# The Future is Now

Preparing Highly Qualified Computer Science Teachers for All

# Critical Need for Pre-College Computer Science Education for All

- Thriving tech sector across New York
- Digital natives coming of age
- Industry and societal needs dictate
  - Integration of computer science curriculum through P12 into college
  - Preparation for emerging opportunities, challenges and needed skills in college and beyond
  - Workforce development

# The Compelling Case for Computer Science Teacher Certification for All

- Currently there is no Computer Science Teacher Certification in New York State
- Current training to prepare CS teachers is done through short term professional development
  - Scripted lessons
  - Limited content knowledge and pedagogical content knowledge
  - Superficial content coverage
- Need teachers with CS content and pedagogical experience
- States are beginning to examine CS as its own discipline

**New York State is Positioned to Lead the Way**

- Thriving tech sector
- Willingness of P12, higher ed, non-profit and industry to collaborate
- Most effective CS teacher education across diverse settings

# A Template for Moving Forward

- Guidelines for licensure
- Program templates

# Guidelines for CS Licensure

## Developed

- In consultation with educators and technologists across New York State
- With an eye to existing efforts as well as the future
- Informed by emerging proposed learning standards and frameworks

## Includes

- Substantial content knowledge
- Strong pedagogical content knowledge
- Knowledge of current tools, techniques and trends

# Suggested Curricula

## Certificate / Extension for teachers certified in other areas / Dual Certification

- Classes in methods, curriculum design
- Content classes that provide depth and breadth
- Efficient path towards dual certification

## Complete Undergraduate and Graduate Programs

- Certificate program plus pedagogical core and student teaching
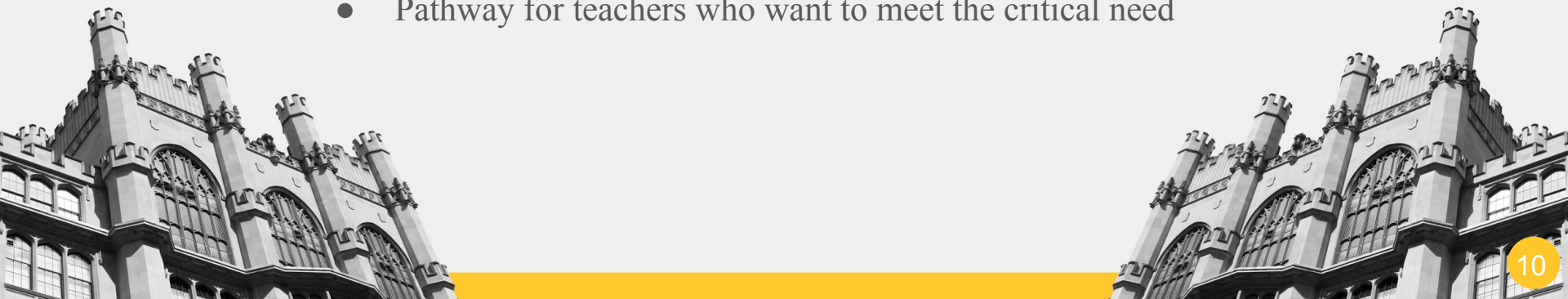- Opens pathway for alternative certification programs

**What the Blueprint Would Look Like in Action at Hunter**

- Certificate program in pipeline
- Masters program in pipeline
- Five year undergraduate / graduate program in development
- Programs easily adaptable to alternative certifications and industry to teaching pathways
- Developing connections with industry professionals across New York State

**Benefits of Creating CS Licensure**

- Greater connections between education and industry
- Students better prepared for high level college work and for workforce entry
- Emerging computer science discipline will strengthen NY state curriculum; potential new Regent's exam area
- Pathway for teachers who want to meet the critical need

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