



JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY (JKUAT)

UNDERGRADUATE PROGRAMMES

COLLEGE OF ENGINEERING AND TECHNOLOGY (COETEC)

DEPARTMENT OF CIVIL, CONSTRUCTION AND ENVIRONMENTAL ENGINEERING

B.Sc. CIVIL, CONSTRUCTION & ENVIRONMENTAL ENGINEERING

ENTRANCE REQUIREMENTS

1. The University and College of Engineering common regulations shall apply
2. The following shall be eligible for consideration for admission into the degree programme:
 - I. Kenya certificate of secondary education (KCSE) applicants should satisfy all the requirements below.
 - i) A candidate must have a mean aggregate of at least B- (MINUS)
 - ii) The mean grade for the total score in the four cluster subjects must be at least B (plain)

In the individual cluster subjects, a candidate must have at least the scores given below

Alternative A.

Mathematics C+

Physics C+

Chemistry C+

Geography or Biology, or C+

Any Group IV Subjects.

Alternative B.

Mathematic C+

Physical Science B

Biological Sciences C+

Geography or any C+

Any Group IV Subjects

- II. Kenya Advanced certificate of Education (KACE) or the A- level equivalent should satisfy all the requirements below:

- (i) At least two principal passes in Mathematics and Physics and
- (ii) Atleast a total score of nine (9) points at the KACE or equivalent;
- (iii) Atleast accredit pass in Chemistry at the KCE or its equivalent.

III. Diploma applicants:

A candidate must be a holder of JKUAT diploma in Engineering with atleast a credit pass in the relevant discipline.

IV. A holder of other qualifications recognized by the Senate as equivalent to I, II and III above.

* Entry point for diploma holders with a credit pass is at 2nd year while that for higher diploma is at 3rd year.

COURSE UNITS

FIRST YEAR:

Semester I

HRD	2101	Communication Skills
SMA	2170	Algebra
SMA	2171	Geometry
SMA	2172	Calculus I
SPH	2170	Physics I
SCH	2109	Chemistry I
SMA	2174	Introduction to Comp. Programming
EME	2101	Engineering Drawing I

Semester II

HRD	2102	Development Studies
SPH	2107	Physics II
SCH	2108	Chemistry II
SMA	2173	Calculus II
SMA	2275	Computer Programming II
SMA	2273	Applied Mathematics I
ECE	2114	Engineering Drawing II
EME	2106	Workshop Practice
SZL	2111	HIV/AIDS

SECOND YEAR:

Semester I

HRD	2103	General Economics
SMA	2270	Calculus III
ECE	2202	Surveying I
ECE	2203	Fluid Mechanics I
ECE	2204	Strength of Materials I
ECE	2205	Theory of Structures I
ECE	2206	Civil Engineering Materials I
ECE	2216	Engineering Drawing IV

Semester II

SMA	2271	Ordinary Differential Equations
SMA	2272	Statistics
ECE	2211	Surveying II
ECE	2212	Fluid Mechanics II
ECE	2213	Civil Engineering Materials II
ECE	2214	Strength of Materials II
ECE	2215	Theory of Structures II
ECE	2207	Engineering Drawing III

Semester III

ECE 2217 ++ Practical Attach. I (8 weeks)

THIRD YEAR:

Semester I

SMA	2370	Calculus IV
ECE	2302	Engineering Geology
ECE	2303	Soil Mechanics I
ECE	2304	Hydraulics I
ECE	2305	Public Health Engineering I
ECE	2306	Surveying III
ECE	2307	Theory of Structures III
ECE	2308	Transportation Planning & Dev.

Semester II

HRD	2315	Economics for Civil Engineers
SMA	2371	Partial Differential Equations
ECE	2311	Soil Mechanics II
ECE	2312	Hydraulics II
ECE	2313	Public Health Eng. II
ECE	2314	Surveying IV
ECE	2317	Theory of Structures IV
ECE	2318	Transportation Engineering I

Semester III

ECE 2319 ++ Practical Attach. II (8 weeks)

FOURTH YEAR Semester I

SMA	2471	Numerical Methods
ECE	2402	Hydrology I
ECE	2403	Traffic Engineering I
ECE	2404	Highway Engineering I
ECE	2405	Irrigation Engineering I
ECE	2406	Foundation Engineering I
ECE	2407*	Structural Design I
ECE	2408	Theory of Structures V

Semester II

HRD	2114	Research Methodology
ECE	2410	Hydrology II
ECE	2411	Traffic Engineering II
ECE	2412	Highway Engineering II
ECE	2413	Irrigation Engineering II
ECE	2414	Foundation Engineering II
ECE	2415*	Structural Design II
ECE	2416	Theory of Structures VI

Semester III

ECE 2417++	Practical Attach. III (8 weeks)
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FIFTH YEAR: Semester I - Core:

ECE	2501	Engineering Management I
ECE	2502*	Structural Design III
ECE	2503	Water Resources Engineering I
ECE	2504	Public Health Engineering III
ECE	2505**	Project (1 unit)
ECE	2507	Logistics & Sys. Analysis in Transp.

OPTIONS*** (A candidate to select any *two* units)

ECE	2516	Photogrammetry
ECE	2517	Geographical Information System
ECE	2518	Remote Sensing
ECE	2519	Environmental Engineering

Semester II - Core:

ECE	2508	Geotechnical Engineering
ECE	2509	Engineering Management II
ECE	2510	Harbour Engineering
ECE	2511	Civil Engineering Practice
ECE	2505**	Project (2 units)

Electives + (A Candidate to select only *Two Units* from any of the following groups)

Water Resources Engineering:

ECE 2512	Public Health Engineering IV
ECE 2513	Water Resources Engineering

Structural Engineering

ECE	2514	Theory of Structures VII
ECE	2515*	Structural Design IV

Transportation & Highway Eng.

ECE	2520	Traffic Engineering III
ECE	2521	Transportation, Land Use, Urban & Regional Planning

Notes

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Chairman of Department