



# SHREE VENKATESHWARA HI-TECH ENGINEERING COLLEGE

An ISO 9001:2015 Certified Institution

(Approved by AICTE, New Delhi and Affiliated to Anna University Chennai)

Sri Kalaivani Nagar, Erode-Gobi Main Road, Othakuthirai,

K.Mettupalayam Post, Gobichettipalayam – 638 455, Erode District, Tamilnadu

Web: <http://www.svhed.com>



## DEPARTMENT OF MECHANICAL ENGINEERING

### List of COs for UG courses under Anna University Regulation 2017

<b>Semester</b>	:	I
<b>Course Code &amp; Name</b>	:	HS8151 & Communicative English
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019, 2019-20
<b>COs No.</b>	<b>Course Outcome</b>	
C101.1	<b>Speak</b> and express their opinions clearly, initiate a discussion, negotiate, argue using appropriate communicative strategies	
C101.2	<b>Write</b> effectively and persuasively and produce different types of writing as creative, critical, analytical and evaluative writing	
C101.3	<b>Read</b> different genres of texts, infer implied meanings and critically analyse and evaluate them for ideas as well as for method of presentation	
C101.4	<b>Realize</b> the essentiality of the informal conversation	
C101.5	<b>Understand</b> the different qualities expected in the interviews and they realize the importance of GD	
<b>Semester</b>	:	I
<b>Course Code &amp; Name</b>	:	MA8151 & Engineering Mathematics – I
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019, 2019-20
<b>COs No.</b>	<b>Course Outcome</b>	
C102.1	<b>Apply</b> the mathematical knowledge of rules of differentiation to differentiate one variable Function	
C102.2	Apply and understand the knowledge of differentiation to solve value of the function	
C102.3	<b>Classify</b> and able to Identify the substitution rules	
C102.4	<b>Identify</b> the Basic knowledge and understanding in one field of area and volume of solid materials	
C102.5	<b>Identify</b> a basic knowledge and understanding techniques in solving differential equations	
<b>Semester</b>	:	I
<b>Course Code &amp; Name</b>	:	PH8151 & Engineering Physics
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019, 2019-20
<b>COs No.</b>	<b>Course Outcome</b>	
C103.1	<b>Analyse</b> the various elastic behaviour of materials	
C103.2	<b>Classify</b> the different types of lasers and optical fibres and its power losses	
C103.3	<b>Explain</b> the different thermal properties of materials	
C103.4	<b>Illustrate</b> the time dependent and time independent wave equations	



# SHREE VENKATESHWARA HI-TECH ENGINEERING COLLEGE

An ISO 9001:2015 Certified Institution

(Approved by AICTE, New Delhi and Affiliated to Anna University Chennai)

Sri Kalaivani Nagar, Erode-Gobi Main Road, Othakuthirai,

K.Mettupalayam Post, Gobichettipalayam – 638 455, Erode District, Tamilnadu

Web: <http://www.svhc.com>



C103.5	<b>Understand</b> the structures and properties of crystals	
<b>Semester</b>	:	I
<b>Course Code &amp; Name</b>	:	CY8151 & Engineering Chemistry
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019, 2019-20
<b>COs No.</b>	<b>Course Outcome</b>	
C104.1	<b>Understand</b> the water parameters; requirements of boiler feed water and different water treatment techniques	
C104.2	<b>Understand</b> the basic concept of adsorption, theories and its mechanism	
C104.3	<b>Select</b> the appropriate eutectic mixtures of suitable alloys	
C104.4	<b>Acquire</b> the knowledge about the manufacture of solid, liquid and gaseous fuel to meet environmental sustainability	
C104.5	<b>Relate</b> the principle and generation of energy in battery, Nuclear reactor , Solar cells, Wind mill and fuel cell for future	
<b>Semester</b>	:	I
<b>Course Code &amp; Name</b>	:	GE8151 & Problem Solving and Python Programming
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019, 2019-20
<b>COs No.</b>	<b>Course Outcome</b>	
C105.1	<b>Develop</b> algorithmic solutions to simple computational problems	
C105.2	<b>Read, write, execute</b> by hand simple Python programs	
C105.3	<b>Structure</b> Python programs with functions for solving problems	
C105.4	<b>Represent</b> compound data using Python lists, tuples, dictionaries	
C105.5	<b>Read and write</b> data from/to files in Python Programs	
<b>Semester</b>	:	I
<b>Course Code &amp; Name</b>	:	GE8152 & Engineering Graphics
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019, 2019-20
<b>COs No.</b>	<b>Course Outcome</b>	
C106.1	<b>Construct and understand</b> the importance of conical curves and orthographical projections in engineering applications	
C106.2	<b>Draw</b> the basic views related to projections of Lines, Planes	
C106.3	<b>Draw</b> the projections of solids	
C106.4	<b>Sectioned and develop</b> the surface of geometrical objects	



# SHREE VENKATESHWARA HI-TECH ENGINEERING COLLEGE

An ISO 9001:2015 Certified Institution

(Approved by AICTE, New Delhi and Affiliated to Anna University Chennai)

Sri Kalaivani Nagar, Erode-Gobi Main Road, Othakuthirai,

K.Mettupalayam Post, Gobichettipalayam – 638 455, Erode District, Tamilnadu

Web: <http://www.svhc.com>



C106.5	<b>Interpret</b> Isometric and Perspective views of object	
<b>Semester</b>	:	I
<b>Course Code &amp; Name</b>	:	GE8161 & Problem Solving and Python Programming Laboratory
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019, 2019-20
<b>COs No.</b>	<b>Course Outcome</b>	
C107.1	<b>Write, test, and debug</b> simple Python programs.	
C107.2	<b>Implement</b> Python programs with conditionals and loops.	
C107.3	<b>Develop</b> Python programs step-wise by defining functions and calling them.	
C107.4	<b>Use</b> Python lists, tuples, dictionaries for representing compound data.	
C107.5	<b>Read and write</b> data from/to files in Python.	
<b>Semester</b>	:	I
<b>Course Code &amp; Name</b>	:	BS8161 & Physics and Chemistry Laboratory
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019, 2019-20
<b>COs No.</b>	<b>Course Outcome</b>	
C108.1	<b>Determine</b> wavelength of mercury spectrum and velocity of sound	
C108.2	<b>Determine</b> the Young's modulus of the materials, Band gap of the semiconductor materials	
C108.3	<b>Estimate</b> the Hardness, chloride, alkalinity and dissolved oxygen in water samples	
C108.4	<b>Determine</b> the amount of simple acid base, mixture of acids by Conductometric titration & Potentiometric titration	
C108.5	<b>Analysis</b> of water quality related parameters	
<b>Semester</b>	:	II
<b>Course Code &amp; Name</b>	:	HS8251 & Technical English
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019, 2019-20
<b>COs No.</b>	<b>Course Outcome</b>	
C109.1	<b>Speak</b> convincingly, express their opinions clearly, initiate a discussion, negotiate, argue using appropriate communicative strategies.	
C109.2	<b>Write</b> effectively and persuasively and produce different types of writing such as narration, description, exposition and argument as well as creative, critical, analytical and evaluative writing.	
C109.3	<b>Read</b> different genres of texts, infer implied meanings and critically analyse and evaluate them for ideas as well as for method of presentation	
C109.4	<b>Realize</b> the essentiality of the informal conversation	



# SHREE VENKATESHWARA HI-TECH ENGINEERING COLLEGE

An ISO 9001:2015 Certified Institution

(Approved by AICTE, New Delhi and Affiliated to Anna University Chennai)

Sri Kalaivani Nagar, Erode-Gobi Main Road, Othakuthirai,

K.Mettupalayam Post, Gobichettipalayam – 638 455, Erode District, Tamilnadu

Web: <http://www.svhec.com>



C109.5	<b>Understand</b> the different qualities expected in the interviews and they realize the importance of GD	
<b>Semester</b>	:	II
<b>Course Code &amp; Name</b>	:	MA8251 & Engineering Mathematics – II
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019, 2019-20
<b>COs No.</b>	<b>Course Outcome</b>	
C110.1	<b>Analyse</b> the Eigen values and Eigen vectors, Cauley Hamilton from matrix	
C110.2	<b>Classify</b> the basic formula and solve problem related to vector and scalar point function	
C110.3	<b>Identify</b> and find the analytic function satisfy Cauchy – Riemann equation	
C110.4	<b>Apply</b> Cauchy – Riemann formula, Taylors and Laurents to solve complex integration	
C110.5	<b>Acquire</b> the student with Laplace transforms techniques used in variety of situations	
<b>Semester</b>	:	II
<b>Course Code &amp; Name</b>	:	PH8251 & Materials Science
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019, 2019-20
<b>COs No.</b>	<b>Course Outcome</b>	
C111.1	<b>Gain</b> knowledge on classical and quantum electron theories	
C111.2	<b>Acquire</b> knowledge on basics of semiconductor	
C111.3	<b>Get</b> knowledge on magnetic and superconducting materials	
C111.4	<b>Learn</b> the basic of dielectric materials and their applications	
C111.5	<b>Introduce</b> the concepts of advanced engineering materials and its engineering applications.	
<b>Semester</b>	:	II
<b>Course Code &amp; Name</b>	:	BE8253 & Basic Electrical, Electronics and Instrumentation Engineering
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019, 2019-20
<b>COs No.</b>	<b>Course Outcome</b>	
C112.1	<b>Apply</b> the concept of electric circuit laws, network reduction theorems	
C112.2	<b>Understand</b> electric circuits	
C112.3	<b>Understand</b> working principles of electrical machines	
C112.4	<b>Understand</b> the concepts of various electronic devices	



# SHREE VENKATESHWARA HI-TECH ENGINEERING COLLEGE

An ISO 9001:2015 Certified Institution

(Approved by AICTE, New Delhi and Affiliated to Anna University Chennai)

Sri Kalaivani Nagar, Erode-Gobi Main Road, Othakuthirai,

K.Mettupalayam Post, Gobichettipalayam – 638 455, Erode District, Tamilnadu

Web: <http://www.svhec.com>



C112.5	<b>Choose</b> appropriate instruments for electrical measurement for a specific application	
<b>Semester</b>	:	II
<b>Course Code &amp; Name</b>	:	GE8291 & Environmental Science and Engineering
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019, 2019-20
<b>COs No.</b>	<b>Course Outcome</b>	
C113.1	<b>Recall</b> the nature and facts about the environment	
C113.2	<b>Apply</b> the scientific, technological, economic and political solutions to environmental pollutions	
C113.3	<b>Discuss</b> the integrated themes of natural resources and its need for sustainable life style	
C113.4	<b>Relate</b> the social issues, acquiring knowledge about the societal and legal responsibilities of individuals	
C113.5	<b>Aware</b> about population growth, family welfare, human health and value education	
<b>Semester</b>	:	II
<b>Course Code &amp; Name</b>	:	GE8292 & Engineering Mechanics
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019, 2019-20
<b>COs No.</b>	<b>Course Outcome</b>	
C114.1	<b>Understand</b> the various systems of forces and action of the resultant force on the particular system to maintain the object in static condition	
C114.2	<b>Understand</b> the action of force on a member to provide a support reaction for the forces to maintain the member under equilibrium	
C114.3	<b>Calculate</b> the centre of gravity and moment of inertia for composite section	
C114.4	<b>Apply</b> the various characteristics of kinematics and kinetics	
C114.5	<b>Analysis</b> of rolling resistance and motion of an object under the condition of general plane motion	
<b>Semester</b>	:	II
<b>Course Code &amp; Name</b>	:	GE8261 & Engineering Practices Laboratory
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019, 2019-20
<b>COs No.</b>	<b>Course Outcome</b>	
C115.1	<b>Apply</b> the knowledge of pipeline connections to household fittings and industrial buildings	
C115.2	<b>Prepare</b> the different joints in roofs, doors, windows and furniture	
C115.3	<b>Perform</b> step turning operation in a lathe	
C115.4	<b>Perform</b> the various welding processes and know about its applications	



# SHREE VENKATESHWARA HI-TECH ENGINEERING COLLEGE

An ISO 9001:2015 Certified Institution

(Approved by AICTE, New Delhi and Affiliated to Anna University Chennai)

Sri Kalaivani Nagar, Erode-Gobi Main Road, Othakuthirai,

K.Mettupalayam Post, Gobichettipalayam – 638 455, Erode District, Tamilnadu

Web: <http://www.svhc.com>



C115.5	<b>Produce</b> a funnel using sheet metal	
<b>Semester</b>	:	II
<b>Course Code &amp; Name</b>	:	BE8261 & Basic Electrical, Electronics and Instrumentation Engineering Laboratory
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019, 2019-20
<b>COs No.</b>	<b>Course Outcome</b>	
C116.1	<b>Determine</b> the speed characteristic of different electrical machines	
C116.2	<b>Design</b> simple circuits involving diodes and transistors	
C116.3	<b>Use</b> operational amplifiers	
C116.4	<b>Undergo</b> various tests on electrical drives	
C116.5	<b>Use</b> sensors and circuits for various purpose	
<b>Semester</b>	:	III
<b>Course Code &amp; Name</b>	:	MA8353 & Transforms and Partial Differential Equations
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019
<b>COs No.</b>	<b>Course Outcome</b>	
C201.1	<b>Understand</b> how to solve the given standard partial differential equations	
C201.2	<b>Solve</b> differential equations using Fourier series analysis which plays a vital role in engineering applications	
C201.3	<b>Understand</b> the physical significance of Fourier series techniques in solving one and two dimensional heat flow problems and one dimensional wave equations	
C201.4	<b>Understand</b> the mathematical principles on transforms and partial differential equations would provide them the ability to formulate and solve some of the physical problems of engineering	
C201.5	<b>Use</b> the effective mathematical tools for the solutions of partial differential equations by using Z transform techniques for discrete time systems.	
<b>Semester</b>	:	III
<b>Course Code &amp; Name</b>	:	ME8391 & Engineering Thermodynamics
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019
<b>COs No.</b>	<b>Course Outcome</b>	
C202.1	<b>Define</b> the properties of thermodynamic system, basic concepts and energy transfer.	
C202.2	<b>Relate</b> second law of thermodynamics to closed and open systems	
C202.3	<b>Interpret</b> the properties and application of steam in power cycles	
C202.4	<b>Explain</b> Thermodynamic relations of ideal and real gases	



# SHREE VENKATESHWARA HI-TECH ENGINEERING COLLEGE

An ISO 9001:2015 Certified Institution

(Approved by AICTE, New Delhi and Affiliated to Anna University Chennai)

Sri Kalaivani Nagar, Erode-Gobi Main Road, Othakuthirai,

K.Mettupalayam Post, Gobichettipalayam – 638 455, Erode District, Tamilnadu

Web: <http://www.svhec.com>



C202.5	<b>Infer</b> psychometric, gas mixtures properties and its applications	
<b>Semester</b>	:	III
<b>Course Code &amp; Name</b>	:	CE8394 & Fluid Mechanics and Machinery
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019
<b>COs No.</b>	<b>Course Outcome</b>	
C203.1	<b>Predict</b> the properties, mechanics of fluids and flow characteristics of a fluid.	
C203.2	<b>Understand</b> the concepts of flow through circular conduits.	
C203.3	<b>Perform</b> the mathematical analysis of dimensional analysis.	
C203.4	<b>Analyse</b> the performance of Roto-dynamic machines and pumps.	
C203.5	<b>Analyses</b> the performance of turbines.	
<b>Semester</b>	:	III
<b>Course Code &amp; Name</b>	:	ME8351 & Manufacturing Technology - I
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019
<b>COs No.</b>	<b>Course Outcome</b>	
C204.1	<b>Explain</b> different metal casting processes, associated defects, merits and demerits	
C204.2	<b>Compare</b> different metal joining processes.	
C204.3	<b>Summarize</b> various hot working and cold working methods of metals.	
C204.4	<b>Explain</b> various sheet metal making processes.	
C204.5	<b>Select</b> appropriate methods for manufacturing the required components.	
<b>Semester</b>	:	III
<b>Course Code &amp; Name</b>	:	EE8353 & Electrical Drives and Controls
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019
<b>COs No.</b>	<b>Course Outcome</b>	
C205.1	<b>Select</b> the rating and classes of duty of machines for particular application electrical drive and draw the heating and cooling curves.	
C205.2	<b>Explain</b> the mechanical and braking characteristics of DC and AC machines for particular application of electrical drive.	
C205.3	<b>Describe</b> the starting methods of both DC and AC machines	
C205.4	<b>Clarify</b> conventional and solid state speed control of DC drives.	





# SHREE VENKATESHWARA HI-TECH ENGINEERING COLLEGE

An ISO 9001:2015 Certified Institution

(Approved by AICTE, New Delhi and Affiliated to Anna University Chennai)

Sri Kalaivani Nagar, Erode-Gobi Main Road, Othakuthirai,

K.Mettupalayam Post, Gobichettipalayam – 638 455, Erode District, Tamilnadu

Web: <http://www.svhc.com>



C205.5	<b>Enlighten</b> the speed control of DC and AC drive by conventional and solid state methods.	
<b>Semester</b>	:	III
<b>Course Code &amp; Name</b>	:	ME8361 & Manufacturing Technology Laboratory - I
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019
<b>COs No.</b>	<b>Course Outcome</b>	
C206.1	<b>Perform</b> the taper turning operation for a given specification.	
C206.2	<b>Perform</b> thread cutting operation as per the diagrams and compare with standard thread gauges.	
C206.3	<b>Calculate</b> the eccentricity value for the required stroke length and practice eccentricity turning operation in a lathe.	
C206.4	<b>Produce</b> square head using shaper machine as per given drawing and estimate the machining time.	
C206.5	<b>Calculate</b> the material removal rate and perform Hexagonal head shaping on a given cylindrical work piece as per given drawing.	
<b>Semester</b>	:	III
<b>Course Code &amp; Name</b>	:	ME8381 & Computer Aided Machine Drawing
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019
<b>COs No.</b>	<b>Course Outcome</b>	
C207.1	<b>Use</b> the software package for drafting and modeling.	
C207.2	<b>Create</b> a new 2D and 3D models of Engineering Components.	
C207.3	<b>Draw</b> orthographic view from isographic view.	
C207.4	<b>Study</b> the various commands of software to draw basic shapes.	
C207.5	<b>Evaluate</b> the plan of residential buildings.	
<b>Semester</b>	:	III
<b>Course Code &amp; Name</b>	:	EE8361 & Electrical Engineering Laboratory
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019
<b>COs No.</b>	<b>Course Outcome</b>	
C208.1	<b>Perform</b> Load test on DC machines	
C208.2	<b>Obtain</b> Speed characteristics of DC machines	
C208.3	<b>Evaluate</b> the performance of Transformers	
C208.4	<b>Evaluate</b> the performance of Alternators	





# SHREE VENKATESHWARA HI-TECH ENGINEERING COLLEGE

An ISO 9001:2015 Certified Institution

(Approved by AICTE, New Delhi and Affiliated to Anna University Chennai)

Sri Kalaivani Nagar, Erode-Gobi Main Road, Othakuthirai,

K.Mettupalayam Post, Gobichettipalayam – 638 455, Erode District, Tamilnadu

Web: <http://www.svhed.com>



C208.5	<b>Perform</b> Load test on AC machines		
<b>Semester</b>	:	III	
<b>Course Code &amp; Name</b>	:	HS8381 & Interpersonal Skills / Listening & Speaking	
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019	
<b>COs No.</b>	<b>Course Outcome</b>		
C209.1	<b>Enhance</b> understanding of listening to the study of interpersonal and personal relationships		
C209.2	<b>Provide</b> guidance and practice in specific academic speaking activities		
C209.3	<b>Analyse</b> the given topic and develop conversation		
C209.4	<b>Make</b> effective presentation in a group		
C209.5	<b>Apply</b> contextual strategies for presentation and business interactive communication		
<b>Semester</b>	:	IV	
<b>Course Code &amp; Name</b>	:	MA8452 & Statistics and Numerical Methods	
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019	
<b>COs No.</b>	<b>Course Outcome</b>		
C210.1	<b>Apply</b> the concept of testing of hypothesis for small and large samples in real life problems.		
C210.2	<b>Apply</b> the basic concepts of classifications of design of experiments in the field of agriculture		
C210.3	<b>Appreciate</b> the numerical techniques of interpolation in various intervals and apply the numerical techniques of differentiation and integration for engineering problems		
C210.4	<b>Understand</b> the knowledge of various techniques and methods for solving first and second order ordinary differential equations		
C210.5	<b>Solve</b> the partial and ordinary differential equations with initial and boundary conditions by using certain techniques with engineering applications		
<b>Semester</b>	:	IV	
<b>Course Code &amp; Name</b>	:	ME8492 & Kinematics of Machinery	
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019	
<b>COs No.</b>	<b>Course Outcome</b>		
C211.1	<b>Understand</b> the basic concept of layout of linkages in a system/machine.		
C211.2	<b>Analyze</b> a machine for displacement, velocity and acceleration at any point in a moving link.		
C211.3	<b>Understand</b> the concept of cam mechanisms for specified output motions and able to design set of linkages.		
C211.4	<b>Understand</b> the basic concept of gearing and gear train mechanisms.		



# SHREE VENKATESHWARA HI-TECH ENGINEERING COLLEGE

An ISO 9001:2015 Certified Institution

(Approved by AICTE, New Delhi and Affiliated to Anna University Chennai)

Sri Kalaivani Nagar, Erode-Gobi Main Road, Othakuthirai,

K.Mettupalayam Post, Gobichettipalayam – 638 455, Erode District, Tamilnadu

Web: <http://www.svhec.com>



C211.5	<b>Understand</b> the roll of friction in transmission and in machine components.		
<b>Semester</b>	:	IV	
<b>Course Code &amp; Name</b>	:	ME8451 & Manufacturing Technology- II	
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019	
<b>COs No.</b>	<b>Course Outcome</b>		
C212.1	<b>Explain</b> the mechanism of material removal processes.		
C212.2	<b>Describe</b> the constructional and operational features of centre lathe and other special purpose lathes.		
C212.3	<b>Describe</b> the constructional and operational features of shaper, planner, milling, and drilling, sawing and broaching machines.		
C212.4	<b>Explain</b> the types of grinding and other super finishing processes apart from gear manufacturing processes.		
C212.5	<b>Summarize</b> numerical control of machine tools and write a part program.		
<b>Semester</b>	:	IV	
<b>Course Code &amp; Name</b>	:	ME8491 & Engineering Metallurgy	
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019	
<b>COs No.</b>	<b>Course Outcome</b>		
C213.1	<b>Explain</b> alloys and phase diagram, Iron-Iron carbon diagram and steel classification.		
C213.2	<b>Explain</b> isothermal transformation, continuous cooling diagrams and different heat treatment processes.		
C213.3	<b>Clarify</b> the effect of alloying elements on ferrous and non-ferrous metals		
C213.4	<b>Summarize</b> the properties and applications of non metallic materials.		
C213.5	<b>Explain</b> the testing of mechanical properties.		
<b>Semester</b>	:	IV	
<b>Course Code &amp; Name</b>	:	CE8395 & Strength of Materials for Mechanical engineers	
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019	
<b>COs No.</b>	<b>Course Outcome</b>		
C214.1	<b>Understand</b> the concepts and principles applied to members under various loadings and their effects using the fundamental concepts of stress, strain and elastic behavior of materials.		
C214.2	<b>Calculate</b> the Shear force and Bending Moment for different Beam under different loading condition.		
C214.3	<b>Understand</b> the concept of torsion and can apply this concept in Spring and Shaft.		
C214.4	<b>Calculate</b> the slope and deflection for various beams using appropriate method.		



# SHREE VENKATESHWARA HI-TECH ENGINEERING COLLEGE

An ISO 9001:2015 Certified Institution

(Approved by AICTE, New Delhi and Affiliated to Anna University Chennai)

Sri Kalaivani Nagar, Erode-Gobi Main Road, Othakuthirai,

K.Mettupalayam Post, Gobichettipalayam – 638 455, Erode District, Tamilnadu

Web: <http://www.svhec.com>



C214.5	<b>Analysis</b> of stresses induced in thin and thick vessels and can able to design it based on the internal pressure	
<b>Semester</b>	:	IV
<b>Course Code &amp; Name</b>	:	ME8493 & Thermal Engineering - I
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019
<b>COs No.</b>	<b>Course Outcome</b>	
C215.1	<b>Apply</b> thermodynamic concepts to different air standard cycles and solve problems	
C215.2	<b>Solve</b> problems in single stage and multistage air compressors	
C215.3	<b>Explain</b> the functioning and features of IC engines, components and auxiliaries	
C215.4	<b>Calculate</b> performance parameters of IC Engines	
C215.5	<b>Explain</b> the flow in Gas turbines and solve problems	
<b>Semester</b>	:	IV
<b>Course Code &amp; Name</b>	:	ME8462 & Manufacturing Technology Laboratory-II
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019
<b>COs No.</b>	<b>Course Outcome</b>	
C216.1	<b>Demonstrate</b> contour milling and generate a spur gear from a cylindrical work piece.	
C216.2	<b>Perform</b> helical gear cutting operation and generate gear using hobbing machine.	
C216.3	<b>Generate</b> gear using gear shaping machine and demonstrate plain surface grinding operation.	
C216.4	<b>Perform</b> cylindrical grinding operation and practice Tool angle grinding with tool and Cutter Grinder.	
C216.5	<b>Measure</b> cutting forces in Milling / Turning Process and develop CNC part programming.	
<b>Semester</b>	:	IV
<b>Course Code &amp; Name</b>	:	CE8381 & Strength of Materials and Fluid Mechanics and Machinery Laboratory
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019
<b>COs No.</b>	<b>Course Outcome</b>	
C217.1	<b>Perform</b> Tension, Torsion and Hardness test on Solid materials.	
C217.2	<b>Perform</b> Compression and Deformation test on Solid materials.	
C217.3	<b>Perform</b> Tension, Torsion, Hardness, Compression, and Deformation test on Solid materials.	
C217.4	<b>Use</b> the measurement equipments for flow measurement.	



# SHREE VENKATESHWARA HI-TECH ENGINEERING COLLEGE

An ISO 9001:2015 Certified Institution

(Approved by AICTE, New Delhi and Affiliated to Anna University Chennai)

Sri Kalaivani Nagar, Erode-Gobi Main Road, Othakuthirai,

K.Mettupalayam Post, Gobichettipalayam – 638 455, Erode District, Tamilnadu

Web: <http://www.svhec.com>



C217.5	<b>Perform</b> test on different fluid machinery.	
<b>Semester</b>	:	IV
<b>Course Code &amp; Name</b>	:	HS8461 & Advanced Reading and Writing
<b>Year of Study</b>	:	2017 – 2018, 2018 – 2019
<b>COs No.</b>	<b>Course Outcome</b>	
C218.1	<b>Interpret</b> texts in different aspects and understand writing strategies before writing	
C218.2	<b>Comprehend</b> the texts and able to write with examples	
C218.3	<b>Enhance</b> students writing skills with specific reference to technical writing	
C218.4	<b>Provide</b> more opportunities to develop and proposal writing skills	
C218.5	<b>Develop</b> students critical thinking skills	
<b>Semester</b>	:	V
<b>Course Code &amp; Name</b>	:	ME8595 & Thermal Engineering- II
<b>Year of Study</b>	:	2017 – 2018
<b>COs No.</b>	<b>Course Outcome</b>	
C301.1	<b>Solve</b> problems in Steam Nozzle	
C301.2	<b>Explain</b> the functioning and features of different types of Boilers and auxiliaries and calculate performance parameters	
C301.3	<b>Explain</b> the flow in steam turbines, draw velocity diagrams for steam turbines and solve problems	
C301.4	<b>Summarize</b> the concept of Cogeneration, Working features of Heat pumps and Heat exchangers	
C301.5	<b>Solve</b> problems using refrigerant table / charts and psychrometric charts	
<b>Semester</b>	:	V
<b>Course Code &amp; Name</b>	:	ME8593 & Design of Machine Elements
<b>Year of Study</b>	:	2017 – 2018
<b>COs No.</b>	<b>Course Outcome</b>	
C302.1	<b>Explain</b> the influence of steady and variable stresses in machine component design.	
C302.2	<b>Apply</b> the concepts of design to shafts, keys and couplings.	
C302.3	<b>Apply</b> the concepts of design to temporary and permanent joints and concepts of design to energy absorbing members, connecting rod and crank shaft.	
C302.4	<b>Apply</b> the concepts of design to bearings.	



# SHREE VENKATESHWARA HI-TECH ENGINEERING COLLEGE

An ISO 9001:2015 Certified Institution

(Approved by AICTE, New Delhi and Affiliated to Anna University Chennai)

Sri Kalaivani Nagar, Erode-Gobi Main Road, Othakuthirai,

K.Mettupalayam Post, Gobichettipalayam – 638 455, Erode District, Tamilnadu

Web: <http://www.svhed.com>



C302.5	<b>Explain</b> the influence of steady and variable stresses in machine component design.		
<b>Semester</b>	:	V	
<b>Course Code &amp; Name</b>	:	ME8501 & Metrology and Measurements	
<b>Year of Study</b>	:	2017 – 2018	
<b>COs No.</b>	<b>Course Outcome</b>		
C303.1	<b>Understand</b> the measurement systems, units and dimensions, calibration and correction.		
C303.2	<b>Understand</b> the various linear and angular measurement systems and understand the concept of interchangeability.		
C303.3	<b>Understand</b> the working principle of auto collimator, CMM and list the applications of them.		
C303.4	<b>Understand</b> the various form measurements like thread, gear, straightness, flatness, roundness and surface finish.		
C303.5	<b>Understand</b> the working of miscellaneous measuring equipment for measuring temperature, velocity, pressure.		
<b>Semester</b>	:	V	
<b>Course Code &amp; Name</b>	:	ME8594 & Dynamics of Machines	
<b>Year of Study</b>	:	2017 – 2018	
<b>COs No.</b>	<b>Course Outcome</b>		
C304.1	<b>Analyze</b> the static and dynamic force in mechanical system		
C304.2	<b>Evaluate</b> the balancing of rotating and reciprocating mass of the engines		
C304.3	<b>Build</b> and <b>contrast</b> the types of damping in vibration of shafts with degrees of freedom		
C304.4	<b>Apply</b> the fundamental concepts in vibrating system to predict the natural frequency of reciprocating and rotating masses		
C304.5	<b>Estimate</b> the speed of governors and determine the gyroscopic couple		
<b>Semester</b>	:	V	
<b>Course Code &amp; Name</b>	:	OCE551 & Air Pollution and Control Engineering	
<b>Year of Study</b>	:	2017 – 2018	
<b>COs No.</b>	<b>Course Outcome</b>		
C305.1	<b>Understand</b> of the nature and characteristics of air pollutants, noise pollution and basic concepts of air quality management		
C305.2	<b>Identify</b> , formulate and solve air and noise pollution problems		
C305.3	<b>Design</b> stacks and particulate air pollution control devices to meet applicable standards		
C305.4	<b>Select</b> control equipments		



# SHREE VENKATESHWARA HI-TECH ENGINEERING COLLEGE

An ISO 9001:2015 Certified Institution

(Approved by AICTE, New Delhi and Affiliated to Anna University Chennai)

Sri Kalaivani Nagar, Erode-Gobi Main Road, Othakuthirai,

K.Mettupalayam Post, Gobichettipalayam – 638 455, Erode District, Tamilnadu

Web: <http://www.svhc.com>



C305.5	Learn quality, control and preventive measures	
<b>Semester</b>	:	V
<b>Course Code &amp; Name</b>	:	ME8511 & Kinematics and Dynamics Laboratory
<b>Year of Study</b>	:	2017 – 2018
<b>COs No.</b>	<b>Course Outcome</b>	
C306.1	<b>Review</b> the various types of gears, gear trains, kinematic mechanisms, and universal joints.	
C306.2	<b>Estimate</b> the mass moment of inertia of axisymmetric objects using Turn table apparatus, bi-filler suspension, compound pendulum and natural frequency for single and double rotor systems, equivalent spring mass system and transverse Vibration.	
C306.3	<b>Inspect</b> the critical speed of shaft under the given load conditions and the gyroscopic effect and couple on motorized gyroscope.	
C306.4	<b>Sketch</b> the characteristic curves of Watt, Porter, Proell and Hartnell governors and motion curves for the given cam follower setup.	
C306.5	<b>Examine</b> the balancing of rotating and reciprocating masses in dynamic balancing machine.	
<b>Semester</b>	:	V
<b>Course Code &amp; Name</b>	:	ME8512 & Thermal Engineering Laboratory
<b>Year of Study</b>	:	2017 – 2018
<b>COs No.</b>	<b>Course Outcome</b>	
C307.1	<b>Appraise</b> the conduction, convection and radiation mode of heat transfer through various applications	
C307.2	<b>Evaluate</b> heat transfer for forced and free convection applications	
C307.3	<b>Calculate</b> the parameters of heat exchangers, condensers and evaporator using LMTD and NTU Methods for various applications	
C307.4	<b>Explain</b> the radiation heat transfer problems	
C307.5	<b>Apply</b> principles of heat and mass transfer to basic thermal engineering systems	
<b>Semester</b>	:	V
<b>Course Code &amp; Name</b>	:	ME8513 & Metrology and Measurements Laboratory
<b>Year of Study</b>	:	2017 – 2018
<b>COs No.</b>	<b>Course Outcome</b>	
C308.1	<b>Understand</b> the dimensions and the dimensional deviations of given parts.	
C308.2	<b>Understand</b> the dimensions, angularity and parallelism of a given component.	
C308.3	<b>Understand</b> the torque characteristic curves to various loads at various distances.	
C308.4	<b>Understand</b> the straightness of surfaces and determine size of irregularities on a machined surface.	



# SHREE VENKATESHWARA HI-TECH ENGINEERING COLLEGE

An ISO 9001:2015 Certified Institution

(Approved by AICTE, New Delhi and Affiliated to Anna University Chennai)

Sri Kalaivani Nagar, Erode-Gobi Main Road, Othakuthirai,

K.Mettupalayam Post, Gobichettipalayam – 638 455, Erode District, Tamilnadu

Web: <http://www.svhed.com>



C308.5	<b>Understand</b> the vertical distances or height of objects, taper angle of slope for a given component, various parameters of threads and gear wheel.		
<b>Semester</b>	:	VI	
<b>Course Code &amp; Name</b>	:	ME8651 & Design of Transmission Systems	
<b>Year of Study</b>	:	2017 – 2018	
<b>COs No.</b>	<b>Course Outcome</b>		
C309.1	<b>Design</b> belt drives, chain drives, rope drives.		
C309.2	<b>Design</b> spur and straight helical gears based on strength and wear consideration.		
C309.3	<b>Design</b> straight bevel gear, worm gear pair and cross helical gear.		
C309.4	<b>Design</b> various gear through geometric progression, standard step ratio, ray diagram, kinematics layout.		
C309.5	<b>Design</b> various cam drive, clutches, internal and external shoe brakes using basic knowledge acquired from earlier studies.		
<b>Semester</b>	:	VI	
<b>Course Code &amp; Name</b>	:	ME8691 & Computer Aided Design and Manufacturing	
<b>Year of Study</b>	:	2017 – 2018	
<b>COs No.</b>	<b>Course Outcome</b>		
C310.1	<b>Described</b> with the product cycle design process, sequential and concurrent Engineering.		
C310.2	<b>Explained</b> with the various types of curves, patches and surfaces and the constructive solid geometry with Boundary representation techniques.		
C310.3	<b>Apply</b> the principle of visual realism for line, surface and solid removal algorithms and Explore the techniques involved in shading and coloring.		
C310.4	<b>Learn</b> to Assemble the machine parts in different interfacing of positions and orientation and Calculate the mass property in the assembly modeling.		
C310.5	<b>Appraise</b> the uses of standard for GKS and open GL library.		
<b>Semester</b>	:	VI	
<b>Course Code &amp; Name</b>	:	ME8693 & Heat and Mass Transfer	
<b>Year of Study</b>	:	2017 – 2018	
<b>COs No.</b>	<b>Course Outcome</b>		
C311.1	<b>Explain</b> the concept of heat transfer through conduction in plane and composite systems		
C311.2	<b>Evaluate</b> forced and free convection parameters during various flow		
C311.3	<b>Explain</b> phase change heat transfer and heat exchanger thermal analysis		
C311.4	<b>Discuss</b> the radiation basics and its evaluation		





# SHREE VENKATESHWARA HI-TECH ENGINEERING COLLEGE

An ISO 9001:2015 Certified Institution

(Approved by AICTE, New Delhi and Affiliated to Anna University Chennai)

Sri Kalaivani Nagar, Erode-Gobi Main Road, Othakuthirai,

K.Mettupalayam Post, Gobichettipalayam – 638 455, Erode District, Tamilnadu

Web: <http://www.svhec.com>



C311.5	<b>Illustrate</b> basic concepts of diffusion and convective mass transfer		
<b>Semester</b>	:	VI	
<b>Course Code &amp; Name</b>	:	ME8692 & Finite Element Analysis	
<b>Year of Study</b>	:	2017 – 2018	
<b>COs No.</b>	<b>Course Outcome</b>		
C312.1	<b>Explain</b> different mathematical Techniques used in FEM analysis		
C312.2	<b>Formulate</b> FE equation for structural, heat transfer and vibration problems		
C312.3	<b>Predict</b> finite element equations for two dimensional thermal and torsion problems.		
C312.4	<b>Predict</b> finite element equations for axisymmetric bodies, plate and shell.		
C312.5	<b>Matrix</b> solution techniques to dynamic problems.		
<b>Semester</b>	:	VI	
<b>Course Code &amp; Name</b>	:	ME8694 & Hydraulics and Pneumatics	
<b>Year of Study</b>	:	2017 – 2018	
<b>COs No.</b>	<b>Course Outcome</b>		
C313.1	<b>Explain</b> the Fluid power and operation of different types of pumps		
C313.2	<b>Summarize</b> the features and functions of Hydraulic motors, actuators and Flow control valves		
C313.3	<b>Explain</b> the different types of Hydraulic circuits and systems		
C313.4	<b>Explain</b> the working of different pneumatic circuits and systems		
C313.5	<b>Summarize</b> the various trouble shooting methods and applications of hydraulic and pneumatic systems.		
<b>Semester</b>	:	VI	
<b>Course Code &amp; Name</b>	:	ME8091 & Automobile Engineering	
<b>Year of Study</b>	:	2017 – 2018	
<b>COs No.</b>	<b>Course Outcome</b>		
C314.1	<b>Understand</b> the various types of chassis, frame and functions of IC engine parts.		
C314.2	<b>Understand</b> the engine auxiliary system used in SI and CI engine.		
C314.3	<b>Understand</b> between the manual transmission systems with automatic transmission systems.		
C314.4	<b>Understand</b> how the steering, brakes and the suspension system operate.		



# SHREE VENKATESHWARA HI-TECH ENGINEERING COLLEGE

An ISO 9001:2015 Certified Institution

(Approved by AICTE, New Delhi and Affiliated to Anna University Chennai)

Sri Kalaivani Nagar, Erode-Gobi Main Road, Othakuthirai,

K.Mettupalayam Post, Gobichettipalayam – 638 455, Erode District, Tamilnadu

Web: <http://www.svhec.com>



C314.5	<b>Understand</b> the importance of alternative fuels.		
<b>Semester</b>	:	VI	
<b>Course Code &amp; Name</b>	:	ME8681 & C.A.D. / C.A.M. Laboratory	
<b>Year of Study</b>	:	2017 – 2018	
<b>COs No.</b>	<b>Course Outcome</b>		
C315.1	<b>Create</b> 2D and 3D models using modeling software.		
C315.2	<b>Understand</b> the CNC control in modern manufacturing system.		
C315.3	<b>Prepare</b> CNC part programming and perform manufacturing.		
C315.4	<b>Create</b> the CL Data and Post process generation using CAM packages.		
C315.5	<b>Apply</b> CAPP in Machining and Turning Centre.		
<b>Semester</b>	:	VI	
<b>Course Code &amp; Name</b>	:	ME8682 & Design and Fabrication Project	
<b>Year of Study</b>	:	2017 – 2018	
<b>COs No.</b>	<b>Course Outcome</b>		
C316.1	<b>Identify</b> a topic in advanced areas of Manufacturing Engineering. Identify methods and materials to carry out experiments		
C316.2	<b>Review</b> literature to identify gaps and define objectives & scope of the work		
C316.3	<b>Generate</b> and implement innovative ideas for social benefit		
C316.4	<b>Analyze</b> and <b>discuss</b> the results to draw valid conclusions		
C316.5	<b>Reorganize</b> the procedures with a concern for society, environment and ethics		
<b>Semester</b>	:	VI	
<b>Course Code &amp; Name</b>	:	HS8581 & Professional Communication	
<b>Year of Study</b>	:	2017 – 2018	
<b>COs No.</b>	<b>Course Outcome</b>		
C317.1	<b>Make</b> effective presentations		
C317.2	<b>Participate</b> confidently in Group Discussions		
C317.3	<b>Attend</b> job interviews and be successful in them		
C317.4	<b>Develop</b> adequate Soft Skills required for the workplace		



# SHREE VENKATESHWARA HI-TECH ENGINEERING COLLEGE

An ISO 9001:2015 Certified Institution

(Approved by AICTE, New Delhi and Affiliated to Anna University Chennai)

Sri Kalaivani Nagar, Erode-Gobi Main Road, Othakuthirai,

K.Mettupalayam Post, Gobichettipalayam – 638 455, Erode District, Tamilnadu

Web: <http://www.svhec.com>



C317.5	<b>Enhance</b> the Employability and Career Skills of students
--------	--