Innovation and Entrepreneurship Education Topics and Content (A mini (femto?) short course)

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Reinventing the Physicist - 2014
INTRAPRENEURSHIP

ENTREPRENEURSHIP
REINVENTING THE PHYSICIST

ENTRE/INTRAPRENEUR

ENTRE/INTRAPRENEURIAL

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GOALS and DESIRED OUTCOMES

LIFE SKILLS

CAREER SKILLS

NEW VENTURES
• Goals and Plans
• Technology/Innovation
• Writing/Correspondence
• Entrepreneurs/characteristics
• Marketing Principals
• Product Lifecycle
• Project Management
• Financial Needs
• Marketing and Sales
• Searching for Business Info.
• Speaking/Presentations
• Information Systems
• Web Design/Social Media
• Economics
• Budgeting: Personal and Business
• Business Plans
• Stocks and Bonds

• Investing/Retirement
• Resumes and Interviewing
• Creativity and Ideation
• Business Models
• Incorporation and Business Organization
• Management and Team Skills
• Intellectual Property
• Accounting and Financial Management
• International Business and Cultures
• Legal and Regulatory
• Geographic Information Systems
• Finance and Funding
• Taxes
• Bankruptcy
• Ethics
• Bid and Proposal
• Contracts/Subcontracts/Purchasing
• Insurance/Risk Reduction
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WHY

HOW

WHAT

Simon Sinek – TED.com

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Priorities

What you want

What you have to do

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Product/Service Development
Business Entities

- C Corporation
- S Corporation
- LLC
- Sole Proprietorship
- Partnership
- Franchise

- Impacts:
  - Ownership
  - Control
  - P/L Distributions
  - Taxes
Budgeting: Personal and Business

Why do lawyers cost so much?

<table>
<thead>
<tr>
<th>Budget Element</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Rent</td>
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<td>Communications costs</td>
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<tr>
<td>Labor</td>
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<td>Fringe</td>
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<td>Marketing/Promotion</td>
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<td>Transportation</td>
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<td>Etc.</td>
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- Purchase vs. Lease
- Capital vs. Expense
- Cash vs. Cash Flow
- Non profit vs. unprofitable
Accounting

• Small business accounting vs. real accounting
  – Cash Flow
  – Balance Sheet
  – Income Statement
  – Why do you care?

• Cost tracking and management

• Two big things that people don’t get:
  – OPPORTUNITY COSTS
  – LIFECYCLE COSTS
Business Plans

• Who is your audience?
• What are the questions?
• More importantly – Do you have the answers?
Geographic Information Systems

- Business location
  - Time vs. Distance
- Product/service transportation
  - Harbor limits
- Environmental modeling
- Changes in consumer behavior (travel vs. shipping)
Intellectual Property

• Trade Secrets
• Patents
• Trademarks
• Copyrights

What do you get?
What is the process?
What do you need to defend successfully?

Examples: FM Radio, Artificial Knee
Finance, Investing, and Retirement: 3 Linked Topics

- New ventures need funding
  - Cash
  - Debt
  - Equity
- M&A activities involve equity
- Secondary markets for securities exist for investment/saving

- Saving and investing are based utilize secondary market
- Retirement planning demands understanding of markets
  - Investing targets
  - Dollar cost averaging
  - Diversification
  - Tax ‘advantaged’ accounts
Marketing and Sales

• Marketing
  – Four Ps
  – Five Touches
  – Target Markets
  – NEEDS

• Sales
  – Feel the pain
  – ABC
  – AIDA

Know your product, not about your product
Pricing Strategy

• Cost of goods vs. price
  – Are they related?
  – Are you leaving money on the table?
  – Remember the 4 Ps!

• Price sensitive vs. price insensitive customers
  – How do you capture both?
Taxes: You make it, you pay!

• Personal taxes
• Business taxes
• Sales, Use, Excise taxes
• Property taxes

• Tax strategies
  – Lease vs. purchase
  – Payment scheduling
  – Cash flow vs. profit
  – Cost of sales
Communications

• Writing
• Speaking
• Visual aids

• Business documents
• Formats
• Branding
Bid and Proposal

• Request for Info
• Request for Quote
• Request for Proposal

• Sources:
  – Private
  – Corporate
  – Municipal
  – Foundation/Non Profit

• Preparing a proposal:
  – Gold Team
  – Blue Team
  – Red Team

• Proposal components:
  – Administrative
  – Technical
  – Cost
  – BAFO

• Pricing strategy
Legal and Regulatory Issues

• HR
  – Hiring (EEO/AA)
  – Dismissing/Layoffs
  – Discrimination
  – Harassment

• Building
  – Zoning

• Environment
  – EPA
  – DNR

• Financial
• SEC
• Approvals
  – FDA
  – NTSB

• Safety
  – OSHA

• Employment
  – Job classification (FLSA)
Ethics

• Who does a business/organization serve?
  – Employees
  – Community
  – Owners
  – Suppliers
  – Customers

• There are *legal issues* and *moral issues*

• On what do you base *your* ethics?