commercially. The licensor cannot revoke these freedoms as long as you follow the license terms. Attribution You must give appropriate credit , provide a link to the license, and indicate if changes were made . You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. ShareAlike If you remix, transform, or build upon the material, you must distribute your contributions under the same license as the original. No additional restrictions You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits. You do not have to comply with the license for elements of the material in the public domain or where your use is permitted by an applicable exception or limitation . No warranties are given. The license may not give you all of the permissions necessary for your intended use. For example, other rights such as publicity, privacy, or moral rights may limit how you use the material. 2018 - 2023Led the design and implementation of bridge projects.Managed a team of 10 engineers, resulting in successful completion of 5 major bridge projects within a year.Implemented new design standards, reducing project costs by 15%.Conducted regular site investigations, ensuring compliance with local regulations.2015 - 2018Worked on the design and analysis of bridge projects.Designed and analyzed over 30 bridge structures using SAP and CSI Bridge.Prepared detailed construction drawings and contract documents for 20+ projects.Coordinated with local agencies to ensure compliance with design standards and criteria.2012 - 2015Assisted in the planning and development of bridge projects.Assisted in the planning and development of 10 bridge projects.Prepared technical reports, cost estimates, and proposals for various projects.Collaborated with different teams to ensure smooth execution of projects.University of California, Berkeley2013 - 2014Bachelor's Degree in Civil EngineeringUniversity of California, Berkeley2008 - 2012Managed over 20 large-scale bridge projects, ensuring they were completed on time and within budget.Proficient in using SAP, CSI Bridge, CTBridge, AutoCAD, and MicroStation for designing and analyzing bridge structures.In-depth understanding of Caltrans and local agency design standards, criteria, practices, and policies.Developed a unique bridge design that was patented and has been adopted in multiple infrastructure projects.Promoted to a leadership role within two years at ABC Engineering due to exceptional performance and project management skills.Engineers like to solve problems. If there are no problems handily available, they will create their own problems.Use This ExampleHow can financial brands set themselves apart through visual storytelling? Our experts explainhow.Learn MoreThe Motorsport Images Collections captures events from 1895 to todays most recentcoverage.Discover The CollectionCurated, compelling, and worth your time. Explore our latest gallery of EditorsPicks.Browse Editors' FavoritesHow can financial brands set themselves apart through visual storytelling? Our experts explainhow.Learn MoreThe Motorsport Images Collections captures events from 1895 to todays most recentcoverage.Discover The CollectionCurated, compelling, and worth your time. Explore our latest gallery of EditorsPicks.Browse Editors' FavoritesHow can financial brands set themselves apart through visual storytelling? Our experts explainhow.Learn MoreThe Motorsport Images Collections captures events from 1895 to todays most recentcoverage.Discover The CollectionCurated, compelling, and worth your time. Explore our latest gallery of EditorsPicks.Browse Editors' Favorites Civil engineers design, build, and maintain major infrastructure projects, from stand-alone buildings to roads and highways, bridges, airports, stadiums, theme parks, and water and sewerage systems. There are two types of civil engineers consultants and contractors that determine what your day-to-day might look like. Consultants generally work in a standard office environment, designing projects with the assistance of software like AutoCAD and Rivet. Contractors often work on site, implementing designs in a more hands-on way and supervising the actual construction. To become a civil engineer, youll need at least a bachelors degree. From there, you can choose a specialization, undertake fieldwork, or pursue a masters degree. In some states, youll need to be professionally licenced, which requires a degree accredited by the Accreditation Board for Engineering and Technology (ABET). According to the Bureau of Labor Statistics, civil engineers can look forward to a median wage of $93,720 and healthy employment prospects. Civil engineers design, construct, manage and maintain the infrastructure of modern society. Roads, railways, tunnels, buildings, bridges, airports, mines, dams, ports and harbours, water supply and sewerage systems and flood mitigation works are all shaped by civil engineers. Civil engineering is based on Maths, Mechanics and Physics but its also about creative problem-solving. While normally associated with the worlds largest buildings, civil engineers must also effectively adapt the infrastructure to complex challenges such as climate change or natural disasters. Civil engineering comprises five main areas, which provide a breadth and depth of opportunities for our graduates. Structural engineering underpins and sustains the built environment, ensuring structures are safe, serviceable, durable, aesthetically pleasing and economical.Structural engineers analyse and design all types of structures, including buildings, bridges, towers, marine structures, dams, tunnels and retaining walls. Theyre focused on the materials of construction and their ability to withstand various design loads. Structural engineers apply Maths and Physics to materials such as concrete, stone, steel, timber and glass.With the world now aware of the challenging implications of climate change and population growth, structural engineers at UNSW are focusing on new and improved low-emission materials and full life cycle assessment of infrastructure including real-time monitoring and recycling of structures. Construction engineering and management, project management and asset management skills are vital to building and maintaining the infrastructure we need to live in modern society.Construction engineering and project management are about bringing the structural engineers designs to life. It involves organising and coordinating the people, equipment, materials and construction processes so that construction work can be done in an efficient, safe, financially viable and environmentally sensitive and sustainable way.The construction of the Sydney Metro, including train tunnels, bridges and new station caverns in a very congested and active city, is a very good example of the enormous, but rewarding, challenges that project engineers and managers encounter in their careers. The Geo component of geotechnical refers to geology, or the ground. Geotechnical engineers are concerned with any structure that is built on, through, or within the ground. They need to understand the engineering behaviour of the natural geological environment to predict how it will respond to imposed loads from engineering infrastructure.Commencing with educated assessments of the insitu geological conditions, geotechnical engineers work with Geologists to develop geotechnical models of engineering sites. These models evolve with specialist site investigations, laboratory and insitu testing and field monitoring. The geotechnical engineer then uses the model for project design and advice.Geotechnical engineers deal with many types of infrastructure associated with the ground, including tunnels, bridges, dams, buildings, roads, railways, mines and landfills. They also study landslides and earthquakes, and ways of preventing future landslides from occurring and ways of making infrastructure earthquake resistant. Water engineering looks at how water interacts with all aspects of the built and natural environments. Water engineers investigate the way that dynamic natural systems such as rivers, estuaries and the coasts behave, as well as design infrastructure to store and direct water.Some of the challenges water engineers address include:rainfall and storm prediction modelling taking into account climate changewater supply needs in different parts of Australia: drinking water, water for industry and agriculture, including wastewater treatment, and water for the natural environment - this may include combinations of dams, groundwater, recycled water and desalinated waterflood prediction and management: one of the costliest natural disasters for Australiagroundwater management: water that lies in underground aquifers and deep in the soilcoastal management: how do we manage the coasts as sea levels rise, how do we effectively protect infrastructure, coastal groundwater resources and estuaries Transport engineering covers the behaviour, optimisation and management of transport systems. Transport engineers plan, design and operate the large public and private infrastructure systems that connect our physical world. Modern society depends on a broad range of continually evolving, large-scale transport infrastructure, including road, rail, air and water. Transport engineers quantify and optimise our mobility infrastructure networks to meet travel and freight demands, while ensuring safety, equity and sustainability, at minimal levels of congestion and cost.Transport planning involves developing calibrated mathematical techniques for forecasting travel demand and commuter behaviour. This needs to be based on many challenging variables such as:population growthchanges from petroleum to electrical based powershare vehiclesfuture technological advancesgovernment emissions policy changes.Transport engineers face multi-faceted design decisions when they are designing optimised transport infrastructure networks. In all design decisions, multiple performance measures, cost metrics and safety criteria must be considered and weighed. These might relate to:the physical expansion of transport facilities, such as lane width or the number of lanes, for a roadwaythe materials and thickness used in pavementsthe geometry of a facility, such as a roadway, rail line or airportroad pricing schemesdeploying information-based technology.Transport operations, whether for road, rail, port or air traffic, are designed to minimise travel delays, improve safety, reduce emissions and enhance reliability, as well as taking other considerations into account. Transport operation decisions may involve optimising traffic signals, setting specific tolls, and designing traffic signs and markings. Writing a resume for a civil engineering job can be challenging. Civil engineers are responsible for designing, constructing, and maintaining infrastructure such as dams, bridges, and roads. To stand out from the competition, you need a well-crafted resume that highlights your skills and experience. This guide will provide you with useful tips and examples to help you write a powerful civil engineer resume. You will learn how to create a persuasive summary statement, highlight your achievements, and show off your qualifications and experience. With this guide, you will be well on your way to landing your ideal civil engineering job. If you didnt find what you were looking for, be sure to check out our complete library of resume examples. Start building your dream career today! Create your professional resume in just 5 minutes with our easy-to-use resume builder! I am a Civil Engineer with 5 years of professional experience. I have expertise in geotechnical engineering, structural engineering, and project management. I am also skilled in design and construction, as well as CAD programs and software. I have developed successful projects for both private and public entities, and have a strong record of managing projects from start to finish. I am an organized and detail- oriented engineer, and I am eager to continue to use my skills in project management and design to complete successful projects. Core Skills: Geotechnical Engineering Structural Engineering Project Management Design and Construction CAD Software and Programs Organization and Attention to Detail Professional Experience: Project Manager, ABC Company, 2018- Present Responsible for planning and overseeing projects from start to finish Developed successful projects for both private and public entities Managed engineering and design teams to complete projects on time and on budget Provided guidance and direction to team members