



...Educating the young minds  
 ...Training the Technocrats  
 ...Empowering the Engineers



**SAHYADRI**

COLLEGE OF ENGINEERING & MANAGEMENT

Sahyadri Campus, Mangaluru - 575007, Karnataka, India.

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**SAHYADRI**

COLLEGE OF ENGINEERING & MANAGEMENT  
 MANGALURU

## Preamble

A bridge course for newly admitted students is conducted every year before the commencement of the first semester classes. The main objective of the course is to bridge the gap between subjects studied at Pre-university level and subjects they would be studying in engineering. The syllabus for the course is framed in such a way that equal importance is given to both Engineering discipline and personality development which includes soft skills, sports and cultural Activities. The duration of this course is 18 days with 100 hrs. The students are trained in subjects such as Mathematics, Computer Science and English apart from other co-curricular activities.

Syllabus for Mathematics includes concepts learnt at the PU level and also additional concepts which are essential prerequisites for engineering course. Orientation to Computers is aimed at familiarizing the fundamentals of programming languages and thereby enabling them to write small programmes in C language which is a part of I year curriculum for all branches. The module on English is aimed at making the students better articulate in English thereby increasing their comprehension level and self confidence. The sessions in the afternoon will be on soft skills, Sports and cultural activities.

Bridge Course will help the students to have a smooth transition to the Engineering course. The sound grasp of the fundamentals of the engineering subjects lays the strong foundation for the entire four year programme. Our experience has shown that students who underwent the bridge course have fared extremely well in VTU Examinations. Results improved from 56% to 85% in first attempt. Also the students who have attended the bridge course in the previous years have appreciated the initiative usefulness. Industry personnel like Hrs, CEO's who visit our Institute regularly have acclaimed it as an eye opener and boosts confidence significantly.

### Over view: Total No. of Hours - 100

Subjects	Hrs
Computers	14
Electrical & Electronics	14
Mechanical & Civil	14
Engineering Aspects	10
Mathematics (14 theory + 16 Tutorials)	30
Sports & Cultural	12
Other Activities	6
Total Hours	100



## Bridge Course - Need of the Hour

**"The essence of education lies in drawing out the very best that is in you."**

The strength of our relationship with the students is our ability to gauge their strengths and weaknesses. Orientation Programmes and Bridge courses conducted by the different departments at the beginning of the academic year are an effort on our part to fill-in the chasm that exists between the shared knowledge of students at the entry-level and the course requirements.

It is observed that NCERT syllabus as it is about 20-30% more vast than the previous state board syllabus. While those who have studied ICSE or CBSE in school are not much affected, but those from the State syllabus may find it difficult. Bridge course helps students to open up, think creatively and become responsible and independent students.

The objective of the Bridge course is to demystify what is expected of students in Pre University-level classes and to provide adequate foundation in the core applied science subjects and English limited to moderate level so that students do not face any difficulty when the classes commence. To phase in students to Engineering and enjoy education, overview through project based learning is also envisaged. The sessions also include ice breakers, Sports and Cultural Activities for all round development. During this interaction of few days with the faculty, the students will come out of their hesitation and it will be the best platform for the students to interact with the faculty members, making it responsible for them to build strong relationships with faculty, advisers and other students.

This course was conducted last year for our students. The statistics show that, there is a gradual improvement of more than 20-30% in the overall performance of the students. Their parents have also deeply appreciated.



**BHANDARY FOUNDATION**

## Chairman's Message

"Welcome to Sahyadri Family"

A bridge is built for us to pass over; it is a work of utility, and which should endure. Keeping the similar concept in mind we here at Sahyadri design the bridge course every year for the new entrants of engineering to familiarize them to the fundamentals of the basic subjects and boost their level of confidence which they would endure. It is observed that students go through a great

paradigm shift when they join any professional course. To tackle the challenges that they would face during their study, a bridge course is planned. This has proved to be one of the best ways of minimizing the difficulties of academics as well as non academics. This has also provided the comfortable platform for the students to interact with their faculty members and with each other.

**Manjunath Bhandary, M.Phil., Ph.D.**  
Chairman

## Director's Message

Sahyadri Educational Institutions is galvanised towards excellence in imparting quality education in various streams like Management Studies, Nursing and Engineering and has been motivating students to equip themselves to the society. Students are being motivated to present technical papers and project work right from the beginning of their engineering course. Our college is committed to develop professionalism and

enhance the thirst of research attitude among students. To achieve this task the Institution organizes Seminars, Technical Fest, Workshops in order to keep students abreast in their respective arena. Our College not only trains the students in the core engineering subjects but also in soft skills. This initiative reflects our performance during the placement. You will have wonderful experience at Sahyadri.

**Dr. D. L. Prabhakara**  
M.Tech (App. Mech-IIT-M), Ph.d (Aerospace-IIT-KGP)  
Director

## Principal's Message

The academics is holistic integration of good faculty with knowledge and right attitude supported by an excellent infrastructure and continually upgraded Value added courses facilitates that our students are better suited for undertaking challenging assignments and accomplishing them successfully.

From our experience of first batch of engineering, results of first semester were unsatisfactory. On scientific analysis, it was found that the basic reason for past results was inadequate knowledge in understanding mathematics, ability to represent what they understood and to some

extent ability to comprehend the content taught in classes. Considering this it was decided to bridge the gap through strengthening and reinforcing mathematical knowledge of PUC and to find means to enhance communication skills. In this Endeavour, syllabus was framed considering different levels of students. This yielded significant rise in results to 80%-90% an increase by 30 to 40%. The outcome can be felt both in their results and confidence level.

Enjoy every moment of life to grow professionally at Sahyadri.

**Dr. Umesh M. Bhushi**  
M.Tech, Ph.D (IIT-KGP)  
Principal

## Program Director

### Dr. C. K. Manjunath

Administrator & Professor - Humanities



Dr. C K Manjunath - Professor-Department of Humanities and Social Science and Administrator has joined the Department of Administration.

He has completed his MS from Indian Institute of Science Bangalore and Ph.D. from Massachusetts

Institute of Technology, Boston, USA. His area of Specialization is Artificial Intelligence and Neural Networks in the field of Bio-Medicine. He has 16 years of experience in teaching and administration. He has received Young Scientist Award in 2003 & 2009 for outstanding work in the field of IT. and is a student of the late Dr. A P J Kalam.

- A competent professional with over 17 years of comprehensive experience in Education sector

Teacher, Lecturer and Head of Institution

- Holds the merit of being associated as Coach for IIT, JEE, AIEEE & Entrance Exams
- Highly creative and self-motivated with innovative ideas / concepts for increasing the transference of learning from the lower level to the higher level
- Outstanding interpersonal & employee-relations skills with ability to teach improved communication, diversity skills, and to aid in efficient completion of work
- Conversant with C, C++, Java & VB (to debug any program), HTML, VRML (developed web-pages and designed web sheets)
- Expertise in planning, organizing, coordinating and monitoring all types of curricular and co-curricular activities for the overall personality development of the students
- Actively involved in the day-to-day operations of studies and solid understanding & proven experience in learner success coaching

## Co-ordinator



**Ms. Achala R. Shetty**  
Technical Training Head  
DTLabz

Ms Achala R Shetty, is a head of technical training in an educational start up named Sahyadri Edu DREAMERS R&D Pvt. Ltd (DTLABZ).

She has obtained her B.E degree in electronics and communication from Sahyadri College of Engineering and Management. She has won many prizes in the project competitions held in IIT's and

NIT's. She has also won at "Embed Asia "an international Conference on embedded systems in the field of avionics & automobiles organized by CFEI at IISC Bangalore for her idea and presentation. Her field of interest is in lab VIEW software and robotics. She has organized summer camps and guided more than 900 students on projects and studies. Her interest lies in creating a difference in the education system where the students enjoy their learning. At present, she is heading the hands on experience lab in Sahyadri College of engineering and management.

## Mathematics

Mathematics is mother of all sciences. It is one of the fundamental subjects in the engineering curriculum. However, there is a gap in the mathematics learnt at the PU level and the mathematics they are going to study in the engineering programme. To bridge this gap and strengthen the fundamentals of the students, a module on mathematics is incorporated in the bridge course. It would enable the students to grasp the concepts of mathematics quickly and efficiently in the engineering programme. The students of the previous batches have shared that they gained confidence from the bridge course in cracking engineering subjects.

### Resource Persons



**Mrs. Mitra K.**  
M.Sc., (Ph.D)  
Assoc. Professor



**Mrs. Suchetha**  
M.Sc., (Ph.D)  
Asst. Professor



**Mr. Suresh G. B.**  
M.Sc., M.Phil  
Asst. Professor



**Mr. Mallesh**  
M.Sc., M.Phil  
Asst. Professor



**Mrs. Sunita P. D'Silva**  
M.Sc., M.Phil  
Asst. Professor



**Mr. Deepak Naik**  
B. Sc., M.Sc.  
Asst. Professor



**Mrs. Aysha Shabana**  
M.Sc.  
Asst. Professor



**Ms. Mary Jency Shinto**  
B. Sc., M.Sc., M.Phil  
Asst. Professor

Duration: 30 hrs (22 theory + 8 Tutorials)

Topics
<b>Algebra</b> <ul style="list-style-type: none"> <li>•Method of Solving Quadratic Equations,</li> <li>•Partial Fractions,</li> <li>•Synthetic Division</li> <li>•Factorisation,</li> <li>•Elementary Row transformation</li> </ul>
<b>Differentiation – I</b> <ul style="list-style-type: none"> <li>•Derivatives of all elementary functions</li> <li>•Rules of differentiation:</li> <li>•Derivative of sum, Difference, product rule, Quotient rule</li> </ul>
<b>Differentiation – II</b> <ul style="list-style-type: none"> <li>•Derivatives of composite functions-chain rule</li> <li>•Derivatives of hyperbolic functions</li> <li>•Derivatives of inverse trigonometric functions by substitution</li> <li>•Derivatives of functions defined explicitly, implicitly, Parametrically</li> </ul>
<b>Allied Angles</b> <ul style="list-style-type: none"> <li>•To find the relation between trigonometric functions of <math>(900 \pm \theta)</math>, <math>(1800 \pm \theta)</math>, <math>(2700 \pm \theta)</math>, <math>(3600 \pm \theta)</math></li> <li>•Addition and product formulae</li> <li>•Multiple &amp; Sub multiple formulae</li> </ul>
<b>Integration</b> <ul style="list-style-type: none"> <li>•Integral of a function</li> <li>•Standard forms of the integral calculus</li> <li>•Definite Integrals</li> <li>•Integrals reducible to standard forms by substitution</li> <li>•Integration by partial functions</li> <li>•Integration by parts and Bernoulli's Rule</li> </ul>
<b>Differential Equations</b> <ul style="list-style-type: none"> <li>•Variable separable method</li> <li>•Homogeneous Equations</li> <li>•Linear differential equations</li> <li>•Exact differential Equations</li> </ul>

## SAHYADRI - DREAMERS R&D Pvt. Ltd.

The company is a DREAM of several like minded engineers of different specializations urging to bring a difference in the society. Every member is committed to innovate and invent solutions that could solve the problems of the society. We DREAMERS believe that by providing right resources and guidance, one could realize his/her DREAM of an invention that could prove useful to mankind.

Understanding the importance of creativity and innovation in education and to bring out the talents of budding enthusiasts, team DTLabz was initiated. Everyone in DTLabz believes 'Young technocrats of today should be visionaries of tomorrow', therefore we drive budding visionaries to create wonders through technology.

### Trainers, DTLabz



Johnson Tellis



Gautham Nayak



Nishanth Kottary



John Nikhil



Sachin Ganesh



Preetham Kulal



Shreya



Shrajan Bhandary

## Sports and Cultural Activities

Every individual is unique and possesses special talents. Ample opportunities, facilities and encouragement is required to express this talent and to strive to take it to great heights. An exposure to art and culture along with physical fitness contributes to the healthy overall development. The Department of Art & Culture and Physical Education in our college function towards this end.

The Department of Art & Culture strives to identify the talents in our students and also motivates them to participate in the extracurricular activities and thus boost up art, literature and culture in our college. The Department of Physical Education truly embodies the maxim "Health is wealth." Participation in sports inculcates discipline, team skills, and encourages the development of healthy competition. The department identifies and encourages the sporting talent in the students and motivates them to learn the rules and regulations of various games and sports and participate in competitions and tournaments.

### Resource Persons



**Mrs. Nithisha Rodrigues**  
B.Com., B.PEd., MPEd  
Director of Physical Education



**Mr. Karnakumar. K. S.**  
B.A, B.PEd., M.P.Ed  
Asst. Physical Education Director



**Mr. Naveen Pilar**  
M.A, A.M (fine arts)  
Coordinator  
Dept. of Art & Culture

**Duration:** 6 + 6 = 12 hrs.

Session/Content
Overview of Sports & Games
Indoor recreational games
Indoor games : Table Tennis, Chess, Carrom, Ludo, Chinese Checker
Outdoor recreational games
Outdoor games: Throw ball, Volleyball, Football, Shuttle Badminton 7 Cricket

Topics
Introduction about the department - Basic information about art, culture and theatre
Talent hunt- Identification of special talents (Music, dance, theatre, fine arts)
Theatre activities - Acting classes, voice exercises, theatre games
Creative art – painting by using natural colors
Art film show - discussion

## BRIDGE COURSE SCHEDULE

Day	9:00-10:00	10:00-11:00	11:30-12:30	12:30-01:30	2:15-3:15	3:15-4:15
Day 1	Inaugration		Breaking the Ice		DT Labz - EA	
Day 2	Maths		CS		E & E	
Day 3	Holiday		Holiday		Holiday	
Day 4	Maths		M & C		EA	
Day 5	Maths		E & E		CS	
Day 6	Maths		M & C		Sports	

Day 7	M & C	Maths	CS
Day 8	EA	Maths	E & E
Day 9	CS	Maths	M & C
Day 10	E & E	Maths	Cultural
Day 11	M & C	Maths	CS
Day 12	EA	Maths	Sports

Day 13	Maths	CS	E & E
Day 14	Maths	M & C	EA
Day 15	Maths	E & E	CS
Day 16	Maths	M & C	Sports
Day 17	Maths	Cultural	E & E
Day 18	Cultural	Valedictory	



## DTLabz



## Glimpses of Bridge Courses Held...



## Companies visited Sahyadri during the Academic Year 2015-16

- |                                |                                |                             |
|--------------------------------|--------------------------------|-----------------------------|
| 1 Accord Software              | 51 ICICI Securities            | 101 SAN Engineering         |
| 2 Adhaya Innovations           | 52 Indian Telephone Industries | 102 Sankalp Semiconductor   |
| 3 Aimfill                      | 53 Indian Army                 | 103 SAP LABS                |
| 4 Airtel                       | 54 Indian Navy                 | 104 Seventh Sense Talent    |
| 5 All Cargo Logistics          | 55 Indo-US MIM                 | 105 SIMS                    |
| 6 Amada                        | 56 Infosys                     | 106 Skypro                  |
| 7 Amazon                       | 57 ITC                         | 107 SLK Software            |
| 8 American Mega Trends         | 58 iWave                       | 108 Sonata Software         |
| 9 Anglo Eastern                | 59 JSW                         | 109 Spicer India            |
| 10 ANZ Corporation             | 60 Juego Studios               | 110 SSS Springs             |
| 11 Aravind Motors              | 61 Karmic                      | 111 Synchro                 |
| 12 Aricent Technologies        | 62 Kavim Corporation           | 112 Syntel                  |
| 13 Aris Global                 | 63 Keihifine                   | 113 T3 Urban Developers     |
| 14 Artech Information Systems  | 64 Keynes Technology           | 114 Tayana Software         |
| 15 Aryaka Networks             | 65 Kheik fie                   | 115 TCS                     |
| 16 Avalon Technologies         | 66 KPMG                        | 116 Tech Mahindra           |
| 17 Axis Bank                   | 67 KSRTC                       | 117 Techjini                |
| 18 BASF                        | 68 L & T                       | 118 Tega Industries         |
| 19 Bharat Earth Movers         | 69 LG                          | 119 Telenetix               |
| 20 BHEL                        | 70 M Results Services          | 120 Tessolve Semiconductors |
| 21 Bridge Stone India          | 71 Madhura Garments            | 121 Tetherfi Technologies   |
| 22 Cadence                     | 72 Magna Infotech              | 122 Theorem                 |
| 23 Care ITI Solutions          | 73 Mangalore Infotech          | 123 Thomson Reuters         |
| 24 Careernet                   | 74 Manipal Digital System      | 124 Titan Industries        |
| 25 Celstream Technologies      | 75 Manipal Group               | 125 Toyota Kirloskar        |
| 26 Centrum Direct              | 76 Maventic                    | 126 Tractor and Farm        |
| 27 Cigital                     | 77 MCF                         | 127 Triveni Turbines        |
| 28 Clutch Group                | 78 MECTON GROUP                | 128 TVS Motors              |
| 29 CMC                         | 79 Mescom                      | 129 TVS Training Services   |
| 30 Capgemini                   | 80 Mphasis                     | 130 Unisys                  |
| 31 Cognizant                   | 81 Mu Sigma                    | 131 UST-Global              |
| 32 Concord Motors              | 82 Nandi Toyota                | 132 UTC Aerospace Systems   |
| 33 Data & Research Institute   | 83 NGCN                        | 133 Vantage Agora           |
| 34 Diya Systems                | 84 Novigo Solutions            | 134 Vee Technologies        |
| 35 E&Y                         | 85 NTT Data                    | 135 VIT Infotech            |
| 36 Ethnus                      | 86 OMNiON                      | 136 Winman                  |
| 37 Exide Life Insurance        | 87 Oracle Financials           | 137 Wipro Infrastructure    |
| 38 FACE                        | 88 Orate                       | 138 Wuert Elektronik India  |
| 39 Federal Bank                | 89 PEOL                        | 139 Xchanging               |
| 40 Financial Software Solution | 90 Persistent Systems          | 140 XL Dynamics India       |
| 41 Global Automation           | 91 Polycab Wires               | 141 Zensar Technologies     |
| 42 Global E-Softsys            | 92 Prasanna Technologies       |                             |
| 43 Good Through Solutions      | 93 Primacy                     |                             |
| 44 HCL                         | 94 Randstad                    |                             |
| 45 HDFC Life                   | 95 Rane Engine Valve           |                             |
| 46 HGS                         | 96 Razor Think                 |                             |
| 47 Hindustan Unilever          | 97 Reliance                    |                             |
| 48 HP                          | 98 Retail On                   |                             |
| 49 Huawei Technologies         | 99 RiiiT                       |                             |
| 50 IBM                         | 100 Robosoft Technologies      |                             |

140+  
companies  
visited the campus  
for Placement

## Interactions by Eminent Personalities at Sahyadri Campus



...Sahyadri has organized more than 300 industry interactions.

**ACADEMICS... RESEARCH...  
INNOVATION...**

**ENTREPRENEURSHIP...  
ONLY@SAHYADRI**



**Sahyadri Initiatives**

The institution has supported students to participate in Automotive and Aero Design competitions which help students to use their theoretical knowledge for practical applications. Sahyadri students have qualified and won national and International awards.

Proud to be a **Sahyadrian**

**“Best Young Innovators”**

National Award for ‘Smart Helmet’ a joint initiative of AICTE, Department of Science & Technology, Govt. of India and CII was held at IIT Delhi in Dec 2015

**“International Recognition”**

4th Place in SAE International Aero Design - 2016 among 75 top universities @ Texas,USA

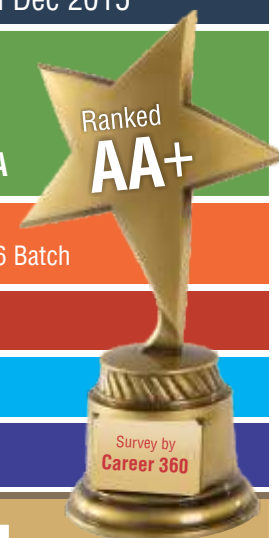
**400+** Students are Placed with **500+** offers in 2015-16 Batch

Research Grant from **VGST, DST, DRDO, KSCST and AICTE**

**50+** student projects selected for funding

**8 Start-up companies** by students

**WE INSPIRE TRANSFORM  
AND DEVELOP**



**Feedback from 2015 Batch**



**Pranjal Rai**  
Mechanical Branch  
First Year Student

I had joined bridge course before commencement of the college as it was told that it would help me during my college days and it actually was very helpful for me. The education gap between PUC and Engineering is too large and the bridge course is the way to fill that gap difference as the faculty taught us the basics of engineering subjects like mathematics, computer. The faculty even taught us how to use the scientific calculator without it, it would have been very difficult to solve problems with the help of the calculator. Bridge course was not only about studies it also had the project hour where I learnt many new concepts related to science. Because of bridge course I even made new friends. I enjoyed a lot during bridge course and I will recommend my juniors to join bridge course as it will be very helpful for them in the same way as it has helped me.



**Nidarsh Nithyananda**  
CS&E  
First year Student

The Bridge course literally bridged the difference between the Pre University curriculum and the engineering curriculum. It helped the students to adapt oneself to the campus environment. The one month course consisted of theory sessions of Mathematics and an insight about C programming, which was a mysterious subject to the students of biology background. Apart from the theory sessions, we attended the fun-filled Project hours guided by the DT Labz. They introduced us to the technical aspects of gadgets, which we were unaware of. Project hours gave us the hands on experience, which we lacked during our Pre University Education. We also attended few guidance seminars on how to efficiently plan the next four important years of our life.

The Bridge Course transformed the raw, confused entrants into confident prospective engineers ready to absorb the knowledge of vast field of engineering. By the end of the course, I felt we couldn't have had a better way to utilise our holidays before the beginning of the course.

I would love to recommend my juniors to join the Bridge Course, which would definitely help them to enrich their knowledge and hone their skills as it did to me.



**Alka Deepak**  
E&C  
First Year Student

Initially I attended the Bridge Course as everyone told me it was a good idea to do so. Although at the time I felt sad that I had given up my last month of vacation for the Bridge Course, now looking back at it, I don't regret it. Not even a bit.

The major effect that the Bridge Course had on me was the confidence that I gained. The first day of college was a fear in my heart at first. Especially because I didn't know anyone and the local language and I was far away from home. I met most of the faculty during the Bridge Course and their classes were helpful. Since I took Computer Science basics of C Language which was taught during the Bridge Course. But for all those who had taken Biology, those classes were a major help. We even got to meet few of our seniors through those sessions. That was when I realized that seniors were friendly and we didn't have to worry about them or any ragging. We were even able to build our own remote controlled or automated robots by the end of Bridge Course. But the best part was when I came to this college I literally didn't have even one person to call a friend but at the end of the Bridge Course I had two classes full of students who attended the Bridge Course that I could call my friends.



**Prajwal Shetty**  
IS&E  
First Year Student

Bridge course it was a 3 weeks course. It was a very useful session for me. I had been opportunity to execute my talent and along with academic with a lot of interactive activities. This bridge course stressed like motivation, individual attention, and development of self confidence and special method of teachings. Also it gave me basic knowledge to get prepared for engineering course. Sessions were conducted on how do go further with project & research. Interactive videos about the projects and designing of branded vehicles which I was not aware of had been showed. The students are monitored constantly to overcome their weakness and are made ready for B.E first year.



**Zulaika Rahila**  
Civil Engineering  
First Year Student

The bridge course which I attended had benefited me in many ways. It helped me clear my first semester exams with FCD. The bridge course taught me how to work on projects and it also helped me socialize with people which all over boosted my confidence. I am benefited by this bridge course provided by the college.