Course Description: The course covers the broad agenda of using intellectual capital for competitive advantage. In the innovation economy, intangible assets like human capital, intellectual property, brands, and trademarks have become the most significant proportion of a firm’s total wealth. And yet, most firms do a poor job of managing intellectual capital strategically. In this course, we adopt a “lifecycle” approach to the pro-active management of intellectual assets. This lifecycle covers the creation of the intellectual asset, the codification of the asset in the form of intellectual property (IP), the valuation of intellectual asset and the leveraging of the asset to realize sustainable competitive advantage. TECH 913 satisfies distribution requirements for the multiple majors including Innovation & Entrepreneurship, Biotechnology, Managerial Economics as well as Technology Industry Management. NO PREREQUISITES.

Why take this course? Ideas and commercially successful innovations are the principal drivers of economic growth. In emergent and rapidly growing industries populated with start-ups, the agile management of intellectual capital in general and intellectual properties in particular can be the difference between survival and extinction. Additionally, digital product delivery is dramatically impacting the way that the expression of ideas, software, business processes and other elements of intellectual capital are being created, acquired, leveraged and defended. Evidence of this fundamental change in business practice is best seen in the 700 percent increase in Intellectual asset licensing revenues $40B to over $300B that has occurred in the eight years from 1996 to 2004. Markets for the active trading of these assets are also forming. In this course we explore how managers can take advantage of these shifts in our economic foundations.

Instructors: James G. Conley (sections 71 & 91), Center for Research on Technology and Innovation, Kellogg School, Phone 847-491-4814, e-mail: j-conleya@northwestern.edu, Professor Clinton Frances (section 71), Phone 312-503-6484, e-mail cwfrancis@law.northwestern.edu, David Orozco will serve as an assistant in managing the class materials.

Teaching Style: Intellectual capital management methods and practices will be introduced through demonstration and discussion in the first half of each class period. Industry specific examples will be investigated through case studies addressing firms in multiple sectors of the global economy. Insight from the industrial experience of students formerly or presently involved with innovation programs is encouraged. The class discussions and assignments are designed to help us learn from each other.

Reference Materials: There is no text for this class. There is however a reader of reading materials/case studies. Most all the content of the reader is required to be read as scheduled unless otherwise noted as recommended content. Additional reading assignments will come from public domain materials. Instructors will do their best to make these materials available online.
**Tentative Class Schedule:**  Week to week content and order as described in what follows is subject to change. Students should review and or read listed materials during week scheduled. Assignments must be prepared before class where they are listed to be discussed. More on all of this in class session #1

**Session #1:**

**Subjects:** Innovation and Intellectual Assets: Schumpeter and Value Creation, the Taxonomy, Sources of Innovation and the Continuum of Protection: Capturing ideas as transferable assets and property rights. Intellectual capital policy and the theory of economic development.

- Review of Syllabus, Schedule, Deliverables etc.
- Schumpeter and the Theory of Economic Development: The role of innovations and new combinations.
- The legal primacy & critical significance of inventors, creators, innovators & entrepreneurs
- Sources of Innovations, dimensions of the business system, the innovation radar tool.
- Strategic differentiation and tactical leveraging of investment in innovation to realize growth.
- The taxonomy: intangibles, intellectual capital, intellectual assets, and intellectual property
- The continuum of innovation security and intellectual asset protection
- Value Transference and maximizing the value of an intellectual asset using multiple forms of intellectual property with the brand being the end goal;
- The Life Cycle of an innovation and or intellectual asset
- Value Articulation framework for intellectual property assets in existing and emergent growth areas of business
- patents to brands (Aspertame and NutraSweet, Monsanto, Dolby), copyrights to brands (Disney and Snow White), trade secrets to brands (Coca Cola)

**Readings/Assignments for session #1**

1. Read *Snow White Shows the Way* from Managing Intellectual Property, June 2001 (reader)
2. Read *Greespan’s recent comments on Intellectual Property Rights, SRI speech (2004)* (reader)
3. Read *Creating Value from Intellectual Assets,* OECD Publication (reader)
4. Read *Intellectual Property, the Ground Rules,* KSM Technical Note (reader)
5. Read US Patents #5,978,807 and 6,329,919 in reader
6. Read *ttools The Value of a Patent to the Entrepreneur,* KSM case, reader

**STUDY GROUPS:** PREPARE the ttools CASE QUESTIONS (assignment#1 listed at back of the syllabus) FOR Discussion and or presentation during Session 2.
Session #2:


- Discussion of the *tools case*
- Innovation and Inventions
- From the Sybarites (BC) to the Venitians (Renaissance) to Adam Smith, Jefferson, James Madison and the U.S. Constitution, Article 1 Section 8, a system of limited life monopoly rights granted to encourage public disclosure.
- What is patentable?
- Wall Street Patents
- Business Process Patents
- Software patents
- Patents and the USPTO
- Patent Prosecution
- Strategies for patent prosecution, continuations, CIP’s, Divisionals, Reissues etc.
- Prosecution of patents for competitive advantage, B&D Snake Light case.
- The global Perspective on software patents, EPO, USPTO, JPO, PCT, WIPO etc.

Readings/Assignments for Session 2:

1. Read *Innovation and Invention: A Patent Landscape*, KSM Technical Note (reader)
3. Read and prepare *3M Espe: IP Strategy in German Dental Materials Market* KSM Case Series, study questions at end of syllabus (reader)
4. Read *Comments regarding competition and IP*, IEEE testimony to FTC (reader, Recommended)

**STUDY GROUPS:** PREPARE The 3M Espe A CASE QUESTIONS (assignment#2 listed at back of the syllabus) FOR Discussion and or presentation during Session 3.
Week #3:

Subjects: Keeping strategic information in-house; Trade Secrets, employment contracts et al.

- Discussion of the 3M ESPE A Case Study
- The continuum of innovation security and intellectual asset protection: From Tacit to Explicit Knowledge
- Managing Lead innovators with an abundance of valuable tacit knowledge
- The nature and scope of “confidential information”
- Trade secrets and employment contracts
- Theory of Inevitable Disclosure
- What is a Trade Secret
- Some definitions of trade secrets and the trade secret statutes
- Effective strategies for Trade Secret formation and protection
- Is the internet a threat to trade secret protection?
- Value transference from Trade Secrets to Trademarks/Brands: Coca Cola, Zildjian Symbols
- Intellectual Property and the courts

Readings/Assignments for Session 3:

1. Trademarks, Patents and the Apple iPod, Core 77 article online (case pack, courseinfo site)
2. Read Outrage in Cyberspace: Compuserve and the GIF Patent
3. Read Steven Heyer’s Manifesto for a New Age of Marketing, Ad Age Article (case pack)
4. Read Top Brands Scorecard Business Week Article (case pack, suggested)
6. Read The Economy of Ideas by John Perry Barlow (Greatful Dead Lyricist, courseinfo site, suggested)

STUDY GROUPS: PREPARE Outrage in Cyberspace, Compuserve and GIF FOR Discussion and or presentation during Session 3.
Session #4:

Subject: Management of the expression of ideas, Advertising, Software, Web Interfaces, Media and artistic works

- Discussion of the *Compuserve and the GIF Algorithm Case Study*
- Innovation in the expression of ideas in advertising and other mediums
- What is a Copyright and what can be Copyrighted?
- Derivative works,
- Parity: *The Wind Done Gone* etc.
- Fair Use of copyrighted works
- Copyright in Media Enterprises
- Disney and IP Management, Copyrights to Character Marks, Transference, Translation and Transportation.
- Googls bold stand and The Copyleft view of Copyright
- Creative Commons

Readings/Assignments for Session 4

1. Read *We’re Google so sue us?* NYTimes 10_2006 article, reader
2. Read *Game Over: Emulation and Video Game Industry* NJTIP Article (recommended reader)
3. Read *The Zen Patent: Apple vs. iPod* Case and prepare questions at end of syllabus (reader)

STUDY GROUPS: PREPARE The Zen Patent CASE QUESTIONS FOR Discussion and or presentation during Session 5.
Session #5:

Subject: Management of Brands and Source identifiers, Marks and Cognitive Touchpoints of the user Experience

- Discussion of The Zen Patent Case
- Trade Marks, Service Marks Trade Dress, Trade Names in the context of a Brand
- Innovations in marketing and how we establish Brand identity through sound, smell, sight, and even taste
- Trademarks and the USPTO, Registration
- The continuum of Trademark Strength and strategies for leveraging same
- Life cycle costs of enforcing a descriptive mark vs. a fanciful mark,
- The Descriptive-Distinctive dichotomy in mark selection
- Brands, Identity, Meaning and Semiotics
- Cyber squatters and Trade name/Trademark-Domain Name Disputes, meta tags

Readings/Assignments for Session #5:

1. Read Trademarks, Patents and the Apple iPod., online article published by core 77 at http://www.core77.com/reactor/12.05_ipod_trademark.asp (not in reader)


3. Read The Purple Pill KGSM Case and prepare questions at end of syllabus (reader)

4. Read Ground Rules are not the Rules of the Game… The Purple Pill KGSM Case Supplement (reader)


INDIVIDUALS: PREPARE the Astrazeneca and the Purple Pill CASE QUESTIONS Discussion and or presentation during Session 6.
Session #6:

**Subject:** Review of IP Management in Pharmaceuticals and Biotech Industries

- The domestic and international markets for therapeutics
- The research and development process for innovative therapeutics, from discovery to market entry
- Costs, Risks, and rates of failure
- Regulators (FDA etc) and their role in governing market entry by innovators and imitators (generics)
- The role of Patents for compositions, method of manufacture, method of delivery and other inventions
- Hatch Waxman
- Patent term restoration act due to FDA approval delays
- Direct to Consumer advertising, market effects and FDA regulation thereof
- The Intermediaries: Physicians and the Insurance Companies
- Off label presecriptions
- Orphan Drug Status, Pharmacogenomics: Genzyme and Gauchier’s Disease
- Pediatric Studies
- Going over the counter: Case of Zantac
- Cornering the markets for key ingredients
- Introducing their own generic to create 1st Mover Advantage in Generics market: Novartis
- Suing the Generics to complicate/delay market entry
- Paying the Generics not to produce: Barr Laboratories and Cipro
- Case Discussion of Astrazeneca and the Purple Pill
Session #7

Subject: Systems, Standards and Methods for measuring the value of intangibles including IP

GUEST SPEAKER: Tony Hadjiloucas of PWC London Offices

- Brief introduction to financial valuation of intangible assets
- IP Valuation and regular assessments of business risk in a post Sarbanes Oxley business environment
- The Role of GAP, FASB, IFRS 3 and other accounting and securities regulations
- Lifing of Intangibles
- Valuation Approaches
  - Market comparables approach
  - Cost approach
  - Income approach
- Litigation Valuation methods
  - Reasonable royalty
  - Royalty rate determinants
  - Georgia Pacific Factors
  - Lost profits basis
- Examples of modern intangibles that need to be valued
  - Contract based
  - Customer related
  - Marketing related
  - Technology based
  - Artistic related
Session #8

Subject: Emerging Markets for intangibles and the business models that capture value

- A need for a secure, predictable marketplace for intangible assets with regular liquidity events
- Mechanisms for fomenting market activities
  - Auctions
  - Online sales
  - Inter firm licensing
  - Cross licensing
  - Sales of IP and Intangibles
  - Opportunistic options contracts
- Mechanisms for fomenting market activities
  - Auctions
  - Online sales
  - Inter firm licensing
  - Cross licensing
  - Sales of IP and Intangibles
  - Opportunistic options contracts
- Mature and Emergent IP based business models
  - Patent Trolls
    - The Original Innovator… Thomas Edison
    - Acacia Technologies
    - LEMERF
    - Nathan Myrvold and Intellectual Ventures
    - IBM Licensing
    - Walker Technologies and Priceline
- IP Investment Banks and Ocean Tomo
Session #9:

Subject: Student presentations of project research

Session #10

Subject: Student presentations of project research (cont.)

- Intellectual Capital and Intellectual Property in a Global Marketplace
- Market forces and the rule of law ala Greenspan
- WIPO and Intergovernmental organizations of the UN
- The Mystery of Capitalism, Desoto Theory and property infrastructures
- Emerging primacy of innovators and those who invest in innovation
- Course Review and Summary
- Course Evaluation

Readings/Assignments for Future Interest:

1. Trolls and Patent Investment Trusts by E. Ferrill NC JOLT Article
2. Can Science be a Business? HBR October 2006 Article
3. Strategic IP Management SMR Article
4. Heyer’s Manifesto for New Age of Marketing (Coke CEO) Ad Age Article (recommended, reader)
5. China Destroys the IP Paradigm Far Eastern Economic Review
6. Lords of the Harvest Published by Basis Books

Grading (Below weighting is subject to change):

<table>
<thead>
<tr>
<th>Grade Component</th>
<th>Individual / Group</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Participation</td>
<td>Individual</td>
<td>25 %</td>
</tr>
<tr>
<td>Case Write-ups/Assignments (4 total)</td>
<td>Study Group</td>
<td>35 %</td>
</tr>
<tr>
<td>Final Exam Case</td>
<td>Individual</td>
<td>40 %</td>
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</tbody>
</table>
Midterm Examination

The midterm for this course will be a straightforward exam/Case analysis covering materials discussed in class and addressed in the assigned readings.

Final Project:

This assignment is to be carried out with the members of your study group.

Objectives:

The final project offers an opportunity for student groups to exercise and/or integrate the learnings of the course into an in-depth analysis of state-of-the-art intellectual capital management processes within a specific firm or industry (healthcare, pharmaceuticals, power generation, automotive, retail, consumer durables, etc.) or technology application domain (electronics, etc.). The manuscript can take the form of either a white paper or a case study. Examples of past deliverables are available on the courseinfo web site and will be discussed in depth during the first day of class.

Deadlines & Deliverables:

- Deliverables include a final manuscript and a 15 minute PowerPoint presentation to be delivered to the class during week #9. PowerPoint files must be delivered to the courseinfo website by 0600 hours on Tuesday of week #9 for section 71 and Wednesday of Week #9 for section 91.

- All final project manuscript deliverables are due in MSWord document format deposited in the digital drop box on the courseinfo site by 3/13/05 at 11:59 p.m. Alternatively, hard copy manuscripts may be left with either of the instructors.

Grading of Final Projects:

Your grade will be determined based on the quality of your written report and presentation.

- A high quality written deliverable is characterized as follows:
  - Sound structure, based on a relevant conceptual framework.
  - Comprehensive coverage of the relevant issues.
  - Consistency and depth of analysis; specific rather than vague.
  - Informative and thought provoking figures and table. In short, the tables and figures should tell the story of your paper.
  - Good balance between description, analysis and recommendations. When you draw on other sources, it is important that you not merely 'cut and paste' them into your text, but carefully integrate the underlying reasoning into your analysis.
  - Clearly written and well organized.
  - Reference and/or Footnote EVERYTHING in your paper. Exhaustive and thorough referencing of all information sources with appropriate bibliographic detail and dates accessed for WWW information. Unsupported inferences will be viewed as speculation. See the NJTIP articles in the case pack for reference formatting detail.
  - All prepared in MSWord Format
A high quality presentation (Presented evenings of March 2 or March 3, sections 71 and 81 respectively) will be clear, informative and balanced in the allocation of time to content. Your objective is to brief your classmates efficiently on your findings. All presentations should be prepared in powerpoint format. Please plan no more than 15 minutes total for presentation and questions.

**Feedback on your Performance in this Course**

I am very willing to help each student group develop and polish the course deliverables. I welcome the opportunity to comment and edit drafts of student work, provided that I am given ample time. Teams or individual students can arrange meetings with me, schedule permitting. Note that for the downtown section 71, I will be in my office at Wieboldt Hall Each week at least 1 hour before class begins.

We will discuss a proposed schedule of final project interim (ungraded) deliverables to help students prepare and manage their time during the quarter.

**Classroom Etiquette and Class Participation**

All students are expected to fully comply with the [Kellogg Code of Classroom Etiquette](http://www.kellogg.nwu.edu/stu_aff/honor/etiquette.htm).

Please leave your name card up for the entire duration of each class and keep the same seat for the duration of the quarter.

You are expected to attend all classes. Please e-mail me in advance if you will not be present at any given class. Attendance is an important element of the Class Participation Grade.

Much of the learning in this course comes from class discussion. Your classroom participation grade will be based on attendance, preparation, familiarity with the reading materials, and the quality of your contribution. Some of the key characteristics of valuable contributions are as follows:

- **Relevance**: Are your comments timely and linked to the comments of others?
- **Advancement**: Do your comments take the discussion farther or deeper than previous comments?
- **Fact-based**: Have you used specific data from the case, from readings, or from personal experience to support the assertions that you are making?
- **Logic**: Is your reasoning consistent and logical? Do you use concepts from the readings or lectures correctly?
- **Originality**: Do your comments merely restate the facts or do they provide new insights?

Generally, an important criterion is your contribution to the creation of a positive learning environment. For example, correcting me when I make a mistake or asking what appear to be "dumb questions" about what is being covered both do help. In the case of "dumb questions", very often half the students will have the same question in mind and are relieved that someone has posed it.

To increase opportunities for effective participation, I will occasionally cold call students either to open the class or during the course of a discussion. If you feel that you are preparing well but that I am not calling on you often enough, please let me know so that I can adjust.
Kellogg Honor Code

All students are expected to abide by the *Kellogg Honor Code and ANY OTHER RELATED NU Honor Codes* in undertaking and completing deliverables for the assignments in this course. See Below URL for link to the Kellogg Honor Code:

http://www.kellogg.nwu.edu/stu_aff/honor/hcode12.htm

Acknowledgements

Some of the ideas for this course have come from many past students (see the case study researchers) and other individuals, including Mohan Sawhney, Holger Ernst, Klaus Brockoff, Shane Greenstein, Scott Stern and others. The author acknowledges all contributions and appreciates solicited/unsolicited suggestions for improvement.
Intellectual Capital/Property Resources on the Web:


WIPO Small Medium Enterprise resources page: [http://wipo.int/sme/en/](http://wipo.int/sme/en/)


European Patent Office: [http://www.epo.co.at/epo/](http://www.epo.co.at/epo/)


German Patent and Trademark Office: [http://www.dpma.de/index.htm](http://www.dpma.de/index.htm)


United States Copyright Office: [http://www.loc.gov/copyright/](http://www.loc.gov/copyright/)

Foreign Patent Offices link page: [http://www.uspto.gov/web/menu/other.html](http://www.uspto.gov/web/menu/other.html)


Intellectual Property Mall Franklin Pierce Law Center [http://www.ipmall.fplc.edu/](http://www.ipmall.fplc.edu/)

Managing the Digital Enterprise: IP (NCSU page) [http://ecommerce.ncsu.edu/topics/ip/ip.html](http://ecommerce.ncsu.edu/topics/ip/ip.html)

Free patents online (full pdf of US/EU documents) [http://www.freepatentsonline.com](http://www.freepatentsonline.com)


Greg Aharonian and Bust Patents dot com: [www.bustpatents.com](http://www.bustpatents.com)

Table of IP related fees/damages/settlements: [http://www.bustpatents.com/awards.htm](http://www.bustpatents.com/awards.htm)

CASE PACK CONTENTS:

Intellectual Capital Management

w/ James G. Conley

Winter Quarter Offering 2007

1. Tentative Course Syllabus Version 4.0
2. Snow White shows the way  MIP Article
3. Greenspan recent comments on IP Management  SRI speech
6. US Patents 5,978,807  USPTO Publication
7. US Patent 6,329,919  USPTO Publication
8. Innovation and Invention: A Patent Landscape  Kellogg Teaching Note
9. Comments regarding competition and IP  IEEE testimony to FTC
10. ttools: The value of a patent to the Entrepreneur part A  KSM CaseStudyIP&Entrepreneur
11. A Profile of Dolby Laboratories  NJTIP Article
12. 3M ESPE A  Kellogg Case Study
13. We’re Google… So Sue Us!  NYTimes Article
14. Game Over: Emulation and the Video Game Industry  NJTIP Article
15. The Competitive Edge  IDSA Innovation Jnl Article
16. The Zen Patent: Apple vs. Creative  Kellogg Case Study
17. Trademarks, Not Patents: The Real CA of iPod  Core77 Article
18. Astrazeneca and the Purple Pill  Kellogg Case Study
19. Ground Rules are not the Rules of the Game  Kellogg Case Supplement
21. Trolls and Patent Investment Trusts by E. Ferrill  NC JOLT Article
22. Can Science be a Business?  HBR Article October 2006
23. Strategic IP Management  SMR Article
24. Steven Heyer’s Manifesto for a New Age of Marketing  Ad Age Article
25. China Destroys the IP Paradigm  Far Eastern Economic Review
26. Outrage in Cyberspace Compuserve and the GIF patent  HBS Case Study