

E n t r e p r e n e u r s h i p E d u c a t i o n
at the University of Maryland

**IP Workshop
Warsaw University of Technology
Oct 16, 2009**



Topics

- Entrepreneurship Education Overview
- Hinman CEOs Program
- Hillman Entrepreneurship Program
- Awards
- Entrepreneurship Courses & Revenue-Generating Education
- Awards & Impact

E n t r e p r e n e u r s h i p E d u c a t i o n : W h y

- Technology creators who comprehend and practice entrepreneurial concepts will create the innovations that drive the US economy

Entrepreneurship Education: Who

- U-Md./Mtech spurs innovation through entrepreneurship education programs reaching:
 - High-achieving students from top **high schools** in the region and in the country through U-Md.'s **Young Scholars program**
 - **Incoming students** through U-Md.'s **Freshman Connection** program
 - **Undergraduates and graduate students** through Mtech's **open enrollment courses**
 - High-achieving students **undergraduates** through Mtech's **Hinman CEOs and Hillman programs**
 - **Grad students** through U-Md.'s **professional master's program**
 - **Working professionals** through Mtech's **Executive Ed** program
 - **Working professionals** through the **Petroleum Institute** program

Entrepreneurship Education: How

Our education programs:

- Stimulate entrepreneurial thinking and develop understanding of entrepreneurship
- Provide real opportunities to practice entrepreneurship
- Integrate technology with business understanding
- Steer select prospects to Mtech's venture creation initiatives (e.g., VentureAccelerator, TAP, etc.)

ENES141: Intro to High Tech Product Development & Marketing

Course Goals

- In any career in the global economy of the 21st century, a minimal understanding of innovation, technology, and business is critical to being successful.
- This multi-disciplinary course covers those basic concepts in the context of developing and marketing innovative technology products and services.
- Aid students in making more informed choices about possible majors and careers
- Plant the entrepreneurial seed in students

ENES141: Intro to High Tech Product Development & Marketing

Module 1: Engineering Building Blocks of Tech Products

- Introduces circuits, electronics, computers, software, telecommunications, motors, sensors, robots, etc.
- Intended to develop a minimal fluency with ubiquitous 21st century technologies
- Hands-On Labs/Projects:
 - Build Simple Circuits Using Resistors, Capacitors, ICs, LEDs, and Motors
 - Deconstructing Computers: Architecture and Components

ENES141: Intro to High Tech Product Development & Marketing

Module 2: Designing and Developing Tech Products

- Introduces how the building blocks in Module 1 come together in everyday technology products.
- Hands-On Labs/Projects:
 - “Programming Technologies on the iPhone and Mac OS X: How Bits Become Apps,” given by Chuck Pisula, iPod development team, Apple, Inc.

ENES141: Intro to High Tech Product Development & Marketing

Module 3: Principles and Techniques of Effective Communications

- Develops written and oral communications skills using principles and techniques for maximizing effectiveness and persuasiveness and making a lasting impression. Incorporates heavy use of technology tools including graphic arts, presentation, and spreadsheet software.
- Hands-On Labs/Projects:
 - Presentation Video Recordings: Students prepare and deliver elevator pitches with videotape review sessions

ENES141: Intro to High Tech Product Development & Marketing

Module 4: Principles of Marketing

- Introduces basic high-tech marketing theory including customer segmentation, customer adoption, product positioning, branding, and pricing. Students learn essentials of market research and how to plan, develop, and market a technology product.
- Hands-On Labs/Projects:
 - UMD Library Market Research Tutorial and Workshop: Students learn to effectively use collection of valuable market research reports and resources including Lexis-Nexis, Hoovers, Factiva, IBIS World, Mintel, etc.

ENES141: Intro to High Tech Product Development & Marketing

Module 5: Tying It All Together : Technology, Product Development, and Marketing

- Brings Modules 1-4 together by examining technology product development and marketing
- Hands-On Labs/Projects:
 - Zoomerang: Market Data Through Customer Surveys
 - Google Analytics: Market Data Through Customer Tracking and Intelligence
 - Constant Contact: Marketing Campaigns
- Final Team New Product Marketing Project: Student team presentations of 21st century product concepts and marketing plans

ENES460: Fundamentals of Technology Start-Up Ventures

Course Goals

- To learn how to plan, launch, and manage a technology start-up venture;
- To develop skills for identifying and analyzing entrepreneurial opportunities and assessing start-up success factors;
- To learn how to prepare professional business plans and deliver persuasive investor pitches;
- To learn to effectively work on a team and fully utilize complementary skills and talents;

ENES460: Fundamentals of Technology Start-Up Ventures

- **Week 1: Overview & Stanford to Startup**
- **Week 2: Idea Generation, Opportunity, & Business Models**
- **Week 3: Entrepreneurial Opportunity & Market Research**
- **Week 4: Innovation**
- **Week 5: Competitive Advantage & Strategy**
- **Week 6: Marketing Fundamentals**
- **Week 7: The Business Plan**
- **Week 8: Guest Speaker**
- **Week 9: Defining the Financials**
- **Week 10: Raising Capital**
- **Week 11: Law for Entrepreneurs**
- **Week 12: Special Topics**
- **Week 13: Team Coaching Sessions**
- **Week 14: Investor Presentations**

Entrepreneurship Education Partners

OFFICE OF ADVANCED
ENGINEERING EDUCATION



ROBERT H. SMITH
SCHOOL OF BUSINESS

David & Suzanne
Hillman

UNIVERSITY OF MARYLAND
Office of Extended Studies

Brian & Tabetha
Hinman



PRINCE GEORGE'S
COMMUNITY COLLEGE

Warren Citrin



Anik Singal



FISH & RICHARDSON P.C.

The Petroleum Institute
Abu Dhabi, United Arab Emirates

MINTZ LEVIN
MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO



Evolution of Programs, Activities, & Courses

1999 – Hinman CEOs

2001 – Technology Startup Boot Camp

2001 – University of Maryland Business Plan Competition

2003 – First 3-credit course offered with *ENES489A: Fundamentals of Technology Start-up Ventures*

2005 – Young Scholars Program

2006 – Hillman Entrepreneurs Program

2007 – Freshmen Connection Program

2007 – Executive Education: *Certificate in Innovation Management* with the UM Smith School of Business

2007 – Entrepreneur Office Hours

2007 – Professor Venture Fairs

2008 – Graduate *Certificate in Technology Ventures & Innovation* with the UM Office of Advanced Engineering Education

2008 – *Corporate Entrepreneurship & Innovation* distance education course for the Petroleum Institute in Abu Dhabi

Increasing Depth of Initiatives

Red = Started since 2006

Programs

- Hinman CEOs
- *Hillman Entrepreneurs*
- *Executive Education*

Outreach

- Technology Startup Boot Camp
- UM \$50K Biz Plan Contest
- *Entrepreneur Office Hours*
- *Professor Venture Fairs*
- *Tech Transfer Committee*

Research

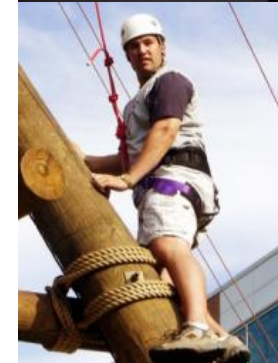
- *Academy of Management*
- ASEE
- *Babson College Entrepreneurship Research Conference*
- NCIIA
- Stanford REE
- USASBE

Courses

- *BIOE645*
- ENES140
- *ENES141*
- *ENES210*
- ENES460 (5)
- ENES489B
- ENES498 (3)
- *ENES498E*
- *ENPM808A*
- *ENPM808I*
- *ENPM808E*
- *ENPM808Z*
- *PI__*

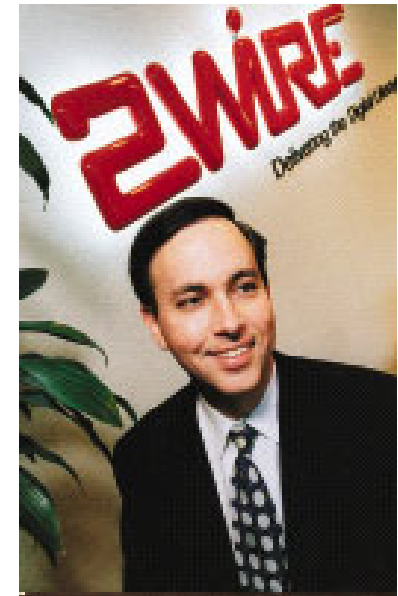
Hinman CEOs is the Nation's 1st Living-Learning Entrepreneurship Program

- LIVE with aspiring & active entrepreneurs
 - Dynamic residential experience
 - Incubator setting
 - On-demand mentoring and coaching
- LEARN in a vibrant experiential environment
 - Courses & seminars
 - Competitions & workshops
 - Internships & volunteering
- LAUNCH real companies
 - 25% of students manage revenue-generating ventures while undergraduates



Brian Hinman's Vision & Leadership

- Alumnus of A. James Clark School of Engineering
- Inductee into Clark School's Innovation Hall of Fame
- Founded three successful technology ventures with 2 IPOs
 - PictureTel, Polycom, and 2Wire
- \$2.5M donation in 1999 to launch and operate the Hinman CEOs Program for 10 years



Hinman CEOs Mission

To foster an *entrepreneurial spirit*, create a sense of *community* and cooperation, and develop ethical *leaders*.

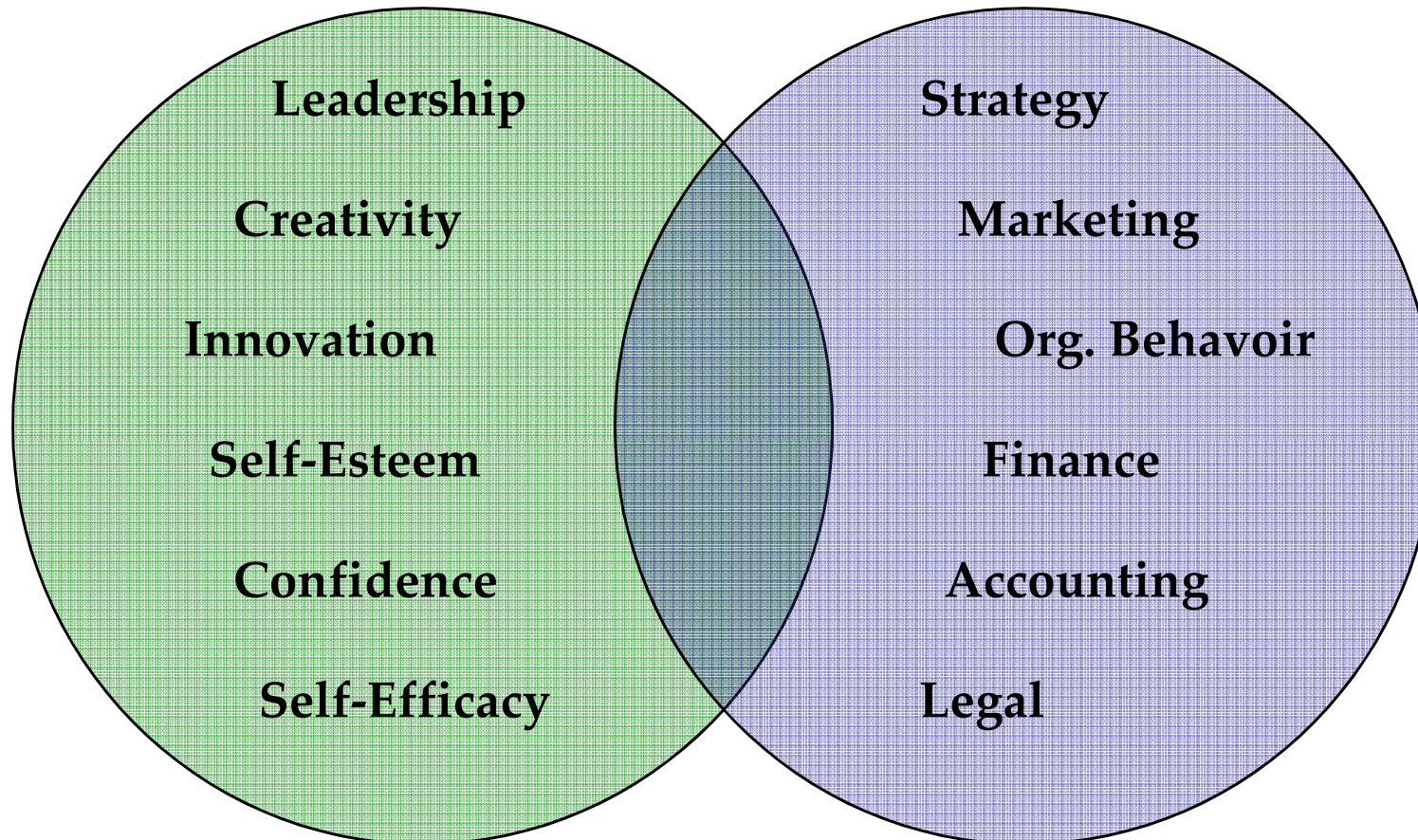
Hinman CEOs Purpose & Objectives

- To serve diverse students across all academic disciplines who share a passion for entrepreneurship
- To champion students creating companies during and beyond their tenure in the Hinman CEOs Program
- To offer a rich set of resources and programming to foster the entrepreneurial development of students on campus and in the region

Hinman CEOs Approach

*Entrepreneurial
Mindset*

*Functional
Knowledge*



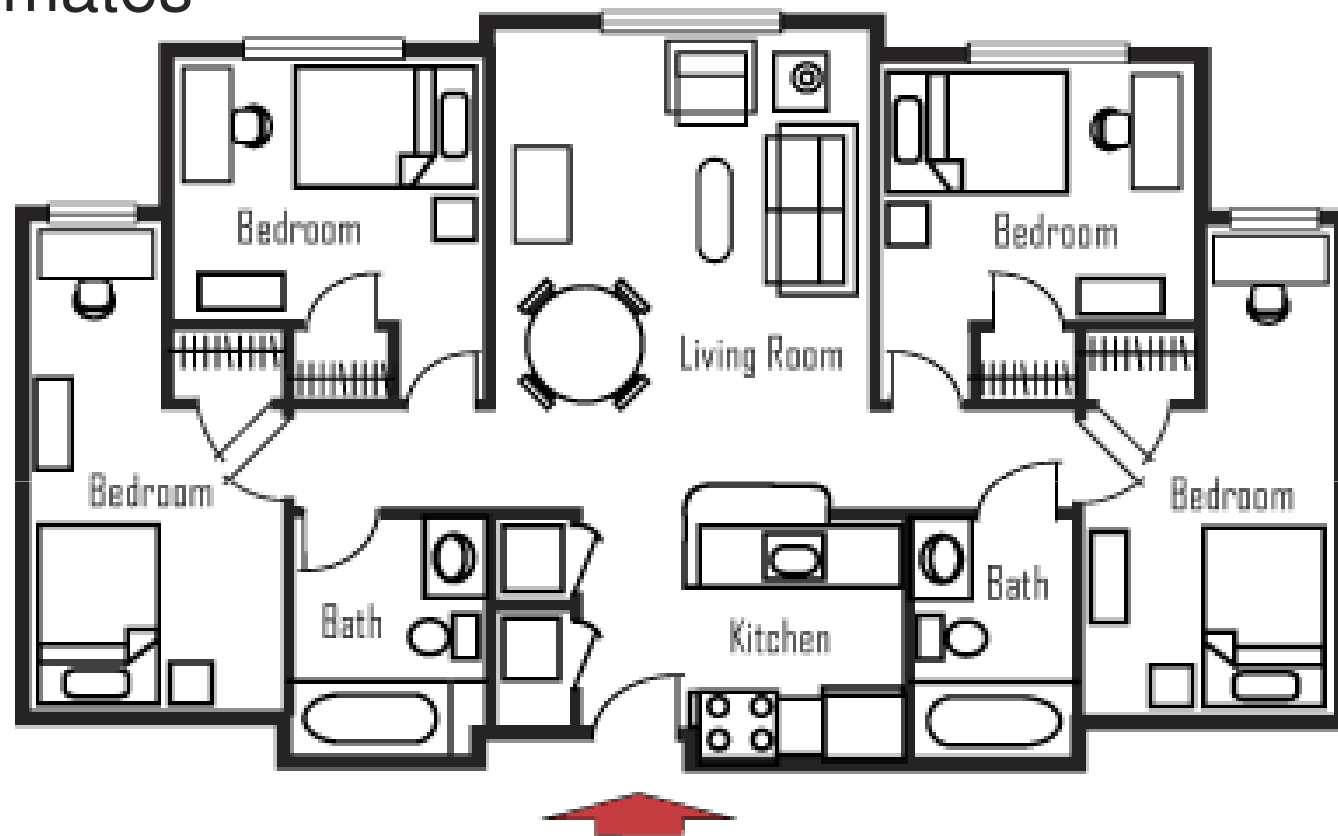
Residential Experience with Community Building Emphasis

- All students live alongside one another in the Hinman CEOs residence hall
- Provides daily access to fellow Hinman CEOs and to Program staff
- Supports community building
 - High ropes course team challenges every fall to kick-off the year
 - Cookouts, sports and social events, & volunteering throughout the semester
 - Weekly social with food after our speaker series



Apartment-Style Residences

Spring Mixer allows new students to meet one another and select roommates (from within the Hinman CEOs Population)



4 BR 2 BATH

4 Bedroom / 2 Bathroom

Incubator Setting

- State-of-the-Art Technology
 - Wireless technology
 - EC500 technology – cell phone connection to desk set phone
- Board Room
 - Team meetings
 - Host visitors
- Business Center
 - Computers
 - Software
 - Copier
 - Fax



Student Profiles

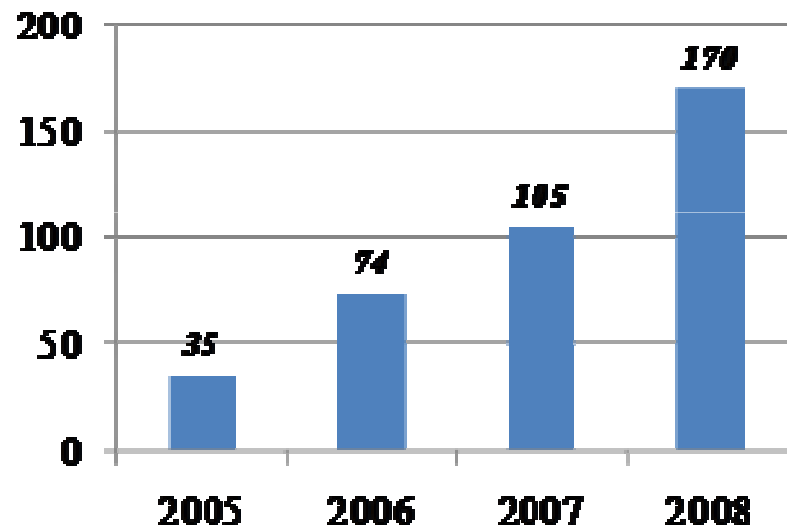
- Approximately 90 undergraduate students
 - 1/3 business
 - 1/3 engineering
 - 1/3 liberal arts & sciences
- Junior and senior status
- 50% ethnically diverse
- 40% female, 60% male
- Average GPA is 3.5



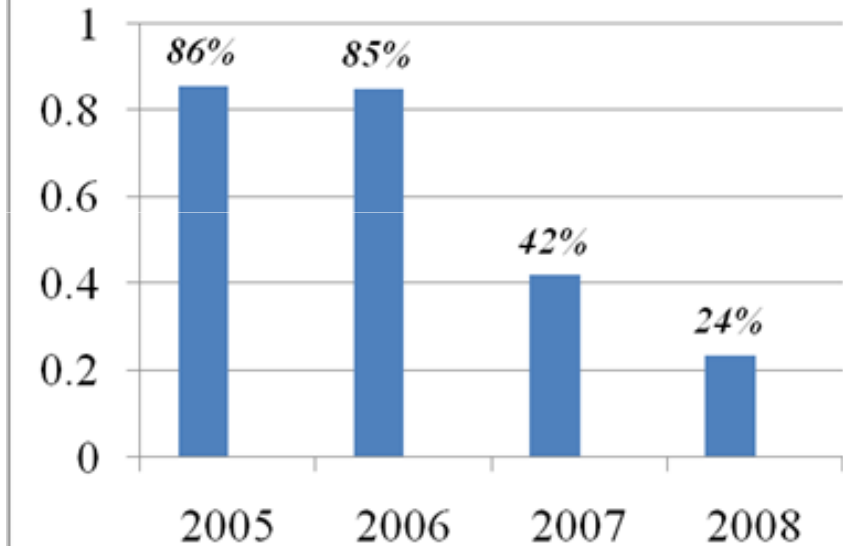
Application Process

- Very selective admissions
- Applicants include an eventual U-Md. valedictorian

Hinman CEOs Applicants

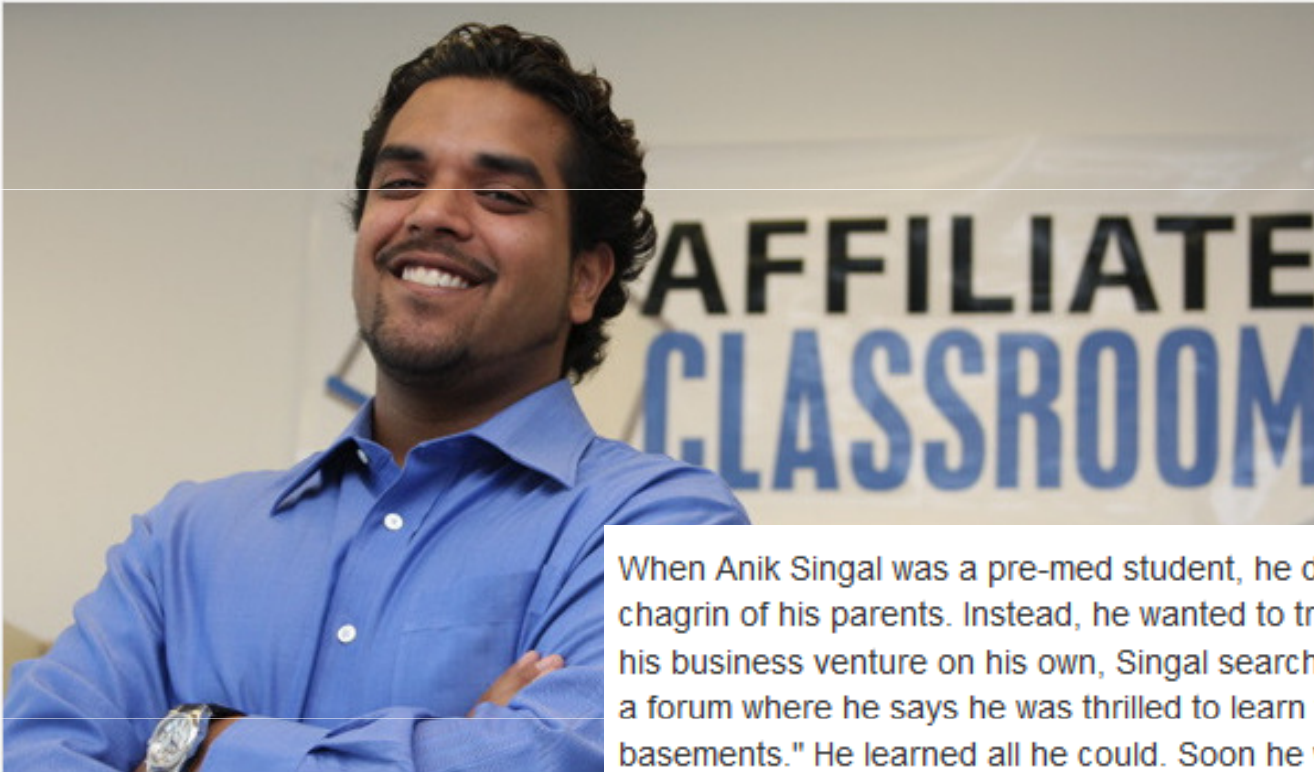


Hinman CEOs Acceptance Rates



BusinessWeek**2008's Best Entrepreneurs 25 and Under**

3 of 7 ◀ ▶

**2. Affiliate Classroom**

Anik Singal, 25

www.affiliateclassroom.com

College Park, Md.

When Anik Singal was a pre-med student, he decided medicine wasn't for him—much to the chagrin of his parents. Instead, he wanted to try his hand at business. Determined to support his business venture on his own, Singal searched the Web for ways to make money and found a forum where he says he was thrilled to learn that people were "making six figures from their basements." He learned all he could. Soon he was doing consulting, with the plan to self-finance his own online venture. In January 2005 he launched Affiliate Classroom, a training site, charging fees starting at \$30 a month to people who want to become affiliate marketers and one-time fees of up to \$5,000 to companies that use affiliates.

Blaming the affiliate marketing industry's negative reputation on "misperceptions and a few bad apples," Singal says his business has been profitable since its first year, with revenues increasing 100% year over year. In 2007 he opened offices in Mumbai and Hyderabad and had around \$1.5 million in revenue. Today, Singal, who ended up graduating with a degree in finance from the University of Maryland at College Park, says the business has 10 staffers and 15 contractors. He expects \$2.5 million to \$2.8 million in revenues in 2008.

Student & Alumni Companies

Web-based Ventures

Affiliate Classroom, Inc. is a step by step training program to launch and grow an affiliate internet business.



Invision Media Company creates media outlets that educate and promote youths and adults engaged sports.

Squarespace is a simple web publishing platform offering professional presentation of web content through a dynamic, easy-to-use interface.



Zathyus Networks is owner of InvisionFree.com, a provider of remotely hosted message boards currently ranked among the top 200 most trafficked websites with over 22 million registered users. ZetaBoards.com is the successor to InvisionFree.com.



Student & Alumni Companies

Social Entrepreneurship Ventures



Alertus Technologies, Inc. developed a product to provide vital information—in the event of emergencies such as terrorist attacks or severe weather—to people in buildings such as those on university campuses and in large offices.

The **Advanced Health and Disaster Aid Network (Aid-N)** is currently working on a product for wireless patient monitoring which they hope may revolutionize the way hospitals deliver care in the emergency room.



Peer Advantage Tutors provides effective and affordable high school tutoring that enhances student understanding of course material and reinforces positive study habits. As a firm dedicated to helping students and educators, the company donates a portion of profits to partner schools.

Student & Alumni Companies

Service-based Ventures



Optimum Productions is an integrated event planning service, offering the finest in music entertainment, digital photography, and a variety of outsourced services.

Mowing and More is a landscaping service and total grounds maintenance solution focused on the communities of Chevy Chase and Bethesda.

**Mowing
& More**



A Slice of Paradise is a retail company that offers an array of women's accessories including bags, backpacks, belts, sandals, jewelry, etc – over 50 different products. The company currently retails its products in mall kiosks, booths at athletic events targeted to female teens, and select outdoor events and festivals.

Academics

Four 3-credit, 400-level courses over 2 years

<i>Course</i>	<i>Focus</i>
1 st Semester: Fundamentals of Start-Up Ventures	Building the entrepreneurial mindset and introducing basic entrepreneurship principles and terminology
2 nd Semester: Innovation & Creativity	Inspiring innovation and creativity through interactive lectures, workshops, and case studies
3 rd Semester: Entrepreneurial Law & Finance	Learning entrepreneurial law and finance through guest speakers from VC and law communities, and cases
4 th Semester: Strategic Marketing & Leadership	Enhancing strategic marketing capabilities and leadership skills through cases, speakers, and activities

Two Seed Capital Funds

- \$250,000 Pre-IMPACT Seed Fund
 - Gift from Warren Citrin, co-founder/CEO of Solipsys, which was acquired in 2003 by Raytheon
 - \$50,000 total awarded annually over 5 years
 - Individual awards of up to \$5,000
 - For company expenses: R&D, prototyping, legal, marketing, etc.
 - Focus on social impact business concepts
 - Energy, healthcare, education, etc.
- \$50,000 Hinman CEOs Alumni Fund
 - Gift from Anik Singal, founder/CEO of Affiliate Classroom and 2005 Hinman CEO
 - Unrestricted fund open to all Hinman CEOs' ventures
 - Grows with additional Hinman alumni gifts

Blake Robertson, Co-Founder of Alertus



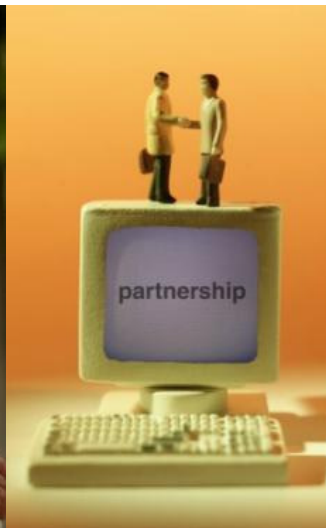
- “The Hinman CEOs program has put me on a path to success. I couldn’t ask for anything more in a program. The opportunities, networking, professional advisors/mentors, living-learning environment, business resources, conference room for important meetings, seed funding to buy product development chips and other parts that are related to my professor’s and my research, make this a truly unique opportunity. I am grateful for the special opportunities I am having that have trained me in ways I could not have dreamed of before becoming a Hinman CEO.”*

18 Living-Learning entrepreneurship programs based on Hinman CEOs

- Appalachian State
- Babson College
- Baylor University
- Bowling Green University
- Clarkson University
- Georgia College
- Howard University
- Iowa State University
- Kent State University
- Louisiana State University
- Oregon State University
- Shenandoah University
- Syracuse University
- University of Denver
- University of Iowa
- University of Michigan - Flint
- University of Missouri – Kansas City
- University of Waterloo

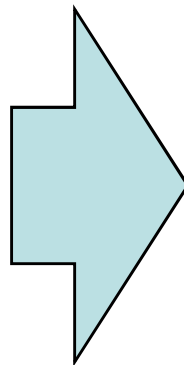
The Hillman Entrepreneurs Program

- Launched in Fall 2006 as three-way partnership
 - David H. and Suzanne D. Hillman Family Foundation
 - Prince George's Community College (PGCC)
 - University of Maryland at College Park (UM)

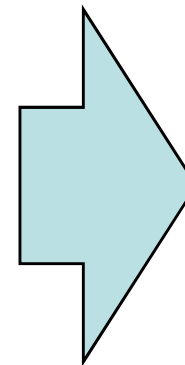


The Hillman Entrepreneurs Program

Student admitted to Hillman Entrepreneurs Program from high school or community college



Completes associate's degree at PGCC and transfers to UM



Completes bachelor's degree at UM

<i>Financial Support From Hillman Entrepreneurs Program</i>	At PGCC	At UM
	Full tuition (including fees and books)	\$1000 merit scholarship and up to 2/3 tuition, based on need

Screening and Selection

- 57 students enrolled in program as of April 2008
 - 44 percent female, 56 percent male
 - Mean age of 26, ranging from 19 to 44
 - 60 percent reported annual household incomes less than \$75,000 (40 percent less than \$25,000)
 - 54 percent reported that neither parent held a bachelor's degree
 - Representative of PGCC community



Revenue-generating education programs

- Winter & summer term courses
- Freshmen Connection
- Certificate in Innovation Management Program
 - Executive education offerings in partnership with the UM Robert H. Smith School of Business
- Graduate Certificate in Technology Ventures & Innovation
 - Graduate engineering focus through the UM Office of Advanced Engineering Education
- Young Scholars Program
 - Summer high school program through the UM Office of Extended Studies
- Petroleum Institute (PI) Course

Undergraduate Entrepreneurship Courses

Est. 2008-2009: 500+ Students and \$100,000+ for Mtech

- **“ENES140 – Discovering New Ventures”** is designed for rising high-school juniors & seniors interested in entrepreneurship. (70 Summer + 25 Spring)
- **“ENES141 – Introduction to Technology Marketing and Product Development”** is designed for rising high-school juniors & seniors interested in product development & engineering. (Est. 25 Summer)
- **“ENES210 – Entrepreneurial Opportunity Analysis and Decision-Making in 21st Century Technology Ventures”** helps students learn the principles of entrepreneurial opportunity analysis and decision-making in an increasingly technically-inclined society. (60 Fall)
- **“ENES460 – Fundamentals of Technology Start-Up Ventures”** helps students learn the processes and skills needed to launch and manage new technology ventures. (130 Fall, Winter, Spring)
- **“ENES489B – Venture Accelerator Entrepreneurship Lab”** places undergraduate and graduate students on teams to commercialize University-developed technology with the Venture Accelerator Program. (8)
- **“ENES498 – Special Topics in Entrepreneurship”** is a seminar and case study-based course that explores technology entrepreneurship with a focus on leadership, product design and development, and strategies to launch and manage technology ventures. (250 Fall, Spring)

Certificate in Innovation Management Program

- Ground-breaking executive education program for entrepreneurs, small-business owners and executives in corporate venturing
 - Jointly offered by Mtech and the Smith School of Business
 - Taught by Smith faculty & Mtech Network of Entrepreneurs
 - Co-directors, co-hosting, 50/50 revenue/cost share
- Launched in 2007
- Six-course (non-credit) series of 1- and 2-day classes
 1. Strategies for Managing Innovation
 2. Marketing in Technology-Driven Industries
 3. Innovative Product Design & Development
 4. Essentials of Financial Analysis
 5. Effective Negotiation Skills
 6. Leading the Innovative Team

Certificate in Innovation Management Program (con't)

- Averaged 30 students/course in 1st series with profit of \$50,000
- Now in 2nd series
- “As the founder and CEO of a startup, I have very limited time for executive development programs. But the Certificate in Innovation Management provided concepts, frameworks, and takeaways that will help me and my company in key functional areas, all in a format that was perfect for my schedule.”

- Matt Howard, CEO, SMBLive

Graduate Certificate in Technology Ventures & Innovation

with the UM Office of Advanced Engineering Education (OAEE)

- 12-credit graduate certificate launching Spring 2009
- Administered through OAEE
- Content for the four ENPM courses in the series will be provided by Mtech
- Evaluation and assessment of this option will be performed by both Mtech and OAEE
- Revenue sharing agreement is 70% Mtech, 20% Dean, 10% ENPM after the course instructor is paid and after the Provost's 7.5% is paid.
- Of the six classes available, Mtech's four 3-credit courses are taught by adjuncts & visiting professors
 - ENPM 808A: *Fundamentals of Technology Startup Ventures*
 - ENPM 808E: *Innovative Thinking*
 - ENPM 808I: *Corporate Technology Venturing*
 - ENPM 808Z: *Strategies for Managing Innovation*

Petroleum Institute (PI) Course

Collaboration with the UM Energy Education and Research Collaboration (EERC) & UM Mechanical Engineering

- Energy Education and Research Collaboration between Petroleum Institute (PI) of Abu Dhabi, UAE and the University of Maryland (based in Mechanical Engineering)
- Interested in offering undergraduate and executive education courses in entrepreneurship and corporate venturing
- 3-credit undergraduate course launching Fall 2008
- “Corporate Entrepreneurship & Innovation” taught by adjunct professor Dr. Tom Mierzwa
- Taught through a combination of asynchronous online instruction, live video conferencing for office hours, and an on-site coordinator
- Revenue generating for Mtech with \$15,000 for launch and \$4,000 recurring management fee per course

Validation: Awards

- Awards

- Ranked #9 in Entrepreneurship at the undergraduate level by U.S. News & World Reports in 2008
- Ranked #14 “Top Entrepreneurial Colleges for 2007” by The Princeton Review & Entrepreneur Magazine
- Profiled in Fortune’s “Top 25 Entrepreneurial Universities” for 2007
- Maryland Association for Higher Education Distinguished Program Award, 2003
- Stanford University’s Price Institute Innovative Entrepreneurship Educators Award, 2002
- ASEE Entrepreneurship Division’s 2003 Outstanding Entrepreneurship Educator award
- 2008 Olympus Lifetime of Entrepreneurship Innovation Award



Entrepreneurship Education Reach in 2008

Course	Enrollment
Discovering New Ventures	95
Entrepreneurial Opportunity Analysis and Decision-Making in 21 st Century Technology Ventures	60
Fundamentals of Technology Start-Up Ventures	130
Advanced Engineering Startup Ventures	25
Special Topics in Entrepreneurship	250
Petroleum Institute	24
Certificate in Innovation Management Program	244
Total	828

Program	Participants
2008 UM Technology Startup Boot Camp	451
2008 UM \$50K Business Plan Competition	125
Faculty Venture Fairs	60
Hillman Entrepreneurs	76
Hinman CEOs	90
Total	802