The Center for Infrastructure Protection and Homeland Security (CIP/HS)

Higher Education Initiative

Presented to Association for Contingency Planning Luncheon

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CIP/HS Overview

• Welcome!

• Established at the Mason School of Law in May 2002.

• Integrate the disciplines of law, policy, and technology in order to conduct infrastructure resilience analysis and research to improve U.S. and international security.
  
  – Education: Curriculum oriented toward practicing Critical Infrastructure professionals; develop leadership and analytic competencies

  – Sponsored research to generate practical solutions to solve critical infrastructure security and resilience

  – Conferences and Events: Convene, Spotlight and Generate Leadership Toward Solutions

• Publish the monthly newsletter, *The CIP Report*, which highlights key infrastructure protection issues.

*Where Innovation is Tradition*
Education: What’s Tough about Infrastructure Protection?

• Infrastructure Security and Resilience does not reside in a single department program; a unique area of security studies

• Infrastructure Security and Resilience is:
  – Interdisciplinary: Many different specialties
  – Interdepartmental/Interagency: Many different government departments
  – International: Crosses national boundaries
  – Intergovernmental: Different levels of government
  – Industry/Government: Private and Public Sector

• Identified Core Competencies (from 2009 NIPP)
  – Risk Analysis
  – Protective Measures/Mitigation Strategy Development
  – Technical and Tactical Expertise (Sector-Specific)
  – Partnership Building/Networking

  - Metrics and Program Evaluation
  - Information Collection and Reporting
  - Program Management

• Survey of 785 institutions: Found no developed, standard approach

• Two year effort: Certificate Program, Master’s Degree, Stand Alone Courses, Case Studies and Reference Materials

• Five Year follow on effort to keep updated, develop additional materials and conduct outreach to facilitate adoption of curricula
Core Competencies
2009 NIPP

- Risk Analysis
- Protective Measures/Mitigation Strategies Development
- Technical and Tactical Expertise (Sector-Specific)
- Partnership Building/Networking
- Metrics and Program Evaluation
- Information Collection and Reporting (Information Sharing)
- Program Management

Where Innovation is Tradition
Project Description and Approach

- **Description**: Support the U.S. Department of Homeland Security to create a comprehensive, unified education and training system that produces and sustains the leaders and workforce required to ensure the protection of the critical infrastructure of this Nation.

- **Approach**: Develop materials, including syllabi, case studies, and reading resources, that will be shared with multiple degree programs at colleges and universities and other interested 3rd parties.
Assessment/Recommendations

- Searched 785 U.S. institutions for existing courses, concentrations/minors, degree programs, and training programs in critical infrastructure protection (CIP); instruction on seven CIP competency areas; use of best practices.

Sources:
- The Center for Homeland Defense and Security
- Emergency Management Institute
- A random sampling of other accredited institutions (525 institutions)

...Four Recommendations
1. Determine career paths in critical infrastructure protection.
2. Provide guidance for CIP course content.
3. Continuously validate CIP core competencies.
4. Implement best practices in higher education.
Course Development

- Created seven graduate critical infrastructure protection courses for multiple degree programs at colleges and universities.

- Review process: draft, revised, and final versions; courses reviewed at least twice.

- Developed five critical infrastructure security and resilience certificate courses (adapted from base year curricula)

- Modified a Public Administration master’s degree program with the George Mason University Department of Public and International Affairs to provide concentration in critical infrastructure protection
Resource Development

- Created three studies for course use
- List of relevant critical infrastructure protection readings, separated by topic and year; constantly updated.
- List of over 400 subject-matter experts in critical infrastructure protection, speakers bureau
- Developed 2 additional CIP courses (International, Cross Sector)
- Developing 2 additional CIP courses, Conducted Pilot course for DHS in Spring 2014 for 30 students from interagency working in Infrastructure Protection
- Developing Executive MBA with Critical Infrastructure track. Passed accreditation review in May 2014

All graduate courses and resources available on CIP/HS [website].
Executive MBA with Critical Infrastructure Track
Conceptual Structure

- **Opening Residency**
  *Foundations of Critical Infrastructure and Resilience: Strategic View of the Critical Infrastructure Firm*
  *Building the High Performing Team*

- **Module 1**
  *Partnering and Information Sharing: Government – Industry Relationships*
  *Managerial Economics*

- **Module 2**
  *Applied Business Decision Models*
  *Financial Accounting*

- **Module 3**
  *Managerial Finance*
  *Global Macro Economics*
  *Risk Assessment and Management for Critical Infrastructure*

- **Module 4**
  *Marketing*
  *Services and Operations Management*

- **Module 5**
  *Cost Accounting and Financial Markets*
  *Financial Markets*
  *Critical Infrastructure Residency*

- **Module 6**
  *Business Strategy*
  *Leadership and Change Management*

- **Module 7**
  *Cybersecurity, Resilience and Critical Infrastructure Capstone Course (Including Advances in Critical Infrastructure Security and Resilience)*
  *Critical Infrastructure Residency 2*

- **Module 8**
  *Systems Thinking and Dynamics*
  *Business Ethics*
  *Business and Employment Law*

*Note: Italics denotes critical infrastructure specific courses*
George Mason University

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Questions?

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