Transforming Professional Education:
An Update from the Front Line

crossroads 2016

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MIT Massachusetts Institute of Technology

Where were we . . .

Three Guiding Principles for CTL MOOC's

1. Educate the world for free
2. Credentialize qualified students at minimum cost
3. Customize for organizations at sustainable margin

What has happened since . . .

Supply Chain and Logistics Fundamentals

MITx - CTL.SC1x
Ended - Dec 24, 2014

1st Run - Fall 2014
34,000 Registered Students
2,100 Certificates Awarded

2nd Run - Summer 2015
26,000 Registered Students
1,400 Certificates Awarded

1st Run - Fall 2015
23,000 Registered Students
1,900 Certificates Awarded

XSeries Program Course

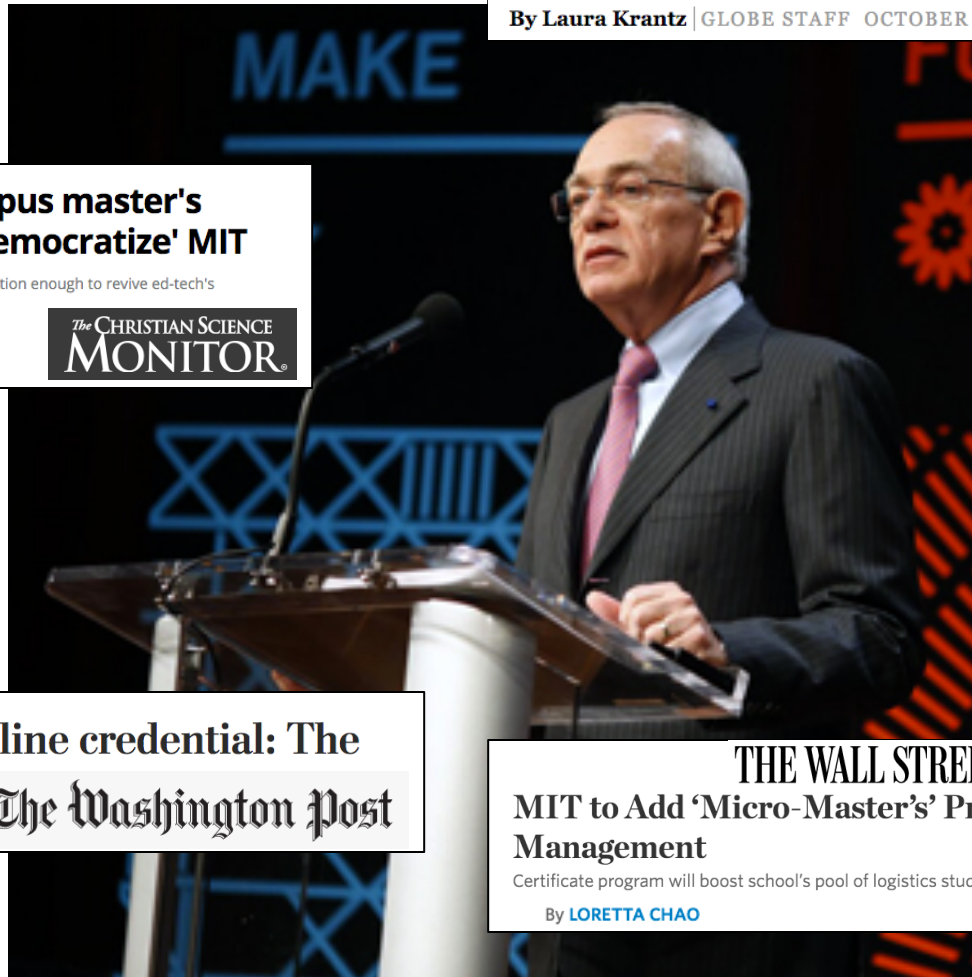**Supply Chain Design**

MITx - CTL.SC2x
Ended - Dec 23, 2015

XSeries Program Course

Supply Chain Dynamics

MITx - CTL.SC3x
Starts - Aug 24, 2016

The Boston Globe

MIT to offer degree combining online, on-campus learning

By Laura Krantz | GLOBE STAFF OCTOBER 07, 2015

Hybrid online/on-campus master's degree promises to 'democratize' MIT

Is MIT's gamble on cheaper, more accessible education enough to revive ed-tech's dreams of revolutionizing higher ed?

By Molly Jackson, Staff ▾ | OCTOBER 8, 2015

The **CHRISTIAN SCIENCE MONITOR**

MIT floats a new online credential: The MicroMaster's

By Nick Anderson October 7, 2015

The Washington Post

THE WALL STREET JOURNAL.

MIT to Add 'Micro-Master's' Program for Supply-Chain Management

Certificate program will boost school's pool of logistics students as companies say talent shortage is growing

By LORETTA CHAO

October 2015
President Rafael Reif announces the MicroMaster's
Credential in Supply Chain Management

MIT MicroMaster's Credential in SCM

- Online certification, Open enrollment, No admissions criteria
- Any student from anywhere may earn it by passing 5 MOOCs and 1 Exam
- It is NOT an MIT degree program, however it provides a faster path to a degree.
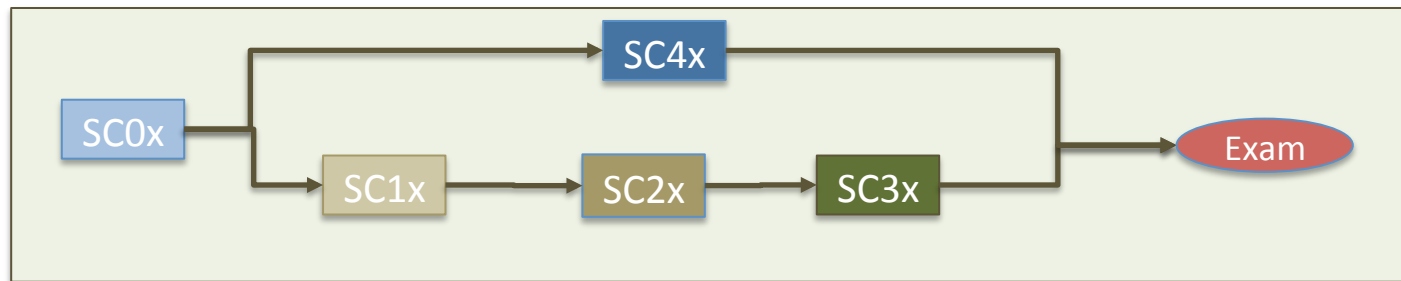
Number	Title	~ MIT Units	Pre-Req	Weeks
CTL.SC0x	Supply Chain Analytics	6	None	8
CTL.SC1x	Supply Chain Fundamentals	9	SC0x	10+1
CTL.SC2x	Supply Chain Design	9	SC1x	10+1
CTL.SC3x	Supply Chain Dynamics	9	SC2x	8+1
CTL.SC4x	Supply Chain Technology	9	SC0x	10+1
Final	Final Capstone Exam	N/A	ALL	1 day

How does this fit with MIT SCM Program?

- There are now two paths to earning the M.Eng Logistics
  - SCMr – Supply Chain Management Resident Program
    - 10 month program @ MIT (Fall, IAP, Spring)
    - ≥90 units (75 core, 12 thesis, ≥3 elective)
    - Admissions based on standard tests and materials
  - SCMb – Supply Chain Management Blended Program
    - Successful completion of MITx MicroMasters in SCM
      - ≥42 units On-line courses
      - Proctored comprehensive exam
    - ≥48 units Residential term (Fall & IAP or IAP & Spring)
      - Coursework: Spring or Fall (~24-33) and IAP (12)
      - Includes thesis (12)
    - Admissions based on course performance and ability to complete thesis in 5 months
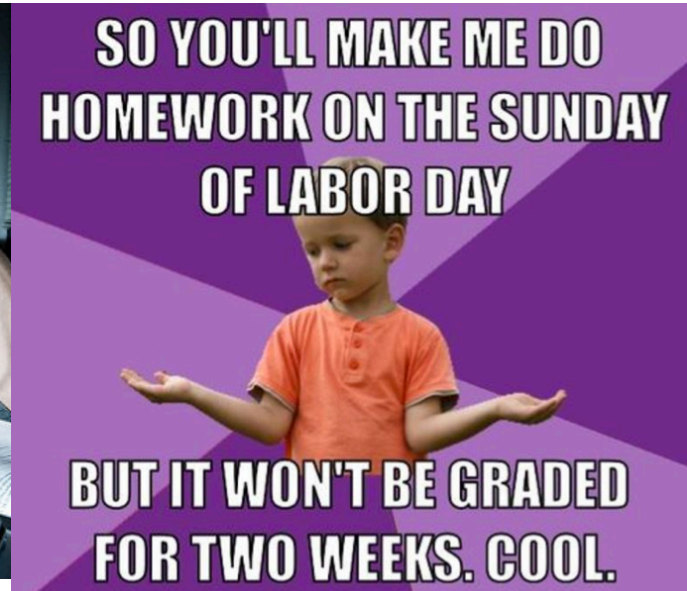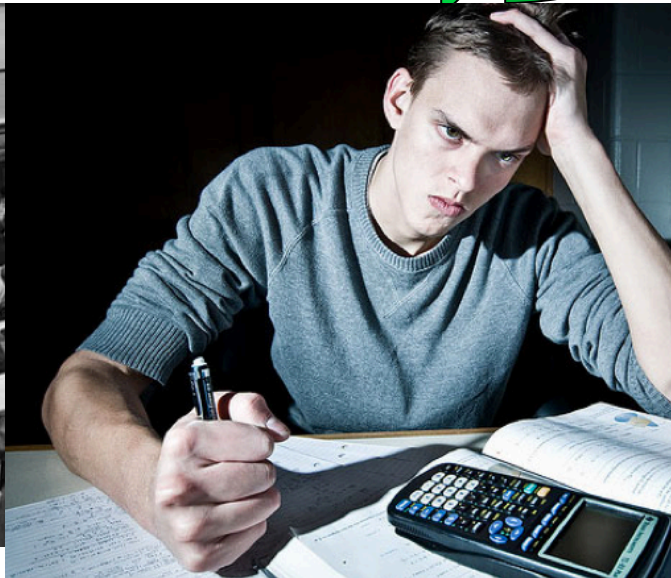
Status of SC1x (3rd Run)

28,467 as of 3/18
(3,375 Verified ~12%)

181 Countries as of 3/18
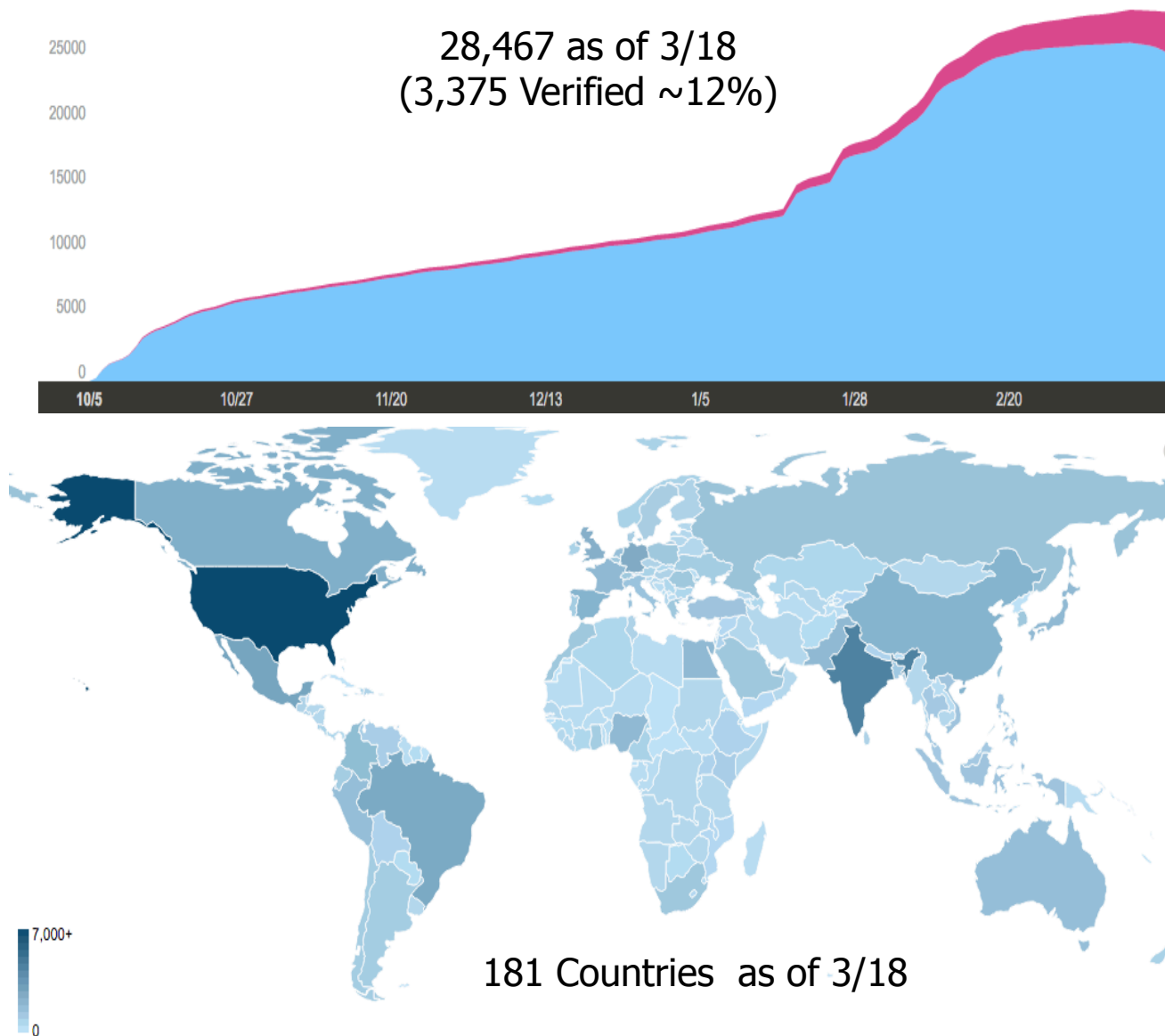
Country	Percent	Current Enrollment
United States	25.3%	7,208
India	10.0%	2,844
Unknown Country	4.1%	1,178
Mexico	3.8%	1,089
Brazil	3.2%	923
Germany	3.1%	889
Canada	2.7%	759
United Kingdom	2.5%	719
Spain	2.3%	657
China	2.2%	637
France	1.7%	477
Egypt	1.7%	471
Japan	1.5%	439
Pakistan	1.5%	433
Nigeria	1.5%	417
Colombia	1.4%	405
Australia	1.1%	327
Netherlands	1.1%	308
Peru	1.1%	308
Singapore	1.0%	292

But this is not what I wanted to talk about.

How do we learn?

Explain → Practice → Feedback

SO YOU'LL MAKE ME DO HOMEWORK ON THE SUNDAY OF LABOR DAY

BUT IT WON'T BE GRADED FOR TWO WEEKS. COOL.

- 1.5 hr lecture twice weekly
- PowerPoint slides w/ some in Blackboard
- Questions encouraged, but
- Pace set by instructor

- Bi-Weekly take-home problems sets
- Individually graded
- Questions only to the TA during hours
- Due in 1-2 weeks

- Graded problems returned
- Solution to problems posted
- Returned 1-2 weeks after submission

How <u>should</u> we teach (face-to-face)?

Explain → **Practice** ← **Feedback**

- Active Learning
  - Break 90 minute session into smaller chunks or modules
    - Introduce and explain concept (~10-15 min)
    - Student teams work on & submit a problem - not for grade (~10-15 min)
    - Instructor shows solution and answers questions (~10 min)
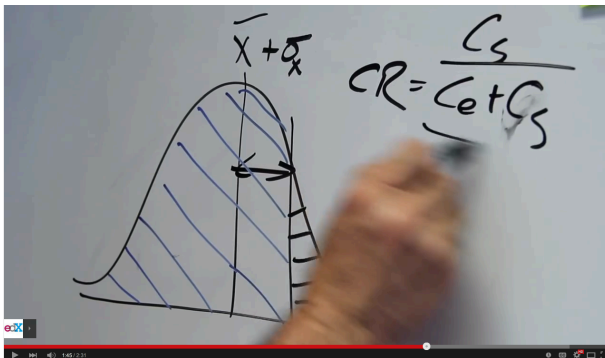 - Each module is a self contained concept with rapid feedback

Single Session

Concept 1	Concept 2	Concept 3
→ ↻ ←	→ ↻ ←	→ ↻ ←
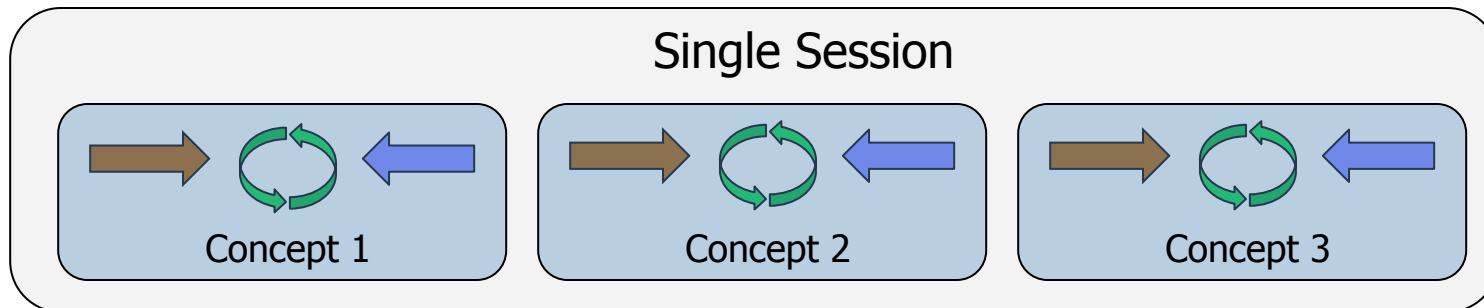
# How <u>do</u> we teach (on line)?

- On Line Learning
  - The explanation is on-demand, self-paced, and fully controlled
    - "Bite-sized" video segments 3-9 minutes in length (*thank you Millennials!*)
    - Full transcripts and auxiliary materials
  - Quick reinforcing questions after each segment with instant feedback
  - Extensive practice problems with instant detailed solutions

# What does a MOOC look like? Videos
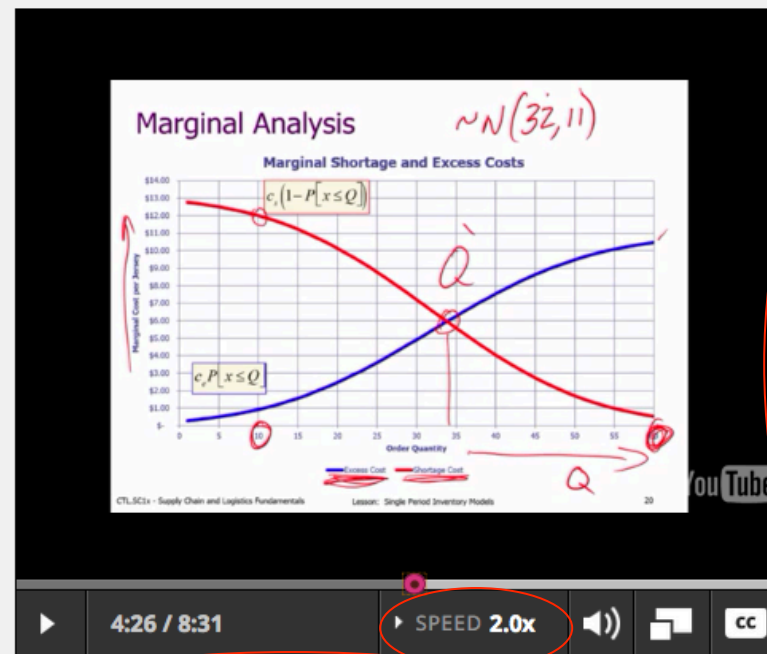
What c... Problems

4.1

Suppose you are managing the inbound lane from one of your major suppliers. You want to set your inventory policies but first need to determine the expected and standard deviation of demand over lead time. The details are as follows:

coefficient

4.1

Drag the labels that correspond to the type of network that is shown.
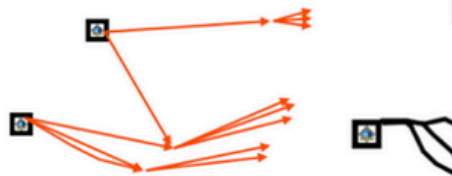
	A. Strategic Network	B. Operational Network	C. Physical Network

EXPLANATION

1 - B
2 - C
3 - A

The physical network is the actual path on the ground conveyance follows. The operational network is compr points and costs for each option. The strategic networ into a single arc from initial origin to final destination.

[Check] [Save] [Hide Answer]   *You have used 0 of 3 submissions*

3.1

Point to the Gantry Cranes in this picture of the Container Terminal #9 at Port of Hong Kong.

EXPLANATION

There are lots of Gantry Cranes here! I wanted you to select the four cranes in the foreground that are loading the ship. Yes, there are some more across the channel.

[Final Check] [Save] [Hide Answer]   *You have used 2 of 3 submissions*

[Check] [Save] [Hide Answer]   *You have used 0 of 3 submissions*

Wh   like? Forums

This post is visible to everyone.

Welcome to the Course

discussion posted 6 months ago by **ChrisCaplice** STAFF

📌 PINNED

31 Votes

Hello Everyone,

Welcome to CTL.SC1x! I am excited to start the class! I look forward to interacting with all of you over the next 11 weeks!

(this post is about Week 0 / Introduce yourself)

643 responses

↩ Add A Response

SatyamK
6 months ago

Thank you !

Very glad to be here!
posted 6 months ago by **Leostange**

Hi, this is Keshav from India. I'm doing this course bcz I have a start-up in mind Based on supply chain management.
posted 6 months ago by **KeshavPadia**

Hi, My name is Sibusiso from South Africa and work in the logistics and supply chain indus. Am looking forward to the course and hope to gain some knowledge and insight in the inctracate workings of Supply Chain Management
posted 6 months ago by **Sbuda**

Hi! I am Irene, from Seville, Spain, and hope to learn a lot on this course. I am industrial engineer, but I do not deal with supply chain. Nevertheless, my flatmates are working on and I got very curious about it. Thanks!
posted 6 months ago by **Irenedea**

Hi guys, this is Inez from Germany. I'm doing this class to get a better understanding of su chains to use in my own company. Looking forward to this!
posted 6 months ago by **InezInez**

Hi, I am Lucile, from Paris, France. I am a telecommunication engineer and I would like to more about Supply Chain Management. Thank you very much !
posted 6 months ago by **lucilejaumard**

This post is visible to everyone.

Pipeline Inventory

discussion posted 3 months ago by **tafanza**

4 Votes

In the Video 2 of lesson 2, I am not able to Understand how they calculated the pipeline inventory, It is LD*Ce=38*1500*16085=916.85 Million but in the video it is 2.62 Million.What I have figured out that you have to divide by 350.

(this post is about Week 1 / Topic-Level Student-Visible Label)

1 response

↩ Add A Response

gwynmarcelo
3 months ago

5 Votes

Hi! I have the same problem. I recreated the whole think in a spreadsheet and keep getting 916.85 million. Why is it divided by 350? Thank you for posting!

Hi!

Remember to check your units. Pipeline inventory is calculeted as Tafanza states: ce*LD

When you multiply by L, that is in days, and you have to convert the units by dividing by 350 (days/yr)

That is (for path 1) 16,085 dollars/cnt/yr * 1,500 cnt/yr * 38 DAYS / 350 days/yr

See that in the ecuation cnt and days get cancelled.

then the answare is 2,619,557 dollars/yr
posted 3 months ago by **rmmassano**

Thank you! I had the same problem.
posted 3 months ago by **yabejones**

Thank you rmmassano! I had the same problem.
posted 3 months ago by **manikatex**

So, what have we learned?

- It takes a village . . .
- There are zero shades of grey online
- Different lessons require different modes
- Short videos = Forced modularity
- Online students tend to be anxious & need nurturing
- Learning ≠ Assessment

So, how can you use on-line education?

- Identify Talent
  - Students learn concepts on their own time
  - Mastery is demonstrated over sustained performance
  - Successful completion of MicroMasters as proxy for grit

- Incorporate into Existing Education Programs
  - Modularization allows picking and choosing
  - Generalized videos with customized problems
  - Blended learning – combine with face-to-face sessions
  - Leads to level setting of skills or "common language"

- Recognize and Foster High-Potential Achievers
  - Reimburse for individual courses for achieving certain grades
  - Encourage & sponsor blended masters – treat like an internship

Where are we now . . .

Supply Chain Analytics

MITx - CTL.SC0x
Starts - Nov 02, 2016

Supply Chain Fundamentals

HONOR CODE

MITx - CTL.SC1x
Started - Feb 10, 2016

Supply Chain Design

MITx - CTL.SC2x
Starts - May 18, 2016

Supply Chain Dynamics

HONOR CODE

MITx - CTL.SC3x
Starts - Aug 24, 2016

Supply Chain Technology & Systems

MITx - CTL.SC4x
Starts - Jan 18, 2017

Questions, Comments, Suggestions?

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