02

Computer Science Graduates Characteristics & Body of Knowledge

Pengantar Teknik Informatika (HUG1M2)

20131

According to your opinion…

- What are the characteristics of Computer Science Graduates?

Diskusi kelompok

- Tentukan 10 karakteristik utama dari lulusan Informatika!
- Beri alasan mengapa karakteristik tersebut dianggap penting
- Bidang Pengetahuan (*Knowledge Areas*) apa saja yang perlu dikuasai oleh lulusan Informatika?

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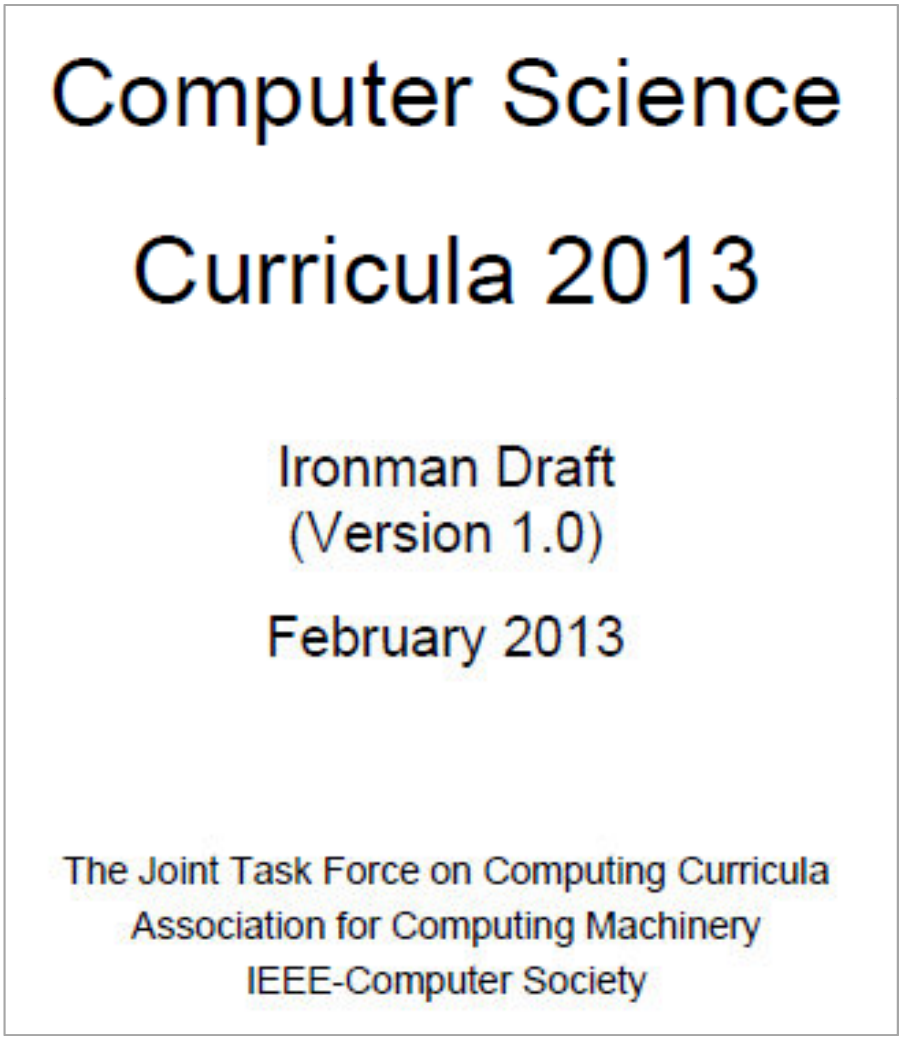
References


Computer Science
Curricula 2013
Ironman Draft
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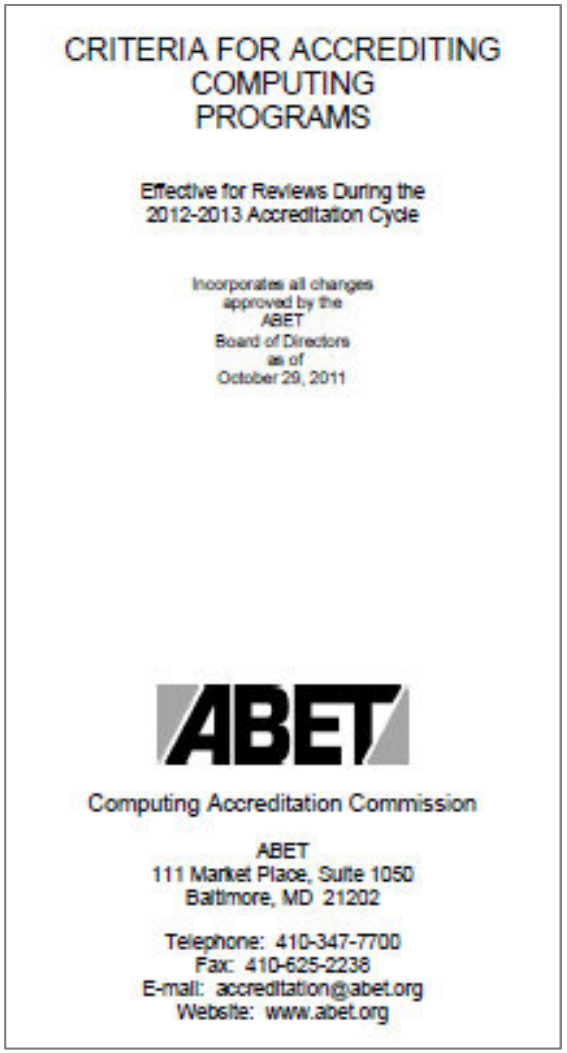
February 2013
The Joint Task Force on Computing Curricula
Association for Computing Machinery
IEEE-Computer Society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CS Graduates Characteristics (CC)

1. **Technical** understanding of Computer Science
2. Familiarity with **common** themes and principles
3. Appreciation of the **interplay** between theory and practice
4. **System-level** perspective
5. **Problem solving** skills

CS Graduates Characteristics (CC)

6. **Project** experience
7. Commitment to **life-long learning**
8. Commitment to **professional** responsibility
9. **Communication** and **organizational** skills
10. Awareness of the **broad applicability** of computing
11. Appreciation of **domain-specific** knowledge

CS Graduates Characteristics (ABET)

1. An ability to **apply knowledge of computing and mathematics** appropriate to the discipline [Comp]
2. An ability to **analyze a problem**, and identify and define the **computing requirements** appropriate to its solution [Comp]
3. An ability to **design, implement, and evaluate** a computer-based system, process, component, or program to meet desired needs [Comp]

4. An ability to **function effectively on teams** to accomplish a common goal [Comp]
5. An understanding of **professional, ethical, legal**, security and social issues and responsibilities [Comp]
6. An ability to **communicate effectively** with a range of audiences [Comp]
7. An ability to analyze the local and global **impact of computing** on individuals, organizations, and society [Comp]

8. Recognition of the need for and an ability to engage in **continuing professional development** [Comp]
9. An ability to **use current techniques, skills, and tools** necessary for computing practice. [Comp]

10. An ability to **apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design** of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices. [CS]
11. An ability to apply **design and development** principles in the construction of software systems of **varying complexity**. [CS]

CS Body of Knowledge (CC)

1. AL - Algorithms and Complexity
2. AR - Architecture and Organization
3. CN - Computational Science
4. DS - Discrete Structures
5. GV - Graphics and Visual Computing
6. HCI - Human-Computer Interaction
7. IAS - Information Assurance and Security
8. IM - Information Management
9. IS - Intelligent Systems
10. NC - Networking and Communications
11. OS - Operating Systems
12. PBD - Platform-based Development
13. PD - Parallel and Distributed Computing
14. PL - Programming Languages
15. SDF - Software Development Fundamentals
16. SE - Software Engineering
17. SF - Systems Fundamentals
18. SP - Social Issues and Professional Issues