

INFORMATION FOR VIRTUAL OPEN DAY

DEPARTMENT OF ENVIRONMENTAL AND BIOSYSTEMS ENGINEERING

1. AN OVERVIEW OF THE COURSES OFFERED

The following courses are offered in the Department of Environmental and Biosystems Engineering:

1. B.Sc. Biosystems Engineering (F21)
2. M.Sc. Environmental and Biosystems Engineering (F56)
3. Ph.D. Environmental and Biosystems Engineering (F80)

2. STRUCTURE OF THE COURSE

At B.Sc, M.Sc. and Ph.D. levels the following thematic areas are offered:

- Irrigation and Water Resources Engineering
- Power and Machinery Engineering
- Food, Process and Structures Engineering
- Environmental Engineering

3. ADMISSION REQUIREMENTS

The minimum entrance requirements as spelled out in Statute XXII of the University of Nairobi statutes shall apply.

In addition to the minimum university requirements the candidates must have any of the following:

- a. Kenya Certificate of Secondary Education (KCSE) with a minimum aggregate of C+. Also, the candidates shall have obtained at least a C+ in the following subjects: Mathematics, Physics, Chemistry, Biology/any group III/ any Group IV/ any Group V.
- b. A level candidate with 2 principal passes in Mathematics and Physics and subsidiary levels pass in Chemistry with a credit pass in English at O level.
- c. Higher National Diploma (HND) or equivalent in Environmental and Biosystems Engineering or any approved subject area.
- d. Ordinary Diploma in Environmental and Biosystems Engineering or any approved subject area.
- e. Diploma from Science/Technical Teacher Training.
- f. Bachelor of Science /Bachelor of Education (Science) degree from recognized institutions or any other relevant degree from a recognized institution.

Applicants from non-English speaking countries should produce a certificate of proficiency in English (the equivalent of at least a Credit Pass at "O" Level).

Credit Transfer, Exemptions and Makeup

A candidate may be exempted from some course units and credit transferred from approved institutions subject to the following conditions:

- b. Request for exemption should be made in writing on admission to the Academic Registrar and must be accompanied by officially endorsed supporting documents including the institutions' syllabuses for the relevant courses and the candidate's official transcript.
- c. No candidate shall be exempted from more than one-third of the total number of units required for the course.

- d. Where there is doubt as to the equivalence of courses, a candidate may be required to sit and pass the applicable University of Nairobi examination in relevant course units.
- e. Payment of appropriate exemption fees and examination fees where applicable.

4. CAREER OPTIONS

Sectors in which Environmental and Biosystems Engineers find work

- Food Security
- Water for crops, livestock and communities
- Manufacturing
- Renewable Energy
- Environment

5. FEES AND FUNDING

MODULE II

- a. Tuition fees shall be KShs. 80,000.00 per semester.
- b. A refundable Caution Money fee of KShs. 5,000.00 shall be payable once upon registration as a student.
- c. Administrative fees (KShs.) per academic year shall be as follows:

Registration	1,000.00
Student Identity Card	500.00
Activity fee	2,000.00
Examination fee	5,000.00
Students Organization	1,000.00
Medical fee	5,000.00
Computer fee	5,000.00
Laboratory fee	2,000.00

The fees breakdown is as follows:

Year 1	Semester I	Semester II	Total
Registration	1,000	-	1,000
Tuition Fees @80,000 per semester	80,000	80,000	160,000
Examinations	5,000	-	5,000
ID Card	500	-	500
Student organisation	1,000	-	1,000
Medical Fee	5,000	-	5,000
Activity Fee	2,000	-	2,000
Laboratory Fee	2,000	-	2,000
Computer Fee	5,000	-	5,000
Caution	5,000	-	5,000
Total (KES)	106,500	80,000	186,500

Year 2	Semester I	Semester II	Total
Registration	1,000	-	1,000
Tuition Fees	80,000	80,000	160,000

Examinations	5,000	-	5,000
ID Card	500	-	500
Student organisation	1,000	-	1,000
Medical Fee	5,000	-	5,000
Activity Fee	2,000	-	2,000
Laboratory Fee	2,000	-	2,000
Computer Fee	5,000	-	5,000
Total (KES)	101,500	80,000	181,500

Year3	Semester I	Semester II	Total
Registration	1,000	-	1,000
Tuition Fees	80,000	80,000	160,000
Examinations	5,000	-	5,000
ID Card	500	-	500
Student organisation	1,000	-	1,000
Medical Fee	5,000	-	5,000
Activity Fee	2,000	-	2,000
Laboratory Fee	2,000	-	2,000
Computer Fee	5,000	-	5,000
Total (KES)	101,500	80,000	181,500

Year 4	Semester I	Semester II	Total
Registration	1,000	-	1,000
Tuition Fees	80,000	80,000	160,000
Examinations	5,000	-	5,000
ID Card	500	-	500
Student organisation	1,000	-	1,000
Medical Fee	5,000	-	5,000
Activity Fee	2,000	-	2,000
Laboratory Fee	2,000	-	2,000
Computer Fee	5,000	-	5,000
Total (KES)	101,500	80,000	181,500

Year 5	Semester I	Semester II	Total
Registration	1,000	-	1,000
Tuition Fees	80,000	80,000	160,000
Examinations	5,000	-	5,000
ID Card	500	-	500
Student organisation	1,000	-	1,000
Medical Fee	5,000	-	5,000
Activity Fee	2,000	-	2,000
Laboratory Fee	2,000	-	2,000
Computer Fee	5,000	-	5,000
Total (KES)	101,500	80,000	181,500

Summary of Fees:

Tuition fees	KES 800,000/-
Administration fees	KES 112,500/-

Total (over five years)

KES 912,500/-

6. EXAMINATION REGULATIONS

Written Examinations

The current approved examinations regulations of the school of engineering and any subsequent changes by the Senate shall apply. The current regulations are as follows;

- i. Courses shall be evaluated in terms of course units. A course unit with laboratory/workshop exercises shall be defined as made up of four (4) contact hours consisting of lecture/ tutorial/ practical per week for 15 weeks, totaling 60 hours. A course unit without laboratory/workshop exercises shall be defined as made up of three (3) hours lecture/tutorial per week for 15 weeks, totaling 45 hours.
- ii. Courses that are spread over two semesters shall be examined at the end of the second semester.
- iii. All courses taken in a given semester shall be examined by written ordinary examinations at the end of that semester unless otherwise specified.
- iv. A written Ordinary Examination for a course unit, where it applies, shall have a minimum duration of two hours. A course with more than or less than 45 contact hours shall generally be examined for a duration proportional of the 2 hours for the one-course unit, such as:

45 contact hours	-	2.0-hours examination
60 contact hours	-	2.5-hours examination
90 contact hours	-	3.0-hours examination

b. The pass mark in each course shall be 40% of the maximum mark possible in the course.

c.

- i. Each course unit shall be graded independently out of a maximum of 100 marks (for 45 and 60 contact hour courses).
- ii. The complete assessment of a course unit shall consist of continuous assessment tests, course/ laboratory/ field assignments and end of semester written examinations, with the three components ordinarily carrying 10, 20 and 70 marks out of 100 respectively.
- iii. Where a course unit does not have any laboratory/ field assignments, or coursework, the continuous assessment test and end of semester written examinations shall carry 30 and 70 marks out of 100 respectively.
- iv. Where a course unit is examined entirely by coursework, or laboratory/ field assignments, such course unit shall carry all 100 marks.
- v. Where distribution of the marks for a course does not conform to (ii), (iii) or (iv) above, the distribution of the marks for the course unit as approved by the Senate shall be followed.
- vi. Where a course consists of more than or less than one course unit, the assessment in (i), (ii), (iii) and (iv) above will be graded on probate basis concerning the one-course unit.

- vii. The final year project shall be considered as two-course units.
- d. To be allowed to proceed to the next year of study a candidate shall have obtained an aggregate mark of not less than 40% and passed all examination units.
- e.
 - i. A candidate who fails up to four units in a year of study shall be allowed to sit for supplementary examinations within three months.
 - ii. A candidate who fails the project in the final year of study shall be allowed to resubmit the revised project within three months. A candidate who fails the resubmitted project shall be allowed to repeat the year of study.
- f. A candidate who:
 - i. Obtains an aggregate mark of not less than 40% and has failed in more than an equivalent of four-course units but in not more than an equivalent of 8, or
 - ii. Obtains an aggregate mark between 30% and 39% inclusive and has failed in not more than an equivalent of 8-course units,

Shallon the recommendation of the School Board of Examiners and approval by the Senate, be required to repeat the year of study and attend classes in the failed units and take the examination in the failed course units at the next Ordinary University Examinations.

- g. A candidate who:
 - i. Obtains an aggregate mark of less than 30% or
 - ii. Has failed in more than an equivalent of eight (8) course units, or
 - iii. Has failed the same course unit four times or
 - iv. Has failed to take prescribed examinations without good cause,

Shallon's recommendation of the School Board of Examiners and approval by the Senate, be discontinued from the course of study.

- h. A candidate who fails to satisfy the examiners in the supplementary examinations shall, on recommendation of Board of examiners and approval by the Senate, be allowed to repeat the year and sit the examinations in the failed course units at the next Ordinary University Examinations, subject to the provision of regulation (j) (iii) above.

- i. A candidate who fails to take prescribed examinations with good cause may be allowed by Senate on the recommendation of the School Board of Examiners to take Special Examinations at the next Ordinary University Examinations/ Supplementary Examinations.
- ii. Examinations taken under this clause shall be treated following clause (f) and shall be graded in full.
- iii. A pass obtained in the supplementary examination for a course following clause (h) shall be adopted as 40% and will be entered as 40% which will then be the mark entered in the candidate's academic record.
- iv. The mark adopted according to this clause shall be used to calculate a new aggregate mark for the candidate.

Project Assessment

Assessment for the whole course unit (FEB 540) is 100% by coursework and oral presentations. The distribution of the marks shall be based assessment formats

provided by the Department as shown below along the following anticipated deliverables:

- Concept Notes 5%
- Concept Paper 5%
- Full Project Proposal 10%
- Oral Seminar Presentation 20%
- Oral Examination Seminar 20%
- Final Design Project Report 20%
- Logbook Assessment 10%

The **Final Design Project Report** shall be assessed by the project supervisor and at least two **Independent Internal Examiners** knowledgeable in the field in which the project falls. And the Final Score shall be taken as the **Mean** of the marks awarded by the **three(3) examiners**. In case the individual marks awarded by the three Examiners differ by more than 20 %, then the External Examiner will moderate.

Before any examination paper is taken, it shall be moderated by an internal moderator nominated by the Departmental Board of Examiners from amongst the senior academic staff. The moderated paper shall be sent for external moderation by the external examiner. Likewise, the marked scripts shall be moderated by the same set of internal moderators and external examiner. Further moderation of the marks shall be undertaken by the Departmental Board of Examiners, the School Board of examiners (School of Engineering) and the College Academic Board (College of Architecture and Engineering) before sending it to the University Senate for approval.

Moderation of Examinations

There will be two levels of moderation of examinations

- a. Intertal moderation: After Lecturers set the examinations, the Chairman of Department will identify suitable Lecturers within the department to internally moderate all the examinations before they are sent for external moderation.
- b. External moderation: The examinations will be sent to an external examiner appointed according the the rules of the university. The external examiner will review the examination papers before they are sat. Once the examinations have been marked, the External examiner will review the performance in the examinations and provide a report.