

## Engenharia de Software segundo o SWEBoK

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#### Roteiro

SWEBoK

Áreas do Conhecimento

Foundations

## **SWEBoK**

### Áreas e Disciplinas Relacionadas

#### TABLE I.1. THE 18 SWEBOK KAS

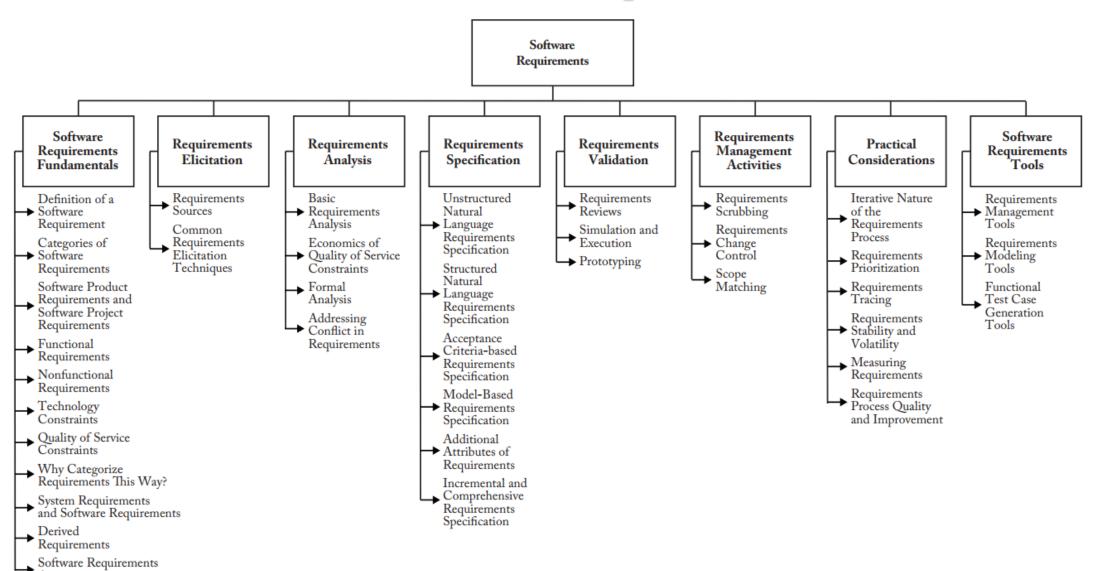
- 1. Software Requirements
- 2. Software Architecture
- 3. Software Design
- 4. Software Construction
- 5. Software Testing
- 6. Software Engineering Operations
- 7. Software Maintenance
- 8. Software Configuration Management
- 9. Software Engineering Management
- 10. Software Engineering Process
- 11. Software Engineering Models and Methods
- 12. Software Quality
- 13. Software Security
- 14. Software Engineering Professional Practice
- 15. Software Engineering Economics
- 16. Computing Foundations
- 17. Mathematical Foundations
- 18. Engineering Foundations

#### TABLE I.2. RELATED DISCIPLINES

- 19. Computer Engineering
- 20. Computer Science
- 21. Cybersecurity
- 22. Data Science
- 23. General Management
- 24. Information Systems and Technology
- 25. Mathematics
- 26. Project Management
- 27. Quality Management
- 28. Systems Engineering



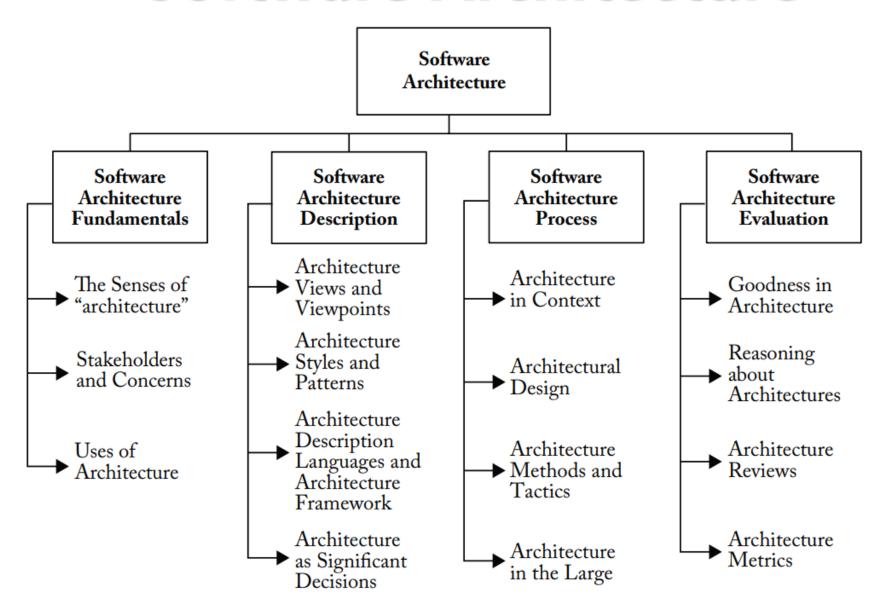
#### Software Requirements



Activities

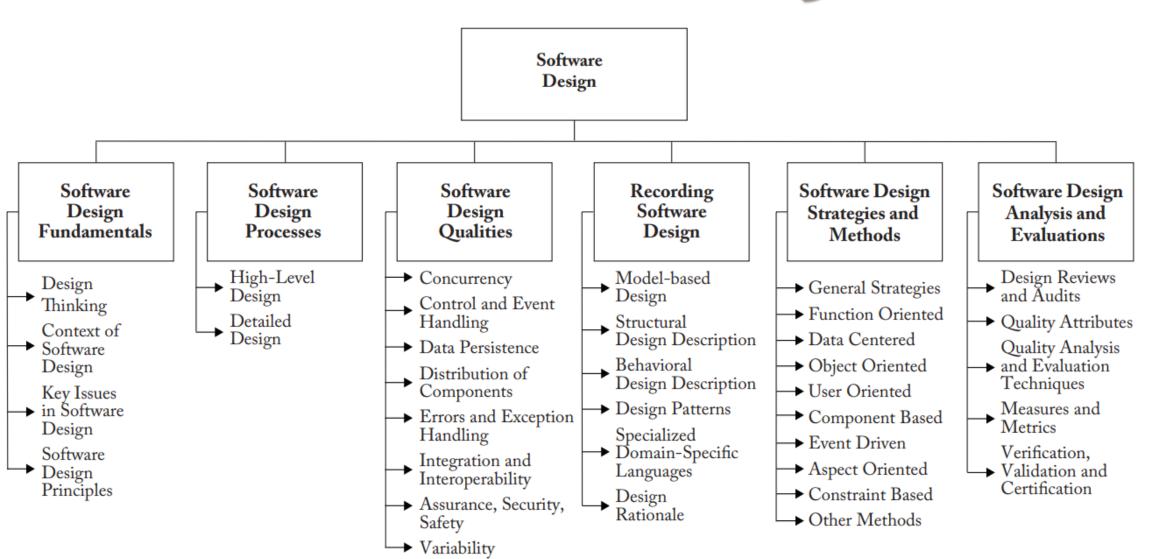


#### **Software Architecture**





#### Software Design



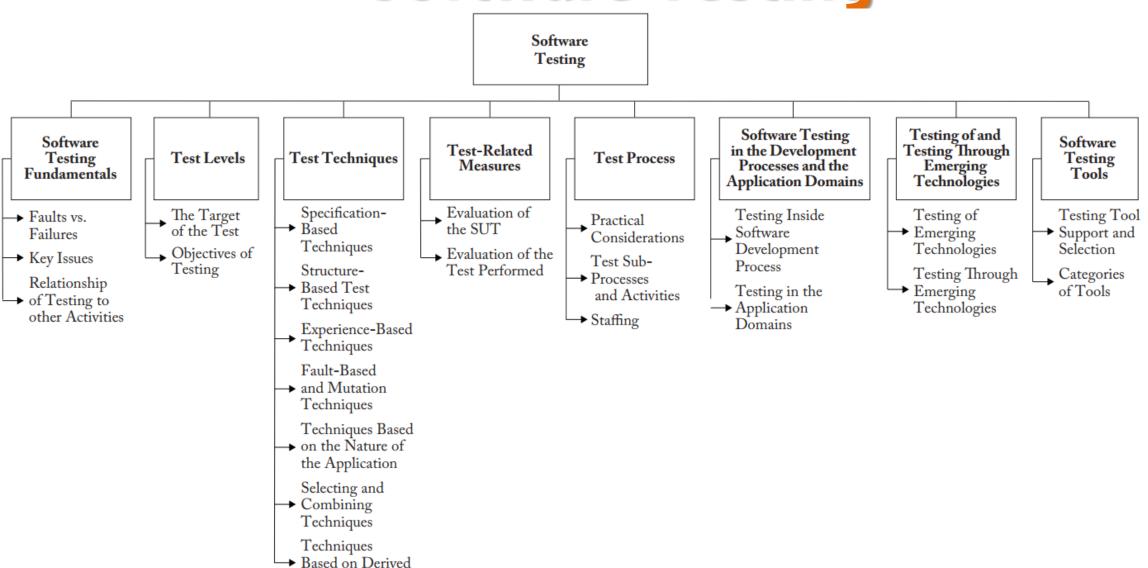


#### Software Construction Software Software Managing Practical Construction Construction Construction Construction Considerations Technologies Fundamentals Tools → Construction Minimizing Construction in API Design Development Complexity Life Cycle Models Design and Use Environments Construction Anticipating and Construction Object-Oriented Visual Programming Embracing Change Planning Runtime Issues → and Low-Code/ Languages Zero-Code Platforms Construction for → Coding Construction Parameterization, Verification Measurements Templates and → Unit Testing Tools Construction Generics Proofing, Performance Managing → Reusing Assets Testing Dependencies Analysis and Slicing Tools Assertions, Applying Standards in Construction Reuse in Designby Contract Construction and Defensive → Construction Programming Quality Error Handling, → Integration → Exception Handling and Fault Tolerance Cross-Platform → Development → Executable Models and Migration State-Based and → Table-Driven Construction Techniques Runtime Configuration and Internationalization Grammar-Based Input Processing → Concurrency Primitives → Middleware Construction Methods → for Distribution and Cloud-Based Software Constructing Heterogeneous Systems Performance Analysis and Tuning → Platform Standards → Test-First Programming for Construction

# Software Construction



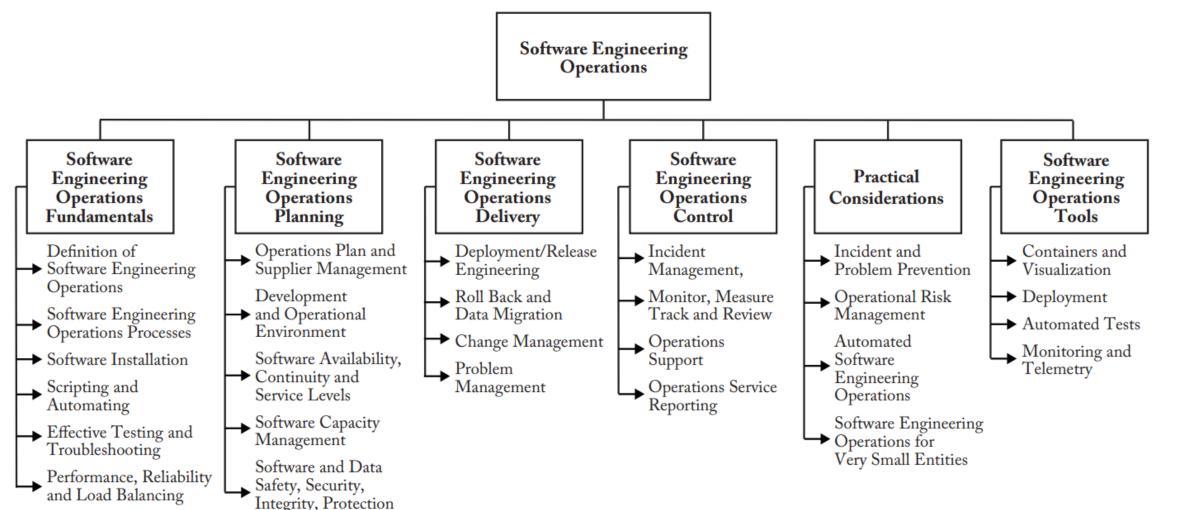
#### **Software Testing**



Knowledge



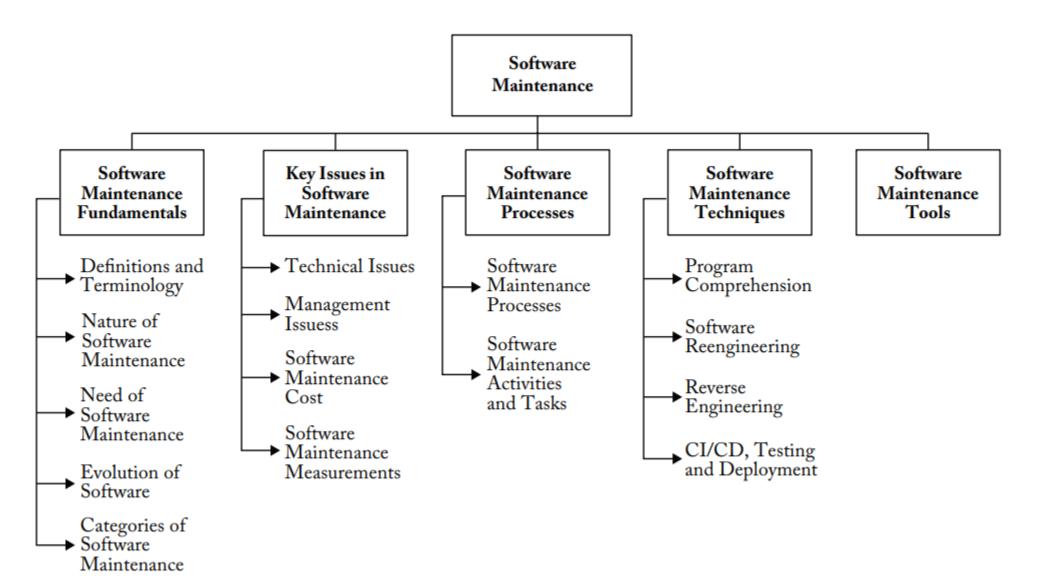
#### **SE Operations**



and Controls

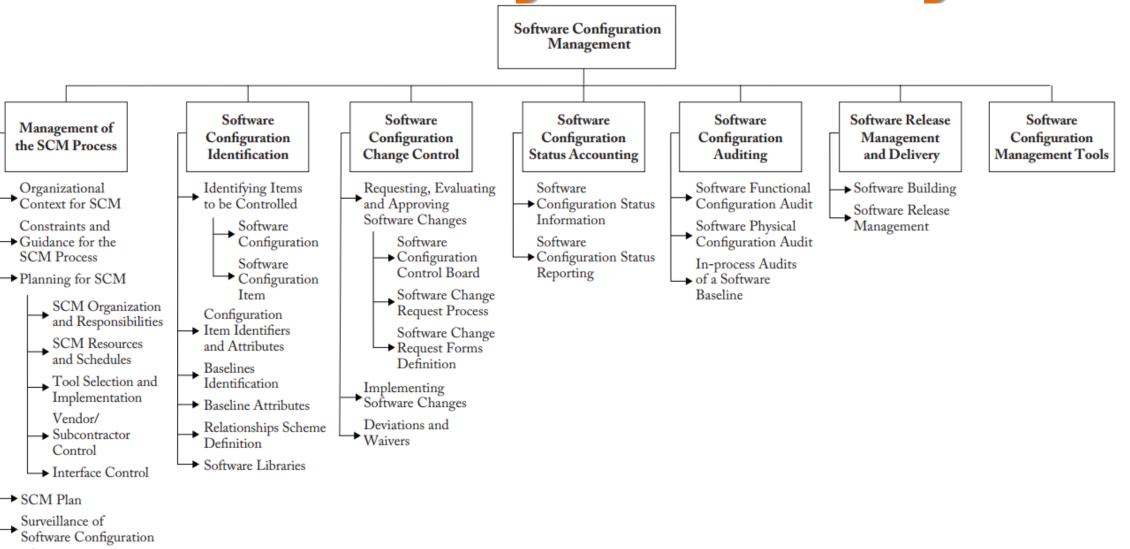


#### **Software Maintenance**





#### Software Configuration Management

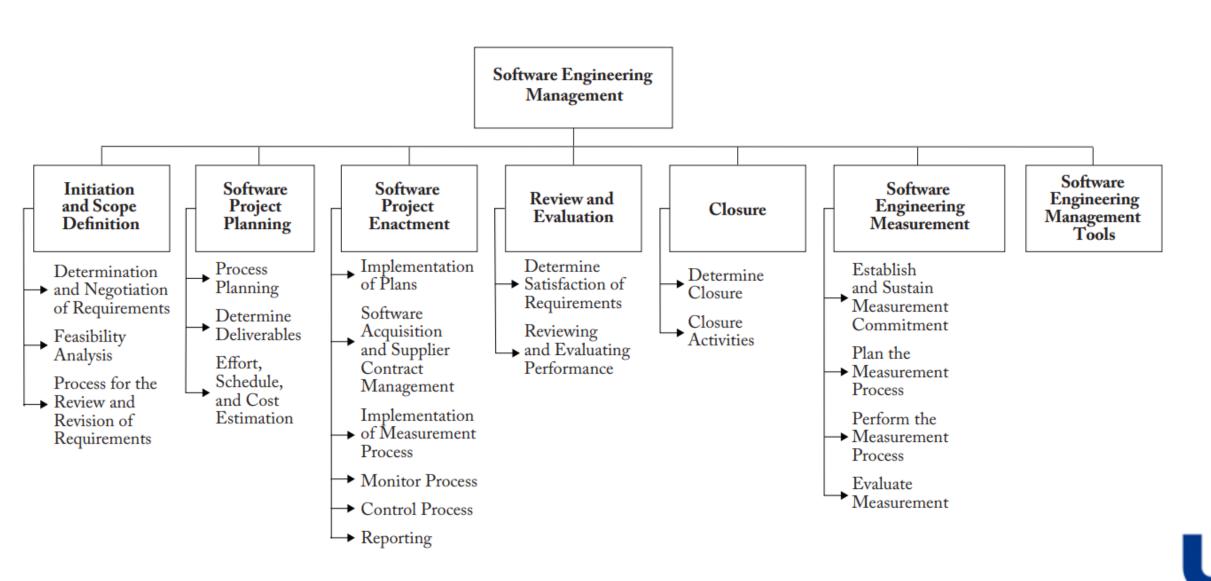


Management SCM

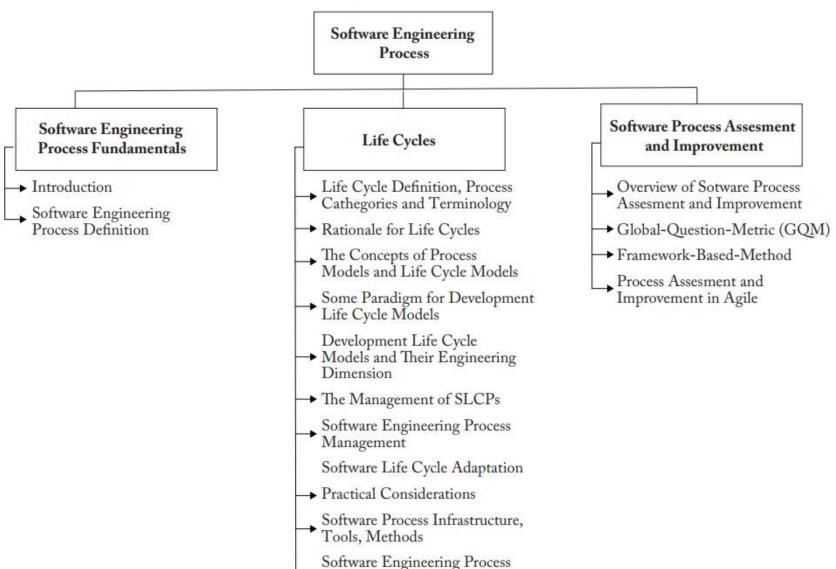
Measures and Measurement
→ In-Process Audits of SCM



#### Software Engineering Management



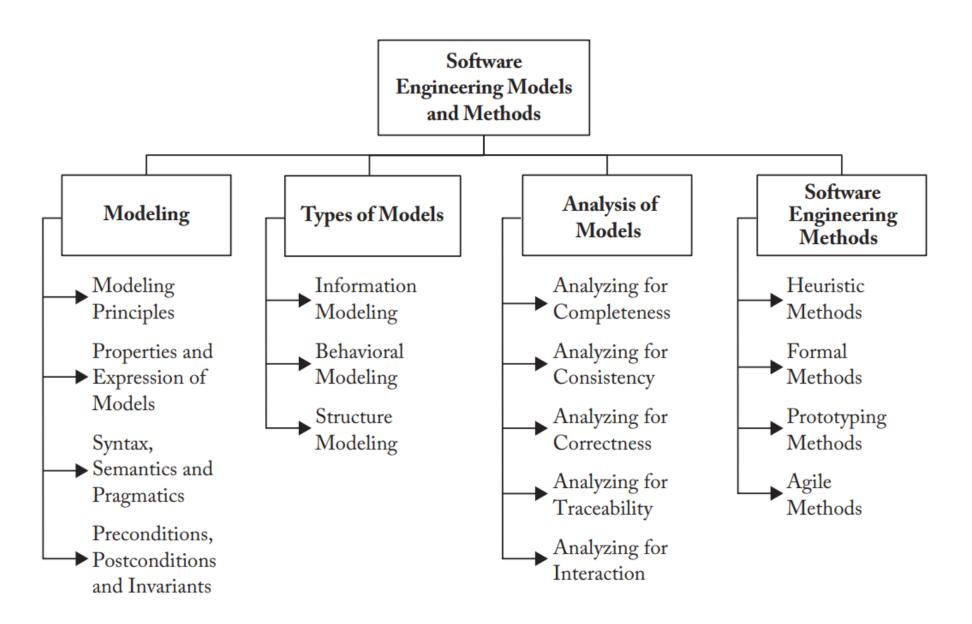
#### **Software Engineering Process**



→ Monitoring and the Relation to the Software Product

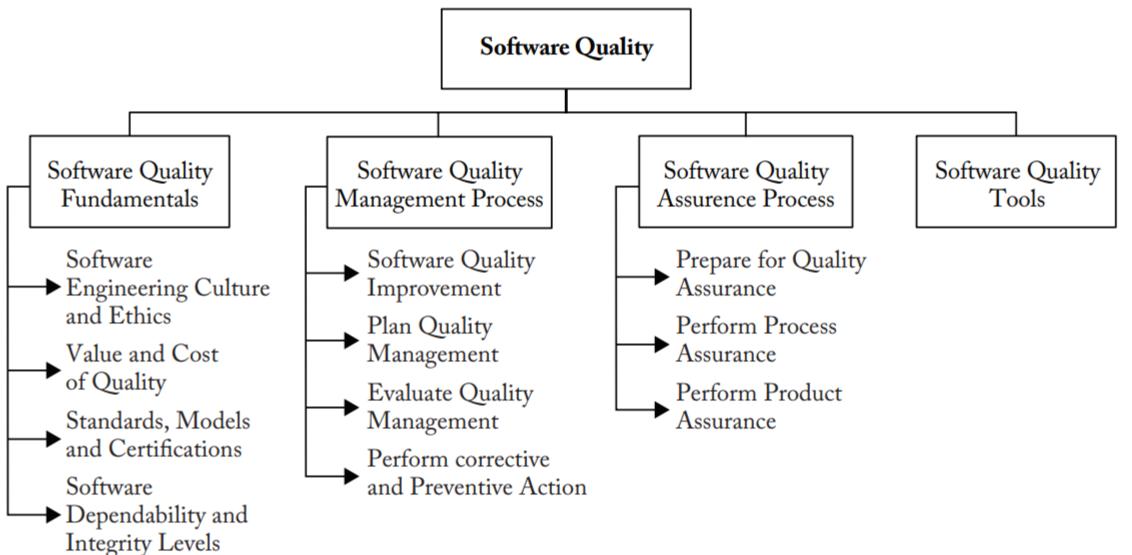


#### **SE Models and Methods**



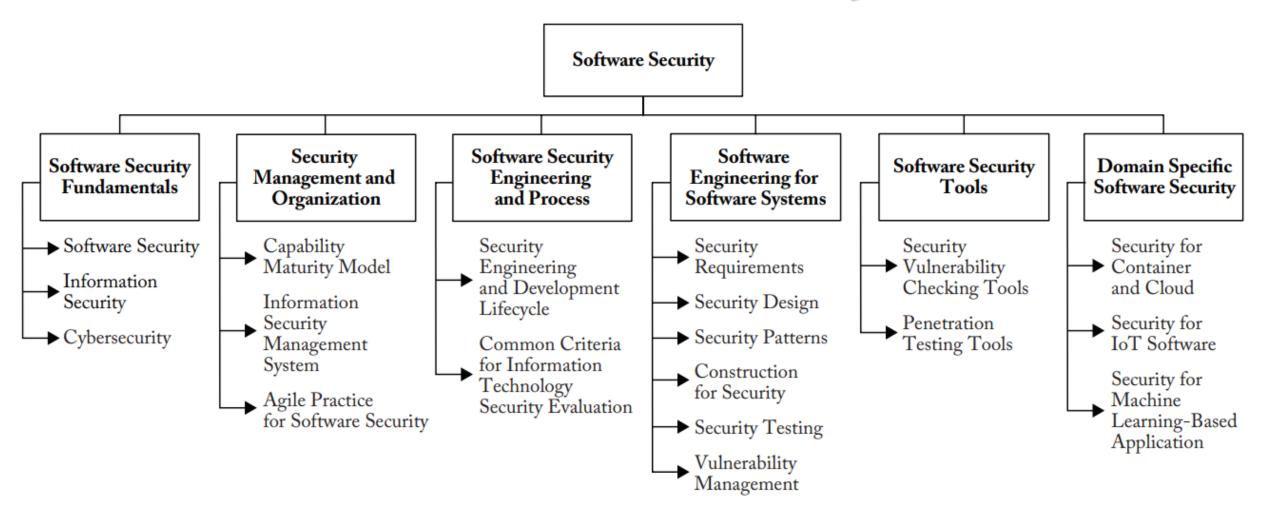


#### **Software Quality**



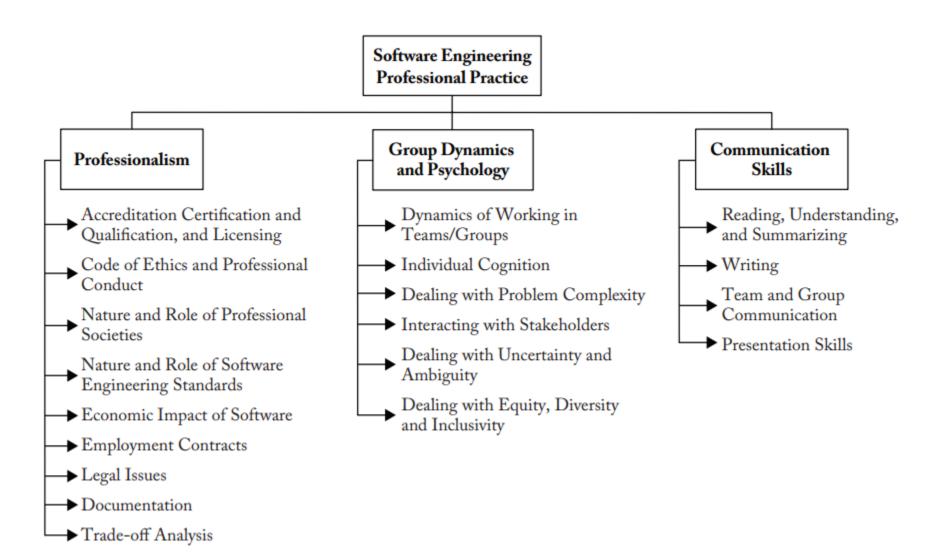


#### **Software Security**





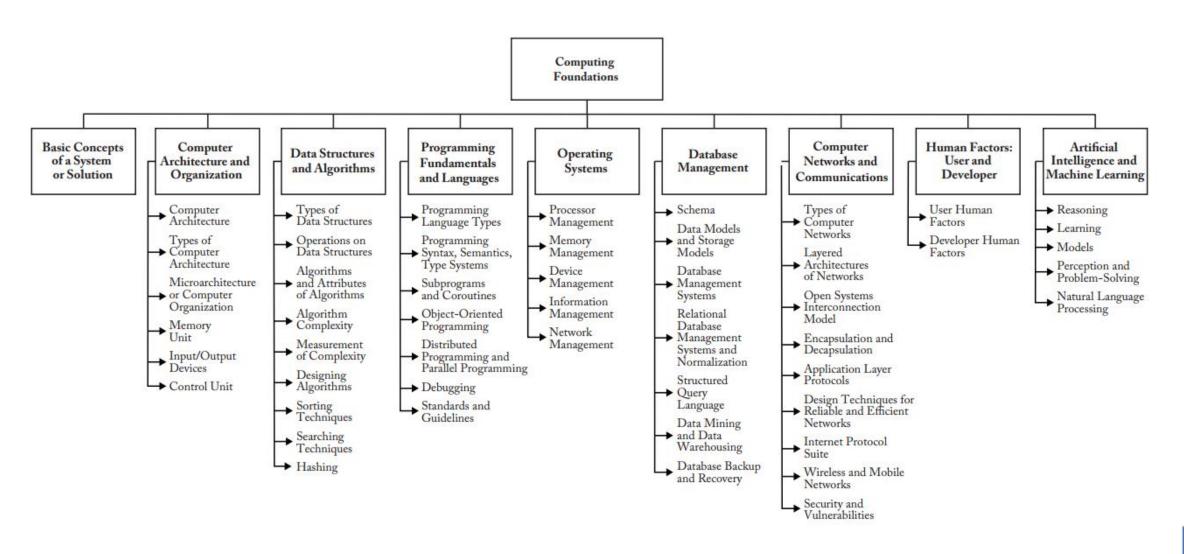
#### **SE Professional Practice**





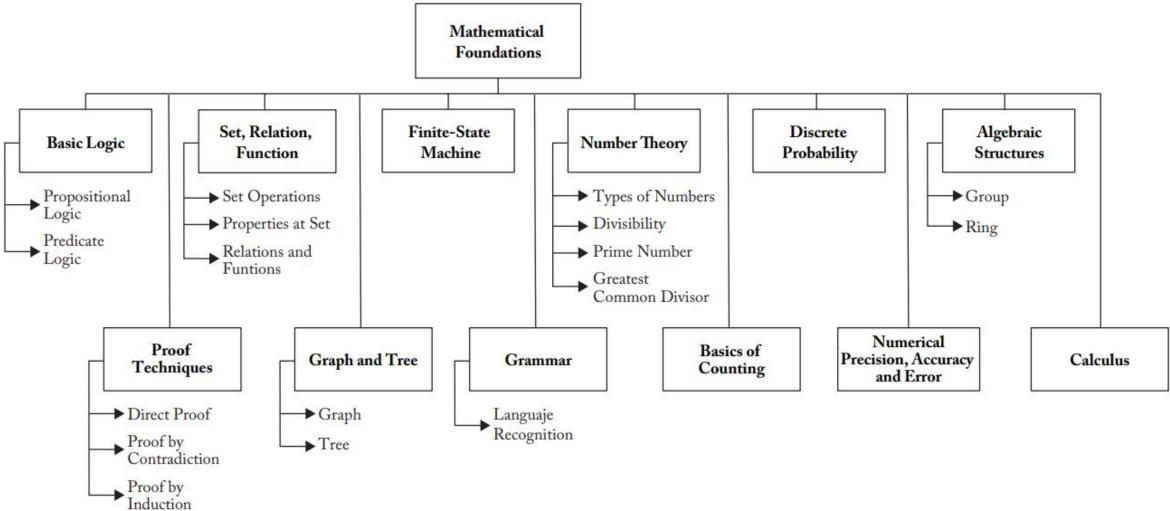
## Foundations

#### **Computing Foundations**



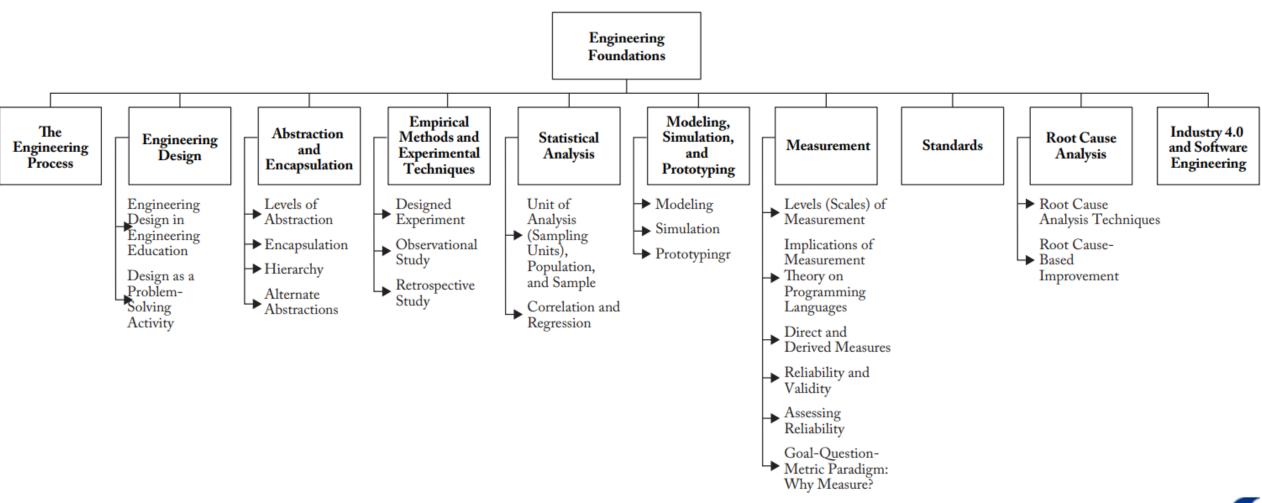


#### **Mathematical Foundations**





#### **Engineering Foundations**





#### SE tandards Landscape

