**ME 554 Intellectual Property for Engineers, Sem. 2, Class 1, cr. 1. Prerequisite: Physics 172.**

Survey of the law of patents, trade secrets, trademarks, and copyrights, with special emphasis on the process of defining inventions broadly and diversely. Obtaining, registering, licensing, and litigation of intellectual property.

**Professor Ramani.**
ME 554 Intellectual Property for Engineers, Sem. 2, Class 1, cr. 1. Prerequisite: Physics 172.

Survey of the law of patents, trade secrets, trademarks, and copyrights with special emphasis on the process of defining inventions broadly and diversely. Obtaining, registering, licensing, and litigation of intellectual property.
TO: Purdue University Graduate Council
From: Faculty Member: Jim Jones
From: Department: Mechanical Engineering
Campus: West Lafayette
Date: 
Subject: Proposal for New Graduate Course - Documents Supporting Registrar's Form 40

Contact information if questions arise
Name: Jim Jones
Phone Number: 45691
E-mail: jonesjd@purdue.edu
Campus Address: ME 222B

Course Number: ME 554
Course Title: Intellectual Properties for Engineers

A. Justification for the Course
Explain how this course relates to other courses offered in the department or other departments and how this course fulfills a recognized need.

This course provides a foundation for students wanting to learn patent analysis. The course surveys the basic laws regarding patents, trade secrets, and copyrights. It is an excellent course for undergraduate, graduate and even non-engineering students (provided they have the prerequisite background), especially those interested in the Entrepreneurship Certificate Program.

This course is intended primarily for students from within this department

B. Level of the course:
Justify request for graduate course level by indicating anticipated enrollments of undergraduate and graduate students.

Anticipated Undergraduate Student Enrollment: Choose One
50-75%

Anticipated Graduate Student Enrollment: Choose One
25-50%

C. Prerequisites: (If none, please explain reasons for absence)

PHYS 172

D. Course Instructor:
Instructor's Name: John McNett

E1. Course Outline:
(An outline of topics to be covered and an indication of the relative emphasis or time devoted to each topic is necessary. If laboratory or field experience is involved, the nature of this component should be explained as well). - See Attached EFD.

E2. Method of Evaluation or Assessment:
See Attached EFD.

F. Reading List:
A reading list or bibliography should be limited to material the students will be required to read in order to successfully complete the course. It should not be a compilation of general reference material. See attached EFD.
TO: The Engineering Faculty

FROM: The Faculty of the School of Mechanical Engineering

DATE: March 29, 2007

RE: New Course Approval ME 554 Intellectual Property

The Faculty of the School of Mechanical Engineering has approved the following course for a permanent course number. This action is now submitted to the Engineering Faculty with a recommendation for approval.

**ME 554 Intellectual Property**, Sem. 2. Class 1, cr. 1. Prerequisite: Physics 172 or equivalent.

Survey of the law of patents, trade secrets, trademarks and copyrights with special emphasis on the process of defining inventions broadly and diversely. Basics of employment and confidentiality agreements as related to intellectual property. Obtaining, registering, licensing and litigation of intellectual property.

**Reason:** This course provides a foundation for students wanting to learn patent analysis. The course surveys the basic laws regarding patents, trade secrets, and copyrights. It is an excellent course for undergraduate, graduate and even non-engineering students (provided they have the prerequisite background), especially those interested in the Entrepreneurship Certificate Program.

The course has been offered five times with enrollments of 24 students in spring 2000, 26 students in spring 2001, 32 students in spring 2002, 28 spring 2003, and 14 spring 2004. Making this a permanent course offering will help make students more aware of this course.

Details of the course are provided in the attached course map and description.

James D. Jones
Associate Professor and Associate Head
School of Mechanical Engineering

[Approval signatures]
ME 554
INTELLECTUAL PROPERTY

Course Outcomes
1. Understand and practice the basics of defining inventions.
2. Learn basics of patents, trade secrets, trademarks, copyrights.
3. Understand the basics of employment and confidentiality agreements as related to intellectual property.
4. Understand licensing and litigation of intellectual property.

Invention Definitions (5 wks)
1. Breadth of definitions
2. Diversity of definitions
3. Genus/Species
4. Markush Group

Typical Examples
- two handled leaf rake
- eyeglasses/ear protector
- reciprocating pedal bike
- wire door stop

Patents and Trade Secrets (3 wks)
1. Subject matter
2. Types of patents
   - Utility
   - Design
   - Plant
3. Term of patents
4. Standard of prior art
5. Obviousness
6. Licensing
7. Litigation

Intellectual Property (Typical Concurrent Project) (4 wks)
- Design to avoid patent claim
- Improvement design encompassed by patent claim

Trademarks and Copyrights (2.5 wks)
1. Types of trademarks
2. Quality Control issues
3. Copyright issues
4. Special computer program deposit requirements

Employment, Confidential Disclosure, and General IP issues (2.5 wks)
1. Covenants not to compete
2. Obligations to Assign to employer
3. Confidential Disclosures
4. New business scenarios

Licensing and Litigation (2 wks)
1. Exclusive/nonexclusive
2. Valuation and royalty bases
3. Jurisdiction
4. Damages
5. Injunctive Relief
<table>
<thead>
<tr>
<th>COURSE NUMBER: ME 554</th>
<th>COURSE TITLE: Intellectual Property</th>
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<tbody>
<tr>
<td>REQUIRED COURSE OR ELECTIVE COURSE: Elective</td>
<td>TERMS OFFERED: Spring</td>
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<tr>
<td>TEXTBOOK/REQUIRED MATERIAL: None – Detailed Powerpoint presentations available online and distributed in class.</td>
<td>PRE-REQUISITE: PHYS 172 Modern Mechanics</td>
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<td>COORDINATING FACULTY: J.C. McNett and K. Ramani</td>
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<tr>
<td>COURSE DESCRIPTION: Survey of the law of patents, trade secrets, trademarks and copyrights with special emphasis on the process of defining inventions broadly and diversely. Obtaining, registering, licensing and litigation of intellectual property.</td>
<td>COURSE OUTCOMES:</td>
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<tr>
<td>ASSESSMENTS TOOLS:</td>
<td>1. Understand and practice the basics of defining inventions.</td>
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<td>1. Two graded homework assignments.</td>
<td>2. Learn basics of patents, trade secrets, trademarks, copyrights.</td>
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<td>2. One project.</td>
<td>3. Understand the basics of employment and confidentiality agreements as related to intellectual property.</td>
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<td>3. One graded in-class written exercise on claim scope.</td>
<td>4. Understand licensing and litigation of intellectual property.</td>
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<td>4. One in-class exam on claim drafting.</td>
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<td>5. One comprehensive final exam on intellectual property.</td>
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<td>PROFESSIONAL COMPONENT:</td>
<td>RELATED ME PROGRAM OUTCOMES: N/A</td>
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<tr>
<td>1. Engineering Topics: Engineering Science – 0.5 credits (50%)</td>
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<td>Engineering Design -- 0.5 credits (50%)</td>
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<tr>
<td>NATURE OF DESIGN CONTENT:</td>
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<tr>
<td>The project in this course requires the students to propose designs from the perspective of legal coverage of recently issued patents.</td>
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<td>COMPUTER USAGE: The students are expected to use the computer to research patents available on the internet.</td>
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<td>COURSE STRUCTURE/SCHEDULE:</td>
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<tr>
<td>1. Lecture – 1 days per week at 50 minutes.</td>
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<tr>
<td>PREPARED BY: K. Ramani</td>
<td>REVISION DATE: March 26, 2007</td>
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