



International Education Week

NOVEMBER 13-17, 2023



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Education Partnership



between India and the United States: *Launching an Innovative Professional Master's Program*

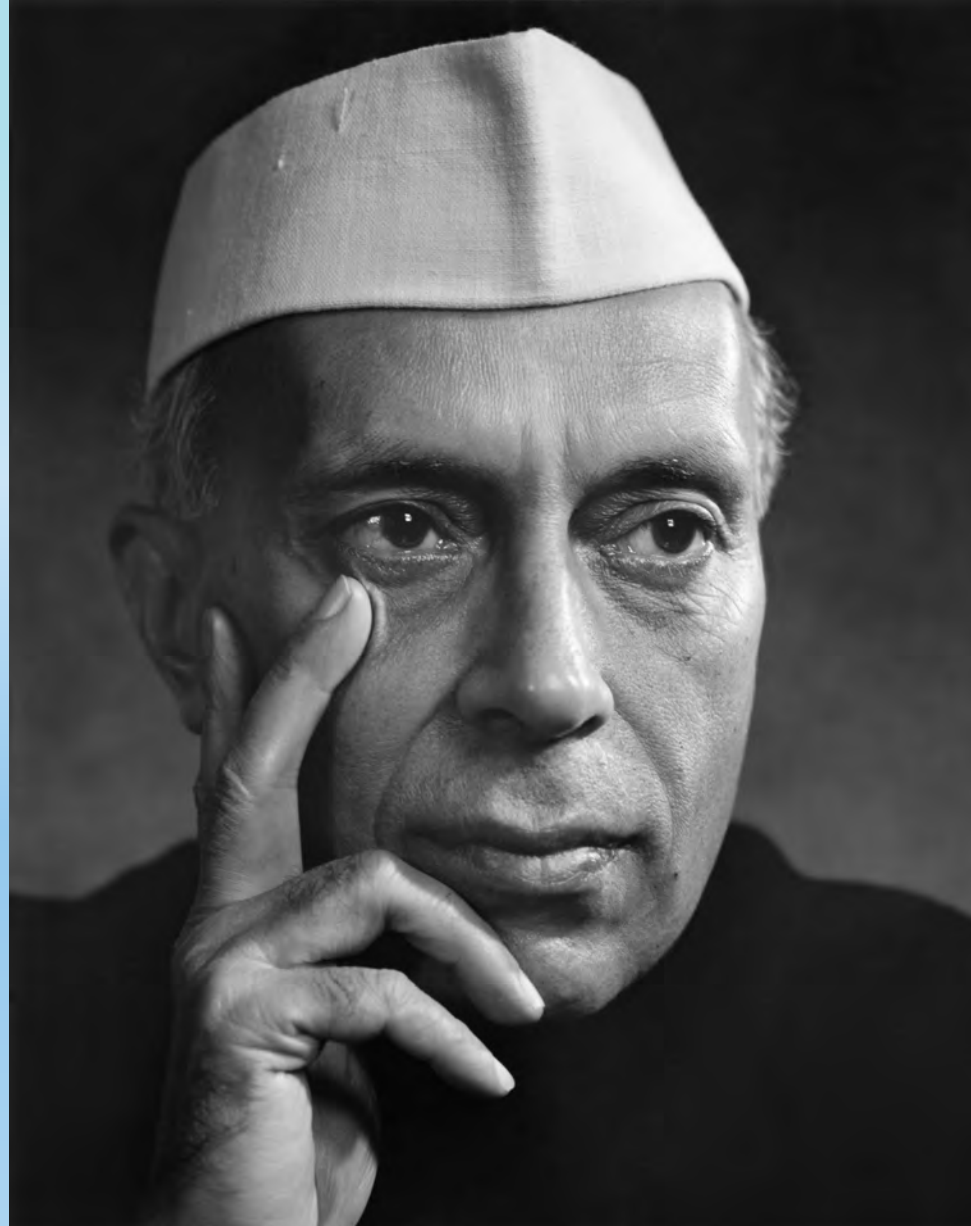
Akhlesh Lakhtakia
Chair

**U.S.-India Higher Education
Partnerships Committee**

1800-1930 IST
November 14, 2023



NOVEMBER 13-17, 2023



India's first Minister of Scientific Research



INDIA

ICC MEN'S
CRICKET WORLD CUP
INDIA 2023

NEW ZEALAND

ICC MEN'S CRICKET WORLD CUP *INDIA 2023*
SEMI-FINAL



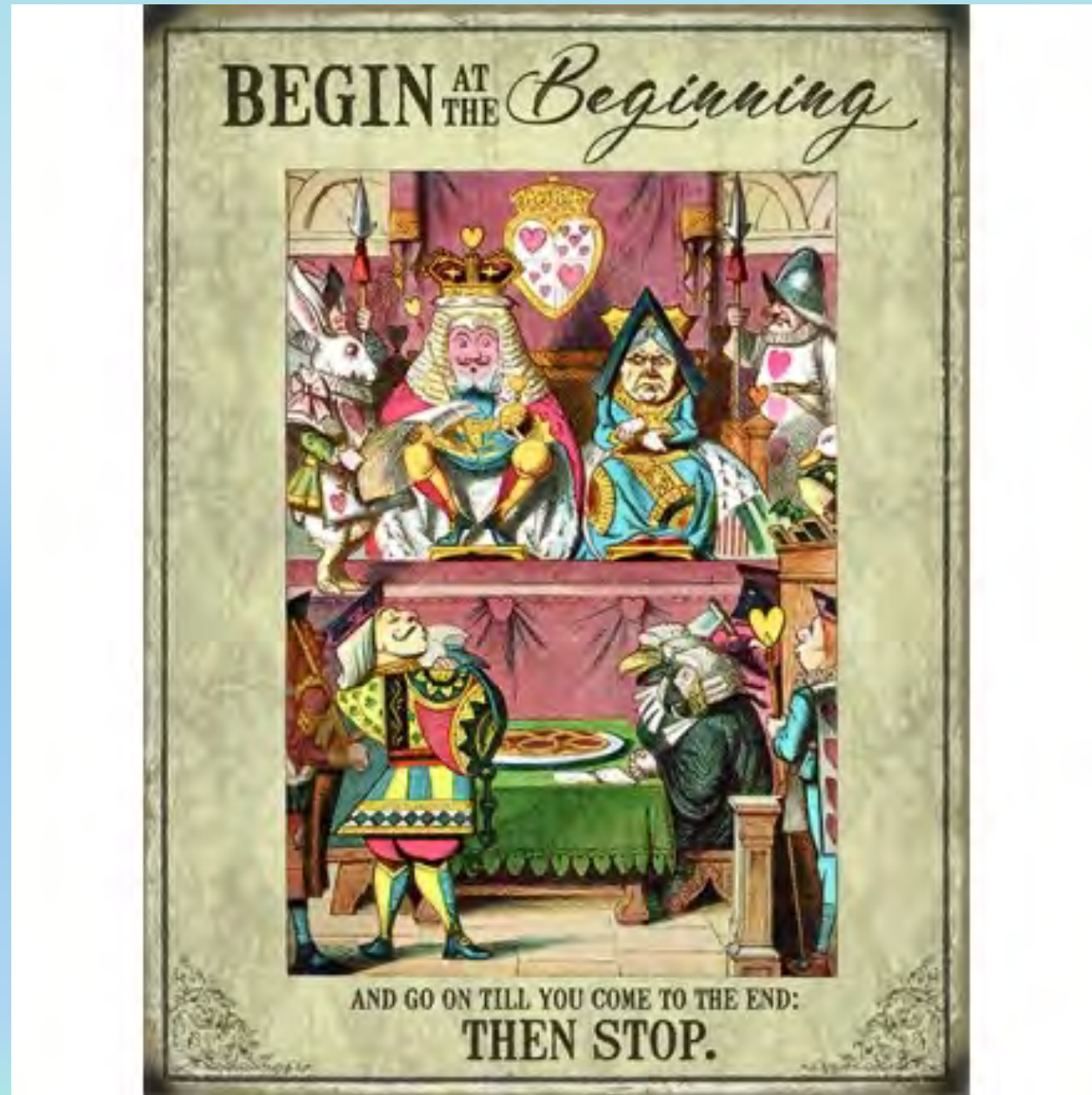


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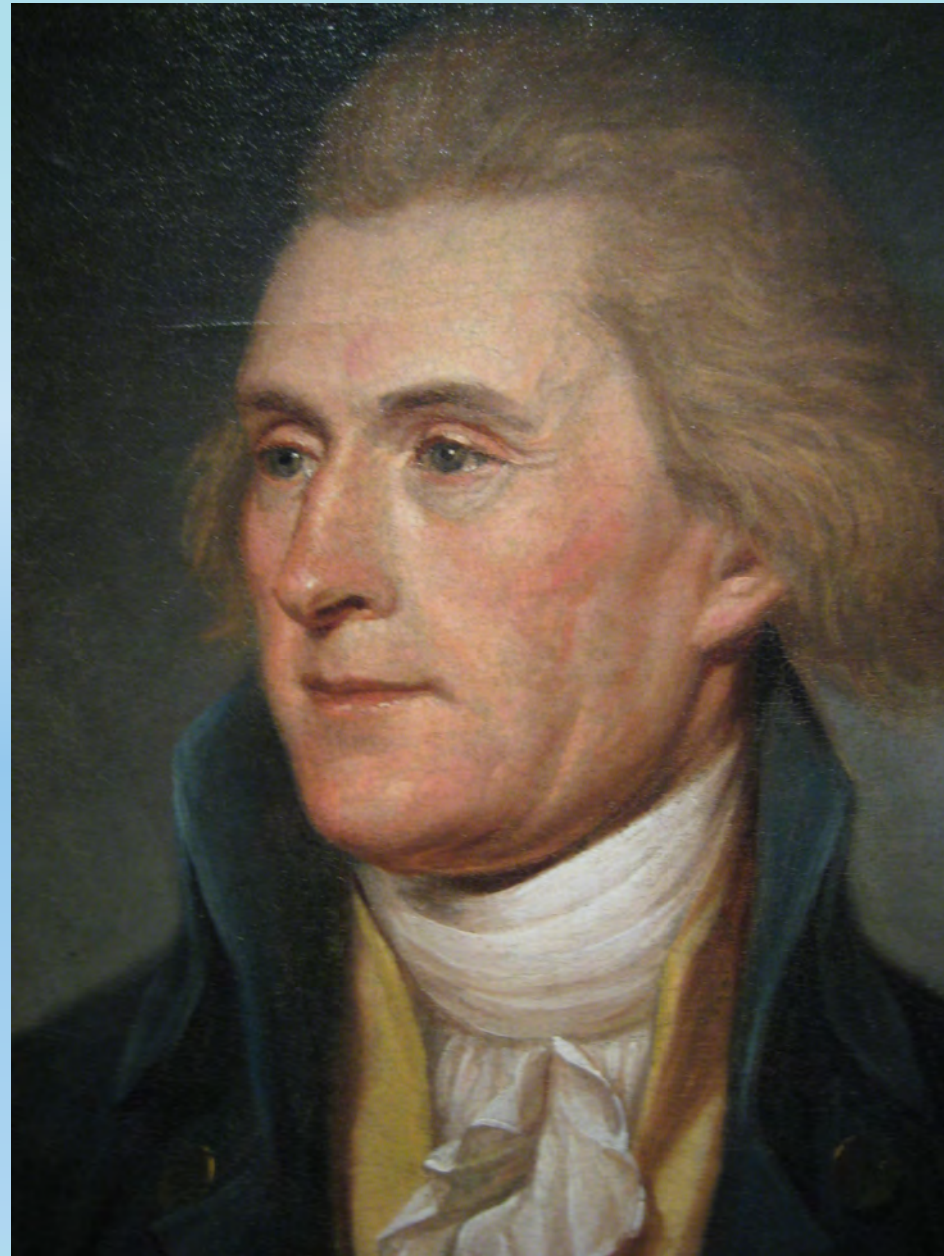


International
Education
Week

NOVEMBER 13-17, 2023

PennState
College of Engineering

**ENGINEERING SCIENCE
AND MECHANICS**



U.S. President (1801-1809)



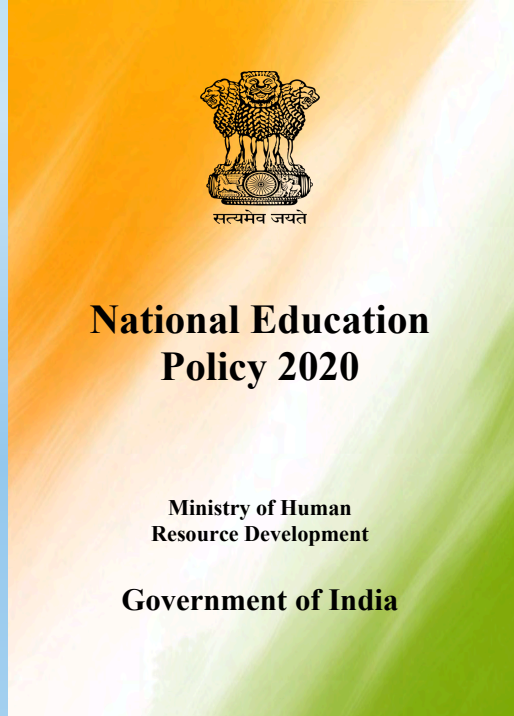


सत्यमेव जयते

National Education Policy 2020

Ministry of Human
Resource Development

Government of India



NEP 2020

सारथी



TOWARDS VIGOROUS ENGAGEMENT OF U.S. AND INDIAN HIGHER-EDUCATION INSTITUTIONS

Akhlesh Lakhtakia

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University Park, PA 16802, USA

Abstract

Aimed towards the needs of the huge and growing number of Indian youth deprived of post-secondary education, India's National Education Policy of 2020 will radically restructure education through flexible student-friendly academic pathways, decentralization of education, outcome-based accreditation of comprehensive higher-education institutions (HEIs). U.S. HEIs have a huge scope to assist existing and new HEIs in India by training educators, administrators, and researchers on organizational leadership, higher-education administration, infrastructure design, learning design and technology, outreach, and the promotion of on-campus multi-disciplinary alliances for both instruction and research. U.S. HEIs may also participate in newly allowed twinning, joint-degree, and dual-degree programs in partnership with Indian HEIs; furthermore, U.S. HEIs may also set up their own Indian campuses. These engagement opportunities are in addition to teaching centers and transfer programs that pre-date the 2020 policy.

Outline

1. Indian Educational Ecosystem
2. National Education Policy 2020
3. Opportunities for Foreign HEIs
 - (a) Capacity-Enhancement Training Opportunities
 - (b) Pedagogical and Research Opportunities

Outline

1. Indian Educational Ecosystem
2. National Education Policy 2020
3. Opportunities for Foreign HEIs
 - (a) Capacity-Enhancement Training Opportunities
 - (b) Pedagogical and Research Opportunities

Outline

4. India-US HEI Collaborative Opportunities
5. Indian Campuses of US HEIs
6. Global Demand for STEM Talent
7. Professional Master Programs in STEM

1. Indian Educational Ecosystem-I

Age-wise Population of India (2022)

AGE GROUP (yr)	POPULATION
0-14	357 M
15-24	250 M
25-34	233 M
35-44	202 M
45-54	155 M
55-64	113 M
65-	98 M

Annual cohort: 25 million

For the next 30 years

1. Indian Educational Ecosystem-I

Gross Enrollment Ratio

- 1. Grades 11-12: 57%
- 2. Ages 18-23 yr: 27%

Annual cohort: 25 million

For the next 30 years

1. Indian Educational Ecosystem-I

Gross Enrollment Ratio (Ages 18-23 yr)

India:	27%
China:	51%
USA:	88%

Annual cohort: 25 million

For the next 30 years

1. Indian Educational Ecosystem-I

Indian Gross Enrollment Ratio
(Ages 18-23 yr)

2021: 27%
2035: 50% (aimed for)

Annual cohort: 25 million

For the next 30 years

1. Indian Educational Ecosystem-I

Freshman (13th grade) cohort:

Potential: 25 million

Current: 6.75 million

Aim: 12.5 million

Current shortfall: 5.75 million

1. Indian Educational Ecosystem-II

Higher Education Institutions

2006:	17,973
2018:	42,222

Growth: 24,249 (*74% of all new HEIs globally*)

1. Indian Educational Ecosystem-II

Higher Education Institutions (2020-21)

1,113	Universities
43,796	Colleges
11,296	Specialized standalone HEIs

Strategic Upscaling

1. Indian Educational Ecosystem-II

Doubling by 2035

2. National Education Policy 2020

Desired Features of Higher Education

Student-designed academic experiences

Decentralization of education

Consensus on outcomes

Engagement with multiple disciplines

Indian civilizational orientation

2. National Education Policy 2020

Integrated Programs

Higher-Education Credentials

Certificates

Diplomas

Three-Year Bachelor Degrees

Two-Year Master Degrees

Four-Year Bachelor Degrees

One-Year (*Professional*) Master Degrees

Doctor Degrees

3. Opportunities for Foreign HEIs

Capacity-Enhancement Education

3. Opportunities for Foreign HEIs

Instruction and Research

3(a). Capacity-Enhancement Opps.

Organizational leadership

Campus administration

Infrastructure design and maintenance

Learning technologies

Multi-disciplinary on-campus alliances

Internationalization of students, faculty members, and facilities

Community outreach

Professional Cadre

3(a). Capacity-Enhancement Opps.

1. Professional Certificates

(a) Campus Leadership

(b) Campus Administration

(c) Campus Infrastructure

(d) Learning Technologies

(e) Multi-disciplinary Alliances

(f) International Alliances

(g) Internationalization of Campus Facilities, Personnel and Students

3(a). Capacity-Enhancement Opps.

1. Professional Certificates

- (a) Campus Leadership
- (b) Campus Administration
- (c) Campus Infrastructure
- (d) Learning Technologies
- (e) Multi-disciplinary Alliances
- (f) International Alliances
- (g) Internationalization of Campus Facilities, Personnel and Students

Online and/or Distance-Learning Courses

Professional Master degree

= Collection of Suitable Certificates

3(a). Capacity-Enhancement Opps.

2. Professional Doctorates

Doctor of Education

Doctor of Educational Administration

Doctor of Science Education

Doctor of Engineering Education

Doctor of Music Education

3(a). Capacity-Enhancement Opps.

2. Professional Doctorates

First-year online courses at Indian HEI

Second-year online courses at Indian HEI

Third-year on campus of US HEI

- (i) Practice-oriented courses
- (ii) Research project

3(b). Instruction & Research Opps.

Collaborative Opportunities

Twinning programs

Dual-degree programs

Joint-degree programs

3(b). Instruction & Research Opps.

Non-Collaborative Opportunities

Campus in Special Economic Zone

Campus elsewhere in India

4. India-U.S. Collaborative Opps.

Twinning programs

Dual-degree programs

Joint-degree programs

High-quality accredited partners

Memorandum of agreement

Public disclosures

4. India-U.S. Collaborative Opps.

Twinning programs

Dual-degree programs

Joint-degree programs

Currency regulations of India

Legal jurisdiction: India

4. India-U.S. Collaborative Opps.

Twinning programs

Dual-degree programs

Joint-degree programs

Conventional mode of education

Research co-supervisors

4. India-U.S. Collaborative Opps.

Twining programs

Admission to one HEI

Degree from admitting HEI

$\leq 30\%$ credits from foreign HEI

≥ 1 semester in residence at foreign HEI

One research thesis

4. India-U.S. Collaborative Opps.

Dual-degree programs

Separate admission to both HEIs

Separate degrees from both HEIs

≥ 30% credits from each HEI

≥ 1 semester in residence at each HEI

Two identical research theses

4. India-U.S. Collaborative Opps.

Dual-degree programs

Separate admission to both HEIs

Separate degrees from both HEIs

≥ 30% credits from each HEI

≥ 1 semester in residence at each HEI

Two identical research theses

4. India-U.S. Collaborative Opps.

Joint-degree programs

Joint admission

Joint degree from both HEIs

≥ 30% credits from each HEI

≥ 1 semester in residence at each HEI

One research thesis

4. India-U.S. Collaborative Opps.

Joint-degree programs

Joint admission

Joint degree from both HEIs

≥ 30% credits from each HEI

≥ 1 semester in residence at each HEI

One research thesis

4. India-U.S. Collaborative Opps.

Joint-degree programs

MS and PhD

Unlikely to succeed

4. India-U.S. Collaborative Opps.

Transfer Models

2+2 Bachelor Degree

3+1 Bachelor Degree

3+1+1 Bachelor & Master Degrees

4+1 Bachelor & Master Degrees

4. India-U.S. Collaborative Opps.

Cost-Effective Transfer Models

Two-year (Community) Colleges

4. India-U.S. Collaborative Opps.



<https://www.ccidinc.org/>

4. India-U.S. Collaborative Opps.



The Financial Express

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University of Virginia partners with OP Jindal Global University for student engagement

Story by FE **INDIA TODAY**

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News / Education Today / News / IIT Madras collaborates with Purdue University USA

Dark Mode



IIT Madras joins hands with US universities for Ph.D courses

Business News / Education 2 / Karnataka Public Universities Us Varsities Pennsylvania Higher Education Council Bangalore City University

ADVERTISEMENT

Four Karnataka public universities partner with US varsities

Under the partnership, Bangalore City University would share knowledge in the area of

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5. Indian Campuses of Foreign HEIs

Campus in **Special Economic Zone**

Campus **elsewhere in India**

High-quality and accredited

Public disclosures

5. Indian Campuses of Foreign HEIs

Campus in Special Economic Zone

Approval:	SEZ Agency
Degrees:	Bachelor, Master, Doctor
Disciplines:	STEM & Finance
Currency Regs:	Favorable
Legal Jurisdiction:	Negotiable with SEZ Agency

5. Indian Campuses of Foreign HEIs

Campus elsewhere in India

Approval:	University Grants Commission
Degrees:	Bachelor, Master, Doctor
Disciplines:	Any
Currency Regs:	Standard
Legal Jurisdiction:	India

6. Global Demand for STEM Talent

Technological superiority
Economics

Need: *High-Tech Skilled Workers*

6. Global Demand for STEM Talent



— Joint Statement of Principles in Support of International Education —

Reengaging the World to Make the United States Stronger at Home

A Renewed U.S. Commitment to International Education

6. Global Demand for STEM Talent

1. **Supports** Research and Innovation
2. **Strengthens** U.S. Higher Education
3. **Benefits** U.S. Students and Communities
4. **Enhances** National Security

6. Global Demand for STEM Talent



US education exports in US\$ millions, 2013–2022. Source: US Bureau of Economic Analysis

6. Global Demand for STEM Talent

Department

Commerce

export promotion

Education

global competency

State

foreign relations

Homeland Security

visas

6. Global Demand for STEM Talent

JANUARY 31, 2023

FACT SHEET: United States and India Elevate Strategic Partnership with the initiative on Critical and Emerging Technology (iCET)



BRIEFING ROOM

STATEMENTS AND RELEASES

6. Global Demand for STEM Talent

JANUARY 31, 2023
FACT SHEET: United States and
India Elevate Strategic Partnership
with the initiative on Critical and
Emerging Technology (iCET)

[BRIEFING ROOM](#) • [STATEMENTS AND RELEASES](#)

“President Biden and Prime Minister Modi announced the U.S.-India initiative on Critical and Emerging Technology (iCET) in May 2022 to elevate and expand our strategic technology partnership and defense industrial cooperation between the governments, businesses, and **academic institutions of our two countries.**”

6. Global Demand for STEM Talent

JUNE 22, 2023

Joint Statement from the United States and India

 BRIEFING ROOM ▶ STATEMENTS AND RELEASES

6. Global Demand for STEM Talent

“President Biden and Prime Minister Modi hailed the **growing bilateral education partnership** between the United States and India. Indian students are on pace to soon become the largest foreign student community in the United States,...

7. Professional Master Degrees

Collaborative Recruitment
of
Self-funded Indian STEM Students
to Fulfill
Needs for High-Tech Skilled Workers

7. Professional Master Degrees

High-Tech Skilled Workers

1. Bachelor degree

- (a) Indian HEI
- (b) Indian HEI + US HEI

2. **12-months** Professional Master degree (at US HEI)

7. Professional Master Degrees

12-Months Professional Master degree

Semiconductor processing
Photonics
5G-7G Communication systems
Additive manufacturing
Cybersecurity
Geospatial informatics
Unmanned microvehicles
Telemedicine

Nanotechnology
Display technology
Renewable energy
Artificial-intelligence (AI) applications
Big data
Quantum engineering
Experimental genomics
Food processing technology

7. Professional Master Degrees

- **Credit requirements: 30-32**
- **Practice-oriented coursework**
- **Capstone project**
- **Eligibility for Ph.D. programs**

7. Professional Master Degrees

1. Collaborative Agreements
will enable

- (a) Cohorts of High-Caliber Students
- (b) Prerequisite BS courses

7. Professional Master Degrees

2. (a) Solid short-term investment of **\$60K**
by Indian lenders in Indian students
- (b) Family funds

7. Professional Master Degrees



“The United States emerges as the top preference for Indian students, with an average loan amount of **40.6 lakhs INR (approx. \$49,474 USD)** being utilized for their Master’s course.”

7. Professional Master Degrees

Top Selling
SC Marvel
"Best for students requiring higher than usual amount of loan at an lowest ROI"
Amount 75 Lakhs
Choose Plan

SC Excel
"Best for students requiring high amount of loan at affordable ROI"
Amount 40 Lakhs
Choose Plan

SC Crown
"Best for students requiring low amount of loan at affordable ROI"
Amount 30 Lakhs
Choose Plan

7. Professional Master Degrees

\$60,000 maximum cost

7. Professional Master Degrees

3. STEM OPT extensions for
three years (maximum)

Median salary (2020): \$87,000 p.a.

7. Professional Master Degrees

Necessary Investments by US HEI

1. Invest for initial cohort of 15 self-funded PM students
 - (a) Faculty members (Professors of Practice)
 - (b) Purchase new and upgrade existing equipment
 - (c) Maintenance personnel
 - (d) Recurring costs (upgrades, maintenance, materials)
2. Plan for annual growth

7. Professional Master Degrees

Benefits to US HEI

1. Tuition/fees from self-funded PM students
2. Student expenditures for housing, food, etc.
3. Some PM graduates will join PhD programs
4. PM courses will attract other students

7. Professional Master Degrees

Benefits to Indian HEI

1. Programmed upward student mobility
2. Educational linkages between Indian and US faculty
3. Research linkages between Indian and US faculty

7. Professional Master Degrees

Indian students in USA

Post-secondary education:	316,295	
Associate degree:	2,303	(<1%)
Bachelor degree:	33,064	(10%)
Master degree:	253,426	(79%)
Doctor degree:	27,502	(<9%)

7. Professional Master Degrees

STEM Indian students in USA

Post-secondary education:	291,509	
Associate degree:	716	(<1%)
Bachelor degree:	23,548	(8%)
Master degree:	243,378	(83%)
Doctor degree:	23,867	(8%)

7. Professional Master Degrees

- * 12 months
- * On-campus
- * Industrially attractive focus
- * \$60,000
- * 3-years STEM-OPT

7. Professional Master Degrees

- * Cohort recruitment
- * Faculty-faculty relationships
- * Research partnerships



WHO COULD ASK FOR ANYTHING MORE?

THE SONGS OF
GEORGE
GERSHWIN

Music by George Gershwin
Lyrics by Ira Gershwin
and DuBose Heyward
Additional Lyrics by
Ballard MacDonald,
Buddy DeSylva and Gus Kahn
Conceived by Julianne Boyd
and Darren R. Cohen
Musical Direction by Darren R. Cohen
Choreographed by Jeffrey L. Page
Directed by Julianne Boyd

BSC Associate Artists
Alan H. Green and Alysha Umphress,
Jacob Tischler, Allison Blackwell and
Britney Coleman. Photo Daniel Rader.

JUNE 10 – JULY 10

Significant U.S. Actions

1. Fifth U.S. Consulate in India — Hyderabad (opened)

Sixth U.S. Consulate in India — Bengaluru (announced)

2. 90,000 Student Visas to Indians in Summer 2023

3. Apply for Student Visa 1 Year in Advance

Examples

Professional Master (Electro-Optics and Photonics)

University of Dayton

IIT Patna

Vellore University of Technology

Shoolini University

What Can Indian HEIs Do?

1. Identify potential U.S. partners

Consult your faculty with U.S. education

Consult alumni working in U.S. universities

Consult EducationUSA

What Can Indian HEIs Do?

2. Identify strengths
3. Identify student interests
4. Contact potential U.S. partners
5. Contact Indian lenders

Visiting India in December

Dec. 1-4	Bengaluru	U.S. Consulate Chennai
Dec. 5-7	Hyderabad	U.S. Consulate Hyderabad
Dec. 8, 11, 12	New Delhi	U.S. Consulate New Delhi

<https://in.usembassy.gov/education-culture/>



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Thank you



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