



# Holistic Cyber Security Education

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# The Perfect Graduate

**Technical  
Skills**



# The Perfect Graduate

## Technical Skills

Systems Engineering  
Math/Statistics  
Computer Science  
Operations Research  
Speciality Skills

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## Management Skills

Organizing  
Planning  
Managing  
Controlling

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**Management  
Skills**

**Executive  
Skills**

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Managing  
Controlling  
Crisis Management

## Executive Skills

Strategic Planning  
Policy Formulation  
Decision Theory  
Legal Environment

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**Executive  
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**Personal  
Skills**



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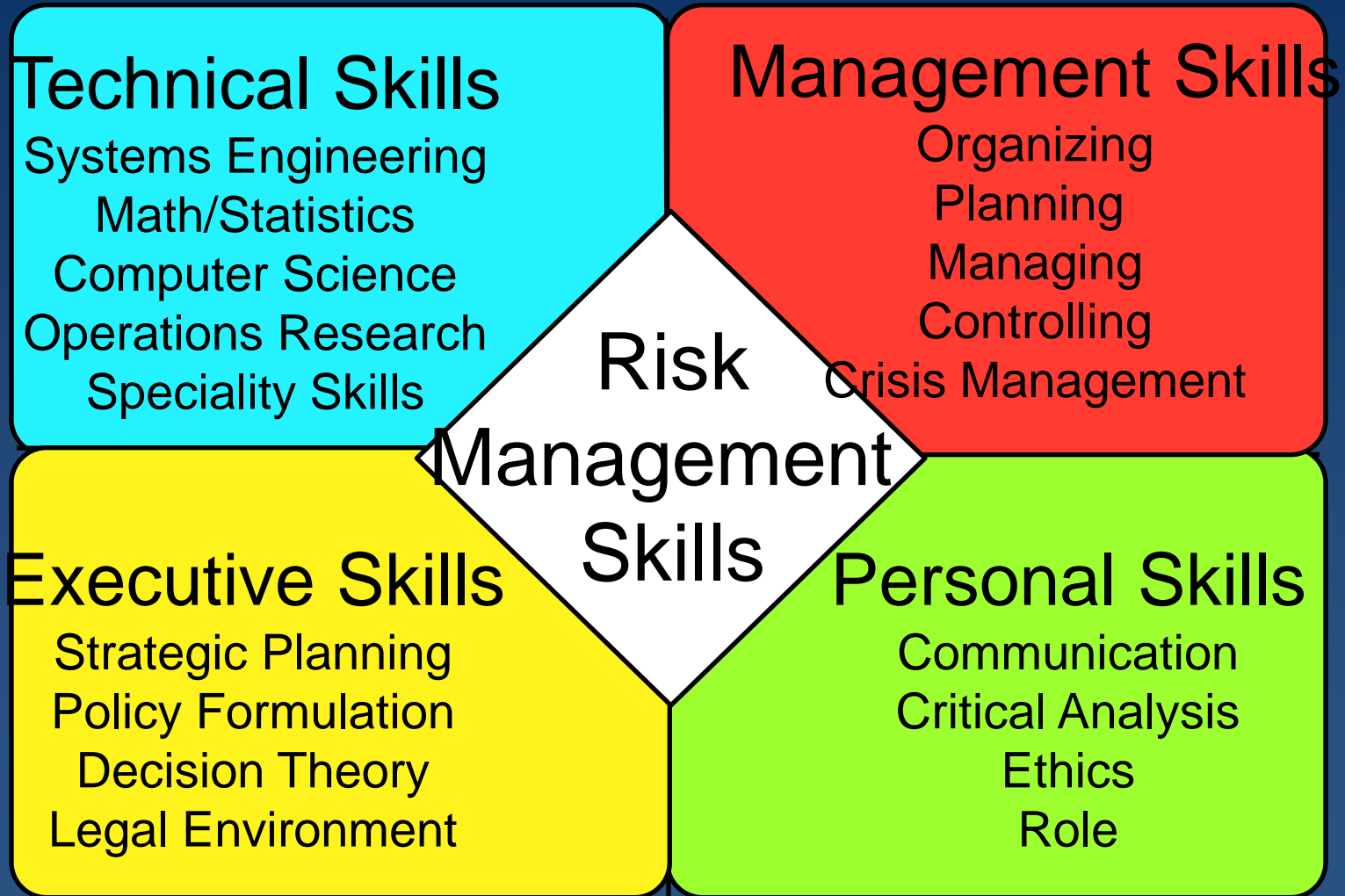
## Executive Skills

Strategic Planning  
Policy Formulation  
Decision Theory  
Legal Environment

## Personal Skills

Communication  
Critical Analysis  
Ethics  
Role

# The Perfect Graduate



# Professionalizing Cyber Security

- We are past the point where amateurs, even talented amateurs, can do what is needed
  - Professions are vocations characterized by “formal qualifications based upon education, apprenticeship, and examinations, ...[managed by] regulatory bodies with powers to admit and discipline members, and some degree of monopoly rights.” Alan Bullock & Stephen Trombley, *The New Fontana Dictionary of Modern Thought*, London: Harper-Collins, 1999, p.689)
- Easy answers won't get the job done
  - You can't “secure” systems and networks
  - Resilience is the key
- Compliance metrics are not sufficient
  - We need performance metrics

# Thank you

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