

UNIVERSITY OF JAMMU

(NAAC ACCREDITED 'A' GRADE UNIVERSITY)
(Baba Sahib Ambedkar Road, Jammu-180006 (J&K))

Academic Section

Email: academicsectionju14@gmail.com

NOTIFICATION (24/May Adp./ 16)

It is hereby notified for the information of all concerned that the Vice-Chancellor, in anticipation of the approval of the Academic Council, is pleased to authorize the adoption of the Syllabus and Courses of Studies for **Four Year Under Graduate Programme (Design Your Degree) of Semester IInd (as given in the annexure)** for the examinations to be held in the years as per the details given below:

Programme	Semester	For the examinations to be held in the year
FYUGP (Design Your Degree)	Semester-II	May 2024, 2025 and 2026

The Syllabi of the courses are also available on the University website:
www.jammuuniversity.ac.in.

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DEAN ACADEMIC AFFAIRS

No. F. Acd/II/24/ 2205-2215

Dated: 09-05-2024

Copy for information and necessary action to:

1. Director/Convener, Board of Studies in Design your Degree
2. Sr. P.A. to the Controller of Examinations
3. All members of the Board of Studies
4. Confidential Assistant to the Controller of Examinations
5. Director, Computer Centre, University of Jammu
6. Deputy Registrar/Asstt. Registrar (Conf./Exams. UG)
7. Incharge University Website for necessary action please

Sumitasharma
Deputy Registrar (Academic)
9/5/2024

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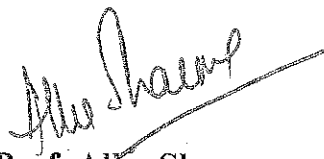
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University of Jammu
Four Year Innovative Undergraduate Program
(Design Your Degree)

Semester 2nd

Course Code	Course Title	Credits	Contact Hours (per Credit)
UFDDPC201	Coding Through GPT-4	04	15
UFDDPC202	World of Startups through Real Life Studies	04	15
UFDDPC203	Decoding the world through AI	04	15
UFDDPC204	Discovering the Self	04	15
UFDDPC205	Art and Aesthetics of Designing	04	15
UFDDPC206	Responsible Citizenship through Experimentation	02	15
UFDDPA207	A language to Understand the Nature	04	15
UFDDPA208	Understanding the World through Data Lens - II	04	15


Prof. Alka Sharma
Director, SIEDC

University of Jammu
Four Year Innovative Undergraduate
Program
(Design Your Degree)

Semester: 2nd
(For the Session 2024, 2025, 2026)

Course Code: UFDDPC201

Credits: 04

Contact Hours: 15 per credit

Course Title: Coding through GPT-4

Maximum Marks: 100

Internal Evaluation: 30

External Evaluation: 70

Course Objectives

1. To introduce students to coding using GPT-4, a state-of-the-art language model.
2. To familiarize students with the principles and techniques of natural language processing and machine learning.
3. To provide hands-on experience in developing applications using GPT-4 and related tools.
4. To enable students to understand the ethical considerations and limitations of AI-powered coding.

Introduction to GPT-4 in Coding

Overview of GPT-4, its capabilities, and applications in coding, Prompt Engineering, Art of interacting with Generative AI models.

Activity:

- a. Conduct a virtual workshop or presentation on GPT-4 using ChatGPT to simulate a live session.
- b. Organize a coding competition where participants use ChatGPT to solve coding challenges.
- c. Host a panel discussion with AI experts, employing ChatGPT for Q&A sessions and discussions.

Resources:

Use ChatGPT to generate summary scripts for relevant YouTube resources on GPT-4 features and applications.

Practical Applications of ChatGPT

Exploring diverse applications - Excel, content writing, image generation, etc.

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Semester: 2nd
(For the Session 2024, 2025, 2026)

Course Code: UFDDPC201
Credits: 04
Contact Hours: 15 per credit

Course Title: Coding through GPT-4
Maximum Marks: 100
Internal Evaluation: 30
External Evaluation: 70

Activity:

- a. **Excel Automation Workshop:** Use ChatGPT to guide participants in automating Excel tasks, such as data analysis, formula generation, and report creation.
- b. **Content Writing Script:** Engage participants in a content writing script activity where they utilize ChatGPT to generate creative content, blog posts, or articles.
- c. **Image Generation Experiment:** Explore image generation using ChatGPT. Participants can experiment with generating images or creative designs through textual prompts.

Resources:

Utilize ChatGPT to generate step-by-step guides and scripts for Excel automation, content writing, and image generation.

GPT-4 Architecture

Understanding the architecture and working of GPT-4.

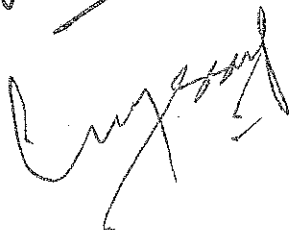
Activity:

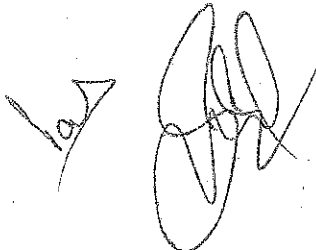
- a. Conduct a technical presentation on GPT-4's architecture using ChatGPT to generate slides and visuals.
- b. Organize a group project with ChatGPT-generated code snippets to implement a simplified version of GPT-4 architecture.
- c. Facilitate a discussion on the limitations of GPT-4's architecture, using ChatGPT to explore potential improvements.

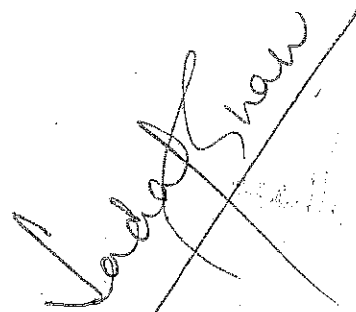
Resources:

Employ ChatGPT to create summary notes for technical videos explaining GPT-4 architecture.











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Course Title: Coding through GPT-4

Maximum Marks: 100

Internal Evaluation: 30

External Evaluation: 70

Creative Content Generation

Generating diverse content types using ChatGPT - scripts, essays, letters, etc.

Activity:

- **Script Writing Challenge:** Participants use ChatGPT to write scripts for various scenarios, such as a dialogue between fictional characters or a short film script.
- **Essay Writing Session:** Engage in an essay writing session where participants utilize ChatGPT for generating content on specific topics.
- **Letter Writing Exercise:** Participants use ChatGPT to craft formal and informal letters for different purposes.

Resources:

Utilize ChatGPT to generate sample scripts, essay prompts, and letter templates for participants.

AI Ethics, Integration, and Future Trends

Leveraging GPT-4 for intelligent code completion and error correction.

Activity:

- a. Conduct a demonstration session using ChatGPT to showcase GPT-4 in code completion and auto correction.
- b. Organize a coding challenge where participants use ChatGPT to complete and correct code snippets.
- c. Facilitate a discussion on the implications of relying on intelligent code completion and autocorrect tools, using ChatGPT to generate discussion points.

Resources:

Utilize ChatGPT to generate summaries for videos on AI Code Completion with GPT-4.

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Semester: 2nd
(For the Session 2024, 2025, 2026)

Course Code: UFDDPC201
Credits: 04
Contact Hours: 15 per credit

Course Title: Coding through GPT-4
Maximum Marks: 100
Internal Evaluation: 30
External Evaluation: 70

Mode of Evaluation:

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The remaining 70% of the grade shall be assessed through a transdisciplinary major project, which will span an entire semester.

The evaluation of the major project would be comprehensive, considering various factors including: the depth and accuracy of the project's content, the applied methodology, research rigor, the effective use of IT tools and data analysis, as well as the meaningful findings and practical implications derived from the project. The assessment shall also include testing innovativeness, communication and problem solving.

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University of Jammu
Four Year Innovative Undergraduate Program
(Design Your Degree)

Semester: 2nd
(For the Session 2024, 2025, 2026)

Course Code: UFDDPC202

Course Title: World of Startups through
Real Life Studies

Credits: 04

Maximum Marks: 100

Contact Hours: 15 per credit

Internal Evaluation: 30

External Evaluation: 70

Course Objectives

The objective of this course is to provide a comprehensive understanding of entrepreneurship and startups and also equip the students with the skills and knowledge needed to start and manage a successful business. The course balances theoretical concepts with practical applications to prepare students for the challenges and opportunities of entrepreneurship. At the end of the course the students will

- To inspire the learner to explore avenue for new venture creation or a startup
- To realize the challenges faced by entrepreneurs and how they overcome them to become successful
- Learn techniques for generating and evaluating innovative business ideas.
- Gain an understanding of legal and regulatory aspects related to starting a business.
- Learn about business structures, intellectual property, and compliance requirements.
- Explore different funding options for startups and understand how to pitch to investors and create a compelling business case.

Understanding the Startup Ecosystem

The Mindset of an Entrepreneur: Understand how an entrepreneur thinks, identifies opportunities, translate them into business value propositions, faces challenges, beats competition and creates a successful enterprise.

The Startup Ecosystem: Discuss the various elements that make up a startup ecosystem, including entrepreneurs, investors, support systems like incubators and accelerators, government policies, universities, and more.

Activity

- Each student will identify and meet a local successful entrepreneur and conduct an interview to understand how the entrepreneur has been able to successful build the enterprise. On the basis of the interview, discussion each student will write a short case study.
- Students in groups will identify various global, national and regional level institutions that provide support to entrepreneurs and promote entrepreneurship.

Resources

- Listen to the "Startup as a Career Option" TedTalk by Prof Dinesh Singh
<https://www.youtube.com/watch?v=5JfbT5mMFMI>
- The Secret of How to Think Like an Entrepreneur | Amy Wilkinson | TEDxPaloAltoSalon
<https://www.youtube.com/watch?v=WAMwyAm0ySw>

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Course Title: World of Startups through
Real Life Studies

Generating Business Idea

Design Thinking Approach: Discuss the concept of design thinking and how this approach can be used to generate commercially viable ideas.

Idea Validation: Explain how to assess whether a business idea is viable. This could include strategies for conducting market research, creating a minimum viable product, and getting feedback from potential customers.

Business Models: Discuss different types of business models that startups can adopt and how they can be utilized for different sectors or industries.

Activity

- Students in groups will major trends / challenges / problems that are emerging in the society. Based on this, they will explore what are the existing products or service solutions available in the market to deal with such challenges? Are the customers / people in the society satisfied with them? Students are expected to use design thinking approach to propose possible innovative and creative solutions.

Resources

- Listen to the Creative thinking - how to get out of the box and generate ideas: Giovanni Corazza <https://www.youtube.com/watch?v=bEusrD8g-dM>
- Listen Clayton Christensen discussing Disruptive innovation <https://www.youtube.com/watch?v=rpkoCZ4vBSI>
- Listen to TedTalk on Speed up Innovation with Design Thinking | Guido Stompff <https://www.youtube.com/watch?v=ZBxZC9I6xyk>

Developing Business Plan

Business Plan: Discuss the relevance and importance of a comprehensive business plan. Also guide the students on the various components of a business plan. Contrast the business plan with detailed project report (DPR)

Pitch Deck: Understand the concept of pitching in entrepreneurship. Explain how students can develop interesting and effective pitch decks.

Entrepreneurial Finance: Discuss the concept of equity, debt, bootstrapping, valuation, stock markets

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Real Life Studies

Activity

- Based on the major trends / challenges / problems that have been identified by the students and proposed solution, they will develop a business plan around the idea. Further they will be making a pitch deck in front of entrepreneurs and representative of financial institution.

Resources

- Watch various episodes of Shark Tank India / Global and understand how start ups present their idea
- Read various scheme documents of banks, financial institutions and other government agencies that support or provide

Entrepreneurship and Society

Social Entrepreneurship: Discuss using case studies how entrepreneurship can solve social problems in the world. Elaborate on the concept of social entrepreneurship and its relevance in the emerging economies

Activity

- Each student will identify any one social enterprise and make a detailed report / presentation of the role of the selected enterprise in solving a social problem.

Resources

<https://www.schwabfound.org/>

<https://www.ikeasocialentrepreneurship.org/>

<https://www.ashoka.org/en-in/focus/social-entrepreneurship>

Pedagogy

The entire course is a kind of project work excepting a few lectures for introducing the concept of entrepreneurship which the Mentor must introduce through the real life case studies. Different groups of students be allotted different projects and be allowed to carry out the required task at their own except for general guidance/supervision.

Regular/periodic meetings and interaction with local/regional/national level entrepreneur shall be organized.

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Course Title: World of Startups through
Real Life Studies

Reference Books / Resources

Text Books

1. Entrepreneurship: Successfully Launching New Ventures, 6/e by Bruce R. Barringer
Pearson Education [ISBN- 9789353066499]
2. Entrepreneurship Development and Small Business Enterprises by Poornima M
Charantimath, Pearson Education [ISBN- 9789353066260]
3. Entrepreneurial Thinking: Mindset in Action by Suzanne Mawson, Lucrezia Casulli;
Sage
4. Global Entrepreneurship & Innovation by Sarika Pruthi, Jay Mitra; Sage
5. Design Thinking for Student Projects by Tony Morgan, Lena J. Jaspersen; Sage
6. Exploring Entrepreneurship by Richard Blundel, Nigel Lockett, Catherine Wang,
Suzanne Mawson; Sage

International

1. The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create
Radically Successful Businesses, Eric Ries
2. "The \$100 Startup" by Chris Guillebeau
3. The Founder's Dilemmas: Anticipating and Avoiding the Pitfalls That Can Sink a
Startup by Noam Wasserman
4. Dear Female Founder: 66 Letters of Advice from Women Entrepreneurs Who Have
Made \$1 Billion in Revenue by Lu Li
5. Zero to One: Notes on Startups, or How to Build the Future , Peter Thiel and Blake
Masters
6. The Innovator's Dilemma by Clayton Christensen
7. Start with Why: How Great Leaders Inspire Everyone to Take Action is a book by
Simon Sinek
8. Hooked: How to Build Habit-Forming Products, Nir Eyal

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Course Title: World of Startups through
Real Life Studies

National

1. Dream with Your Eyes Open: An Entrepreneurial Journey, Ronnie Screwvala, Rupa Publications
2. The Golden Tap: The Inside Story of Hyper-Funded Indian Startups, by Kashyap Deorah
3. Stay Hungry, Stay Foolish, Rashmi Bansal
4. Arise Awake: The Inspiring Stories Of 10 Young Entrepreneurs Who Graduated From College Into A Business Of Their Own, Rashmi Bansal, Bushfire Publishers
5. Doglapan: The Hard Truth about Life and Start-Ups, Ashneer Grover
6. Big Billion Startup: The Untold Flipkart Story Mihir Dalal.
7. Dolphin and the Shark, The Lessons in: Stories on Entrepreneurship. by Namita Thapar
8. The Unusual Billionaires, Saurabh Mukherjea, Penguin Random House India

Magazines

- Entrepreneur India, Business India, Business Today, Outlook Business

Movies / Documentaries

Any of the below mentioned movies can be screened in the classroom and the students can be advised to discuss the key learning in the classroom

1. The Social Network
2. Steve Jobs
3. The Founder
4. The Startup Kids
5. The Pursuit of Happyness
6. Startup.com
7. WeWork: or The Making and Breaking of a \$47 Billion Unicorn
8. Generation Startup
9. Becoming Warren Buffet
10. Indian Startup Stories [Amazon Prime]

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Course Code: UFDDPC202

Course Title: World of Startups through
Real Life Studies

YouTube Channels on Startups / Entrepreneurship

Any of the below mentioned movies can be screened in the classroom and the students can be advised to discuss the key learning in the classroom

- Your Story
- Shark Tank India / Global
- Y Combinator
- Raj Shamani
- Harvard Innovation Labs

Mode of Evaluation

The assessment structure for this program consists of two components: internal assessment and external assessment. The internal assessment, shall account for 30% of the overall grade, on the basis of continuous performance monitoring through tests/ quizzes/ presentations/ class participation/ small live projects emphasizing on development of skills in application, effective communication, and teamwork.

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University of Jammu
Four Year Innovative Undergraduate Program
(Design Your Degree)

Semester: 2nd
(For the Session 2024, 2025, 2026)

Course Code: UFDDPC203
Credits: 04
Contact Hours: 15 per credit

Course Title: Decoding the world through AI
Maximum Marks: 100
Internal Evaluation: 30
External Evaluation: 70

Course Objectives

- To provide an in-depth understanding of the concepts and applications of artificial intelligence (AI)
- To explore various AI techniques and algorithms
- To analyze the ethical and societal implications of AI
- To develop critical thinking and problem-solving skills in the context of AI

Foundations of AI

Introduction to Intelligence; Benchmarking of Intelligence; History and Significance of AI; Real world applications of AI; Goals, Challenges, and Applications of AI

Activity:

- a. Conduct a presentation on the basics of AI.
- b. Organize a group discussion on AI goals and applications.
- c. Facilitate a panel discussion on the ethical considerations in AI.

Resources:

Crash Course, Simplilearn, edureka!, Intellipaat, CodeEmporium videos.

Machine Learning Fundamentals

Understanding Supervised, Unsupervised, and Reinforcement Learning, Introduction to Common ML Algorithms

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University of Jammu
Four Year Innovative Undergraduate Program
(Design Your Degree)

Semester: 2nd
(For the Session 2024, 2025, 2025)

Course Code: UFDDPC203
Credits: 04
Contact Hours: 15 per credit

Course Title: Decoding the world through AI
Maximum Marks: 100
Internal Evaluation: 30
External Evaluation: 70

Activity:

- a. Workshop on ML fundamentals with hands-on activities.
- b. Group discussion on practical ML applications.
- c. Q&A session on strengths and limitations of ML algorithms.

Resources:

Andrew Ng, Simplilearn, Stat Quest, Microsoft Azure, Google Cloud videos.

Deep Learning and Neural Networks

Overview of Neural Networks and Deep Learning, Convolutional Neural Networks (CNNs) and Recurrent Neural Networks (RNNs), Practical Applications in Computer Vision, NLP, and Speech Recognition

Activity:

- a. Workshop on basics of deep learning with hands-on experience.
- b. Hands-on activity with deep learning frameworks and tools.
- c. Panel session on real-world applications of deep learning.

Resources:

- StatQuest, sentdex, 3Blue1Brown, Google Developers videos.

Tools and Technologies used in AI

Basics of programming languages for AI (Python, R), Introduction to libraries and frameworks (TensorFlow, PyTorch)

Data Preprocessing and Feature Engineering: Importance of quality data in AI, Data preprocessing techniques, Feature engineering and selection.

Model Training and Evaluation: Training and evaluating machine learning models, Hyperparameter tuning, Model performance metrics, Introduction to MATLAB.

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Course Code: UFDDPC203
Credits: 04
Contact Hours: 15 per credit

Course Title: Decoding the world through AI
Maximum Marks: 100
Internal Evaluation: 30
External Evaluation: 70

Activity:

- a. Workshop on basics of AI Tools and Technologies.
- b. Group activity Training and evaluating machine learning models.
- c. Panel session on challenges and potential of AI Tools & Technologies.

Resources:

- Stanford University, DeepMind, Sentdex, Code Bullet, CrashCourse AI videos.

AI Ethics, Integration, and Future Trends

Analyzing Ethical Considerations in AI, Integration of AI and Robotics, Future Trends in AI: Explainable AI, Generative AI, AI for Social Good

Activity:

- a. Lecture on AI ethics and responsible AI.
- b. Workshop on AI and Robotics integration.
- c. Panel discussion on the future trends and challenges in AI.

Resources:

- The Royal Society, Stanford HAI, Intel, Boston Dynamics, Various TED Talks

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Semester: 2nd
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Course Code: UFDDPC203
Credits: 04
Contact Hours: 15 per credit

Course Title: Decoding the world through AI
Maximum Marks: 100
Internal Evaluation: 30
External Evaluation: 70

Mode of Evaluation:

The assessment structure for this program consists of two components: internal assessment and external assessment. The internal assessment, shall account for 30% of the overall grade, on the basis of continuous performance monitoring through tests/ quizzes/ presentations/ class participation/ small live projects emphasizing on development of skills in application, effective communication, and teamwork.

The remaining 70% of the grade shall be assessed through a transdisciplinary major project, which will span an entire semester.

The evaluation of the major project would be comprehensive, considering various factors including the depth and accuracy of the project's content, the applied methodology, research rigor, the effective use of IT tools and data analysis, as well as the meaningful findings and practical implications derived from the project. The assessment shall also include testing innovativeness, communication and problem solving.

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University of Jammu
Four Year Innovative Undergraduate Program
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Semester: II
(For the Session 2024, 2025, 2026)

Course Code: UFDDPC204
Credits: 04
Contact Hours: 15 per credit

Course Title: Discovering the Self
Maximum Marks: 100
Internal Evaluation: 30
External Evaluation: 70

Course Objectives:

This learning programme is designed to enable the students to delve within their inner self to discover the drumbeat of their soul. The meaning of the phrase 'drumbeat of the soul' is best exemplified by illustrative examples of the lives of notable individuals. The intention of this learning programme is to use the lives and examples of such individuals to help the students to grasp the concept of 'drumbeat of the soul.' Once that concept is somewhat understood to a reasonable extent, then the students are expected to examine their own existence and seek indicators that shall point towards what may appear to be the drumbeat of their soul. It is not the intention of this learning programme to get the students to discover their drumbeat; rather the programme is designed to enable the student to realise the following:

1. What are the drumbeats of the souls of some notable individuals?
2. What were methods and tools that helped each one of these individuals to realise their individual drumbeats?
3. Encourage the student to take advantage of the paths these individuals followed and the methods they employed to realise their individual drumbeats to help the students to understand their own drumbeat.
4. The student must learn from the lives of the individuals in the list of illustrative examples that this is not a simple or easy task nor is it one that happens in a flash. Rather, this is a lifelong quest.

Learning Outcomes:

It shall be repeatedly emphasized to the learner-by the mentor-that there is no single unique or standard path to achieve this understanding of the student's drumbeat. Different students may quite likely attempt to find their individual paths and are likely to use methods that are special or peculiar to their own quests on this journey. However, it shall be expected that the students shall realize from a study of the notable and illustrative examples that there are some features common to the list of examples. These common features shall include but not be limited, to the following:

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Course Code: UFDDPC204

Course Title: Discovering the Self

- A. An enormous appetite for hard work.
- B. Adherence to discipline and balance in their daily lives.
- C. Eagerness to learn and engage with the real world.
- D. Abundant curiosity.
- E. Ability to persist.
- F. Display of fortitude, determination and even courage.
- G. Ability to be good communicators.

Pedagogy:

The pedagogy for this learning program shall be in complete harmony with the pedagogy as prescribed for the entire Design Your Degree program. Hence, the students shall be learning significantly in a project mode. This shall involve forming groups of students. Each group shall take up a study of one or two notable individuals. Different groups shall study different individuals. The first quest shall be to try and become familiar with the main aspects of their lives. They shall try and ask questions- within their groups- as to what made these individuals such determined and disciplined personalities. Discussions, readings and research must focus on identifying the drumbeats of each one of the notable individuals. The thrust or focus shall be on trying to figure out how and what enabled these individuals to discover the drumbeats of the souls.

The following is a list of some notable individuals:

1. Michael Faraday
2. Abraham Lincoln
3. Srinivasa Ramanujan
4. C. V. Raman
5. Mohammed Ali
6. Sachin Tendulkar
- 7. Isaac Newton

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Course Code: UFDDPC204

Course Title: Discovering the Self

8. Milkha Singh
9. Mahatma Gandhi
10. Arthur Ashe
11. Usain Bolt
12. Pele
13. Major Dhyhan Chand
14. Louis Pasteur
15. Albert Einstein

Mode of Evaluation:

The assessment structure for this program consists of two components: internal assessment and external assessment. The internal assessment, shall account for 30% of the overall grade, on the basis of continuous performance monitoring through tests/quizzes/presentations/class participation/small live projects emphasizing on development of skills in application, effective communication, and teamwork. The remaining 70% of the grade shall be assessed through a transdisciplinary major project, which will span an entire semester.

The evaluation of the major project would be comprehensive, considering various factors including the depth and accuracy of the project's content, the applied methodology, research rigor, the effective use of IT tools and data analysis, as well as the meaningful findings and practical implications derived from the project. The assessment shall also include testing innovativeness, communication and problem solving.

The projects will involve, but not be limited to, discussing the lives and achievements of notable individuals within their respective groups. Additionally, students will be encouraged to identify other individuals who possess similar qualities, no matter how modest they may be. Subsequently, students will engage in frank and modest discussions about their own qualities and characteristics in the context of both the notable individuals and those identified through personal experiences. The aim is to prompt each student to, in a sense, be on the lookout for external stimuli from the world around them that can awaken or stir their own inner "drumbeat." For instance, consider two groups, Group X and Group Y, each comprising 6 or 7 students. Group X may be assigned Mahatma Gandhi, while Group Y is assigned Muhammad Ali. Students in Group X will be expected to conduct research and engage in internal discussions to explore Gandhi's "drumbeat," his journey of discovery, and how he adhered to it. Similarly, Group Y will undertake the same exploration for Muhammad Ali.

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University of Jammu
Four Year Innovative Undergraduate Program
(Design Your Degree)

Semester: II
(For the Session 2024, 2025, 2026)

Course Code: UFDDPC204

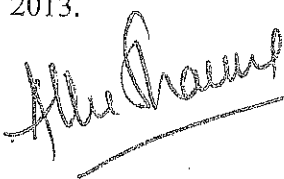
Course Title: Discovering the Self

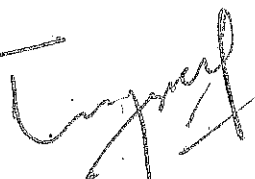
It is anticipated that during inter-group discussions, students will observe that Ali and Gandhi were very unlike each other. Ali engaged in a sport that involved physically harming his opponents, whereas Gandhi advocated love for one's opponents. However, students will also be expected to uncover several common features between them. For example, Gandhi became an adherent of truth after witnessing the play "Satyavadi Raja Harishchandra," while Ali took up boxing after watching boxers on a TV show. Additionally, despite their differences, students are also expected to discover striking commonalities between Ali and Gandhi. For instance, Ali displayed great courage as a boxer, while Gandhi displayed great courage in his personal life when he assisted victims of the plague in South Africa.

The project will progress along these lines, and eventually, students will also search for similar stories and individuals in their own personal lives or through personal discovery. The mentor must skillfully guide the students to ask themselves questions about whether there are any external stimuli, like those experienced by Ali and Gandhi, that have stirred something within them. This will make them aware of the possibility of dormant "drumbeats" within themselves.

Suggested Readings:

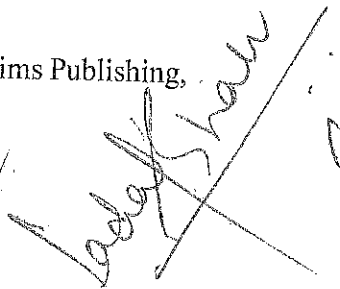
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- Blomfield, Vishvapani. *Gautama Buddha: The Life and Teachings of the Awakened One*. Quercus, 2012.
- Bolt, Usain. *Faster than Lightning: My Story*. Harpercollins, 2015.
- Calaprice, Alice, and Trevor Lipscombe. *Albert Einstein: A Biography*. Jaico Publishing House, 2012.
- Casey, Peter. *The Story of Tata: 1868 to 2021*. Penguin Books, 2021.
- Chand, Dyan. *Goal: An Autobiography*. The Hindu Group, 2018.
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- Fischer, Louis. *The Life of Mahatma Gandhi*. Harpercollins, 2006.
- Gandhi, Mahatma. *The Story of My Experiments with Truth*. Fingerprint, 2009.
- Gandhi, A. K. *Ratan Tata: A Complete Biography*. PrabhatPrakashan, 2021.
- Gandhi, Mohandas Karamchand. *Hind Swaraj or Indian Home Rule*. Pilgrims Publishing, 2013.

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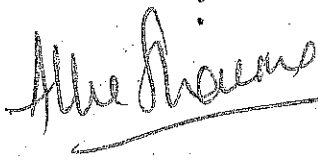
University of Jammu
Four Year Innovative Undergraduate Program
(Design Your Degree)

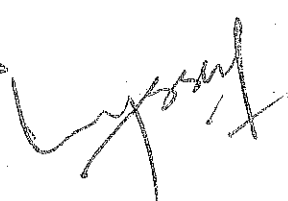
Semester: II
(For the Session 2024, 2025, 2026)

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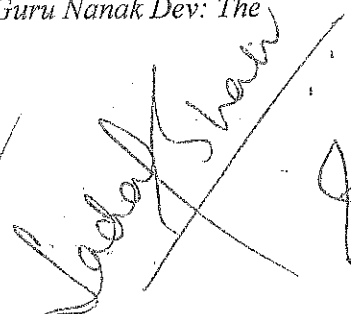
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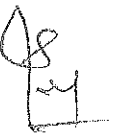
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- . *Issac Newton: A Life from Beginning to End*. Independently Published, 2017.
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- Kepler, Johannes, and Carola Baumgardt. *Johannes Kepler: Life and Letters*. Philosophical Library, 1951.
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- Mitra S., S. Basu, and N. Sanyal. "Unraveling the Roots of Personality Disorganization through Nandini. *Biography of Har Gobind Khorana: A Nobel Laureate's Inspiring Story*. Prabhat Prakashan, 2021.
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- Teja, S Krishna and Sai Srinivasa. *Ramanujan Biography*. Notion Press, 2022.
- Tesser, A., Felson, Richard B. Felson, and Jerry M. Suls. *Psychological Perspectives on Self and Identity*. American Psychological Association, 2000.
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University of Jammu
Four Year Innovative Undergraduate Program
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Semester: II
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Course Title: Discovering the Self

Suggested Videos:

<https://www.youtube.com/watch?v=0h5mr6LpyCs>
https://www.youtube.com/watch?v=L80_q2tPveo
<https://www.youtube.com/watch?v=hpZwCRInrgo>
<https://www.youtube.com/watch?v=ZWK-e80ae9Y>
<https://www.youtube.com/watch?v=OETtNQ7-who>
<https://www.youtube.com/watch?v=QEXcE67xMxA>
<https://www.youtube.com/watch?v=MKGHC00732A>
https://www.youtube.com/watch?v=B37MXvsB_Vc
https://www.youtube.com/watch?v=Vc7_VyVXDLs
<https://www.youtube.com/watch?v=7FvrgW7wOY8>
<https://www.youtube.com/watch?v=7-ZbWV61uMs>
<https://www.youtube.com/watch?v=kHgsOppb1WM>
<https://www.youtube.com/watch?v=np7fbR13n-E>

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University of Jammu
Four Year Innovative Undergraduate
Program
(Design Your Degree)

Semester: 2nd
(For the Session 2024, 2025, 2026)

Course Code: UFDDPC205
Credits: 04
Contact Hours: 15 hours per credit

Course Title: Art and Aesthetics of Designing
Maximum Marks: 100
Internal Evaluation: 30
External Evaluation: 70

Course Objectives

1. Introduction to the World of designs
2. Provide the opportunity to the students to develop understanding about how the designs are created
3. Initiate an attitude of playfulness to aid design thinking
4. How they can develop effective solutions for designing

Outcomes:

1. Students will be able to investigate and think creatively about design problems and opportunities
2. Students will be able to develop visual literacy and will be able to articulate design problems

Designing and Types of designs

Where do we find designs (Natural/Artificial/Random/Manmade), SMART Designs (Functional, and Efficient)

Activity: Effective Gallery walk and Role Plays

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University of Jammu
Four Year Innovative Undergraduate
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Semester: 2nd

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Course Code: UFDDPC205

Credits: 04

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Course Title: Art and Aesthetics of Designing

Maximum Marks: 100

Internal Evaluation: 30

External Evaluation: 70

Resources

<https://www.wonderopolis.org/wonder/is-design-a-science-or-an-art/>

[designshttps://www.designmattersmedia.com/podcast/2013/sheila-bridges](https://www.designmattersmedia.com/podcast/2013/sheila-bridges)

How To Think Like A Great Graphic Designer. New York: Allworth Press. 2007. ISBN 9781581156355. OCLC 181142646.

The Essential Principles of Graphic Design. Cincinnati, Ohio: How Books. 2008. ISBN 9781600610479. OCLC 176923189.

De Bono, E. (1985) Six Thinking Hats: An Essential Approach to Business Management. Little, Brown, & Company (Ed) Penguin Life

<https://gutschow.wordpress.com/> Kai Notes on Architect

Biological Designs

Complexity of cells of human and plant: Discussion on design of DNA, Designs of human body cells, cell of ostrich, Amoeba (Design and Functionality),

Workout the structural complexity of plants, emphasizing the intricate organization and functionality of flowers. Consider the specialized adaptations and diverse morphological features that contribute to reproductive success and ecological significance of slower within the plant kingdom

Designs and patterns of stars and galaxies (listing of galaxies, new galaxies, functionality of design)

Activity: Crazy 8s exercise and Story Board/Telling

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University of Jammu
Four Year Innovative Undergraduate
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Credits: 04
Contact Hours: 15 hours per credit

Course Title: Art and Aesthetics of Designing
Maximum Marks: 100.
Internal Evaluation: 30
External Evaluation: 70

Resources:

youtube: The Art and Science of Design | Frank Stephenson | TEDxEton

BIODESIGN : Nature, Science and Creativity, William Myers, 2018, Museum of Modern Art (MoMA) in New York and Thames & Hudson More at www.biology-design.com

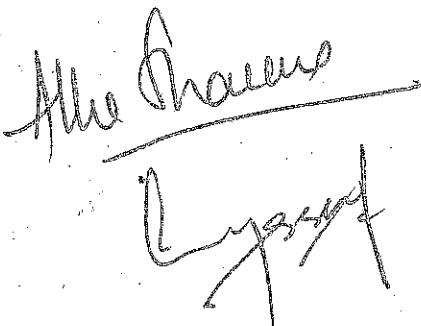
Biology in the Grid: Graphic Design and the Envisioning of Life (Posthumanities Book 46) Kindle Edition

Biologically Inspired Design: Computational Methods And Tools, Springer London Ltd, ISBN: 9781447152477

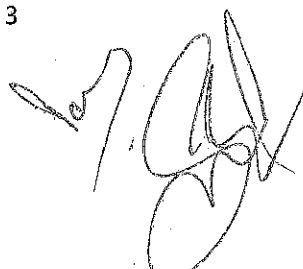
Gomez-Palacio, Bryony, and Armin Vit. *Women of design: influence and inspiration from the original trailblazers to the new groundbreakers.*, p. 175-177, How Books, 2008, ISBN 978-1600610851

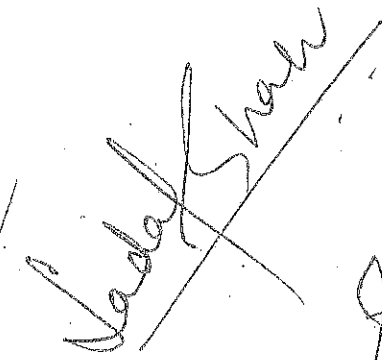
De Bono, E. (2016), Lateral Thinking, Penguin Life, ISBN-9780241257548

Kahneman, Daniel, (2015), Thinking, Fast and Slow. New York Penguin Books Ltd, ISBN-13: 978-0141033570, ISBN-10: 0141033576



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University of Jammu
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Semester: 2nd
(For the Session 2024, 2025, 2026)

Course Code: UFDDPC205
Credits: 04

Contact Hours: 15 hours per credit

Course Title: Art and Aesthetics of Designing
Maximum Marks: 100
Internal Evaluation: 30
External Evaluation: 70

Architectural designs and Machine Design

Varieties of Architectural designs , Cities which are SMART across the World: Well acquainted with functionality, Structure and functions of ancient designs across the World , Discussion on the Architectural Works (India and abroad) and Understanding architects of simple Machines

Activity: Reflection exercise, Mind Mapping, Listing and functionality of designs of ancient structures, Videos of Jopseph Allen Stein (American Architect) on his works in India),

Resources:

<https://archestudy.com/climatologically-sound-building-the-indian-habitat-centre/>

<https://www.re-thinkingthefuture.com/case-studies/a3516-india-international-centre-or-iic-by-joseph-allen-stein-a-structure-of-three/>

Weinstein, Dave (2007), "Architectural idealist: Modernist Joseph Allen Stein preferred to design public housing and finished his career in India", San Francisco Chronicle.

White, Stephen (1993), Building in the Garden: The Architecture of Joseph Allen Stein in India and California, Oxford University Press, ISBN 0-19-562924-8

White, Stephen (1993), Oxford University Press. The architecture of Joseph Allen Stein in India and California, by

The responsibility for environment: First address, 9 October 1962, by Joseph Allen Stein. University of California, College of Environmental Design, 1962

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University of Jammu
Four Year Innovative Undergraduate
Program
(Design Your Degree)

Semester: 2nd
(For the Session 2024, 2025, 2026)

Course Code: UFDDPC205

Credits: 04

Contact Hours: 15 hours per credit

Course Title: Art and Aesthetics of Designing

Maximum Marks: 100

Internal Evaluation: 30

External Evaluation: 70

Applications of designs

Application of Design Thinking to solve the design problems in everyday life

Projects

1. Designing a school library
2. Improving public transport
3. Designing sustainable packaging solutions
4. Enhancing remote learning

Activity: Developing physical model of designs, 3D models of design and Journey Map

Resources:

Soni, P., (2020), Design your thinking, Penguin Random House India Portfolio, ISBN: 9780670094097

Towards a New Architecture (Vers une Architecture) LE CORBUSIER, Dover Publications, New York, 1986, 1927, English; originally published 1923 in French, ISBN: 9780486250236

Alexandra Lange (2022), Meet Me by the Fountain: An Inside History of the Mall Hardcover, Bloomsbury Publishing, ISBN 978-1635576023

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University of Jammu
Four Year Innovative Undergraduate
Program
(Design Your Degree)

Semester: 2nd
(For the Session 2024, 2025, 2026)

Course Code: UFDDPC205

Credits: 04

Contact Hours: 15 hours per credit

Course Title: Art and Aesthetics of Designing

Maximum Marks: 100

Internal Evaluation: 30

External Evaluation: 70

Pedagogy: The entire course is a kind of project work which will be pre reads, discussions activities and explorations of designs from the surroundings and then from the other parts of the country followed by the designs across the world. Few lectures by the Mentor on how to understand the art and science of designing, which aspects must be taken and deliberated while studying comparing and developing the various designs. Mentor will provoke students to think innovatively about the naturally existing designs their purpose behind the designs of the nature.

Different groups of students will be allotted different projects and to be carried out that will require different task at their own like field visits and explorations from the surrounding as well through online mode along with general guidance/supervision

Mode of Evaluation:

The assessment structure for this program consists of two components: internal assessment and external assessment. The internal assessment, shall account for 30% of the overall grade, on the basis of continuous performance monitoring through tests/ quizzes/ presentations/ class participation/ small live projects emphasizing on development of skills in application, effective communication, and teamwork.

The remaining 70% of the grade shall be accessed through a transdisciplinary major project, which will span an entire semester.

The evaluation of the major project would be comprehensive, considering various factors including the depth and accuracy of the project's content, the applied methodology, research rigor, the effective use of IT tools and data analysis, as well as the meaningful findings and practical implications derived from the project. The assessment shall also include testing innovativeness, communication and problem solving.

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UNIVERSITY OF JAMMU
Four Year Innovative Undergraduate
Program
(Design Your Degree)

Semster-2nd
(Session 2024, 2025, 2026)

Course Code: UFDDPC206
Credits: 02
Contact Hours: 15 per Credit

Course Title: Responsible
Citizenship through
Experimentation

Maximum Marks: 50
Internal Evaluation: 20
External Evaluation: 30

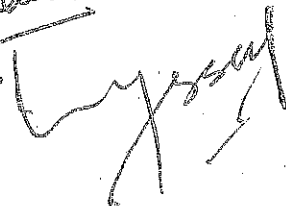
About the Course:

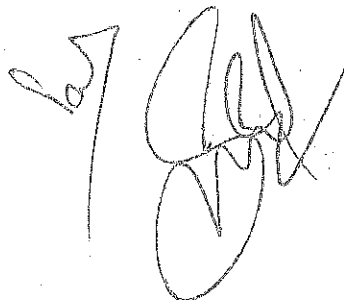
Citizenship education is essential for preparing young students for our shared democratic life. It is about enabling the people to make their own decisions and to take the responsibilities for their own lives and their communities. Experimenting citizenship is essentially a skill the college students should be equipped with and they need to have a reasonable understanding of the political, social, economic and civic functions of our society. Citizenship is more than a subject as it is tailored in local context, its skills and values will enhance democratic life for all of us. The concept of citizenship is centered to the issues of self, empathy, assumption, stereotypes, discrimination, prejudices, conflict and peace building, innovation, continuous learning etc. The pedagogy shall largely be experiential and shall consist of team exercises, group learning, community actions, discussions, group activities, cases studies, simulation exercises, field trip, report writing and report presentations.

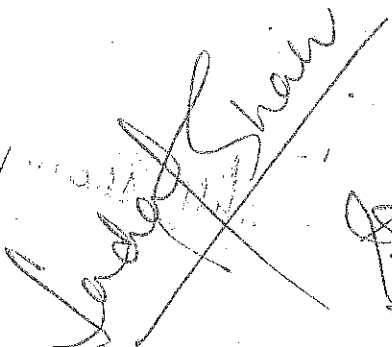
Learning Objectives:

The objectives of the course is to provide the knowledge and understanding of the various concepts like citizenship, democracy, rule of law, human rights diversity, multiculturalism, justice, equality sustainable development global community etc.











UNIVERSITY OF JAMMU
Four Year Innovative Undergraduate
Program
(Design Your Degree)

Semster-2nd
(Session 2024, 2025, 2026)

Course Code: UFDDPC206
Credits:02
Contact Hours : 15 per Credit

Course Title: Responsible
Citizenship through
Experimentation

To equip the students with the **skills and aptitudes** so as to take decision on the basis of critical thinking, expressing opinions, taking part in discussions and debates, negotiation and taking part in the community action.

To equip the students with the **values** wherein he/she respect and understand the idea of justice, rule of law, tolerance, courage to defend his/her point of view and work with and stand up for others.

Students will be able to identify ripple effects of human movements across the globe and how they impact holistic human ecologies.

Students will be able to give voice to their local narratives and develop an ability to step into self-authorship.

Students will be able to recognize and discuss their personal and social identities, as well as gain an understanding of their sense of self-efficacy within a community justice framework.

Students will learn to translate their knowledge and wisdom to actionable practice within their communities.

Course Outcome:

It will help the students to learn the **concept in detail** and various **relationships with** survival, growth of democracies and a healthy vibrant society.

It enables the students to make the **positive contribution** by developing the expertise to claim their rights and understand their responsibilities in the evolving world.

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UNIVERSITY OF JAMMU
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Semster-2nd
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Course Code: UFDDPC206
Credits:02
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Course Title: Responsible
Citizenship through
Experimentation

It shall enable the students with a voice in his/her college life, in their communities and societies at large.

It shall further enable them to be informed, articulate and responsible in their respective communities.

Module-A: Making sense of citizenship

- **Activities:** Today, on the way to campus (asking the students what they have experienced, witnessed, heard or read in the context of citizenship e.g., a biker jumping the signal, the heap of garbage on wayside, heard/read that people helping the police to figure out the possible narcotics spots in the area, traffic jam etc)

Pedagogy: Discussion/ interaction on the issues raised in the activity, possible agreeable position (constitutional/ sustainable /culturally acceptable plans by the students for the issues raised).

Learning outcomes: student shall be able to contextualize the issue with the concept under discussion and further be able to have comprehensive knowledge and also be able to make a reasonable plan to address the issue raised.

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Course Title: Responsible
Citizenship through
Experimentation

Module-B: Practising Citizenship

Activities: Doable action plan in the immediate vicinity (shall be finalized with the discussion/ input of the students)

Pedagogy: making teams/action plan/ reaching to a agreeable action plan/ action spreadsheet/execution of the plan.

Learning outcome: learning leadership, team building, responsibilities to immediate surrounding/community, how to make local sustainable and acceptable plan.

Module-A: Digital citizenship

Activities: to asking students what bad/unpleasant they received /heard of other/sent on social media platform. How they categorize (acceptable/ unacceptable content, who defines, cultural sensitivity, laws associated with etc.

Pedagogy: discussion on issues/concerns /event raised by the students shall be followed by the presentation (individual /group) about the various laws about usage of digital space.

Simulation exercise on the limitations, sensitivities (cultural/religious/identity/nationalism etc.), usage and misuse of digital platform.

UNIVERSITY OF JAMMU

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**Four Year Innovative Undergraduate
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Citizenship through
Experimentation**

Learning outcomes: student shall be able to inculcate mutual respect, inclusivity, cultural sensitivities etc.

Module-B: Multi-culturism, Global citizenship

➤ **Activities:** 1-pin-balloon (prejudice), exercise -2: explain individual in the picture (stereotype), new girls in the class (discrimination). Discussions, cases studies-(macro & micro level).

Pedagogy: The group can have interaction/ discussion with diverse set of people (other region /culture/religion/ethnic background etc.) and the same shall be followed by presentation (individual/group)

Learning outcome: students shall be able to acquire better life skills/ career skills /understanding sensitivities of other/respecting others.

References &resources:

<https://ncert.nic.in/textbook/pdf/lepy102.pdf>

[https://www.hoddereducation.com/media/resources/he/Citizenship/MRN%20QA%20GCSE%20\(9-1\)%20Citizenship/MRN%20QA%20GCSE%20Citizenship%20skills.pdf](https://www.hoddereducation.com/media/resources/he/Citizenship/MRN%20QA%20GCSE%20(9-1)%20Citizenship/MRN%20QA%20GCSE%20Citizenship%20skills.pdf)

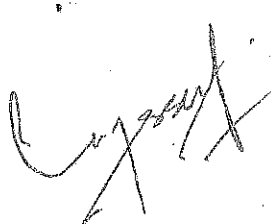
<https://practice-school.eu/activity5-conflict-solution-peace-making-and-peacekeeping-activities/>

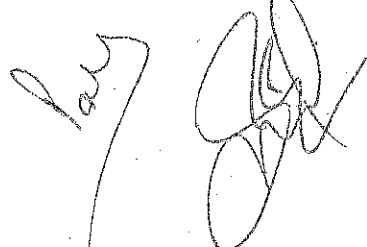
<https://ncert.nic.in/textbook/pdf/lepy102.pdf>

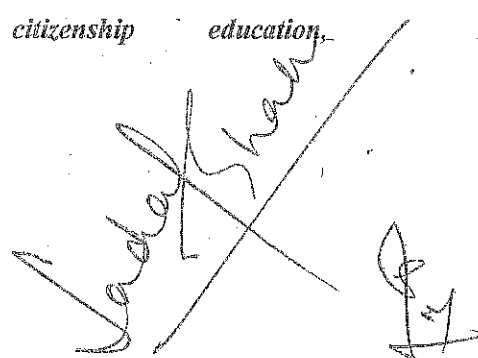
Guiding classroom discussions for democratic citizenship education.

<https://www.tandfonline.com/doi/full/10.1080/03055698.2017.1373629>

UNIVERSITY OF JAMMU

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**Four Year Innovative Undergraduate
Program
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Semster-2nd
(Session 2024, 2025, 2026)

Course Code: UFDDPC206
Credits:02
Contact Hours : 15 per Credit

**Course Title: Responsible
Citizenship through
Experimentation**

Lifelong citizenship, <https://brill.com/display/book/9789463512398/BP000607.xml>

Mode of Evaluation:

The assessment structure for this program consists of two components: internal assessment and external assessment. The internal assessment, shall account for 30% of the overall grade, whereas the external shall be of 70%. The evaluation shall be based shall be of Participation in the discussion/interaction, their reflections, individual assignments/ presentations /group presentations, project participation and its completion.

Alia Sharma
Arjun

Arjun

Arjun

Sachin Shah

Arjun

**Four Year Innovative Undergraduate
Program
(Design Your Degree)**

Semster-2nd
(Session 2024, 2025, 2026)

Course Code: UFDDPC206
Credits:02
Contact Hours : 15 per Credit

**Course Title: Responsible
Citizenship through
Experimentation**

Lifelong citizenship, <https://brill.com/display/book/9789463512398/BP000007.xml>

Mode of Evaluation:

The assessment structure for this program consists of two components: internal assessment and external assessment. The internal assessment, shall account for 30% of the overall grade, whereas the external shall be of 70%. The evaluation shall be based shall be of Participation in the discussion/interaction, their reflections, individual assignments/ presentations /group presentations, project participation and its completion.

*Muhammad
Khan*

Yasir

Ali

Sadaf Khan

Faris

University of Jammu
Four Year Innovative Undergraduate Program
(Design Your Degree)

Semester: II
(For the Session 2024, 2025, 2026)

Course Code: UFDDPA207

Credits: 04

Contact Hours: 15 per credit

Course Title: A Language to
Understand the Nature

Maximum Marks: 100

Internal Evaluation: 30

External Evaluation: 70

Objectives: The objective of the course on "A Language to Understand the Nature" include:

- Developing linguistic skills to describe and analyze natural phenomena;
- Developing the ability to apply Calculus techniques to solve problems in various fields including mathematics, science, engineering, and social sciences;
- Developing critical thinking and problem-solving skills through challenging Calculus problems and applications;
- Preparing for further study in mathematics, science, engineering and related areas.

Contents of the Course

A. Real Numbers

- Review of Sets, relations and functions;
- Real numbers: Real numbers as natural extension of rational numbers, the set of real numbers as field, the least upper bound property of real numbers;
- sequences of real numbers: Introducing the idea of limit, sequence of real numbers and its convergence, monotonic sequences, Cauchy sequence, some useful limits;
- Series of real numbers: Convergence of the series, necessary and sufficient condition for convergence, comparison test, D'Alembert's ratio test, Cauchy's root test, idea of absolute convergence.

Alte Praveen
Er. Praveen

University of Jammu
Four Year Innovative Undergraduate Program
(Design Your Degree)

Semester: II
(For the Session 2024, 2025, 2026)

Course Code: UFDDPA207
Credits: 04

Course Title: A Language to
Understand the Nature

B. Differentiation and Interaction

- Continuity: Limit of a function, elementary properties of limits, some useful limits, Continuous function, algebra of continuous functions, intermediate value theorem, Fixed-point theorem, exponentials and logarithms, Heine-Borel theorem, Uniformly continuous functions;
- Differentiability: Introduction of differentiation as the rate of change and steepness of a curve, properties of differentiable functions, Chain rule, Rolle's theorem, Mean-Value theorem, Leibnitz's theorem, Taylor's theorem, Introduction of Maxima and Minima through real world examples;
- Riemann Integration: Introduction of Riemann integration as area under a curve, upper and lower Riemann integrals, necessary and sufficient condition for a function to be Riemann integrable, continuity and integration, fundamental theorem of calculus.

C. Differential equations

- Differential equations: Introduction of differential equation through real world problems;
- First-order linear differential equation with examples like (a) Modelling how a person learns, (b) Law of heating and cooling, (c) Parabola, (d) The hanging cable;
- Bernoulli's equation;
- Introduction of partial derivatives, Exact differential equation;
- Existence and uniqueness of solution;
- Second-order differential equations and their examples like Hooke's law, Simple pendulum, L-C-R electrical circuit, Kepler's laws etc.

D. Vectors

- Vectors: Vectors in the plane, Cartesian coordinates and vectors in space, dot and cross product of vectors, lines and planes in space;
- Matrices: Algebra of matrices, types of matrices, determinant of square matrices, the adjoint of a square matrix, the inverse of a matrix, Cramer's rule;
- Linear mappings: Linear mappings on \mathbb{R}^2 , algebra of linear transformations on \mathbb{R}^2 , linear transformations and matrices, linear transformations and geometry.

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University of Jammu
Four Year Innovative Undergraduate Program
(Design Your Degree)

Semester: II
(For the Session 2024, 2025, 2026)

Course Code: UFDDPA207
Credits: 04

Course Title: A Language to
Understand the Nature

Activity: Examples and exercises based on each of the topics of all the four topics shall be done through class discussions, tutorials, seminars etc. Different Minor and Major projects to be given to different groups of the class besides regular involvement in problems solving sessions/class seminars.

Pedagogy: Mentor must introduce each topic with the help of real life situations/problems so as to give complete understanding of the concept and enabling the students to find solutions to the problems at their own by "How to Solve it" approach. Mathematical concepts must come to the students in a natural way instead of imposing on them.

Reference Books for self study:

- (1) Sinha, K.B., Karandikar, R.L., Musili, C., Pattanayak, S., Singh, D., and Dey, A., Understanding Mathematics, Universities Press (India) Pvt. Ltd. Hyderabad, India, 2000.
- (2) Gregson, K., Understanding Mathematics, Nottingham University Press, Nottingham, UK, 2007.
- (3) Acheson, D., The Calculus Story, A Mathematical Adventure, Oxford University Press, UK, 2017.
- (4) Thomas, G.B. and Finney, R.L., Calculus and Analytic Geometry, Pearson Education in South Asia, 2006.

Mode of Evaluation:

The assessment structure for this program consists of two components: internal assessment and external assessment. The internal assessment, shall account for 30% of the overall grade, on the basis of continuous performance monitoring through tests/ quizzes/ presentations/ class participation/ minor projects emphasizing on development of problem solving skills and applications of calculus to other disciplines.

The remaining 70% of the grade shall be assessed through a transdisciplinary major project with an emphasis on applications of calculus to real world problems. This project will span over the entire semester.

The evaluation of the major project would be comprehensive, considering various factors including the depth and accuracy of the project's content, the applied methodology, research rigor, the effective use of IT tools and data analysis, as well as the meaningful findings and practical implications derived from the project. The assessment shall also include testing innovativeness, communication and problem solving.

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University of Jammu

Four Year Innovative Undergraduate Program

(Design Your Degree)

Semester: II

(For the Session 2024, 2025, 2026)

Course Code: UFDDPA208

Credits: 04

Contact Hours: 15 per credit

Course Title: Understanding the
World through Data Lens - II

Maximum Marks: 100

Internal Evaluation: 30

External Evaluation: 70

Course Objectives

1. To make you to understand the appropriate application of various statistical tools, procedures and tests.
2. Enable you to make informed decisions based on data with sophisticated statistical tools.
3. To teach you the uses, capabilities and limitations of various statistical procedures
4. To facilitate you in interpreting and reporting the results

Core Learning Outcomes

Probability and Distribution

Probability, Conditional Probability, Bayes Probabilities, Some discrete and Continuous Probability Distributions, Sampling Distributions

Activity:

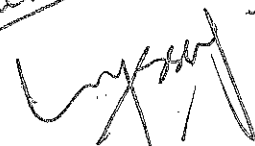
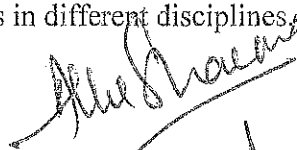
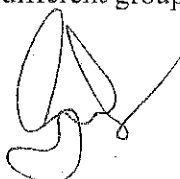
- a) Conduct probability experiments in the classroom using coins, dice and playing cards.
- b) Group activity on case studies

Introduction of Estimation and Statistical Inference

Point and interval estimation of population parameters, design of hypothesis, errors in inference, the reasoning of significance tests stating the hypothesis.

Activity:

- a) Demonstrate a learning sessions to develop hypothesis through different applications.
- b) Host a panel discussion between different groups in different disciplines.



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Course Code: UFDDPA208

Course Title: Understanding the
World through Data Lens – II

Tests of Significance

Creating and calculating the value of a test statistics, finding the p-value, Making Decision, Interpretation and conclusion followed by recommendations, small and large sample tests, ANOVA, Chi-square test.

Activity:

- a) Conduct demonstration sessions using SPSS to analyze data sets.
- b) Organize a group project to inferential analysis of case study through SPSS
- c) Critical Group discussion on the report of group project.

Bivariate and Multivariate Analysis

Simple and multiple linear regressions, assumptions, method of estimation, Inference, Testing, Interpretation and applications, Discriminant Analysis, Logistic Regression Analysis, Factor Analysis

Activity:

- a) Appropriate numerical case study will be given to the students to analyze.
- b) Practical problems solving in and outside class through assignments.
- c) Analyze real world scenarios and determine the appropriate type of analytical techniques to utilize.
- d) Interpret and communicate the results of statistical analysis generated by SPSS or EXCEL.

Essential Textbooks

1. Jim Frost (2020): Introduction to Statistics: An Intuitive Guide for Analyzing Data and Unlocking Discoveries, published by Statistics By Jim Publishing.
2. David Spiegelhalter (2019): The Art of Statistics: How to learn from Data, published by Basic Books, First Edition.
3. Albert Rutherford (2023): Statistics for the Rest of Us: Mastering the Art of Understanding Data Without Math Skills (Advanced Thinking Skills), published by Independently Published.
4. Albert Rutherford (2022): The Art of Statistical Thinking: Detect Misinformation, Understand the World Deeper, and Make Better Decisions. (Advanced Thinking Skills), published by Independently published.

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Mode of Evaluation:

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The remaining 70% of the grade shall be assessed through a transdisciplinary major project with an emphasis on applications of analytical tools to real world problems. This project will span over the entire semester.

The evaluation of the major project would be comprehensive, considering various factors including the depth and accuracy of the project's content, the applied methodology, research rigor, the effective use of IT tools and data analysis, as well as the meaningful findings and practical implications derived from the project. The assessment shall also include testing innovativeness, communication and problem solving

