

Name of Institute : INDUS INSTITUTE OF TECHNOLOGY AND ENGINEERING
Name of Faculty : Dr. Umang Patdiwala

Course code : ME0436

Course name : Roadmap for Patent Creation (Open Elective-4)

Pre-requisites : Nil

Credit points :

L	T	P	C
3	0	0	3

Offered Semester: B. Tech. Sem-IV

Course Coordinator

Full Name: Dr. Umang Patdiwala

- Department with seating location: 3rd Floor, Staff Room No. 307, Bhanwar Building, IITE - IU
- Telephone: 3327
- Email: umangpatdiwala.me@indusuni.ac.in
- Consultation times: 3.30 am to 5.30 pm (Monday & Tuesday)

Course Lecturer

Nil-

Students will be contacted throughout the session via mail with important information relating to this course.

Course Objectives

By participating in and understanding all facets of this course a student should be able to:

1. To understand basics of patent
2. To know importance of IPR and patent
3. To know patent filing procedure
4. To understand importance of patent search in research and project work

Course Outcomes (CO)

1. After learning the course the students should be able to:
2. Able to identify what is Patent and importance?
3. Able to file patent at their own and know entire procedure
4. Able to search patent thoroughly using web resources
5. Students will create awareness about IPR and patent etc.

Course Outline

(Key in topics to be dealt)

1. Introduction to Patent
2. Patent analytics
3. Research Gap Analysis
4. Patent Identification
5. Patent -filing activity
6. Types of patent and patent timelines
7. Laboratory notebook
8. Research/Project Planning

Method of delivery

(Chalk & Talk, Presentation mode & Video Lecturing, Interaction & Discussion, Case Studies & Real Life Problem Solving Methods, Hands on Practice on Patent Search using different websites)

Study time

3 Hours Classroom Engagement

CO-PO Mapping (PO: Program Outcomes)

The objectives of the Mechanical Engineering undergraduate program are to produce graduates who have:

PO1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2. Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3. Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Blooms Taxonomy and Knowledge retention(For reference)

(Blooms taxonomy has been given for reference)

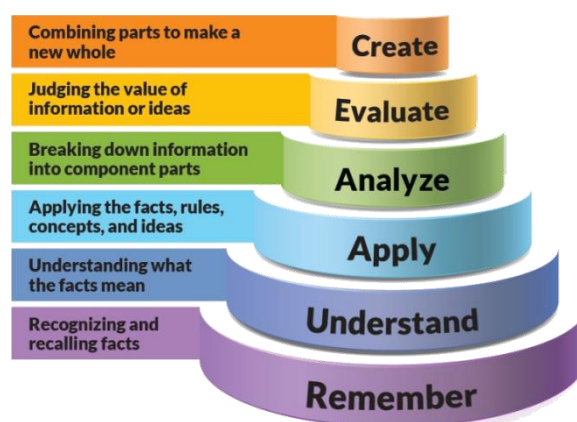


Figure 1: Blooms Taxonomy

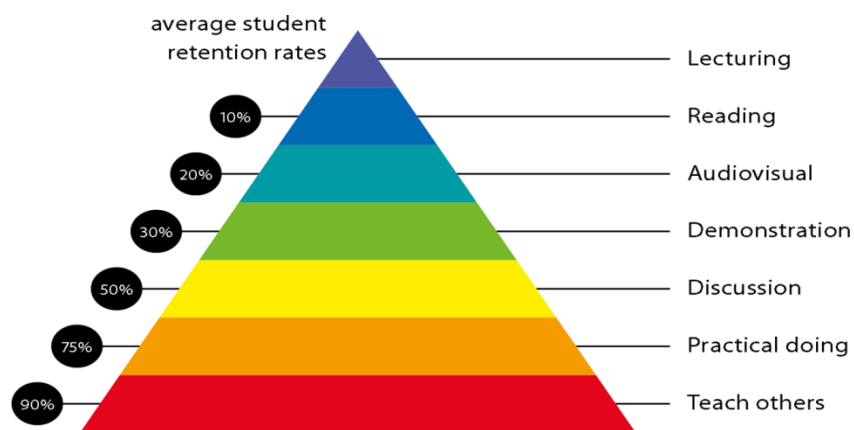


Figure 2: Knowledge retention

Graduate Qualities and Capabilities covered

(Qualities graduates harness crediting this Course)

General Graduate Qualities	Specific Department of _____ Graduate Capabilities
Informed Have a sound knowledge of an area of study or profession and understand its current issues, locally and internationally. Know how	1 Professional knowledge, grounding & awareness

to apply this knowledge. Understand how an area of study has developed and how it relates to other areas.	
Independent learners Engage with new ideas and ways of thinking and critically analyze issues. Seek to extend knowledge through ongoing research, enquiry and reflection. Find and evaluate information, using a variety of sources and technologies. Acknowledge the work and ideas of others.	2 Information literacy, gathering & processing
Problem solvers Take on challenges and opportunities. Apply creative, logical and critical thinking skills to respond effectively. Make and implement decisions. Be flexible, thorough, innovative and aim for high standards.	4 Problem solving skills
Effective communicators Articulate ideas and convey them effectively using a range of media. Work collaboratively and engage with people in different settings. Recognize how culture can shape communication.	5 Written communication
	6 Oral communication
	7 Teamwork
Responsible Understand how decisions can affect others and make ethically informed choices. Appreciate and respect diversity. Act with integrity as part of local, national, global and professional communities.	10 Sustainability, societal & environmental impact

Lecture/tutorial times

(Give lecture times in the format below)

Example:			
Lecture	Monday	_____ am	B. Tech. Class Room No.
	Tuesday	_____ am	B. Tech. Class Room No.
	Wednesday	_____ am	B. Tech. Class Room No.

Attendance Requirements

The University norms states that it is the responsibility of students to attend all lectures, tutorials, seminars and practical work as stipulated in the course outline. Minimum attendance requirement as per university norms is compulsory for being eligible for semester examinations.

Details of referencing system to be used in written work

Text Books:

1. IP for development: The emerging paradigm; by Gargate, G., Jha S.K. Elsevier, Delhi, India, 2014
2. Intellectual Property A Very Short Introduction Siva Vaidhyanathan
3. Foundations of Intellectual Property Robert P. Merges, Jane C. Ginsburg

References:

1. Guide to Intellectual Property What it is, how to protect it, how to exploit it
2. Key to IP Identifying Your Patents, Trademarks, Copyrights, and Trade Secrets
Chris Weiss Esq.

Web Resources:

1. Roadmap For Patent Creation Prof. Gouri Gargate Indian Institute Of Technology- Kharagpur
2. https://nptel.ac.in/noc/individual_course.php?id=noc19-ge09

Additional Materials of MOOC:

<https://nptel.ac.in/courses/127105008/26>

ASSESSMENT GUIDELINES

Your final course mark will be calculated from the following:

CIE Theory: Total 60 Marks

- | | |
|---------------------------|---------------------------------|
| 1. Attendance | :- 10 Marks |
| 2. Assignments/Case Study | :- 20 Marks |
| 3. Patent Search Exercise | :- 10 Marks |
| 4. Class Tests/Quizzes | :- 20 Marks (Two Separate Quiz) |

SUPPLEMENTARY ASSESSMENT

Students who receive an overall mark less than 40% in internal component or less than 40% in the end semester will be considered for supplementary assessment in the respective components (i.e internal component or end semester) of semester concerned. Students must make themselves available during the supplementary examination period to take up the respective components (internal component or end semester) and need to obtain the required minimum 40% marks to clear the concerned components.

Practical Work Report/Laboratory Report:

A report on the practical work is due the subsequent week after completion of the class by each group.

Late Work

Late assignments will not be accepted without supporting documentation. Late submission of the reports will result in a deduction of 1 % of the maximum mark per calendar day

Format

All assignments must be presented in a neat, legible format with all information sources correctly referenced. **Assignment material handed in throughout the session that is not neat and legible will not be marked and will be returned to the student.**

Retention of Written Work

Written assessment work will be retained by the Course coordinator/lecturer for two weeks after marking to be collected by the students.

University and Faculty Policies

Students should make themselves aware of the University and/or Faculty Policies regarding plagiarism, special consideration, supplementary examinations and other educational issues and student matters.

Plagiarism - Plagiarism is not acceptable and may result in the imposition of severe penalties. Plagiarism is the use of another person's work, or idea, as if it is his or her own - if you have any doubts at all on what constitutes plagiarism, please consult your Course coordinator or lecturer. Plagiarism will be penalized severely.

Do not copy the work of other students.

Do not share your work with other students (except where required for a group activity or assessment).

Course schedule (subject to change)

(Mention quiz, assignment submission, breaks etc. as well in the table under the Teaching Learning Activity Column)

	Week #	Topic & contents	CO Addressed	Teaching Learning Activity (TLA)
	Weeks 1	Introduction to Patent Definition and basic concepts; Property and IP	1, 2	Patent Intro
	Weeks 2	IPR IP and future area, Patent Introduction	1,2	Patent Intro
	Week 3	Patent analytics Introduction, How to a read patent?, Patent Searching and analysis	2	Assignment
	Week 4	Novelty aspect, Non obviousness, Industrial application	2, 3	Assignment

	Week 5	Research Gap Analysis Use of patent data for research gap analysis, Parts of Patent documents, Terminology and codes used in patent documents	1, 2, 3	Assignment
	Week 6	How to read patent – and its details, Identification of potential patent - various tools	1, 3	Patent Search Exercise-I
	Week 7	Patent Identification Identification of potential patent - various tools, IP identification tool	1	Quiz-1
	Week 8	IP audit and frame work, Public Patent database	1	Assignment
	Week 9	Research planning and patent -filing activity, Types of patent, Patent filing procedure in India	1, 3	Assignment
	Week 10	Patent timeline : India and PCT, Inventions not Patentable in India, Indicator for Patentability	3, 4	Assignment
	Week 11	Types of patent and patent timelines, Use of patent data base for research/project topic identification	3	Patent Search Exercise-II
	Week 12	Patent invention category & Case Study	3, 4	Quiz-2
	Week 13	Maintenance of laboratory notebook and patenting activity, Importance of laboratory notebook, Identification of inventor, applicant and their rights	4	Case Study and Assignment
	Week 14	When to publish and when to Patent, Procedure for patent filing (forms and fees), Interaction with IP attorney – initial drafting, FER reply and hearing	5	Assignment
	Week 15	Research/Project Planning, Post patent filing requirements	5	Quiz-3
	Week 16	Patent commercialization	4, 5	Case Study
	Week 17	Revision & Case Study Discussion	1, 2, 3, 4	

Programme Map for Batcholar of Technology Degree

Year-1 Design Thinking

**Year - 2 Roadmap for
Patent Creation**

Note: No prerequisite course is taught/required in earlier semesters.