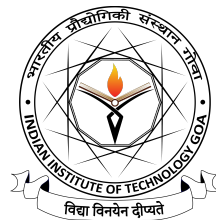# Minor Program

Rules and Regulations

Ver 2.0

Academic Office
Indian Institute of Technology Goa

Version History

Version Details	Approved Date
Ver 1.0	28 Jan 2021
Ver 2.0	10 Oct 2022

Table of Contents

1. Introduction

The minor program is intended to equip a student of a major program *A* with the fundamentals of another major program *B*. For example, a Computer Science student has the option to earn a minor in Mechanical Engineering. There will be at least four courses in the minor program. The schools will specify the curriculum and semester wise plan for offering the courses offered as part of their minor program. Currently, minor programs are offered in Computer Science and Engineering (CSE), Electrical Engineering (EE), Mathematics and Computing (MnC), and Mechanical Engineering (ME) disciplines.

2. Common Rules and Regulations

2.1. A student can opt for only one minor program along with their major program.

2.2. A student from major program X can register for minor program Y provided the minor program Y is open to the students of major program X. For instance, in cases where major programs X and Y have considerable overlap, the school offering minor in Y may choose not to extend it to students of major program X.

2.3. The entry point to any minor program is in the 5th semester.

2.4. A student should have a minimum CPI of 7.00 to be eligible for the minor program. In addition the student should not have more than 2 outstanding backlog courses at the time of entry into the minor program.

2.5. The School/Program offering the minor may apply additional criteria such as higher CPI cut-off, constraints on the outstanding backlog requirement, and performance in certain institute core courses, etc. for admission into the minor program.

2.6. To acquire the minor degree, students have to complete at least 12 credits prescribed by the School/Program offering the minor by the end of the 8th semester.

2.7. If the students acquire E/F/FX grade twice during the minor program, they will not be eligible to continue in the minor program. In case of only one E/F/FX grade, they have to clear it (OR replace it in case of elective courses of minor) by the end of 8th semester to acquire the minor degree.

2.8. The number of seats of a minor program shall be at least 20% of the sanctioned strength of the corresponding major program.

3. Minor Course Registration

3.1. Minor course registration will happen through AMS[1].

3.2. For the students who are registered for the minor program, the faculty advisor of the student will approve the minor course registration. Subsequently, the list of registrations will be verified by the Program Undergraduate Committee (PUGC) of the corresponding Minor program.

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[1] Academic Management System

4. Reporting of Grades

4.1. A separate grade report will be issued for minor programs. The transcript will display the list of all minor courses along with the grades awarded. No SPI/CPI will be awarded for the minor program.

4.2. Minor courses will not be counted towards SPI/CPI calculation of the major program, except in the following case.

According to the prevailing curriculum, a student is allowed to take at most two minor courses in the open elective slots of the major program. In that scenario, grades for a minor course taken in an open elective slot will be counted towards the SPI/CPI calculation for the major program.

5. Program-wise rules and regulations

5.1. Computer Science and Engineering

5.1.1. CSE minor is not open to MnC students.

5.1.2. The students must credit all the core courses and two electives.

5.1.3. Core courses

Course Code	Course Name	L-T-P-C	Semester (for CSE students)	Semester (for minor students)
CS220	Data Structures and Algorithms	3-0-2-4	III	V
CS222	Algorithm Design	3-0-3-4	IV	VI

5.1.4. Elective courses

Course Code	Course Name	L-T-P-C	Semester (for CSE students)	Semester (for minor students)
CS211	Computer Architecture. *Prerequisite: CS210 (Digital Systems Design) or equivalent; Only for EE students*	3-0-3-4	IV	VIII
CS212	Computer Networks	3-0-3-4	IV	VIII

CS331	Machine Learning Prerequisite: CS230 (Probability and Statistics for Computer Science) or EE221 (Probability and Random Processes)	3-0-3-4	VI	VIII
CS330	Artificial Intelligence	3-0-3-4	V	VII
CS300	Programming Language Paradigms	3-0-3-4	V	VII

5.1.5. CS230 (Probability and Statistics for Computer Science) is a prerequisite for CS331 Machine learning. It will be offered as an open elective to ME students in their 5th and 7th semester students.

5.2. Electrical Engineering

5.2.1. The students have to credit all the Core courses mentioned below and at least one course from the electives.

5.2.2. Mandatory courses

Course Code	Course Name	L-T-P-C	Semester (for EE students)	Semester (for minor students)
EE201	Signals and Systems	2-1-0-3	III	V
EE233	Analog Circuits and Lab	2-1-3-4	IV	VI
EE219	Electrical Machines Theory	2-1-0-3	IV	VIII

5.2.3. Elective courses

Course Code	Course Name	L-T-P-C	Semester (for EE students)	Semester (for minor students)
EE309	Control Systems	2-1-0-3	V	VII
EE329	Digital Signal Processing	2-1-0-3	V	VII

EE331	Embedded Systems and Lab	2-1-3-4	VI	VIII

5.3. Mathematics and Computing

5.3.1. The students have to successfully complete all the core courses mentioned below and at least two courses from the minor elective courses.

5.3.2. Mandatory courses

Course Code	Course Name	L-T-P-C	Semester (for MnC students)	Semester (for minor students)
MTH211	Real Analysis	3-1-0-4	III	V
MTH223	Algebra	3-1-0-4	IV	VI

5.3.3. Elective courses

Course Code	Course Name	L-T-P-C	Semester (for MnC students)	Semester (for minor students)
MTH222	Linear Algebra and Applications	3-1-0-4	III	V or VII
MTH316	Measure and Probability	3-0-0-3	V	VII
MTH212	Multivariate Calculus	3-1-0-4	IV	VI or VIII
MTH213	Numerical Analysis *Not for ME students*	3-1-0-4	IV	VIII
MTH317	Topology	3-0-0-3	VI	VIII
MTH332	Stochastic Processes *Prerequisite: MTH316 (Measure and Probability)*	3-0-0-3	VI	VIII

5.4. Mechanical Engineering

5.4.1. The students have to credit all the core courses mentioned below and at least one course from the electives.

5.4.2. Mandatory courses

Course Code	Course Name	L–T–P–C	Semester (for ME students)	Semester (for minor students)
ME201	Fluid Mechanics	2-1-2-4	III	V
ME210	Mechanics of Materials	3-1-0-4	III	V
ME220	Manufacturing Processes I	3-0-0-3	IV	VI

5.4.3. Elective courses

Course Code	Course Name	L–T–P–C	Semester (for ME students)	Semester (for minor students)
ME300	Applied Thermodyna--mics	2-1-3-4	V	VII
ME310	Kinematics and Dynamics of machines	2-1-2-4	V	VII
ME301	Heat Transfer	3-0-2-4	VI	VIII
ME322	Industrial engineering and Operations Research	3-0-0-3	VI	VIII

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