

Flexibility

KL University offers several flexibility for students at both Undergraduate (B.Tech) and post graduate (M.Tech, MBA and MCA) level. This includes acceleration & deceleration of degree programme, minor degree, degree with specialization, withdrawal and substitution etc. These flexibilities are unique in nature.

Acceleration & Deceleration of degree

1. University offers flexibility for B.Tech degree students in doing the courses. In addition to the prescribed courses a student can register for more electives, summer term courses, evening courses provided his/her timetable & university facility permits. Any extra courses done by acceleration would be reflected in the transcript but not in the CGPA. Similarly a student can withdraw from the courses for which he/she has registered or can register for less number of courses to improve his CGPA.
2. Number of additional courses for which student can register depends on CGPA and is subjected to the approval of Director - Academic Registration.
3. Whenever a student seeks registration for additional courses he should seek the permission of Director - Academic Registration.
4. Synonym to acceleration of degree programme, the university permits a student to **decelerate** his degree programme as well. Any student owing to his personal problems or any other valid reasons is permitted to withdraw from the courses for which he has registered with the prior approval of Director - Academic Registration. Students who have decelerated their degree programme can register for summer term courses and evening courses if university facilities permit and are eligible. Once if they attain normal pace either registration through summer programme or through acceleration at subsequent stages, the DDP tag will be removed.

However, when the student is permitted to decelerate his degree programme on his request or has been asked to do so by the Director - Academic Registration, he / she has to finish his / her degree programme within maximum period of eight years for first degree programmes and four years for higher degree programmes. Permission or directions from Director - Academic Registration for deceleration of degree programme does not imply that the maximum period is extended.

Change of Branch

A student admitted to a particular Branch of the B.Tech course will normally continue studying in that Branch till the completion of the programme. However, in special cases the University may permit a student to change from one branch to another after the second semester.

1. Only those who have cleared all the first and second semester subjects of first year are eligible to apply for change the branch.
2. Change of branch shall be made strictly on the basis of merit of the applicants and availability of seats subjected to the following conditions:
 - a. Top 1% students of the admitted students will be permitted to change their branch without any constraints.

- b. For others, change will be permitted strictly on merit basis. Students without fail grades, backlogs and with CGPA ≥ 8 will be eligible to apply.
 - i. Strength of department B does not exceed 5% of intake strength.
 - ii. Number of students on rolls in the department A does not fall below 85% of the intake strength.
 - c. The request for change (in the order of merit) for student S1 from department A to department B will be considered if:
 - d. The request of student S1 will be re-considered (again in the order of merit) if student S1 does not violate (b) above due to another student getting transferred to department A.
 - e. In case of a tie the Grade and/or marks scored by the student in the course of the Department for which he is seeking transfer will be considered.
3. Bio Technology students are not eligible for transfer to other Engineering Programmes. However, other Engineering programme students from Biology background in Pre University course are eligible for transfer to Bio Technology.
4. All changes of Branch made will be made effective from second year first semester. Change of branch shall not be permitted thereafter.
5. Change of branch once made will be final and binding on the student. No student will be permitted, under any circumstances, to refuse the change of branch offered.
6. Change of branch is not be applicable for post graduate programmes.

Credit Transfer

1. Credit transfer from KL University to other University or vice versa is permitted only for under graduate programmes.
2. Credit transfer from KL University to other University: Student studying in KL University can take transfer to another University under the following conditions:
 - i. A student has to pay the fees for all the remaining years when he/she seeks transfer.
 - ii. However, a student, after seeking transfer from KL University can return to KL University after a semester or year. Based on courses done in the other university, equivalent credits shall be awarded to such students.
3. Credit transfer from another University to KL University: A student studying in another University can take transfer to KL University under the following conditions:
 - i. When a student seeks transfer, equivalent credits will be assigned to the student based on the courses studied by the student.
 - ii. The student, when transferred from other universities, has to stick to the rules and regulations of KL University.
 - iii. To graduate from KL University, a student must study at least two years.

Degree with Specialization

A student will be awarded Degree with Specialization if he completes 4 courses from a particular stream within the discipline. A student is permitted to register for 8 elective courses. A student by careful selection of electives within a particular stream can get a degree with specialization. That is, a student can get Degree with Specialization during regular B.Tech programme, without overloading himself.

B.Tech Degree with Specialization

- The University permits a student to graduate a degree with specialization in the stream of his choice.
- Academic regulations of the University provide flexibility for a student to register for 10 elective courses of his choice. A student will be awarded Degree with Specialization if he / she completes 4 courses from a particular stream within the discipline.
- In situations where a student completes courses of two different specialization streams, he/she will be awarded degree with specialization in any one stream of his choice.
- However, it is not mandatory for a student to obtain degree with specialization. Student can opt to register for elective courses from different streams or across the disciplines and complete the degree.

Electronics and communication Engineering

- **VLSI**
 - Digital Design Through HDL
 - VLSI design
 - CPLD & FPGA Architecture
 - Analog VLSI Design
 - VLSI Sub System design
 - Design for Testability
 - Low Power VLSI design
 - VLSI signal processing
 - ASIC design
 - VLSI technology
- **Signal processing**
 - Neural Networks and Fuzzy Logic
 - Modern Digital signal processing
 - Digital Image Processing
 - Speech Processing
 - Real Time DSP
 - Array signal Processing
 - Transform techniques
 - Biomedical Signal Processing
 - Multi-rate Signal Processing
 - Optical Signal Processing

- **Communication systems**
 - Information Theory & Coding
 - RF system design
 - Multimedia Communication
 - Spectrum Analysis
 - Radar And Navigational Aids
 - Mobile and cellular communication
 - Estimation And Detection Theory
 - Satellite Communication
 - Medical Electronics
 - EMI/EMC
- **Networking**
 - Computer networks
 - TCP/IP internet working
 - High speed networks
 - Network security & cryptography
 - Telecommunication and switching networks
 - Ad hoc networks
 - Wireless sensor networks
 - Network management
 - Broad band access technologies
 - Fiber optic networking

Elective Course

The University offers a pool of electives in all disciplines. The Student is permitted to choose the elective courses of his choice within his own discipline and across the discipline. There is flexibility for undergraduate student to register for higher degree courses subjected to restrictive conditions.

The university offers different types of electives:

- i. **Specialization elective:** An elective course offered by the Department for the fulfillment of degree with specialization is known as specialization elective.
- ii. **Discipline elective:** An elective course offered by the Department which does not fit into any of the specialization streams is known as Discipline electives.
- iii. **University elective:** A course which is of interdisciplinary nature having no prerequisites is known as University elective. A B.Tech degree student can register for these courses either at 3rd year or 4th year.
- iv. **Management elective:** An elective course offered to encourage managerial skills and to inculcate entrepreneurship skills for an undergraduate student is known as management elective. Management elective courses are offered at institutional level and are different from electives of management group.
- v. **Interdisciplinary elective:** All courses outside the parent department of the student are referred to as interdisciplinary elective course.

SPECIALIZATION STREAM

To get degree with specialization student has to complete any 4 courses from particular stream.

ELECTRONICS & COMMUNICATIONS ENGG

Communications

S. No	Course Code	Course Title	Periods			Contact Hours	Credits
			L	T	P		
1	A	Optical communication	3	1		4	3
2	B	Information Theory and Coding	3	1		4	3
3.	C	Telecommunication & Switching Networks	3	1	-	4	3
4.	D	Satellite Communication	3	1	-	4	3
5.	E	Mobile and cellular communication	3	1	-	4	3

VLSI

S. No	Course Code	Course Title	Periods			Contact Hours	Credits
			L	T	P		
1.	A	Digital Electronics Through HDL	3	1	-	4	3
2	B	VLSI design	3	1	-	4	3
3.	C	Low power VLSI	3	1	-	4	3
4.	D	Basic Analog VLSI Design	3	1	-	4	3
5.	E	VLSI Sub System	3	1	-	4	3

Signal Processing

S. No	Course Code	Course Title	Periods			Contact Hours	Credits
			L	T	P		
1.	A	Real Time DSP	3	1	-	4	3
2.	B	Modern Digital signal processing	3	1	-	4	3
3.	C	Digital Image Processing	3	1	-	4	3
4	D	RF System Design	3	1	-	4	3
5	E	Digital Signal Processing	3	1	-	4	3

Networking

S. No	Course Code	Course Title	Periods			Contact Hours	Credits
			L	T	P		
1.	A	Computer Networks	3	1	-	4	3
2.	B	Neural Networks & Fuzzy Logic	3	1	-	4	3
3.	C	High Performance Communication Networks	3	1	-	4	3
4.	D	Network Security & Cryptography	3	1	-	4	3
5	E	Telecommunication and switching Networks	3	1	-	4	3

Software Engineering

S. No	Course Title	Periods			Contact Hours	Credits
		L	T	P		
1	Requirement Engineering	3	0	2	5	4
2	Software testing	3	0	2	5	4
3	Design Patterns	3	0	2	5	4
4	Software Project Management	3	1	0	4	4
5	Software Reliability	4	0	0	4	4

Intelligent Computing Stream

S. No	Course Title	Periods			Contact Hours	Credits
		L	T	P		
1	Artificial Intelligence	3	0	2	5	4
2	Neural Networks and Fuzzy Logic	3	0	2	5	4
3	Computational Intelligence	3	0	2	5	4
4	Knowledge Based Systems	3	1	0	4	4
5	Machine Learning					

Discipline Open Electives

Discipline open electives are the courses offered by the discipline for the students of their own discipline. The courses which cannot fit into any of the specialization streams are offered as discipline open electives.

ELECTRONICS & COMMUNICATION ENGG

S.No	Course Title	Periods			Contact Hours	Credits
		L	T	P		
1	Neural networks and fuzzy logic	3	1	0	4	4
2	Telecommunication and Switching Networks	3	1	0	4	4
3	Low power VLSI	3	1	0	4	4
4	Satellite Communication	3	1	0	4	4

University Electives

University Electives are the courses offered by the Departments for all the students in the university. These courses are of interdisciplinary in nature and will not have any prerequisites.

ELECTRONICS & COMMUNICATIONS ENGG

S. No	Course Title	Periods			Contact Hours	Credits
		L	T	P		
1	Digital Logic Design	3	1	0	4	4
2	Elements of Optical Communications	3	1	0	4	4
3	Electronic Devices and Circuits	3	1	0	4	4
4	Principles of Communication	3	1	0	4	4
5	Electronic measurements and Instrumentation	3	1	0	4	4

Management Electives

1. Business Communication
2. Business Ethics
3. Organization Behavior
4. Marketing Management
5. Materials Management
6. Financial Management
7. Enterprise Resource Planning
8. E-Commerce
9. Human Resource Management
10. Six Sigma
11. Entrepreneurship Development
12. Bio-Safety
13. Professional Ethics

The Student is permitted to choose 8 elective courses in undergraduate programme. Out of these 8 courses student can choose 3 courses across the discipline. On case by case basis, it can be relaxed to 5 courses by Dean Academics.

In M.Tech degree programme a student can chose 4 elective courses. In MBA programme student can choose 10 elective courses and in MCA programme 6 elective courses are permitted.

Integrated Programme

- a. Student opting for an integrated programme should give their choice in the 4th semester of their programme However; later entry is possible subjected to the availability of seats.
- b. Eligibility to apply for an integrated programme is 7.0 *CGPA*.
- c. Student can register for integrated programme by paying fee prescribed by the University.
- d. Students admitted to the integrated programme can opt to withdraw at any level. In such case additional courses completed by the student:
 - i. Can be used for Acceleration of the first degree programme or
 - ii. Student will graduate with additional credits
- e. If a student withdraws from integrated degree option, additional fee paid will not be reimbursed.
- f. The student must have earned 275 – 285 credits to graduate with integrated B.Tech & M.Tech programme, 265 – 280 credits to graduate with B.Tech plus MBA and 235 – 245 credits to graduate with M.Tech plus MCA.
- g. The students who register for integrated programme must undergo Practice School programme in either of their degrees.
- h. An undergraduate student opting integrated programme cannot opt for interdisciplinary minor and degree with specialization.

Major and Minor Degree

A student who completes all the B.Tech requirements of one discipline for which he is admitted (or took transfer of branch), is awarded with Major degree in that discipline. The University offers flexibility for a student to complete a smaller set of courses from another discipline specialization stream and awards him Interdisciplinary minor degree.

For obtaining Interdisciplinary minor degree across the discipline, the student must complete 5 courses from a particular stream. This flexibility permits a student to acquire Interdisciplinary minor degree in conjunction with regular B.Tech degree programme.

Minor Degree:

A student who completes all the B.Tech, requirements of one discipline for which he /she is admitted (or took transfer of branch), is awarded a Major degree in that discipline. The university offers flexibility for a student to complete a smaller set of courses from another discipline specialization stream and awards him/her interdisciplinary minor degree.

For obtaining interdisciplinary minor degree across the discipline, the student must complete 5 courses from a particular stream. This flexibility permits a student to acquire interdisciplinary minor degree in conjunction with a regular B.Tech Degree program.

Enrollment criterion:

The option is open to all students doing B.Tech degree. There is no specific registration to avail the flexibility. Basing on the selection of electives made by the student he will be awarded a minor degree in that specified area.

Procedure to achieve minor degree:

ž A student has to do 5 open electives from 3rd year onwards as a part of his regular curriculum.

ž If one chooses and do all the 5 open elective courses (1 in sixth, 2 in seventh and another 2 in eighth semester) from the other discipline as offered by the respective BOS he/she will be awarded an inter disciplinary minor degree in that area .

ž In situations where a student completes courses of two different interdisciplinary minor by over loading himself or by attending summer term programs ,he will be awarded with minor in any single stream of his choice.

Electronics and Communication Engineering

- **Electronics**
 - Electron devises
 - Digital electronics
 - Analog electronics
 - Pulse and digital circuits
 - Linear integrated circuits
 - Measurements and instrumentation

Study Abroad

Twinning Programs

2 + 2 Program

Students can pursue the first two years of study of a degree program at K L University and the last two years in patterning universities in USA, UK, Australia or Japan. KL University has signed MOUs with foreign universities for twinning programs.

3 + 1 Program

In this program, the Engineering students will pursue his 3 years of education in K L University and 1 year in University of Massachusetts, USA. The certificate will be issued by Massachusetts University at the end.

Semester Abroad

This unique feature allows a student to choose to study certain subjects under Credit Transfer System in partnering universities in USA, UK, Australia or Japan.

For example, a student can study a few subjects or an entire semester in partnering universities abroad and the credits completed will be counted and given proper weightage in the award of degree at KL University.

Repeating a course

A student can repeat a course for two reasons:

- i. Repeating a course to improve the grade and
- ii. Repeating a course when awarded with NA Report
 - a. Students repeating the course for improving the grades can do so only if they have obtained *C* or *D* grades. That is, students having *X* or *A* or *B* grades cannot repeat the course.
 - b. A Student having *C* or *D* grade can **repeat** a course at any time before the completion of his graduation provided the university facility permits. However, a student who secured *CGPA* less than 5 should obtain prior permission of Director Academic Registration before he/she repeats a course.
 - c. The grade obtained by the student while repeating the course will be final and in no case the grade obtained in previous attempt will not be considered.
 - d. Repeating a course implies that the student will reregister for the course. Keeping in mind that the student has already attended the course, he/she is exempted from attending the regular classes. Marks obtained by the student in attendance in his first attempt will be carried forward. However, the student must attend all the evaluation components. However, a student repeating a course after obtaining *NA* Report has to attend all the classes.
 - e. Student repeating a course must ensure that the dates of evaluation components do not clash with any of his courses in the regular semester. In such cases student is not permitted to repeat the course.
 - f. However, a student who has completed the formalities of graduation cannot repeat a course.
 - g. A Student cannot repeat courses like Practice School, Thesis, Summer internship or any other courses which are conducted as vocational courses.
 - h. For repeating a course, the student has to pay the pre-requisite fee as prescribed by the University.

Overloading

1. A student is permitted to overload himself in a semester subjected to restrictive conditions. A student can register for additional course in a semester provided his CGPA is ≥ 8 . However, the number of courses a student can overload is decided by Dean Academics and Director Registration taking into consideration the CGPA of the student.
2. Overloading in summer term is not permitted.

Withdrawl and Substitution of course

1. A Student is permitted to **withdraw** from elective course within one weeks after commencement of semester subjected to the approval of Director Academic Registration.
2. A Student cannot withdraw from compulsory courses of the discipline. However withdrawal from compulsory course is considered as deceleration from degree programme and a student can decelerate the degree programme only with prior approval of Director Academic Registration.
3. Within one week of the commencement of the semester, a student is permitted to substitute a course with another course (**substitution**) with prior approval of Director Academic Registration.