

ARCHITECTURE ENGINEERING EXAM PREPARATION (AEEP1-CE)

AEEP1-CE 9271 Fundamentals of Engineering-FE (Part A) Exam Review (0 Credits)

Prepare for the morning and afternoon sessions of the Fundamentals of Engineering license examination with a 42-hour concentrated review of engineering fundamentals. Topics include statics, dynamics, mechanics of materials, fluid mechanics, thermodynamics, mathematics, electrical theory, computer science, and engineering economics. Sample problems are reviewed in class.

Grading: SPS Non-Credit Graded

Repeatable for additional credit: Yes

AEEP1-CE 9272 Principles and Practice (Part B) Civil Engineering Exam Review (0 Credits)

This review course focuses on civil/sanitary/structural engineering to prepare engineers for the Principles and Practice (PE) examination. It covers topics in structural analysis, steel design, reinforced concrete design, fluid statics and dynamics, fluid flow and fluid mechanics, hydraulics and hydrology, soils, foundation traffic analysis, transportation and highway design, and surveying.

Grading: SPS Non-Credit Graded

Repeatable for additional credit: Yes

AEEP1-CE 9291 Programming, Planning, and Practice for the A.R.E. (1 Credit)

This course presents a theoretical and practical review of programming, planning, and practice for the A.R.E. Topics include form prototypes; programming and space needs; building prototypes; new urbanism; environmental factors; land analysis, including surveys, site analysis, and site design; land and building regulation, including property descriptions, deeds, restrictions, air and subsurface rights, eminent domain, and development transfer rights; zoning and building codes; project and practice management, including scheduling, budget analysis, cost estimating, and delivery methods; and the architectural design team.

Grading: SPS Non-Credit Graded

Repeatable for additional credit: Yes

AEEP1-CE 9292 Structural Systems for the A.R.E. (1 Credit)

Review structural systems and lateral forces for the Structural Systems division of the A.R.E. Topics include basic principles of statics and strength of materials; structural systems and components, including wood, steel, and reinforced concrete structures; analysis and selection of appropriate structures; effects of lateral forces on design; loads; code requirements; and footings, beams, girders, trusses, slabs, and columns. The course also includes an overview of reference source materials.

Grading: SPS Non-Credit Graded

Repeatable for additional credit: Yes

AEEP1-CE 9294 Mechanical Building Systems for the A.R.E. (1 Credit)

Review the mechanical systems used to control the building environment. Topics include sustainable design; basic thermal processes, including heat transfer and heating and cooling load calculations; comfort, climate, and solar design; mechanical equipment and energy codes; water supply and drainage systems; fire safety; acoustics; and vertical transportation.

Grading: SPS Non-Credit Graded

Repeatable for additional credit: Yes

AEEP1-CE 9295 Electrical Building Systems for the A.R.E. (1 Credit)

Review the electrical systems used to control the building environment. Topics include basic physics, transmission and usage, electrical equipment, calculations, electrical code, safety considerations, services, building automation, lighting systems, artificial lighting calculations, recommended illumination, daylight calculations, and emergency and exit lighting.

Grading: SPS Non-Credit Graded

Repeatable for additional credit: Yes

AEEP1-CE 9296 Building Design and Construction Systems for the A.R.E. (1 Credit)

Get a comprehensive review of the safety, economy, durability, practicality, and architectural expression of modern building materials and methods. Topics include concrete; masonry; wood; metals; thermal and moisture protection; doors, windows, and glass; finish work; building codes (including ICC/ANSI); and sustainable design.

Grading: SPS Non-Credit Graded

Repeatable for additional credit: Yes

AEEP1-CE 9298 Schematic Design for the A.R.E. (1 Credit)

Learn a practical approach to the Schematic Design division of the A.R.E. The course demonstrates how to integrate programmatic and contextual requirements into a cohesive solution. Topics include building schematic designs, interior space design, furniture arrangement, and site and environmental requirements.

Grading: SPS Non-Credit Graded

Repeatable for additional credit: Yes

AEEP1-CE 9299 Site Planning and Design for the A.R.E. (1 Credit)

Examine the integration of programmatic and site requirements in site development. Topics include pedestrian movement and circulation; public transit; provisions for the handicapped; services and utilities; site assessment, including zoning, climate, topography, water and soil drainage, exploration, and testing; site work, including site preparation, earthwork, and foundations; site improvements including landscaping; and sustainable design principles and standards.

Grading: SPS Non-Credit Graded

Repeatable for additional credit: Yes

AEEP1-CE 9300 Structural Systems for the A.R.E. (0 Credits)

This online course reviews structural systems and lateral forces for the Structural Systems division of the A.R.E. Topics include basic principles of statics and strength of materials; structural systems and components, including wood, steel, and reinforced concrete structures; analysis and selection of appropriate structures; effects of lateral forces on design; loads; code requirements; and footings, beams, girders, trusses, slabs, and columns. The course also includes an overview of reference source materials.

Grading: SPS Non-Credit Graded

Repeatable for additional credit: Yes

AEEP1-CE 9310 Schematic Design for the A.R.E. (0 Credits)

Learn a practical approach to the schematic design division of the A.R.E. Integrate programmatic and contextual requirements into a cohesive solution. Topics include building schematic designs, interior space design, furniture arrangement, and site and environmental requirements.

Grading: SPS Non-Credit Graded

Repeatable for additional credit: Yes

AEEP1-CE 9320 Programming, Planning, and Practice for the A.R.E. (0 Credits)

This course presents a theoretical and practical review of programming, planning, and practice for the A.R.E. Topics include form prototypes; programming and space needs; building prototypes; new urbanism; environmental factors; land analysis, including surveys, site analysis, and site design; land and building regulation, including property descriptions, deeds, restrictions, air and subsurface rights, eminent domain, and development transfer rights; zoning and building codes; project and practice management, including scheduling, budget analysis, cost estimating, and delivery methods; and the architectural design team.

Grading: SPS Non-Credit Graded

Repeatable for additional credit: Yes

AEEP1-CE 9330 Site Planning and Design for the A.R.E. (0 Credits)

Examine the integration of programmatic and site requirements in site development. Topics include pedestrian movement and circulation; public transit; provisions for the handicapped; services and utilities; and site assessment, including zoning, climate, topography, water and soil drainage, exploration, and testing. Also, discuss site work, including site preparation, earthwork, and foundations; site improvements, including landscaping; and sustainable design principles and standards.

Grading: SPS Non-Credit Graded

Repeatable for additional credit: Yes

AEEP1-CE 9340 Mechanical Building Systems for the A.R.E. (0 Credits)

Review the mechanical systems used to control the building environment. Topics include sustainable design; basic thermal processes, including heat transfer and heating and cooling load calculations; comfort, climate, and solar design; mechanical equipment and energy codes; water supply and drainage systems; fire safety; acoustics; and vertical transportation.

Grading: SPS Non-Credit Graded

Repeatable for additional credit: Yes

AEEP1-CE 9350 Electrical Building Systems for the A.R.E. (0 Credits)

Review the electrical systems used to control the building environment. Topics include principles of electricity; electric circuits; electric services and service equipment; wiring devices; emergency and standby equipment and systems; electric wiring systems; conductors; fundamental lighting and lighting design concepts; light sources; color rendering; lighting system types; daylighting; and special lighting topics.

Grading: SPS Non-Credit Graded

Repeatable for additional credit: Yes

AEEP1-CE 9360 Building Design and Construction Systems for the A.R.E. (0 Credits)

Get a comprehensive review of the safety, economy, durability, practicality, and architectural expression of modern building materials and methods. Topics include concrete; masonry; wood; metals; thermal and moisture protection; doors, windows, and glass; finish work; building codes (including ICC/ANSI); and sustainable design.

Grading: SPS Non-Credit Graded

Repeatable for additional credit: Yes