**Annexure-1**

Bachelor of Computer Applications - (2021-2022)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sem.** | **Semester Course Code, Course Name**  **(L-T-P) Credits** | | | | | | **Community Service** | **GP** | **Hrs.**  **Per week** | | | | **Credits** |
| **L** | | **T** | **P** |
| 1 | MAL153  Mathematics-I  (3-1-0)4 | CLL101  Effective  Communication-I  (2-1-0)2.5 | BCL103  Programming Fundamentals -I  (2-0-4)4 | Foreign Language Elective 1  (1-2-0)3 | ASL140  Environmental Studies  (3-0-0-)3 |  | BCS101  (35 Hrs) | BCR118  GP – 1  (1-0-0-) 1 Credit | 12 | | 4 | 4 | **17.5** |
| 2 | MAL206  Probability and Statistics  (3-1-0)4 | CLL102  Effective  Communication-II  (2-1-0)2.5 | CLL120  Human Values & Professional Ethics  (3-0-0-)3 | BCL104  Programming Fundamentals-II  (2-0-4)4 | BCL110  Problem Solving  and Design  Thinking  (2-0-2)3 | BSL102  Principles of Management (2-0-2)3 | BCS102  (35Hrs)  1 Credit | BCR119  GP- 2  (1-0-0-)  1 Credit | 16 | | 2 | 8 | **21.5** |
|  | Summer Training+ Community Service(70 hrs) | | | | | | |  |  | | | | 2 |
| 3 | BCL201  Data Structures  (3-0-2)4 | BCL203  DBMS  (3-0-2)4 | PCL102  Psychology for living  (2-0-4)4 | BCL205  Computer Architecture  (3-0-2)4 | Open  Elective – 1  (3-0-0)3 | Program Elective-1  (2-0-4-)4 | BCS201  (35 Hrs) | BCR218  GP – 3  (1-0-0)  1 Credit | 16 | 0 | | 14 | **23** |
| 4 | BCL202  Computer  Networks  (3-0-2)4 | BCV201  Skill Development -1  (1-0-2)2 | BCL204  Operating System  (3-0-2)4 | Open  Elective – 2  (3-0-0)3 | Program Elective-2  (2-0-4)4 | BCL206  Analysis and  Design of  Algorithms  (3-0-2)4 | BCS202  (35 Hrs)  1 Credit | BCR 219 GP-4  (1-0-0-)  1 Credit | 17 | 0 | | 12 | **23** |
| **Summer** | Summer Training+ Community Service(70 hrs) | | | | | | |  |  | | | | 3 |
| 5 | BSL101  Entrepreneurship  (2-0-2)3 | BCL303  Introduction to  AI & ML  (3-0-2)4 | BCL305  Software Engineering  (3-0-2-)4 | Program Elective-3  (3-0-2-)4 | BCV301  Skill Development -2  (1-0-2)2 | BCD301  Project – 1 Semester at Industry/Startup Project  (0-0-8)4 | BCS301  (70 Hrs)  1 Credit | BCR318  GP-5  (1-0-0)  1Credit | 15 | 0 | | 18 | **24** |
| 6 | Program Elective-4  (2-0-4)4 | Open  Elective-3  (3-0-0)3 | BCD302 Project – 2 Semester at Industry/Startup Project  (0-0-12)6 |  |  |  | BCS302  (70 Hrs)  1 Credit | BCR319  GP-6  (1-0-0)  1Credit | 06 | 0 | | 16 | **15** |
|  | **Total** | | | | | | |  | 82 | 4 | | 78 | **129** |

# The overall credits structure of BCA

|  |  |  |  |
| --- | --- | --- | --- |
| **Credits Structure** | | | |
| Category | | Credits | Total Credits |
| Programme Core (PC) + Compulsory Courses | | 66 | 66 |
| Electives | Programme Electives (PE) | 16 | 28 |
| Open Electives (OE) | 12 |
| Ability Enhancement Courses (AEC) | | 3 | 16 |
| Skill Enhancement | | 2 | 4 |
| Industry Internship + Project | | 15 | 15 |
|  | **TOTAL** | **129** | **129** |

## Programme Core (PC) + Compulsory Courses

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S N** | **Code** | **Course Name** | **L-T-P** | **Credits** |
|  | MAL153 | Mathematics -1 | 3-1-0 | 4 |
|  | BCL103 | Programming Fundamentals – I | 2-0-4 | 4 |
|  | BCL105 | Programming Fundamentals – II | 2-0-4 | 4 |
|  | MAL304N | Probability and Statistics | 3-1-0 | 4 |
|  | BCL201 | Data Structures | 3-0-2 | 4 |
|  | BCL202 | Computer Networks | 3-0-2 | 4 |
|  | BCL203 | DBMS | 3-0-2 | 4 |
|  | BCL204 | Operating Systems | 3-0-2 | 4 |
|  | BCL205 | Computer Architecture | 3-0-2 | 4 |
|  | BCL206 | Analysis and Design of Algorithms | 3-0-2 | 4 |
|  | BCL303 | Introduction to AI and ML | 3-0-2 | 4 |
|  | BCL305 | Software Engineering | 3-0-2 | 4 |
|  | BCL110 | Problem Solving and Design thinking | 2-0-2 | 3 |
|  | BSL101 | Entrepreneurship | 2-0-2 | 3 |
|  | BCL102 | Principles of Management | 2-0-2 | 3 |
|  | PCL102 | Phycology for living | 2-0-4 | 4 |
|  | CLL102 | Effective Communication – I | 2-1-0 | 2.5 |
|  | CLL101 | Effective Communication – II | 2-1-0 | 2.5 |
|  |  | **Total Credits** |  | **66** |

1. **Programme Electives (PE)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.**  **No.** | **Code** | **Course Name** | **L-T-P** | **Credits** |
| **PE-I** | | | | |
| **BCA with Specialization in Animation and Gaming** | | | | |
| 1 | BCL211 | Foundations of 2D Game Development | 2-0-4 | 4 |
| 2 | BCL222 | Fundamentals of Web application development | 2-0-4 | 4 |
| 3 | BCL311 | Basics of 3D Animation | 2-0-4 | 4 |
| 4 | BCL312 | Game Art Essentials | 2-0-4 | 4 |
| **BCA with Specialization in Web Application Development** | | | | |
| 1 | BCL221 | UI / UX Design principles | 2-0-4 | 4 |
| 2 | BCL222 | Fundamentals of Web application development | 2-0-4 | 4 |
| 3 | BCL321 | Fundamentals of Mobile application development | 2-0-4 | 4 |
| 4 | BCL322 | Software prototyping, usability & testing | 2-0-4 | 4 |
| **Foreign Language and open Electives** | | | | |
| 11 | CLL220 | German – I | 1-2-0 | 3 |
| 12 | CLL200 | French – I | 1-2-0 | 3 |
| 13 | CLL270 | Spanish – I | 1-2-0 | 3 |
|  |  | Open Elective -1 | 3-0-0 | 3 |
|  |  | Open Elective -2 | 3-0-0 | 3 |
|  |  | Open Elective -3 | 3-0-0 | 3 |

### Ability Enhancement Courses (AEC)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S. No.** | **Code** | **Course Name** | **L-T-P** | **Credits** |
| 1 | ASL140 | Environmental Studies | 3-0-0 | 3 |
| 2 | CLL120 | Human Values and Ethics | 3-0-0 | 3 |
| 3 | BCR118  BCR119  BCR218  BCR219  BCR318  BCR319 | GP – 1  GP – 2  GP – 3  GP – 4  GP – 5  GP – 6 |  | 6 |
| 4 | BCS101  BCS102  BCS201  BCS202  BCS301  BCS302 | Community Service |  | 4 |
|  |  | **Total Credits** |  | 16 |

1. **Skill Enhancement**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S. No.** | **Code** | **Course Name** | **L-T-P** | **Credits** |
|  | BCV201 | Skill Deveoplement-1 | 1-0-2 | 2 |
|  | BCV301 | Skill Development-2 | 1-0-2 | 2 |
|  | BCD301 | Project – 1 | 0-0-8 | 4 |
|  | BCD301 | Project – 2 | 0-0-12 | 6 |
|  | BCD302 | Summer Internship |  | 5 |
|  |  | **Total Credits** |  | **19** |

**Outline of Choice based credit system (CBCS):**

#### **Programme Core:** A course, which should compulsorily be studied by a student as a core requirement is termed as a programme core course.

1. **Programme Elective:** Ele**c**tive courses may be offered by the main discipline/subject of study is referred to as Programme Elective. The University may also offer Programme related elective courses of interdisciplinary nature (to be offered by main discipline/subject of study).
2. **Generic (or Open) Elective:** An elective course generally chosen from an unrelated discipline/subject, with an intension to seek exposure is called a Generic (or Open) Elective.
3. **Ability Enhancement Courses (AEC):** These are the courses based upon the content that leads to knowledge enhancement. They are English/Communication courses.
4. **Skill Enhancement/Project/Dissertation:** The Project work/ Dissertation based on application of Mathematics, Computer applications, Research project and new innovative ideas.

## Short Syllabus for BCA Courses (w. e. f. 2021-22)

**Programme Core Courses**

##### BCL103 Programming Fundamentals – I (2-0-4) 4 credits Lectures

##### This course introduces the intrinsic concepts of computer fundamentals. It fully covers fundamental programming techniques with the most common library functions and the usage of the preprocessor. It includes Introduction to Computers and Number Systems, Hands-on Pseudocodes, Flowcharts, Algorithms, Introduction to C and Loops in C , Functions, Pointers, Arrays, Strings in C , Structures and File management in C . Students will be able to write the code of a program by developing logic with progression to writing pseudo codes, designing flowcharts and finally developing management projects.

##### MAL153 Mathematics-1 (3-1-0) 4 credits Lectures

##### Rank of a matrix, elementary transformations, elementary matrices, inverse using elementary transformations, normal form of a matrix, linear dependence and independence of vectors, consistency of linear system of equations, Orthogonal, Symmetric, skew symmetric, Hermitian Matrices, skew Hermitian Matrices, Normal and unitary Matrices and their properties, eigenvalues and eigenvectors, properties of eigenvalues, Cayley - Hamilton theorem and its applications, diagonalization of matrices,  similar matrices. Double integral, change of order of integration, double integral in polar coordinates, applications of double integral to find area enclosed by plane curves, triple integral, change of variables, Differentiation of vectors, scalar and vector point functions. Gradient of a scalar field and directional derivative, divergence and curl of a vector field and their physical interpretations. Integration of vectors, line integral, surface integral, volume integral, Green, Stoke's and Gauss theorems (without proof) and their applications.

##### MAL304N Mathematical Statistics (3-1-0) 4 credits Lectures

Sampling Distributions, Introduction to statistics with examples, Graphical representation of data, Basic distributions, Properties, Fitting, Distribution Theory, Sampling distribution based on normal population, t- chi and F distributions, Moment generating functions, Sampling distributions and hypothesis testing

##### BCL205 Computer Architecture (3-0-2) 4 credits Lectures

Boolean Algebra, Combinational Circuits, number system, FLOPS, Register Transfer Language, Register Transfer, Bus and Memory Transfer, Arithmetic Micro-operations, Logic Micro-operations, Shift Micro-operations, Arithmetic Logic Shift Unit. Instruction Codes, Computer Registers, Computer Instructions, Timing and Control, Instruction Cycle, Memory Reference Instructions, Input-Output and Interrupt, addressing modes and instruction formats, hardwired vs. micro programmed programmed control unit. Through put and speed up. Peripheral Devices, Input-Output Interface, Asynchronous Data Transfer, Modes of Transfer, Direct Memory Access. Memory Hierarchy, Main Memory, Auxiliary Memory, Associative Memory, Cache Memory, cache size vs block size mapping functions, Virtual Memory.

##### BCL201 Data Structures (2-0-2) 4 credits Lectures

The course aims to teach the fundamentals of data structures, their design, implementation and effective use in problem solving approach. With the knowledge of data structures and practical experience in implementing them, students can become much more effective designer and developer. The course will start with the basic introduction of linear as well as non-linear data structures and further proceeds with the programming intensive task of implementing them. This course will also cover basics, arrays, linked lists, stacks, queues, trees graphs, searching and sorting techniques.

##### BCL203 Database management System (3-0-2) 4 credits. 45 Lectures

This course aims to teach fundamentals of database management concepts as well as its implementation. It covers introduction to DBMS and database systems, database design with ER models,r elational database model, Normalization of data upto BCNF, relational algebra,transactions and recovery systems.

##### BCL202 Computer Networks (3-0-2) 4 credits. 45 Lectures

This course is designed to provide a complete overview of computer networking and covers everything from the fundamentals of networking technologies and protocols to practical applications.It includes Network Basics, Topologies, OSI Model, TCP/IP Model,I nternetwork devices, Transmission media, Analog/digital signals, Line encoding schemes, Data link layer protocols, error detection and correction techniques,IP addressing, Subnetting concept,Routing protocols, Congestion control, IP datagram, TCP and UDP protocol protocols,DNS, DHCP, ICMP, Email protocols.

##### BCL204 Operating System (3-0-2) 4 credits 45 Lectures

This is an introductory course which briefs LINUX Operating System Concepts that forms an integral part of computer science engineering in development of software applications in many diverse areas, including Web Development, Windows Applications, Research, Analytics and Processing. It lays the foundation of Process Management & Scheduling, Memory Management, Deadlocks and other Operating system Concepts.

##### BCL305 Software Engineering (3-0-2) 4 credits 45 Lectures

This course helps students to understand about the systematic approach to the development, operation, maintenance, feasibility analysis, designing and requirement of the software. This course would cover different types of SDLC models, agile practices, requirement analysis and specification, designing document, testing techniques, Software maintenance and reuse approach, re-engineering, reverse engineering and project management techniques.

##### BCL303 Introduction to AI & ML (3-0-2) 4 credits 45 Lectures

This course aims to cover introduction to AI and Machine learning techniques. It includes fundamental of AI and machine learning, applications, different machine learning techniques: supervised and unsupervised learning, supervised regression and classification algorithms, unsupervised clustering algrithms, perfomance analysis of different machine learning algorithms.

##### BCL206 Analysis and Design Algorithms (3-0-2) 4 credits 45 Lectures

This course is an introduction to analysis of algorithms. The course will start with designing and analysis of basic algorithms like sorting and searching and will gradually cover advanced techniques such as dynamic programming and greedy algorithms. It will broadly cover : Role of algorithms in computing, Algorithms as technology, analyzing and designing algorithms, Growth of Functions, Asymptotic notations, Recurrences, Substitution method, Recursion tree method, Master method. General method, binary search, merge sort, quick sort, selection sort, insertion sort. Greedy knapsack problem, job sequencing with deadlines,BFS, DFS, Activity selection problem. Dynamic Programming: General method, Principle of optimality, 0/1- knapsack, General method, 8-queen’s problem, Travelling salesperson problem, Introduction to Branch and Bound, LC search and FIFO search, 0/1- knapsack.

##### BCL104 Fundamentals of Programming – II (3-0-2) 4 credits 45 Lecture

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Procedural vs. Object-Oriented Programming, Literals , Variables and Identifiers , Operators, Expressions and Data Types, What Is a Control Structure, Boolean Expressions (Conditions), Relational Operators, Membership Operators, Selection Control, Multi-Way Selection, Iterative Control, While Statement , Infinite loops, Definite vs. Indefinite Loops, Boolean Flags and Indefinite Loops, List Structures, Common List Operations, Tuples , Nested Lists, For Loops , While Loops and Lists (Sequences), Assigning and Copying Lists , Dictionary Type in Python, Set Data Type , Program Routines , Defining Functions, More on Functions , Calling Value-Returning Functions, Calling Non-Value Returning Functions, Parameter Passing, Arguments in Python Default Arguments in Python, Variable Scope, Recursive Function, Module Specification , Top-Down Design, Developing a Modular Design of the Calendar Year Program, Object-Oriented Programming concepts, Numpy - Creation on Array ,Array generation from Uniform distribution, Random array generation, reshaping, maximum and minimum, reshaping, Arithmetic operations, Mathematical functions, Bracket Indexing and Selection, Broadcasting, Indexing a 2D array (matrices); Pandas - Creating a Series - from lists, arrays and dictionaries, Find Null Values or Check for Null Values, Reading data from csv, txt, excel, web, Visualization - Installing and setting up visualization libraries, Canvas and Axes, Subplots, Common plots – scatter, histogram, boxplot, Logarithmic scale, Placement of ticks and custom tick labels.

## Compulsory Courses

## BCL110 Problem Solving and Design (2-0-2) 3 Credits Lectures

## This course aims to teach the basics of problem solving and design thinking techniques and its real life applications. It starts with the Introduction to Problem Solving and Design Thinking, Principles of Design Thinking, Applications, Case studies and success stories, Difference between traditional thinking and design thinking approach, Lateral Thinking, Power of visual thinking, Preparing Your Mind for Innovation, Empathy Map, Defining the Problem Statement, Ideation tools, Prototyping, Testing and comletes with a capstone project.

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## BSL101 Entrepreneurship (2-0-2) 3 Credits Lectures

## Introduction to Entrepreneurship, Benefits of Entrepreneurship, As a Career option, Entrepreneurial spirit, Entrepreneurial competencies, Entrepreneurship development programs, Entrepreneurial support, Policy initiatives for entrepreneurial growth, Ease of doing business; Social Entrepreneurship; Family Business, MSME’s, Opportunity identification, Idea Generation; Conducting Feasibility analysis, Intellectual Property, Business Plan Preparation, Business Models, Porter’s forces, Resource Mobilization: Entrepreneurial finance, Managing operations, Marketing strategies, Talent acquisition for new ventures; Project Management, Project appraisal, E-Business, Growth, Exit strategies, Social Responsibility

## BSL102 Principles of Management (2-0-2) 3 Credits Lectures

Management and analysis of basic organizing, leading, directing, and controlling for establishing and accomplishing business objectives, the scope of this study will also include aspects of the principles of management on individuals and organizations. The design of the course includes the basic mechanics business operations; manufacturing, marketing and maintaining financial focus in a rapidly changing and competitive market

## CLL101 Effective Communication -1 (2-0-1) 2.5 Credits Lectures

Introduction to Communication, Types of Communication, Listening Skills, Language for Communication: Language and Communication; General Principles of Writing; Improving Writing Skills, Essentials of good style, Expressions and words to be avoided; Grammar and Usage, Communication Network: Scope and Types of Communication Network; Formal and Informal Communication Network; Upward Communication; Downward Communication; Horizontal Communication; Diagonal Communication, Writing Business Letter: Importance of Business Letters.

**CLL102 Effective Communication II**  **(2-0-1) 2.5 Credits Lectures**

Writing Memos, Circulars and Notices, Report Writing, Writing E-mail: Principles of E-mail; E-mail Etiquette; Overcoming Problems in E-mail Communication, Oral Communication Skills, Meetings: Types of Meetings, Reading, Employment Communication – Resume: Contents of Good Resume; Guidelines for Writing Resume; Different Types of Resumes; Reason for a Cover Letter to Apply for a Job-Format of Cover Letter; Different Types of Cover Letters, Public Speaking and Academic Writing.

**PCL102 Psychology for Living (2-1-0) 3 credits Lectures**

The present course has been designed to encapsulate the major thrust areas in the discipline of psychology with focus on its relevance in everyday life. The course seeks to make a beginner student aware of their body image, intimacy, socialization process, and role of culture in themselves as mediated by the media. It also introduces the students to disintegrative experiences and ways of managing them, as well as to the process of self-growth and integration.

## Programme Elective Courses

## BCA Specialization for Web development

**BCL221 UI / UX Design principles   (2-0-4) 4 Credits Lectures**

The main objective of this Course is to provide a strong foundation in the design of User Interface and User Experience. Learner will learn how to solve a real-world UI/ UX design problem by using the best practices and conventions. They would learn how to create effective, compelling and navigation-friendly experiences for websites and mobile applications. By the end of this course the students will have the working capability of handling any project from scratch using various UI/ UX methodologies and will also have a full-fledged project in their portfolio. The following important topics will be included in this course: Introduction to UI and UX, Introduction to Internet and www, HTML, CSS and Bootstrap.

**BCL312 Software prototyping, usability & testing. (2-0-4) 4 Credits Lectures**

This design-centric course examines the broad question of what an interface is and what role a designer plays in creating a user interface. Learning how to design and articulate meaning using color, type, and imagery is essential to making interfaces function clearly and seamlessly. This is the course brings a design-centric approach to user interface (UI) and user experience (UX) design, and offers practical, skill-based instruction centered around a visual communications perspective, rather than on one focused on marketing or programming alone. This course is ideal for anyone with some experience in graphic or visual design and who would like to build their skill set in UI or UX for app and web design. It would also be ideal for anyone with experience in front- or back-end web development or human-computer interaction and want to sharpen their visual design and analysis skills for UI or UX. This course is focused on the application of the early UX research to actual user interfaces: the creation of wireframes, high-fidelity mockups, and clickable prototypes. This course enhances the skills of the students by not only by providing usability but also the testing of the User Interface.

**BCL222 Fundamentals of Web application development (2-0-4) 4 Credits Lectures**

Overview of HTML, CSS and Bootstrap; JavaScript basics, data types; language constructs – conditional, looping construct, function, arrays, methods, exception handling; object oriented concepts – constructors and inheritance; document object model, get input and output, style sheet manipulation using JavaScript, event handling, dynamic web page creation, single page Client-side applications designing, asynchronous programming, API calls, JQuery - JavaScript Object Notation (JSON) client and server object exchange.

**BCL321 Fundamentals of Mobile application development (2-0-4) 4 Credits Lectures**

Introduction to Dart, basic data types, Dart language constructs – conditional constructs, looping constructs, function, methods, exception handling; object-oriented concepts – inheritance, abstract class, interface; Dart collection – List, Set and Map. Fundamental Flutter concepts, Stateful and Stateless Widgets, Widget tree, state management, animations, themes, Application Lifecycle, Exceptions and Errors, Interact with Gestures, Working with Multimedia, Database connectivity, Sensor, and hardware API call.

## BCA Specialization for Gaming and Animation

**BCL211 Foundation of 2D Game Development t (2-0-4) 4 Credits Lectures**

This is an introductory course for students will learn how to program by creating your very own games using Unity3D, an industry-standard program used by many large gaming studios and indie developers across the world and Master basic game development (produce, test and present a beta version of a game of your own design). Understand game design and apply the concepts for game development. Students will also learn most common languages for game designers to learn are C++ and C# for unity will be able to operate and write Unity based C# program with Production Work Flow - 3Ds Max to Unity. By the end of the module, students will create a 2D platformer game.

**BCL311 Basics of 3D Animation. (2-0-4) 4 Credits Lectures**

This course students will learn the principles of animation for film and games industry, basics to advance of 3D creation. This course is *project based* so we will be using the skills we learn along the way to create 3D animations. This course is designed on the essentially a digital successor to the stop motion techniques used in traditional animation with 3D models and frame-by-frame animation of 2D illustrations.

**BCL312 Game Art Essential. (2-0-4) 4 Credits Lectures**

This is course students will learn to create 2D and 3D assets essentials for game development with introduction of the skills required to create 3D Models in Industry Standard 3D Software efficiently. Students will learn different methods of modelling and texturing, and how to achieve good topology in a 3D model. Students will have the ability to develop, discuss, and implement from preproduction, to production, Assets for video game Industry. Students will have the skills to model, articulate, and render game requirement. Students will learn professional terms relating to real-time game asset creation.

## Ability Enhancement Courses

## ASL140 Environmental Studies (3-0-0) 3 Credits. Lectures

## Through this subject, students will be studying issues like pollution, global climate change, and the depletion of natural resources, students in Environmental Studies & Earth Sciences programmes focus on the most pressing environmental and ecological issues of today.

**CLL120 Human Values and professional ethics (2-0-0) 2 credits Lectures**

The object of this program is to develop ethical thinking abilities for decision making, self- control, and holistic approach towards life and professions. This program would also help them to understand the importance of harmony in self, family and society, along with learning to be more responsible towards environment and society. This program touches the topics like morals and values, integrity and honesty, and courage as a steppingstone towards a peaceful society. Topics like mindfulness, which has elements like framework of happiness quotient and Fueling success, is included to bringing one's attention to the internal and external experiences happening in the present moment. It will also help them develop a state of mind where they pay attention to their thoughts and feelings without judging them. This entire program focuses on developing self-control and confidence through education. As the students are soon going to become professionals, to make them future ready topics like Business Ethics, Corporate Social Responsibility and corporate Governance is also included, so that being into corporate they can be effective decision makers and handle their responsibilities towards the society and organization.

## Open Elective Courses

##### Foreign Language Electives

**CLL220 German-I (1-2-0) 3 Credits**

Greetings, Self-introduction, Learning alphabets, start a conversation, numbers from 0 to 1000, order in a restaurant and pay the bill, asking questions ,verbs in present tense, articles in nominative, use of dictionary, articles in accusative, verbs in accusative, negation, nouns: singular and plural, listen to umlauts and speak, speak about cities and tourist features, about countries and languages spoken there, to indicate the geographical location, the past tense of the verbs, accent in questions and statements, time data- clock time/ week days, To fix up appointments, to excuse oneself on being late, prepositions related to time.

##### CLL200 French-I (1-2-0) 3 Credits

Introduce oneself and a friend/colleague or any other person, hobbies, leisure activities and daily routines, ask directions, to ask and to give personal information, give instructions, ask and tell time, understand a short and simple written passage, to organize, to accept or to refuse an outing/an invitation, leaving a message on the answering machine, place an order and pay in a restaurant, to speak about a near future plan and able to read a programme.

##### CLL270 Spanish-I (1-2-0) 3 Credits

Personal information, exchange greetings, understanding conjugations, using the verbs “to have”, “to be”, learn numbers 1-100, nationalities, professions, express intentions/interests, explain reasons for actions, use of Present Indicative, use of prepositions, description of places and countries, talk about climate, use of superlatives, expressing agreement, doubt, future and past tenses, gender and number of adjectives, identification of objects, expression of needs, asking prices/products, give and ask for information about someone, knowledge about the company, number of employees, ability to talk about the post or job of someone in a company, read a technical drawing with dictionary, Irregular verbs.