

Interdisciplinary IREAN Course - Commercializing Technology

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Course Goals - IREAN Fellows

- **Learning how the business world works**
- **Experiencing the process for developing a commercialization plan**
- **Explaining significance of technology to lay person**
- **Coping with non-engineers in team environment**

Goals for Business Students

- Working with a REAL business problem
- See new technologies and trends in wireless
- Experience translating the technical into the market feasible
- Accomplishing team objectives
- (Students: MBAs, MS Acct., MS Econ.)

Description

- One Semester, team project-oriented course
- Offered in Spring semester of second year
- “Just in Time” content for commercialization plan
- Listed as an economics course
 - ECON 5984 - special study

FOR MORE INFO...

Blackboard site: www.learn.vt.edu

Course Structure

- **Introduction to wireless and wireless networks**
- **IREAN Fellow presentations of their research projects**
- **Assignment of teams**
- **Building blocks for final presentations/reports**
 - **Identify the business opportunities for technology**
 - **Competitive and Customer/Market Analysis**
 - **Financial plan for licensee of technology**
- **Lectures and speakers interspersed**

Instructors...

- **Dr. Sheryl Ball,**
 - **Department of Economics**
- **Dr. George Morgan,**
 - **Department of Finance**
- **Guest speakers**

Guest Speakers

- **Chuck Box, Boeing, new business engineer**
- **Reggie Kyle, e-bitda, investment banking**
- **John Higginbotham, SpaceVest, venture capital**
- **Joe Meredith, President, CRC**
- **Erv Blythe, VP, Information Systems, VT**
- **Mike Martin, Assoc. Dir., VTIP**
- **Liching Sung, faculty, Communications Studies**
- **Brian Woerner, faculty, ECE**
- **James Brown, faculty, Marketing**

Course Procedures

- Semester long “case study” builds each week
- Requires student dedication to following through with topic
- Requires ability to collaborate with others
- Benefit from extensive interaction with team members
- Doesn't allow time to get into more depth in class

Topics

- **Porter's Five Forces of Competitive Adv.**
- **Business Clusters - Why and How?**
- **Game Theory Implications for Business Strategy**
- **Understanding Financial Statements**
- **Telecom Bubble & Overview of Wireless**
- **Constructing Project Budgets**
- **The Financial Criterion for Projects**

More Topics

- **Marketing High Technology Products**
- **Corporate Research Parks**
- **Preparing for Institutional Financing**
- **Venture Capital Perspective on New Companies**
- **Protecting Your Intellectual Property Investment**
- **Broadband Internet in US & Virginia**
- **International Wireless Public Policy and Regulation**
- **Business Plans for Start-ups vs. Large Company**

Field Trip to Broadband Wireless Business

- Hosted by D-Tel in Salem, VA
- Presentation by UK engineer on Radiant Networks innovative technology
- Visited network operations center for pilot deployment
- Discussed business, technical, political issues in introducing new equipment to the North American market

Integrative Approach Improves on Traditional

- **Strengths**

- **Project-based, focus on end product**
- **Real technology from IREAN labs**
- **Interdisciplinary - business, engineering, policy**
- **Integrative - interweave the disciplines on teams**

- **Weaknesses/Challenges**

- **Need flexibility in covering material**
- **Little control over research topics/stage of research**
- **Less depth on any one topic**
- **There is no textbook**
- **Tailoring assignments to different projects**

Status

- **Final project presentations this week**
 - Written papers due during exam week
- **Several teams may be able to take next step of real business opportunity**
- **Some teams are almost “starting over”**
- **Building block process not seamless**
- **Did not anticipate student emphasis on software licensing**

Next Steps

- **Grade projects & submit grades!**
- **Review issues for improvement**
- **Review speaker preparations and candidates for future invited guests**
- **Examine need for additional instructional materials**
- **Assess how Blackboard worked**