

Open Elective Courses – School of Engineering, UPES Bidholi

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Biology for Engineers – CHEM 0101

Biology for engineers is a blend of the applications of engineering and biology. The interdisciplinary nature of research these days expects the youth to be well acquainted with the skills for an active engagement and problem solving in diverse fields. The subject is oriented towards the development of teamspirit and to explore the biological mechanisms and processes from an engineering point of view. Moreover, the course also makes the learners aware of the various professional ethics to be followed in the field. This will develop a moral code of conduct for performing various scientific practices.

- **Course Details**

- Unit I: Basic Cell Biology And Molecular Biology
- Unit II: Bio-Organic Chemistry, Enzymes And Industrial Applications
- Unit III: Data Alignment And Application
- Unit IV: Mathematical Modelling
- Unit V: Analytical Data Evaluation
- Unit VI: Bio-Mems
- Unit VII: Bioethics

- **Evaluation**

Continuous Evaluation to be followed which shall include various online activities/assessments.

Course Instructor: Dr Parteek Prasher (pprasher@ddn.upes.ac.in) Cell Ph.: +91-7589058801

Creativity, Innovation, and Foresight - LNPS 0111

Creativity is prelude to *entrepreneurship*. This course focuses on the discussion of the importance of innovation in achieving business success. Innovation is not an end result. Rather, through creativity and foresight, it is a way of thinking that enables individuals and organizations to more effectively define critical problems, identify possible solutions, and foster positive change.

Specifically, this course focuses on increasing your abilities as a creative leader, one who can readily apply imagination to resolve complex problems and who unleashes the creative talents of others by establishing a work environment that facilitates creative thinking. The ultimate goal of this course is to provide you with a set of proven creativity methods, skills, and strategies that enable innovative breakthroughs to occur in a much more deliberate and predictable manner.

- **Course Details**

- Unit 1- Creativity and Innovation: Crucial 21st Century Skill
- Unit 2- Understanding Your Creativity Style and Learning to Work With Different Creativity Styles
- Unit 3- Boosting Your Effectiveness as a Creative Problem Solver: Tools to Clarify Problems and Generate Breakthrough Ideas
- Unit 4- Boosting Your Effectiveness as a Creative Problem Solver: Developing and Implementing Solutions
- Unit 5- Think Like a Designer: Developing a User-Centric Approach to Innovation
- Unit 6- Building a Work Environment That Inspires Creativity and Innovation
- Unit 7- Creativity as a Core Leadership Skill: How to Lead for Innovation
- Unit 8-Sustaining Your Creativity and Driving Innovation

- **Evaluation**

Continuous Evaluation to be followed which shall include various online activities/assessments.

Course Instructor: Pooja Khanna (pkhanna@ddn.upes.ac.in) Cell Ph.: +91-9412992584

Economic Decision Making – LNPS 0105

Global markets are increasingly turbulent, and understanding how these markets work is critical to your success as a business leader. The course is designed to show how you can use economic theory to frame the challenges associated with operating a firm in a competitive environment.

To facilitate this understanding, this course will integrate concepts of both micro- and macroeconomics. From a micro perspective, you will study managerial decisions, particularly in terms of demand, supply, opportunity costs, profitability, and competitive strategies. You will also analyze real-world industries, markets, and firms using the key concepts of microeconomics. From a macro perspective, you will develop the skills to create a basic model of the macro economy emphasizing real-world data and relationships. By the end of the course, you will be able to evaluate and resolve economic problems in real time.

- **Course Details**

- Unit 1- Introduction to Economics
- Unit 2- Microeconomics in Action
- Unit 3- Production, Cost, and Factors of Production
- Unit 4- Industry Structure and Performance and Market Failure
- Unit 5- Macroeconomics in Action
- Unit 6- Economic Models and the Role of Money in Modern Economies
- Unit 7- Monetary and Fiscal Policies
- Unit 8- The New Global Economy

- **Evaluation**

Continuous Evaluation to be followed which shall include various online activities/assessments.

Course Instructor: Ms. Manu Priya Chabra (manuchhabra@ddn.upes.ac.in) Cell Ph.: +91-9759211990

Employment Communication– HUMN 0102

Employment Communication focuses on teaching effective methods and tools for personal branding to ensure clear communication and confident self-presentation for career success. Students will use critical thinking skills in presenting self at all given scenarios of placement through methods outlined in employment communication. They are expected to demonstrate employability skills and professional ethics in presenting themselves (Verbal and Written) with confidence (nonverbal). The student will learn to design an effective resume and cover letter. They will learn operative presentation skills, group discussion and interview techniques.

- **Course Details**

- Unit 1- Self Branding
- Unit 2- Presentation Skills
- Unit 3- Business Correspondence & Creating Employment Documents
- Unit 4- Group Discussion
- Unit 5- Interview Skills

- **Evaluation**

Continuous Evaluation to be followed which shall include various online activities/assessments.

Course Instructor: Ms. Pooja Khanna (pkhanna@ddn.upes.ac.in) Cell Ph.: +91-9412992584

Human Resource Management – LNPS 0106

This course introduces students to a strategic approach to Human Resource Management, the influence that human resources (HR) has on successful organizations, and the tools and resources needed for the management of the HR function. Topics included in the course include the strategic role of the HR function, managing employees to create value; recruitment and selection; talent management; performance appraisal and feedback; compensation, employee development; benefits, and total rewards; employee and labor relations; the impact of technology on HR; and aligning strategy with HR practice.

- **Course Details**

- Unit 1- HR Roles and Structure
- Unit 2- Employees and the Workplace
- Unit 3- Job Design and Employee Selection
- Unit 4- Retention and Separation
- Unit 5- Employee Performance and Development
- Unit 6- Total Rewards Strategies
- Unit 7- Designing Total Rewards Packages
- Unit 8- Aligning Strategy with Practice

- **Evaluation**

Continuous Evaluation to be followed which shall include various online activities/assessments.

Course Instructor: Brahmleen Kaur (e-mail id: bksabharwal@ddn.upes.ac.in) Cell Ph.: +91-9997400041

Industrial Management – HRES 0101

Awareness about Industry and its functioning is an important part of engineering education. Concept of organization, various types etc are some of the areas where additional knowledge help to develop the skill accordingly. One can expand the knowledge and awareness about role and responsibilities of various levels and the communication among various levels. This will develop the skill of decision making among the students. Decision making plays an important role in future to take the responsibilities by the skilled personnel. Students will learn how to communicate effectively though prescribed syllabus. Students are required to play an active role in the construction of their own knowledge and in the design of their own learning strategies according to various problems. We will combine traditional lectures in course material to provide good outcomes. We will use other active teaching methodologies, such as group discussions, cooperative group solving problems, analysis of video scenes and debates in online mode. Students will be encouraged to actively take part in all group activities. Students will be expected to interact with media resources, such as, web sites, videos, and available resources etc.

- **Course Details**

- Unit 1- Concept of Business
- Unit 2- Basics of Management
- Unit 3- Quality Management
- Unit 4- Financial & Project Management
- Unit 5- Human Resource Management
- Unit 6- Management Information Systems

- **Evaluation**

Continuous Evaluation to be followed which shall include various online activities/assessments.

Course Instructor: Mr Pawan Kumar Paras (pkparas@ddn.upes.ac.in) Cell Ph.: +91-9557274870

Introduction to Psychology – HUMN 0111

Psychology is the science of behavior and mind, embracing all aspects of conscious and unconscious experience as well as thought. It is an academic discipline and a social science which seeks to understand individuals and groups by establishing general principles and researching specific cases.

The objective of this course is to develop a strong research background & understanding of the Scientific Foundation of Psychology and to describe connections between knowledge gained in Psychology to everyday life.

- **Course Details**

- Unit 1- Introduction to Psychology
- Unit 2- Personality Development
- Unit 3- Learning
- Unit 4- Motivation and Emotions
- Unit 5- Sensation and Perception
- Unit 6-Social Psychology

- **Evaluation**

Continuous Evaluation to be followed which shall include various online activities/assessments

Course Instructor: Ms. Kanika Atri Gaur (atrikanika1986@gmail.com) Cell Ph-+91-8755959186

Leading in a Dynamic Era – LNPS 0110

This study program is a journey of personal and professional transformation. As with a physical journey, this one begins “where you are” (in this case, as a leader and manager). Two of the key goals for this first course of your program, then, include determining where you are and setting the trajectory for your transformational journey. To help you begin, in this course you will develop the skills for critical reflection by asking questions like:

- What are my strengths and weaknesses?
- How do I operate as a manager/leader?
- What are the values that shape my behavior?
- How do I deal with difficult problems?
- What are my aspirations?

Another important theme of this course is being a leader in turbulent times. Being an effective and genuine leader in a dynamic era requires an understanding of leadership concepts, how leaders think and act, and how various management styles impact situations and relationships within an organization. Yet, being an effective leader also demands a strong set of competencies such as motivating self and others, leading creativity in an organization, cultural intelligence, and navigating through ambiguity. Through a self-reflective process and accompanied by your study of key leadership concepts, you will begin to craft your Personal and Professional Development Plan that you will utilize and further develop throughout your study program. This plan will serve as your road map for developing the leadership posture and competencies critical for success; and you will take your first steps towards applying the plan to your career during this course.

- **Course Details**

- Unit 1- The Journey of Leadership
- Unit 2- Managing and Leading
- Unit 3- Leading Through Understanding Others
- Unit 4- Learning from Transformational Experiences
- Unit 5- Values, Principles, and Goals
- Unit 6- Putting Your Goals into Action
- Unit 7- Your Development Plan
- Unit 8- Reflecting on Being a Leader

- **Evaluation:**

Continuous Evaluation to be followed which shall include various online activities/assessments.

Course Instructor: Dr. Vickram Sahai (vsahai@ddn.upes.ac.in) Cell Ph.: +91-9897106252

Managing the Globally Diverse Firm – LNPS 0115

Contemporary business environments are increasingly competitive, global, fast paced, and knowledge intensive. In these environments, effective use of human capital is crucial to an enterprise's success and survival. In this course, you will learn practical issues such as planning and executing staffing strategies, creating and sustaining teams, maintaining influence in the organization, managing a global workforce, managing programs for productivity improvement, and planning and managing the human side of organizational change. This course will be especially useful for those planning careers as general managers as well as management consultants.

- **Course Details**

- Unit 1 The Influence of Human Behavior on Organizational Strategy and Problem Solving
- Unit 2- The Impact of Organizational Culture, Diversity, and Globalization
- Unit 3- Motivation
- Unit 4- Teams and Teamwork
- Unit 5- Power, Politics, and Conflict
- Unit 6- Effective Leadership
- Unit 7- Managing Communication
- Unit 8- Organizational Structure and Managing Change

- **Evaluation**

Continuous Evaluation to be followed which shall include various online activities/assessments.

Course Instructor: Ms.Brahmleen Kaur (bksabharwal@ddn.upes.ac.in) Cell Ph.: +91-9997400041

Media Literacy for Personal Branding – LNPS 0102

The demands of today's global marketplace require students and professionals across a spectrum of occupations to analyze, access, manage, and present information in a variety of forms and media. Whether it is software or social media, students must be adept at using various tools to present information on behalf of others and especially, to market themselves. This course seeks to develop students' understanding and application of media literacy to both organizational and personal branding, and to provide the storytelling skills necessary to articulate a personal brand effectively. Students self-assess media literacy skills, analyze media including logos and videos, practice using social networking and media tools, and develop storytelling skills. Finally, students in this course employ these skills to establish a personal brand and represent it via a social networking profile to enhance their career success.

- **Course Details**

- Unit 1 Media Literacy and Logos
- Unit 2- Telling a Story
- Unit 3- The Audiovisual Tools of Storytelling
- Unit 4- Storytelling that Sells: Branding
- Unit 5- Articulating your Personal Brand
- Unit 6- Creating a Media Strategy
- Unit 7- Digital Branding Tools
- Unit 8- Executing a Media Strategy

- **Evaluation**

Continuous Evaluation to be followed which shall include various online activities/assessments.

Course Instructor: Ms. Noopur Jha (njha@ddn.upes.ac.in) Cell Ph.: +91-9939352750

Mind Body Wellness – HUMN 0109

Mind Body Wellness

21st century instills lot of transition in thinking pattern of individual and the result is the loss of positive attitude towards Health and Happiness. Mind-body wellness explores the connection between the mind and body and its impact on health and well-being. The objective of this course is to help students to harness the immense power hidden “with in” by understanding the ability, responsibility and accountability for self and society, as an individual. The course intends to impart knowledge and learning of different aspects of ethical dilemmas, Health and Nutrition related aspects and help to raise their happiness index while doing their work with full enthusiasm and confidence. Sometimes engineers give in to unethical solutions proposed by others because they think it is a nontechnical problem so others are better prepared to handle the issue. Thus this course provides students new knowledge and the awareness of different concepts and approaches (i.e. Physical aspects, Character based, Principle based, Consequence based) to be used when faced with ethical dilemmas and further applied and adapt (mind-body wellness practices) in daily life for prevention of illness, development of communities, employees welfare in the industry in diverse settings.

- **Course Details**

- Unit 1- Exploring the self
- Unit-2- Holistic Health
- Unit -3 - Health and Nutrition
- Unit -4 - Excellence in life
- Unit -5 - Applied research

- **Evaluation**

Continuous Evaluation to be followed which shall include various online activities/assessments.

Course Instructor: Dr Shalini Vohra (shalinivohra@ddn.upes.ac.in) Cell Ph.: +91-9997203969

Presentation Skills – LNPS 0104

Presentation Skills help the students develop the ability to understand the importance of Public-Speaking. It enables the student to communicate with clarity and precision at workplace. Helps them understand the importance of their own voice modulation, their ability to connect with an audience and the need to have an eye contact with the audience. It enables the students towards understanding body language and the power of involving the audience while giving presentations. It infuses the student with confidence and thought processing abilities. The student also is guided to use pronunciation and grammar techniques.

• Course Details

- Unit 1: Connect First – deals with Public Speaking
- Unit 2: Weak Language – deals with the redundancy of filler words
- Unit 3: Strong Language – how to use memorable words that evoke emotion
- Unit 4: Voice Modulation- teaches the importance of talking at various speed or even in low tones
- Unit 5: Teaches the use of body language
- Unit 6: The power of stories and the ability to build a communication bridge
- Unit 7: Deals with engaging the audience
- Unit 8: Importance of opening lines
- Unit 9: Takes care of closing lines
- Unit 10: How to ask better questions
- Unit11: How to tackle a problem with an action point with the usage of voice, space and body language
- Unit 12: Encapsulation and presentation of what all they have learnt.

• Evaluation

Continuous Evaluation to be followed on the lines of Tests and Assignments as prescribed in the course.

Course Instructor: Suparna Ghosal (suparna.ghosal@ddn.upes.ac.in) mob: +91-9845023762

Professional Ethics – HUMN 0101

Ethics is a fundamental requirement of any profession. It is integral to the success of the business as well. Ethics is a system of moral principles governing the appropriate conduct of a person or a group. Maintaining good ethics is being consistent with the principles of correct moral conduct constantly. Regardless of profession or the field of work one belongs to, ethics is an important part of work. The success or the expected results depend on how the workers deal with the situations. Whether ethically or unethically. If they are dealt ethically, the chances are positive for growth and development. The course will cover in-depth those values central to moral life of any professional: integrity, respect, justice, compassion, beneficence and Non maleficence, and responsibility through various modules and ethics theories followed by online discussions, assessments and case studies to embed these values in the students.

- **Course Details**

- Unit 1: Introduction to Ethics
- Unit 2: Introduction to Engineering Ethics
- Unit 3: Engineering: Code of Ethics
- Unit 4: Safety, Responsibilities and Rights
- Unit 5: Global Issues

- **Evaluation**

Continuous Evaluation to be followed which shall include various online activities/assessments.

Course Instructor: Ashish Gupta (ashishgupta@ddn.upes.ac.in) Cell Ph.: +91-9997203969

Report Writing - HUMN 0105

The course ‘Report Writing’ introduces the engineering professionals to the fundamentals of professional writing strategies and applying technical information and knowledge in practical documents. In order to disseminate technical information to technical/non-technical audience, it is important for an engineer to learn formal writing techniques and essentials of communication process involved in it. The course introduces basics of research writing techniques, which can be helpful for the student to develop their written reports / proposals.

This course will focus primarily on:

1. Exploring documents by scientific and technical professionals
2. Developing descriptive and explanatory writing skills.
3. Research skills (writing academic paper/reports)
4. Writing informational and technical reports/proposals.

- **Course Details:**
 - Unit I: Fundamentals of academic writing.
 - Unit 2: Introduction to Research and its components
 - Unit 3: Writing Proposals.
 - Unit 4: Writing different types of reports.

- **Evaluation**

Continuous Evaluation to be followed which shall include various online activities/assessments.

Course Instructor: Dr. Pooja Gupta (poojagupta@ddn.upes.ac.in) Cell Ph.: +91-8979459311

Sales and marketing in the Digital Age – LNPS 0109

In a global and digital environment, sales and marketing have become a major factor in ensuring the success of a product or service. A major force shaping the digital age is the Internet explosion, which has become a driver of the new global economy.

In this course, students will examine digital marketing strategies to include search marketing, e-mail marketing, interactive communications, and online public relations. Students will also examine how digital marketing strategies are influenced by country-specific cultural variables. This course will also analyze buying behaviors, digital relationships, and the factors that influence online purchasing.

- **Course Details**

- Unit 1 Digital Sales and Marketing in Context
- Unit 2- Content as a Marketing Tool
- Unit 3- What to Do with Data
- Unit 4- Data Analysis to Drive Customer Conversion
- Unit 5- E-mail and Search Marketing
- Unit 6- Leveraging Social Media
- Unit 7- Sales and Marketing Anywhere at Any Time
- Unit 8- Integrated and Strategic Sales and Marketing

- **Evaluation**

Continuous Evaluation to be followed which shall include various online activities/assessments.

Course Instructor: Dr. Vickram Sahai (vsahai@ddn.upes.ac.in) Cell Ph.: +91-9897106252

Sociology – HUMN 0103

Sociology is the systematic study of social behavior and human groups. It focuses primarily on the influence of social relationships upon people's attitudes and behavior and on how societies are established and change. As a field of study sociology has a very broad scope. It deals with families, gangs, business firms, computer networks, political parties, schools, religions, and labor unions. It is concerned with love, poverty, conformity, technology, discrimination, illness, alienation, overpopulation and community.

The objective of this course is to understand the ability, responsibility and accountability for society as an engineer. The course intends to impart knowledge and learning of different aspects of society of change and development especially in the organizational context.

- **Course Details**

- Unit 1- Introduction to Sociology
- Unit 2- Sociology of change and development
- Unit 3- Industrial Sociology
- Unit 4- Life Skill Education
- Unit 5- Social Research Methods

- **Evaluation**

Continuous Evaluation to be followed which shall include various online activities/assessments.

Course Instructor: Dr Shalini Vohra (shalinivohra@ddn.upes.ac.in) Cell Ph.: +91-9997203969

Technology and Operations Management – LNPS 0108

The field of Operations and Technology Management has been changing dramatically due to the emergence of a global economy, advances in information and process technology, and the continued growth of services.

This course focuses on how technology and operations management can lead to a sustainable competitive advantage in the global marketplace. Focus will be placed on value creation through differentiation in product innovation, process design, effective supply chain management, and value chain optimization.

Students learn how to identify and analyze emerging technologies as assets to build a competitive organization.

- **Course Details**

- Unit 1- Sustainable Competitive Advantage
- Unit 2- Creating Value
- Unit 3- Lean Operations
- Unit 4- Process Design
- Unit 5- Operational Logistics
- Unit 6- Supply Chain Integration
- Unit 7- Technology and Value
- Unit 8- Designing Global Strategies

- **Evaluation**

Continuous Evaluation to be followed which shall include various online activities/assessments.

Course Instructor: Mr. Amit Nautiyal (amit.nautiyal@ddn.upes.ac.in) Cell Ph.: +91-9719003348