## Engineer of tomorrow

The Global Learning Center in Mindtree Kalinga has been designed to create engineers of tomorrow. To work in the global, hyper-connected world of tomorrow where everything is touched by technology, an engineer will need very different mindset and capabilities. The transition from me to the world - my work, my organization, my customer, my industry, my society, my planet – will need to happen. What does this new world order look like and how can we create the engineer of tomorrow?

Change in Mindset
The real-world challenges cannot be solved through traditional engineering mindset alone. We will need a confluence of (a) Business mindset to understand our client's business challenges (b) Engineering mindset to use the latest technologies and engineer the right solution and (c) Social mindset to consider the impact of solutions to communities and our planet. This mindset permeates every aspect of the center and the programs it hosts.

New Age Learning
The IT workforce of the future will need more than a math-logical approach. Multiple intelligences such as visual-spatial, verbal-linguistic, interpersonal, intrapersonal, bodily-kinesthetic are required. It asks for a learning program designed to bring out what has been put to rest by our education system - Curiosity and Courage with Responsibility. New age learning is to learn by self, in groups and from experts. Any time, any place.
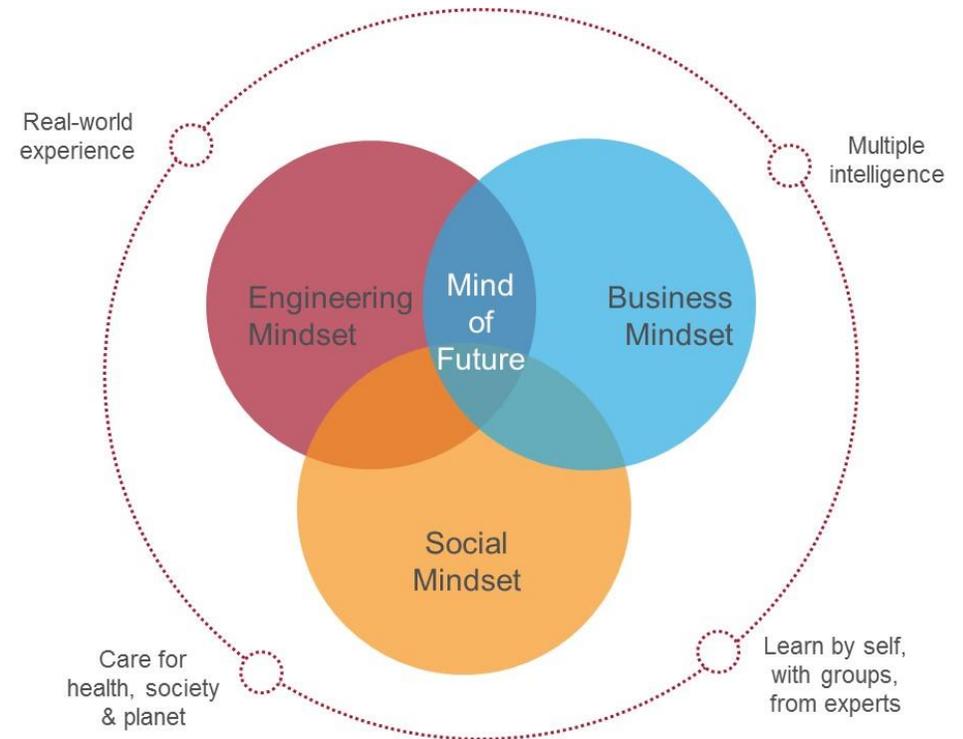
Meaningful Application of Technology
At Global Learning Center, Campus Minds will learn to work on real projects, demonstrate real capabilities and solve real problems. Every solution will be a reflection of our mindset. Technology is learnt in the context of a business problem. Solutions are debated with an eye on its impact to business and community of users.

World class infrastructure

Mindtree Kalinga is built on four layers of infrastructure - physical, digital, intellectual and emotional which combine to give you a world class learning experience.

Imagine a world where you break the barriers of physical space for learning, living and working. There are no traditional classrooms - one can learn and work from anywhere. Right from open design of studios to flexible seating to green break-out areas to unique group of 8 living.

The campus has the next generation digital technology

Emotional
- Moments – Selection, Arrival, Graduation
- My Campus Diary - Portfolio
- My group of 8 - Journey
- Magic of Giving Back – Parent, Teacher, College

Intellectual
- Engineering, Business and Social mindset
- Self, Group and Expert regulated learning
- Inspired by Multiple Intelligence
- Project based progressive curriculum

Digital
- Global virtual campus
- Group of 8 virtual space
- Engineers digital portfolio

Physical
- Platinum rated, ADA compliant campus
- Academy & Transit Accommodation
- Temple and workplace metaphor
- Group of 8 physical space

that connects it with the world outside and brings the world in. Digital infrastructure includes top speed network, wireless access, high definition video conferencing systems, and of course a high end laptop for each of you.

Orchard

Engineering and Technology
During the 90 days Orchard program, you work on real projects and learn from experienced practitioners. You will learn fundamentals and stream specific technical concepts in the context of the real world.
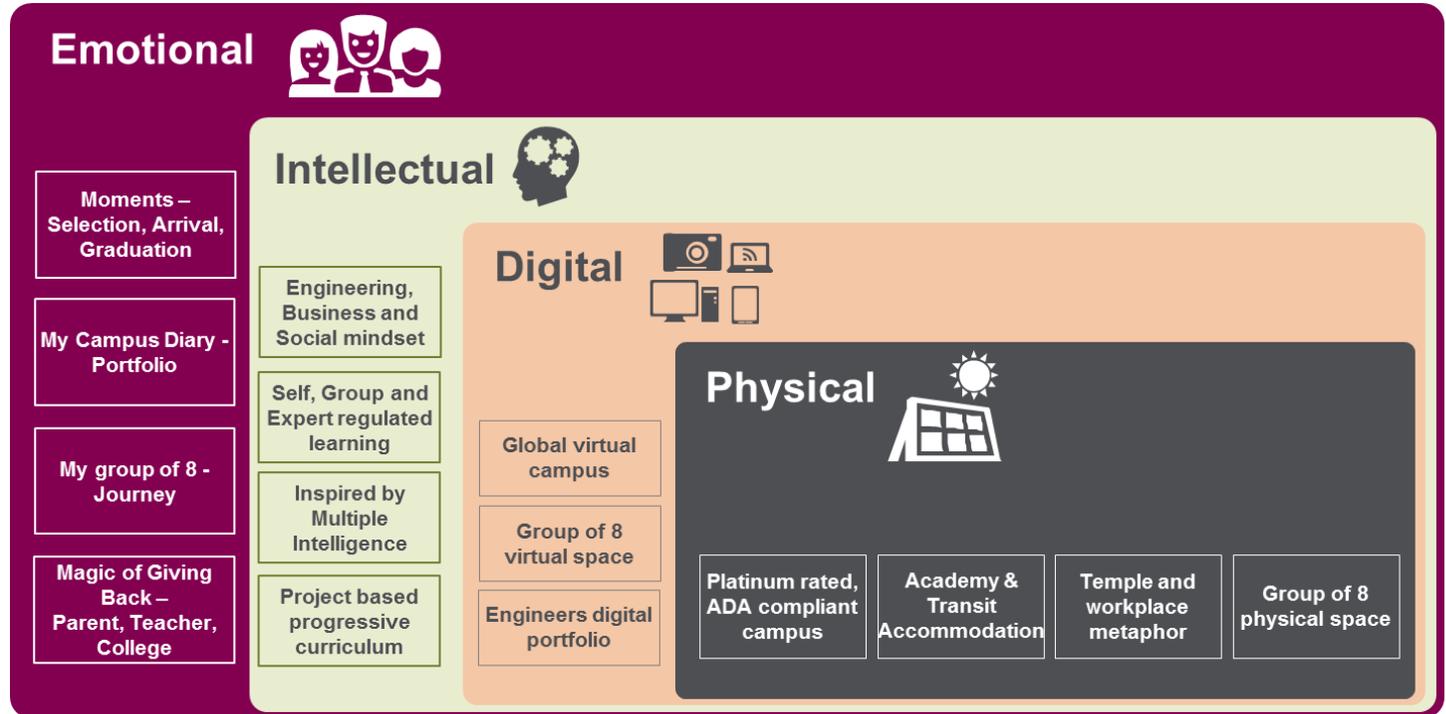
To us, the heart of engineering is problem solving. As much as we believe in theoretical concepts, we declare a capability as acquired only when you can apply it to solve a problem. To improve your problem solving ability, you will be confronted with problems in all shapes and sizes aligned to the mindsets and capabilities you will acquire.

You will have access to homegrown content, learning videos on YouTube, and more importantly this Mindtree practitioner called the lead. While we expect you to go through the content and solve the problems on your own, the lead will clear your doubts, help you debug code and consistently review your work.

Mindtree

Campus Projects

We want the learning experience to be totally immersive and connected to the larger organization. You will be working on live projects that will actually be used in Mindtree Kalinga campus. In your projects, you will take part in various meetings – from planning your deliverables to reviewing your progress to presenting your work – as you will do later in your career.
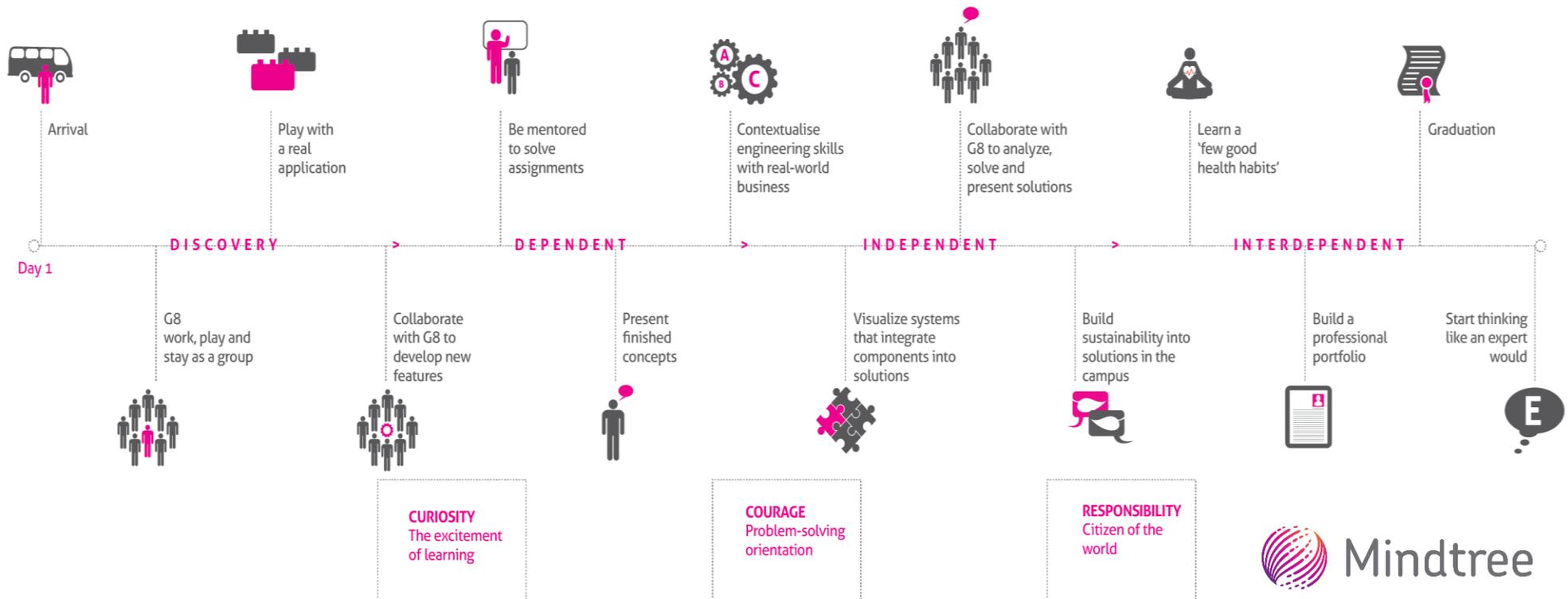
Business

True engineers understand that a technical solution does not exist for itself, but to meet a customer need and achieve a business goal. Every time you work on a problem, we will help you understand the business context, impact and value of the solution.

Professional

As you enter the professional world, you will learn essential skills such as self-awareness, professional qualities and new age imperatives that are critical to survive and thrive in the global world we are part of.

Sustainability

Besides technical projects, you will do campus projects on areas such as energy conservation, waste management, campus sustenance, cafeteria management, landscape and gardening among others. Do we need to say there is engineering involved in all these areas? You will learn to use technology to manage your campus in a sustainable way.

Arrival

Play with a real application

Be mentored to solve assignments

Contextualise engineering skills with real-world business

Collaborate with G8 to analyze, solve and present solutions

Learn a 'few good health habits'

Graduation

DISCOVERY > **DEPENDENT** > **INDEPENDENT** > **INTERDEPENDENT**

Day 1

G8 work, play and stay as a group

Collaborate with G8 to develop new features

Present finished concepts

Visualize systems that integrate components into solutions

Build sustainability into solutions in the campus

Build a professional portfolio

Start thinking like an expert would

CURIOSITY
The excitement of learning

COURAGE
Problem-solving orientation

RESPONSIBILITY
Citizen of the world

Mindtree

Story Telling

Imagine sitting under a star-lit night listening to a story - the oldest and most interesting way to learn! As you go through the program, we will take you on a tour of our expertise led culture by sharing real stories of success and failures from customer projects.

Electives

We would like to keep you sufficiently challenged during the entire program. And for those who are faster in progress and quicker in grabbing new things, electives provide you with an opportunity to take up challenging assignments outside the normal course of the program. The electives are around the latest and coolest technologies like IoT, Digital. As the name suggests, these are optional and can be taken up by anyone who wants to go the extra mile.

Hackathon

Hackathons are the most happening events in the world of techies. As you get into your journey as a techie, you will get an opportunity to participate in a Hackathon event and showcase your skills.

Learning Advisory

Your learning program will be an exhilarating, challenging, inspiring, illuminating journey. The path will be both smooth and rocky with its ups and downs and twists and turns. You will have hurdles to climb and milestones to cross. We will provide you with all the resources and support you need, but your learning is ultimately in your own hands. What will keep you going is hard work, discipline and motivation. Having said that, our success is in your success and we will leave no stone unturned to ensure you complete the journey with flying colors.

Individual Learning Plans

Your calendar has details of daily and weekly rhythms. Have an eye on the calendar always. It gives you an idea on the capabilities planned, link to content and more. Be prepared for the next day, by watching the suggested videos and reading up the content. Practice until you can convincingly work out a given problem.

We understand that people learn in different paces and styles. When you are struggling with your capabilities, you can catch up once again on the topics you have not yet mastered. On the other hand, when you are doing very well, you can work on additional projects that would add value to your portfolio. Although, you will get a fair idea of your standing from the periodic reports shared by us, you must assess yourself objectively to decide your course of action. Take up additional challenges only if you are extremely comfortable with the standard capability spread. Use your buffer time judiciously to catch up on unclear capabilities rather than pursuing an out of reach challenge.

Portfolio

Portfolio is an expression of professional credibility. Unlike CV's, portfolios present multi-dimensional view of a person. While Orchard team will feed a comprehensive capability report to your portfolio, you must capture your interesting work, contributions, experiences, achievements, courses, hobbies, wishes and all that expresses the professional in you. We will consider the Orchard program a success, if you create an impressive portfolio for yourself at the end of the program. It's your portfolio, it's your career – so you have to own it.

Along with your successes, we want your failures to figure in your portfolio too. Every failure is a learning opportunity. No one likes to makes mistakes, but they can lead to lasting knowledge. In Orchard, failures are celebrated and they find a special place in your portfolio.

Mindtree

Pre-joining Preparation

We are busy preparing to welcome you to Mindtree family and make your learning journey a fruitful one. We would want you also to prepare well as you wait excitedly for the date of joining.

At Orchard, you will be allocated to various technologies based on the organization's business needs and you will build capabilities accordingly. Irrespective of your allocation, coming equipped with fundamental knowledge on any of the programming languages will help you tremendously in Orchard. You can find our expectations, few helpful links to meet those expectations and examples of sample problems to solve in the appended sheets. While these are in JAVA and C#, you could choose any one language of your choice to meet the expectations.

While we will help you to become the engineer of tomorrow, you will have to help us build the Mindtree of tomorrow.

Welcome to Mindtree. Welcome to possible.

Team Orchard

Mindtree

JAVA				
Capabilities	**Scope**	**Reference**	**Comments**	**Sample problems to solve**
Identify and Create basic classes and Objects	• How to represent class in Java? • How to create objects in class? • Create main class and create object of different classes and call the methods of object. • Create sample console application.	https://www.youtube.com/watch?v=NLxbCM4wugs&list=PLEAC41E539A0874DD	Watch first 17 videos	Create a simple console based application to display your name.
Work with Primitive datatypes, methods and Conditional statements	• Use Datatypes as required(Primitive datatypes: int, long, float, double, boolean, char and String). • Method calling and passing parameters to the functions. • How to return value from method(string, Boolean). • Use Conditional Statements (If/ If else/Switch Case).	https://www.youtube.com/watch?v=NLxbCM4wugs&list=PLEAC41E539A0874DD		Create a class and add one main method and another method called "getFullName(String firstName, String lastName)". Call getFullName() method from Main method to concatenate First and Last name.
Work with arrays and loops	• Use Loop statements (For/ While/ Do While). • Declaring Arrays and storing sequence of values. • How array works with basic flow. • Looping over array, insert ,deleting ,updating with example.	https://www.youtube.com/watch?v=NLxbCM4wugs&list=PLEAC41E539A0874DD		1. Write a program that takes n values from user and then sorts them in ascending order. 2. Write a program that copies the values of one array to a second array in reverse order.
Solve problem using the 4 pillars of OOP	• Introduce 4 pillars with example(encapsulation, abstraction, inheritance and polymorphism) • Write code using "Private" access modifier to achieve Encapsulation. • Write code using "Abstarct classes" to achieve Abstraction. • Write code using "extends and Implements" keyword to achieve Inheritance. • Write code using Method Overloading and Method Overriding to achieve Polymorphism.	https://www.youtube.com/watch?v=NLxbCM4wugs&list=PLEAC41E539A0874DD		Create a console based application using all the 4 pillars.
Use basic try/catch block for Exception Handling	• Define exception handling in Java. • Use basic Try/Catch block to handle exception.	https://www.youtube.com/watch?v=hBp9HvXOHxQ&index=21&list=PLEAC41E539A0874DD	Watch video 21	Add try/catch block for the sorting program.
Write simple DDL & DML statements	• Write SQl queries using Create,Drop, Select, Update, Insert and Delete statements	https://www.youtube.com/watch?v=KgiCxe-ZW8o&list=PL32BC9C878BA72085	Watch 1,2,3,4,5 and 6 videos	Create Tables using MySQL and insert and reterive data.
Connect to Database using JDBC	• Basic steps to create DB connection and do transaction using MySql driver	https://www.youtube.com/watch?v=-0Mj-fAiIcI&list=PL-lbf_8bVpgyLJQUFQcvj_tK1p8anPT_y	Watch 4,5,6 and 7 videos	Create a class to access the DB tables using JDBC

C#				
Capabilities	**Scope**	**Reference**		**Sample problems to solve**
Identify and Create basic classes and Objects	• How to represent class in .net? • How to create objects in class? • Create main class and create object of the entity classes and call the methods of object.	https://www.youtube.com/watch?v=LfZ0LQCoMYg https://www.youtube.com/watch?v=IVvX6NNx3ow https://www.youtube.com/watch?v=9n2MJZEJecU https://www.youtube.com/watch?v=SXmVym6L8dw&list=PLAC325451207E3105		Create a simple console based application to display your name.
Work with Primitive datatypes, methods and Conditional statements	• Primitive Datatypes • Method calling and passing parameters to the functions • Return value from method(string, Boolean) • Conditional Statements (If/ If else/Switch Case)			Create a class and add one main method and another method called "getFullName(String firstName, String lastName)". Call getFullName() method from Main method to concatenate First and Last name.
Work with arrays and loops	• Loop statements (For/ While/ Do While) • Arrays • How array works with basic flow. • Looping over array, insert ,deleting ,updating with example			1. Write a program that takes n values from user and then sorts them in ascending order. 2. Write a program that copies the values of one array to a second array in reverse order.
Solve problems using the 4 pillars of OOP	• Introduce 4 pillars with example(encapsulation, abstraction, inheritance and polymorphism) • Write code using "Private" access modifier to achieve Encapsulation. • Write code using "Abstarct classes" to achieve Abstraction. • Write code using "extends and Implements" keyword to achieve Inheritance. • Write code using Method Overloading and Method Overriding to achieve Polymorphism.			Create a console based application using all the 4 pillars.
Use basic try/catch block for Exception Handling	• Define exception handling in .net • Basic Try/Catch block with example	https://www.youtube.com/watch?v=9qHb-2Edg7o		Add try/catch block for the sorting program.
Write simple DDL & DML statements	• Understand overview of SQL • Introduce DDL (Create, Alter, DROP and truncate) statements • Introduce DML (Select,Insert,Update and Delete) statements	http://www.w3schools.com/sql/default.asp		Create Tables using MySQL and insert and reterive data.
Connect to database using ADO.net using SQLConnection	• Basic steps to create DB connection and do transaction	http://www.youtube.com/watch?v=aoFDyt8oG0k&list=PL6n9fhu94yhX5dzHunAI2t4kE0kOuv4D7		Create a class to access the DB tables using ADO.net

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