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Institute for Certification of Computing Professionals

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Institute for
Certification of
Computing
Professionals

WWW.ICCP.ORG

GET CERTIFIED
HIRE CERTIFIED

**“Certification, in itself,
is not a goal, but
Professionalism is.”**

Dr. Paul M. Pair
Fellow of the ICCP, 1982

What is the ICCP?

- **The Institute for Certification of Computing Professionals (ICCP) established in 1973** by the major professional associations in North America to **provide centralized standards, job definitions, exam development and testing for the business, data, machine learning and computer industries.**
- **ICCP certificate holders have to exhibit comprehension and knowledge of stringent industry fundamentals, not single product specifics.**
- **The ICCP is an independent certification organization that offers many (experience based, professional level) credentials.**

What is the ICCP?

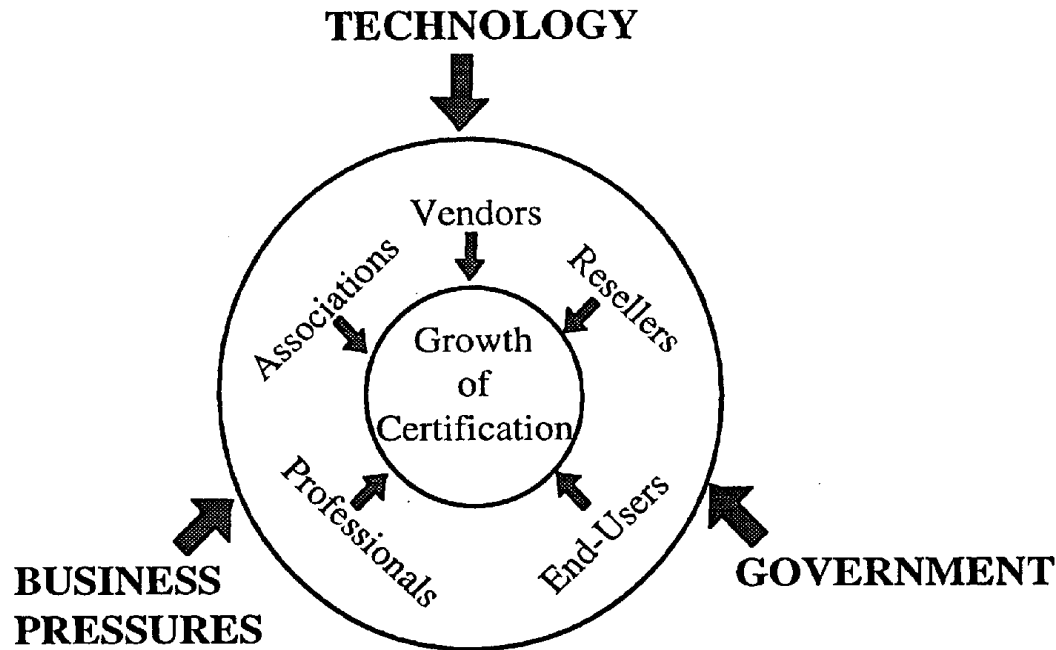
- ❑ The largest and longest serving certification body in the world
- ❑ Certifications – Professional Level
- ❑ **Business & Data**
 - Certified Big Data Professional – (CBDP),
 - Certified Business Data Management Professional (CBDMP),
 - Certified Business Intelligence Professional (CBIP),
 - Certified Data Professional – (CDP),
 - Certified Data Governance Professional
 - Certified Data Scientist – (CDS)
 - Certified Blockchain Management Professional (CBMP)
- ❑ **Computers and Computing**
 - Certified Application Developer – (CAD),
 - Certified Computer Scientist – (CCS),
 - Certified Computing Professional – (CCP),
 - Certified Software Engineer (CSE),
 - Certified IT Consultant – (CITC)
 - Certified IT Professional (CITP)
 - Others <https://iccp.org>

At any time, any person may take any exam to qualify as a subject “Expert – Master” level credentials in specialized subject areas as well as programming languages. You need to pass one (1) exam in the specialized area that you are seeking acknowledgement of your expert skill level by passing with a score of 70% or more.

What is the ICCP?

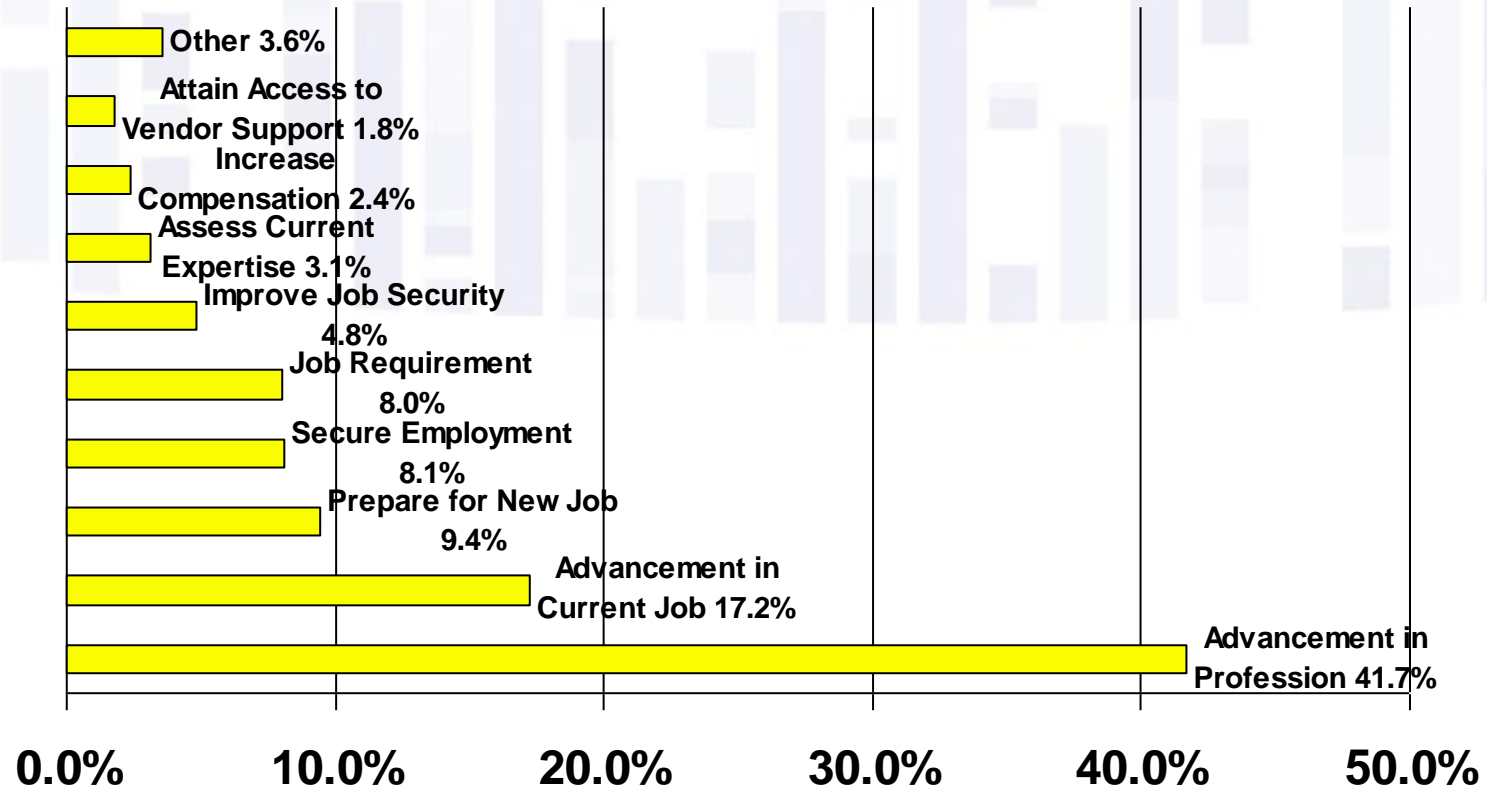
- and **(entry level)**; (2 + years of experience)
 - Associate Business Data Management Professional (ABDMP)
 - Associate Computing Professional-ACP;
 - Computer Science Associate (CSA) for graduates of 2- or 4-year university programs
 - Information Systems Analyst (ISA) for graduates of 2- or 4-year university programs in
 - Information Systems or
 - Information Technology or
 - Business & Technology management

Forces Driving Growth in IT Professional Certification



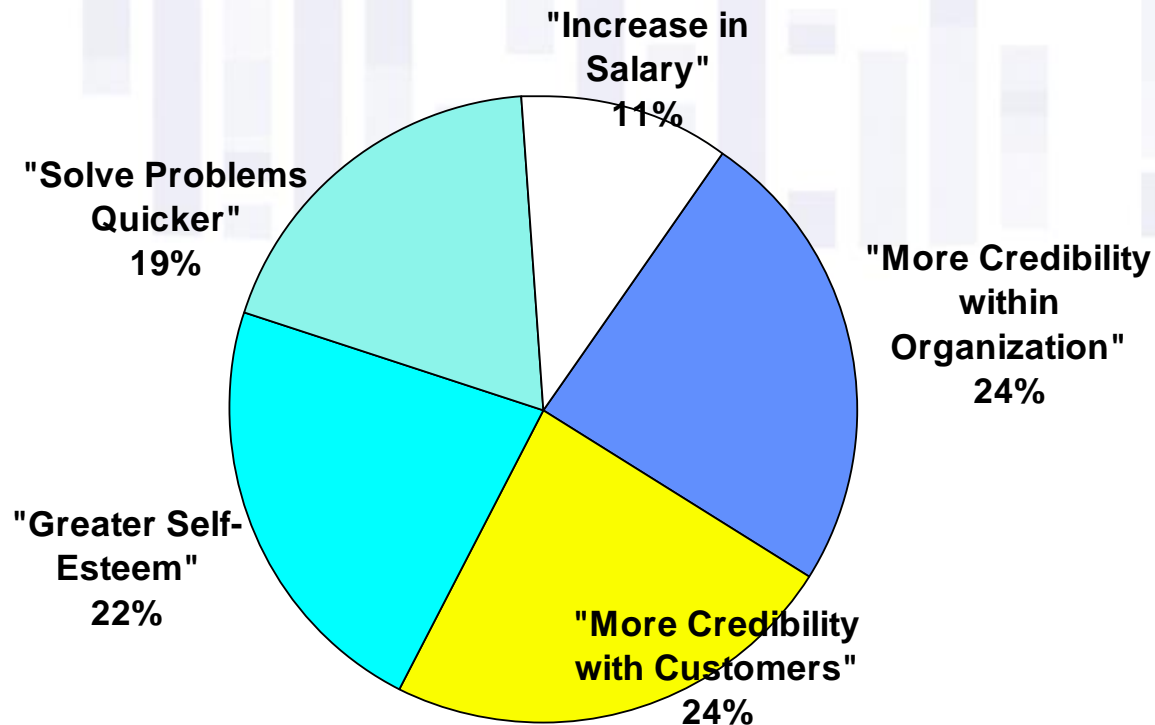
Adapted from "The Complete Guide to Certification for Computing Professionals"

Reasons for Seeking Certification

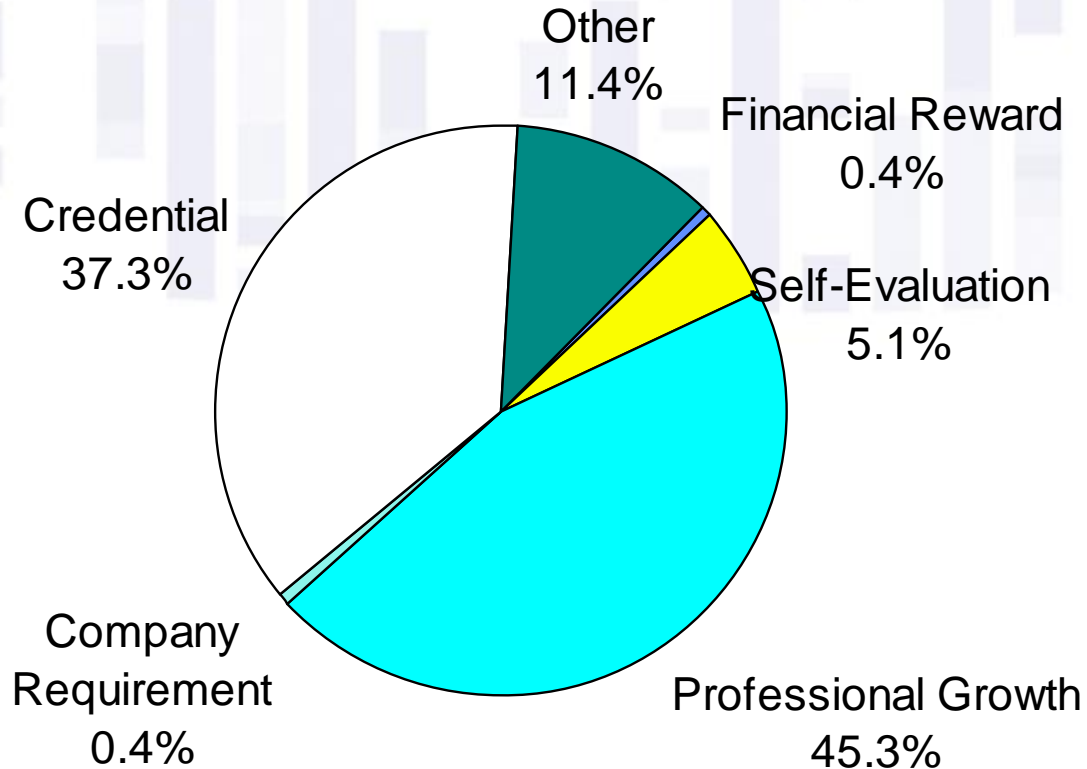


Source: ICCP Research Study (Athabasca University)

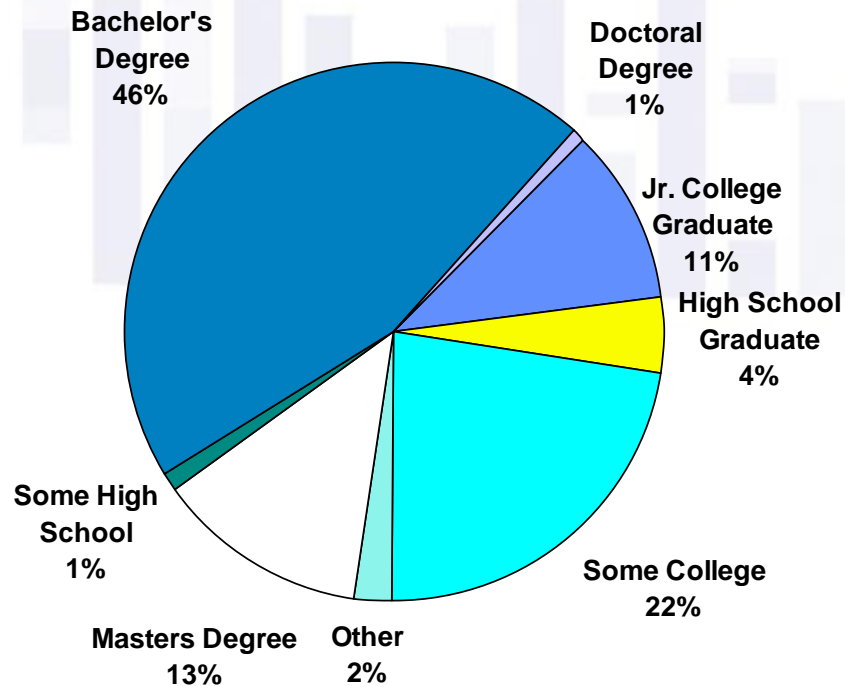
Primary Achievement Resulting from Certification



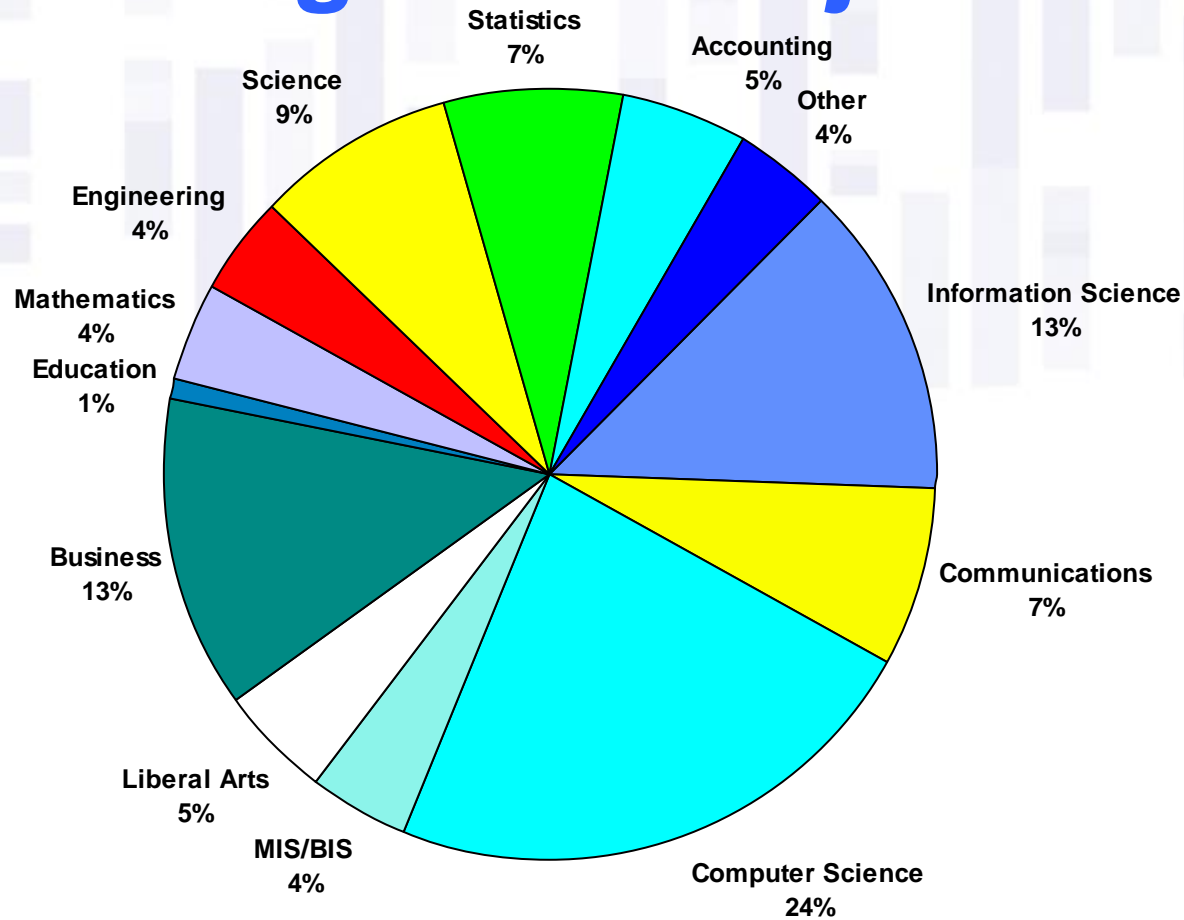
Why People Certify



Educational Level



Degree of Majors



Typical IS/IT/Data Careers

Four major industry quadrants



Systems
Development

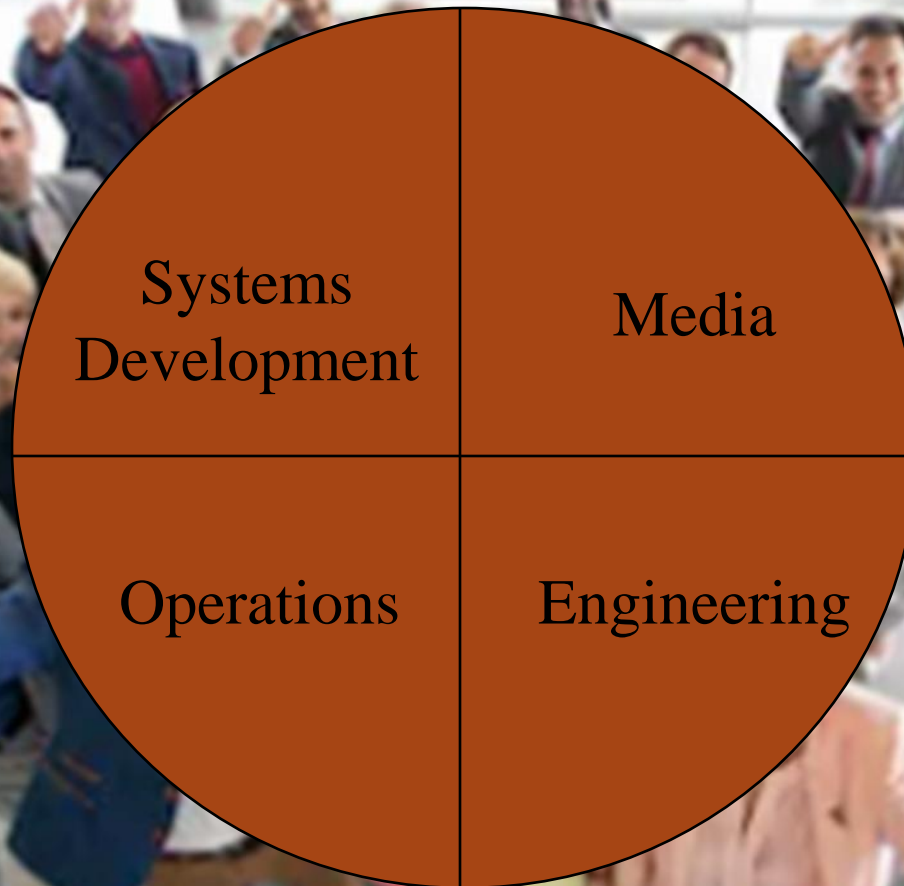
Media

Operations

Engineering

Typical IS/IT/Data Careers

- Business Intelligence
- Big Data, Data Science
- Data Governance, Data Management
 - I.T. Management
 - Computer Science, Programmer-Analyst
- Business & Systems Analysis
- Database Administration
 - Data Warehousing
- Linux/Unix Administrator
- Computer & Network Administrator
- Systems Support Analyst
 - Service Technician
 - Call Center Support
 - Cloud Services Support
 - ITIL



- Social Media
 - Multimedia Developer
 - Advertising & Image Design
 - Web Master-Web Designer
 - Radio TV Arts
 - Printing and Publishing
 - Graphics and Animation
- Cloud Computing
- Telecomm & Network Design
- Computer Engineering
- Network Engineering
- Processor Design
- Process Control and Design
- Software Engineering

Typical I.T. Careers

Vendor & Generalized Certifications

- Business Intelligence
- Big Data, Data Science
- Data Governance, Data Management
 - I.T. Management
 - Computer Science, Programmer-Analyst
- Business & Systems Analysis
- Database Administration
 - Data Warehousing
- Linux/Unix Administrator
 - Computer & Network Administrator
 - Systems Support Analyst
 - Service Technician
 - Call Center Support
 - Cloud Services Support
 - ITIL

- ICCP: CBIP, CCP, CDP, I.S.A., I.S.P., ACP, ITCP, CCS, SWE
- SQL-Oracle, IBM, MS - MCSD, MCDBA
- CISM, CISSP, PMI, Project +, PRINCE (Europe), ITIL

- ICCP: CCP, I.S.P., CDP, CBIP, ACP, ITCP
 - Web Master Certification
 - Internet +
 - Adobe, Macro-Media

- ICCP: CCP, I.S.P., CDP, CBIP, ACP, ITCP
- Linux-Unix, MCSE, CNE, CISSP
 - A+, Network+
- International Computer Drivers License (ICDL)

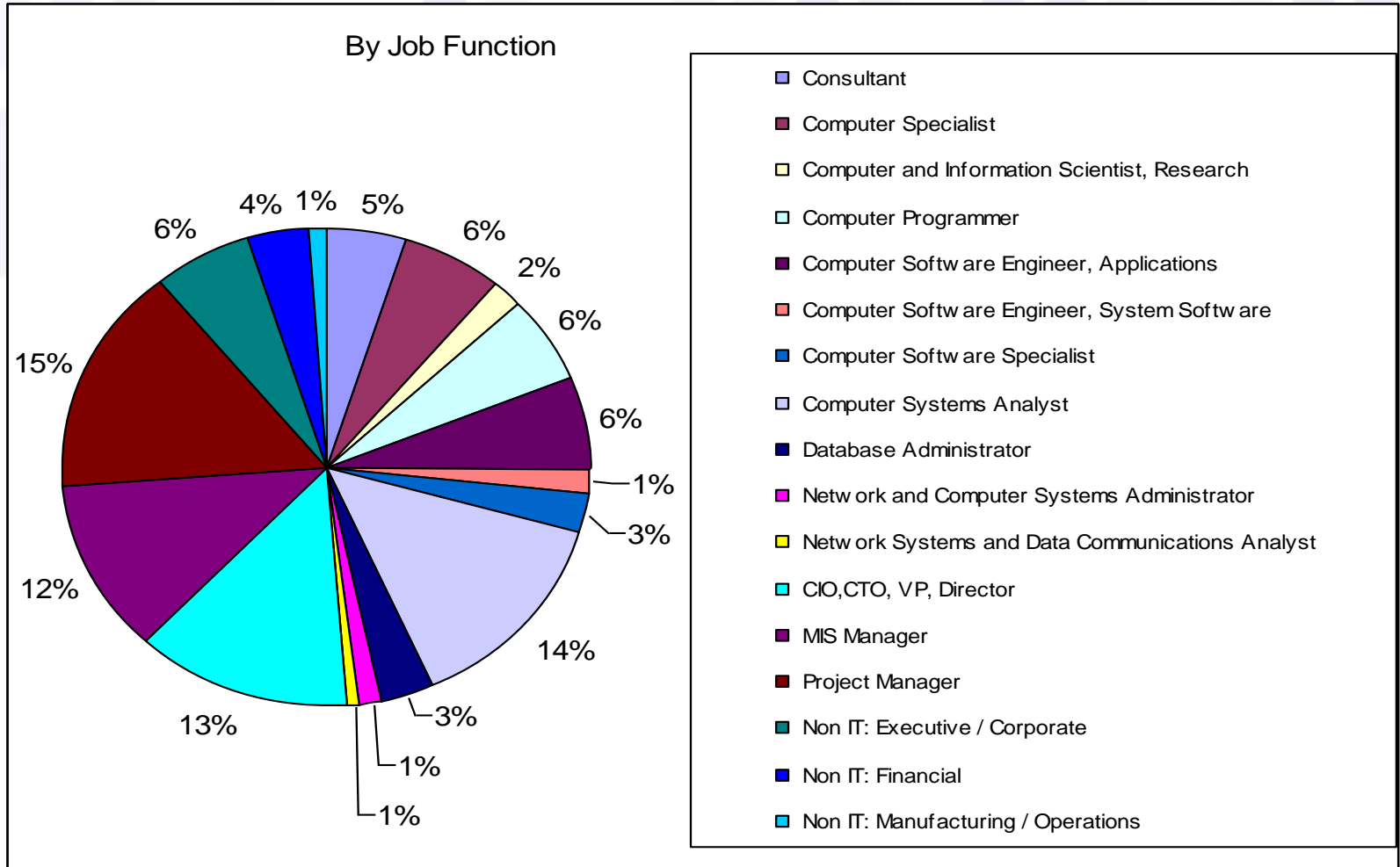
- ICCP: CCP, I.S.P., CDP, CBIP, ACP, ITCP, CCS, SWE
 - Unix, CISSP
 - Cisco, Intel Networking Communications Certification

- Social Media
 - Advertising & Image Design
 - Multimedia Developer
 - Web Master-Web Designer
 - Radio, Film & TV Arts
 - Printing and Publishing
 - Graphics & Animation
 - Cloud Computing
 - Telecomm & Network Design
 - Computer Engineering
 - Network Engineering
 - Processor Design
 - Process Control and Design
 - Software Engineering

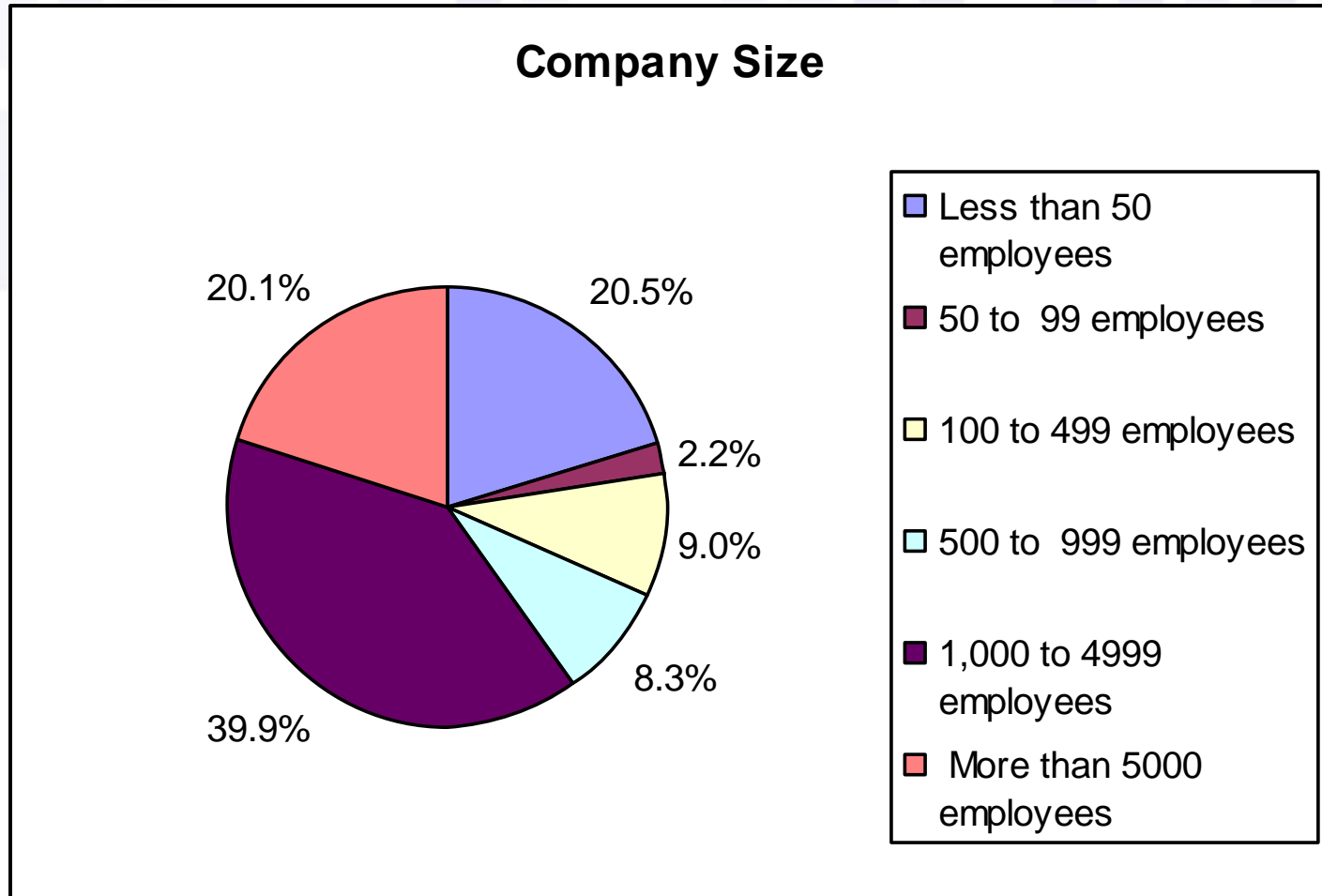
A Small Sample of Corporate Participants

- US Department of State
- US Cyber Crime Center
- Dell
- US Air Force
- American Airlines
- Microsoft
- Manitoba Lotteries Commission
- State Farm Insurance
- IBM
- Ford
- Ohio Board of Education
- Infosys
- Huawei
- Genpact
- Telus
- Alberta Blue Cross
- Alcan Aluminum
- Canada Post
- R.L. Polk
- 3M
- Fujitsu Consulting
- AMOCO
- Apple, Google, Amazon
- AT& T
- Intel

Who takes ICCP Exams?

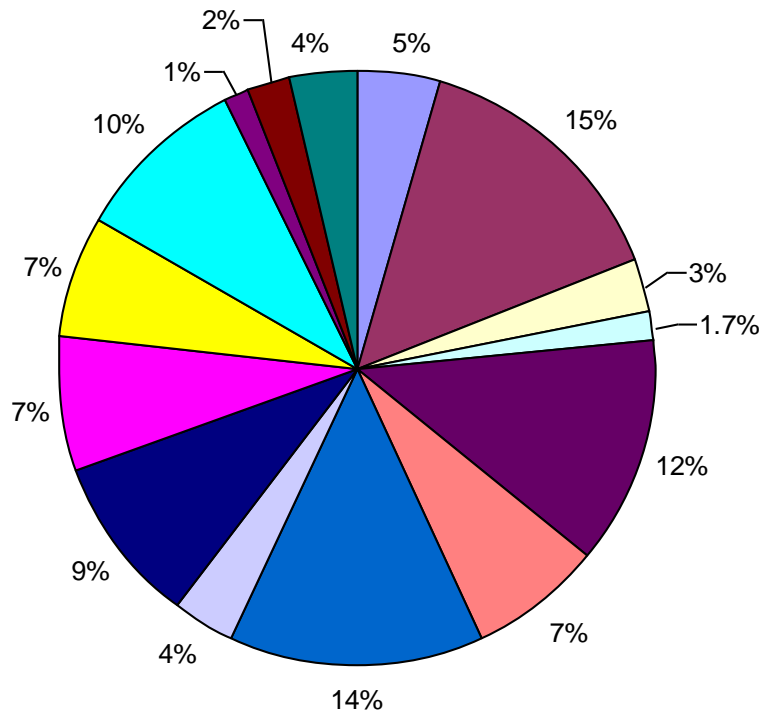


Who takes ICCP Exams?



Who takes ICCP Exams?

By Industry



- (5%) Business Services / Consulting / Ecommerce / Internet / Computer Services
- (15%) Computer / Network Consulting / Communications Carriers
- (3%) Computer Related Retailer / Wholesaler / Distributer / Service Provider
- (1.7%) Construction / Architecture / Engineering / Mining Oil & Gas / Agriculture, Forestry, Fishing
- (12%) Education
- (7%) Finance / Banking / Accounting
- (14%) Government: Federal, State, Local
- (4%) Health / Medical / Dental Services
- (9%) Insurance / Real Estate / Legal Services
- (7%) IT General & Data Processing Services
- (7%) Manufacturing of Computer Hardware or Software, VAR, VAD, Systems Integrator
- (10%) Manufacturing Process Industries
- (1%) Publishing / Broadcast / Advertising / Public Relations / Marketing / Travel / Recreation
- (2%) Research / Development Lab / Aerospace
- (4%) Transportation / Utilities

Who Benefits from ICCP Certifications

Benefits to Certification for Companies, Employee and HR departments

Employees become

- more productive
- able to solve problems faster
- more confident with their solutions
- more professional in the workplace
- more respected by their peers in the workplace
- more respected by clients
- more promotable within their organization
- lower cost access to training courses and conferences for required ongoing professional development
- protection from litigation: by showing currency in knowledge and skills
- external objective evaluation of skills and knowledge
- employees demonstrate that they fit with job titles and job definitions at hiring and promotion

AMERICAN COUNCIL ON EDUCATION (ACE)

**ACE awards college credits
for passing the ICCP Examinations**

For example:

- 9 university course credits for the IS Core Skills Examination
- 3 university course credits for most of the specialty examinations
- 4 university course credits for Microcomputers and Networking
- 4 university course credits for Procedural (Advanced) Programming

ICCP Constituent Societies

- ACM Association for Computing Machinery
- BizTEK Business Technology Professionals Association of Canada
- CompTIA Association for Information Technology
- CPCI Consejo Profesional en Ciencias Informaticas
(Professional Council in Computer Sciences) – Argentina
- DThink Inc. Data Governance Consulting: Serving South and Central America
- GIIM Global Institute for IT Management
- MRIA Marketing Research Intelligence Association
- R2C/BE Reports & Requirements Company - Buchanan Edwards

ICCP Affiliate Societies & Business Partners

Affiliates

- Argentina
- Brazil
- Canada
- China & Hong Kong (2)
- Ghana
- CIPS
- India
- Nigeria
- Pakistan
- Peru
- Sultanate of Oman
- USA (9)

Business Partners / Associates

- ACBSP – Universities Accreditation body
- BPM Institute
- SOA Institute
- DAMA Chapters
- DANTES (US Armed Forces)
- Excelsior College
- Global Institute for IT Management
- NAIT – Computer Training Center
- IBM
- R2C/Buchanan & Edwards
- SOX Institute (ITGG)
- TDWI
- Zachman International Inc.



ICCP Certifications Today

<https://iccp.org>



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Data Foundations / Data Literacy

□ DATA FOUNDATIONS EXAMINATION

1.

- | | |
|--|-------|
| 1. Data, Information & Knowledge | (4%) |
| 2. Describing, Understanding & Managing Data | (20%) |
| 3. Data Roles: | (5%) |
| 4. Data Models and Relationships | (19%) |
| 5. Data Value and Quality | (4%) |
| 6. Data Access, Storage, Protection & Security | (6%) |
| 7. Data Atrophy, Renewal and Removal, Distribution | (3%) |
| 8. Data Uses (Historical, legal...) | (8%) |
| 9. Data Storage Technologies and purposes: | (4%) |
| 10. Evolving Business and Data Analytics (Tools) | (13%) |
| 11. Corporate mergers, data integration | (5%) |
| 12. Data Strategy & Planning | (4%) |
| 13. Document and Record Management | (5%) |

Certified Data Governance & Stewardship Professional

Public Sector Data Governance Professional

Exams	Mastery Level 90 minute exam	Practitioner Level 90 minute exam	Foundation Level 60 minute exam
Data Governance & Stewardship	=>70%	=>50%	=>50%
Public Sector Data Governance Professional	=>70%	=>50%	=>50%

Percentage score represents performance level required on the same exam for different level of qualification.

Experience requirements:

1400 hours of Direct Data Governance and/Data Stewardship experience.

Foundation Level: 900 hours of direct Data Governance and / Data Stewardship experience

Data Governance Content Coverage

- 1.0 Data Governance Concepts, Business Drivers and Roles
 - 1.1 Concepts and Definitions
 - 1.2 Business Drivers and Organizational Awareness
- 2.0 Data Governance and Stewardship Roles
 - 2.1 Data Governance Roles and Organizations
 - 2.2 Data Stewardship Roles
- 3.0 Data Governance Inputs and Deliverables
 - 3.1 Inputs
 - 3.2 Primary Deliverables
- 4.0 Data Governance Function
 - 4.1 Data Governance Capabilities Assessment
 - 4.2 Data Governance Function Activities
 - 4.3 Data Governance Ethics
 -
- 5.0 Fundamental Knowledge Areas for Data Stewardship Activities
 - 5.1 Enterprise Data Architecture Management
 - 5.2 Data Development
 - 5.3 Data Operations Management
 - 5.4 Data Security Management
 - 5.5 Meta-data Management
 - 5.6 Reference and Master Data Management
 - 5.7 Data Warehousing and Business Intelligence
 - 5.8 Document and Content Management
 - 5.9 Data Quality Management

Online Course Coverage

- 12 weeks Instructor-led live online or Self-Study <https://onlinecourses.iccp.org>
- **Data Governance and Data Stewardship - Online course details**
 - Module 1.0: Data Governance and Stewardship Core Concepts
 - Unit 1.1 Data Management and Data Governance
 - Unit 1.2 Data Governance Business Drivers and Additional Concepts
 - Module 2.0: Data Governance Program Overview
 - Unit 2.1 Data Governance Scope and Organization
 - Module 3.0: Data Governance Program Business Case**
 - Unit 3.1 Data Governance Program Business Case
 - Unit 3.2 Data Governance Program Business Case Components and How to Build the Business Case
 - Module 4.0: Data Governance Deployment Methodology: Part I**
 - Unit 4.1 Data Governance Program Methodology: Scope, Initiation, and Assessment Phases
 - Unit 4.2 Vision, Alignment and Business Value Phases
 - Module 5.0: Data Governance Program Deployment Methodology: Part II**
 - Unit 5.1 Functional Design and Governing Framework Design
 - Unit 5.2 Road Map, and Rollout and Sustain
 - Module 6.0: Data Stewardship Role Types, Basic Duties, Artifacts, and Tools**

- Unit 6.1 Data Stewardship Role Types and Basic Duties
- Unit 6.2 Business Element Categories and Tools
- Module 7.0: Data Stewardship Activities: Data Architecture Focus and Data Development Focus**
 - Unit 7.1 Data Architecture Focus
 - Unit 7.2 Data Development Focus
- Module 8.0: Data Stewardship Activities: Data Operations Focus and Data Security Focus**
 - Unit 8.1 Data Operations Focus
 - Unit 8.2 Data Security Focus
- Module 9.0: Data Stewardship Activities: Data Integration and Interoperability Focus, and Document and Content Focus**
 - Unit 9.1 Data Integration and Interoperability Focus
 - Unit 9.2 Document and Content Focus
- Module 10: Data Stewardship Activities: Reference and Master Data Management Focus and Data Warehousing / Business Intelligence Focus**
 - Unit 10.1 Reference and MDM Focus
 - Unit 10.2 Data Warehousing and Business Intelligence Focus
- Module 11: Data Stewardship Activities; Metadata and Data Quality Focus**
 - Unit 11.1 Metadata Focus
 - Unit 11.2 Data Quality Focus
- Module 12: Additional Data Governance and Stewardship Considerations**
 - Unit 12.1 Emerging Trend: Big Data Focus
 - Unit 12.2 More Data Governance Trends (Data Lake, Cloud, Data Science, ML, AI)

Certified Computing Professional (CCP)

Information Systems Core Examination (All Candidates)



*Plus any 2 Specialty examinations: two levels available - Practitioner => 50%; Mastery=> 70%
or one Specialty can be replaced by two Programming Languages*

Data Management		I.T. Management
Data Foundations	Business & Tech Mgmt	Systems Development
Data Warehousing	Data & Info. Quality	Software Engineering
Data Governance (DG)	Internetworking & Data	Procedural (Advanced)
Public Sector DG	Communications	Programming
Data Science	Programming: C, C++, JAVA, COBOL, JavaScript, Python, R	Cyber Security
Big Data		Computer Science
Microcomputing & Networks	Object Oriented Analysis & Design	(IS Model Curriculum) Information Systems Analyst
Business Process Management	Blockchain	Zachman Enterprise Architect Framework
	IT Compliance	
Project Management	Web Development	Data Base Administration
		Data Development



CCP CERTIFICATION

Examination Route – Canadian Information Processing Society (CIPS)

- **First complete and pass three ICCP Examinations (Core plus 2 Specialties at 70% or higher level)**
- **Then complete the I.S.P. Application form and submit to CIPS (www.cips.ca)**

- **Choose this route if you:**
 - have passed either the Institute for Certification of Computer Professional (ICCP) exams leading to the **Certified Computing Professional (CCP)** or equivalent (**CBIP, CDP**) at Expert-Mastery Level or the British Computer Society (BCS) Diploma or Professional Graduate exams.

 - **Note:** Applicants also require a certain number of years of professional experience (typically five).

Certified Business Intelligence Professional (CBIP)

Examinations	Leadership & Management	Business Analytics	Data Analysis & Design	Data Integration
IS Core	X	X	X	X
Data Foundations	X	X	X	X
Business Intelligence & Data Analytics		X		
Data Management			X	
Management	X			
Data Integration				X

Certified Data Scientist (CDS) Associate Data Scientist (ADS)

Exams	CDS	ADS
Information Systems Core	=>70%	=>50%
Data Science	=>70%	=>50%
Business Intelligence	=>70%	=>50%

Percentage score represents performance level required on the same exam for different level of qualification, plus experience requirements for more details visit: <https://iccp.org>

Certified Data Professional (CDP)

	Management	Data and Systems Architecture	Data Analysis & Design	Database Administration	Data Warehousing
I.S. Core	X	X	X	X	X
Data Management	X	X	X	X*	X*
Data Warehousing					X
Business Intelligence	X*				X*
I.S. Management	X*				X*
Systems Development			X*	X*	
Data & Information Quality			X*		
Data Operations (DBA)				X	
Big Data			X*		X*
Zachman Architecture		X		X	

X* indicates optional choice

<https://iccp.org/certified-data-professional-cdp.html>

Certified IT Consultant (CITC)

CORE EXAMINATION

+

IT Consultant Examination



Any One Specialty or 2 Language examinations passed at the minimum 70% pass requirement

One Specialty Exam	JAVA
Visual Basic	JavaScript
COBOL	C Language, C++
Python	R



CITC CERTIFICATION

Note: Associate level is automatically awarded once the CORE is passed at 50% or higher plus the IT consulting examination has been passed at the 70% level.

Associate Computing Professional (ACP)

INFORMATION SYSTEMS - CORE EXAMINATION



Plus, any One Specialty or Language examination passed at the minimum 50% pass requirement

One Specialty Exam	JAVA
Visual Basic	JavaScript
COBOL	C Language, C++
Python	R



ACP CERTIFICATION

Individual Expert – Mastery Certificates

Earned by Passing Specialty and Language Exams at the 70% or more level

Data Management		I.T. Management	
Data Foundations	Business & Tech Mgmt Data & Info. Quality	Systems Development	
Data Warehousing		Software Engineering	
Data Governance (DG)	Internetworking & Data Communications	Procedural (Advanced) Programming	
Public Sector DG		Cyber Security	
Data Science	Programming: C, C++, JAVA, COBOL, JavaScript, Python, R	Computer Science	
Big Data		(IS Model Curriculum) Information Systems Analyst	
Microcomputing & Networks	Object Oriented Analysis & Design	Zachman Enterprise Architect Framework	
Business Process Management		Data Base Administration	
Project Management	Web Development	Data Development	

Career Planning & Professional Development

Employee Skills, Performance Gap Analysis & Recommended Study

Dear Exam Taker:

You have achieved an **ACP credential** with specialty examinations in Data Base Administration and Systems Development. In order to achieve the CCP level, you need to improve your scores in each of your specialty examinations to 70% or higher.

Your total scores were:

a. Information Systems CORE	77 (CCP Level)
b. Data Base Administration	56 (ACP Level)
c. Systems Development	64 (ACP Level)

Your strengths are shown on each of the examinations in detail on the following pages. The areas where additional review/study work is required are identified below.

[Criteria: Any item scoring less than 70% has been identified as an area of review and/or continuing professional development \(PD\) and this can now be used by you to build/negotiate your PD plan \(next page\)](#)

Courses can be taken at a local university, other regional colleges and Universities as suggested below.

Recommended study:

- 1. Database Administrations: Self Study or University of NearestU; Community or Technical College; Athabasca University (Online); ICCP Online or Excelsior College (online)***
- 2. Systems Development: Self study or ICCP Online Systems Development course; University of NearestU ; Athabasca University (MSc. Program) online; Community or Technical College. It is recommended that you take some self study modules, then prepare for and retake this examination.***

Recommended Textbooks: Data Base Administration (Craig Mullens or Michael Mannino); Systems Development (Charles Wasson or Shelley or Whitten or Kendall) – available from most online bookstores (Amazon, Chapters, etc.)

Career Planning & Professional Development

Employee Skills and Performance Gap Analysis

ICCP Official Performance Profile

TEST DATE: dd/mm/yyyy

Test taker ID
 First Name, Last Name
 Address 1
 Address 2, Province/State, Postcode/ZIP
 Country

Seeking ACP Designation
CORE IT Skills Exam
 Status: PASS at CCP Level

YOUR CONTENT	DESCRIPTION	SCORE	NUMBER OF ITEMS
1.01	BUSINESS ENVIRONMENT	6	6
1.02	MANAGEMENT	4	5
1.03	TECHNOLOGY TRANSFER	2	3
1.04	INTERPERSONAL COMMUNICATION	2	3
1.05	PROFESSIONAL ISSUES	2	2
2.01	TYPES OF SYSTEMS	6	6
2.02	APPLICATION STRATEGIES	5	6
3.01	DATA ARCHITECTURES	5	9
3.02	DATA MANAGEMENT	8	9
4.01	SYSTEMS DEVELOPMENT CYCLE	10	12
4.02	SYSTEMS INTEGRATION	3	4
4.03	TOOLS AND TECHNIQUES	2	5
5.01	HARDWARE	6	8
5.02	SOFTWARE	7	8
6.01	FINANCIAL MGMNT & ANALYSIS	1	3
6.02	MANAGEMENT SCIENCE	1	2
6.03	SYSTEMS AUDITING	2	3
6.04	MATHEMATICS	3	3
6.05	STATISTICS	2	3
TOTALS		77	100

Criteria: Any item scoring less than 70% has been identified as an area of review and/or continuing professional development (PD) and this can now be used by you to build/negotiate your PD plan.



Staying current and Certified - Recertification



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Recertification Goals

- Maintain professional competence
- Update existing knowledge and skills
- Attain new or additional knowledge and skills

Recertification Guidelines

- CBIP, CCP, CDP
 - Earn 120 approved contact hours of education over 3-year period (maintained on the ICCP transcript system)
 - Pay \$75 per year maintenance fee
- ACP, ISA
 - Earn 60 approved contact hours of education over 3-year period (maintained on the ICCP transcript system)
 - Pay \$35 per year maintenance fee

Types of Activity & Education satisfying recertification requirements

- Formal educational institutions
- Independent organized programs (other professional credentials - max: 40 hrs/per different credential achieved)
- Professional society meetings, seminars, conferences
- Author ICCP examination questions
- Articles, teaching, lecturing (max: 60hrs)
- Self-study programs (max: 60hrs)
- Sit for same or other ICCP examinations



Exam Administration



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ICCP Examination Procedures

- 1. Submit application and fees for computer-based exam
- 2. Receive eligibility and admission information
- 3. Contact ICCP to schedule examination time
 - world-wide testing available with an exam proctor
 - remote proctored testing available using web-conferencing (requires a web camera and reliably fast internet access)
- 4. Results are received immediately upon completion of exam. (knowledge gap analysis of strengths and weaknesses, an **official performance profile**, is mailed to the exam taker).

Examination Fees

(discounted fees available at various conferences or colleges)

Professional Examinations

Core (Tech or Business) Examination	\$299
First Specialty	\$ 299
<u>Second Specialty</u>	<u>\$ 299</u>
Total	USD \$897

Associate Examinations

Core Examination	\$ 299
<u>Language Examination</u>	<u>\$ 195</u>
Total	USD \$494

All fees are non-refundable

Candidates may re-schedule within 48 hours of an exam date, additional costs may apply

Self Study (individual, independent) or Online – 12 Week Courses (tutor-led)

<https://onlinecourses.iccp.org/>

1. Business Intelligence & Data Analytics
2. Data & Information Quality
3. Data Foundations (Data Literacy)
4. Data Governance & Stewardship
5. Data Management
6. Data Modeling (Data Development)
7. Data Science
8. Data Warehousing
9. Information Systems Core
10. Information Systems Management
11. Public Sector Data Governance (R2C, Buchanan & Edwards)
12. Systems Development

13. Business Partner courses: Global Institute for IT Management
 - 32 digital management programs, 130 courses (register - ICCP Store)

Applying to become Credentialed

- Apply online – iccp.org to become an ICCP Candidate member
- Submit resume
- Study: self study, exam cram, instructor-led, sample exams
- Schedule your first exam

Taking Exams

- Attendees at the ICCP conferences
 - Can take the ICCP examinations on a “pay if you pass” basis to remove fear of exams.
 - Receive 30 days to register for a credential
 - Receive 90 voucher to take advantage of “pay-if-you-pass” examinations
 - Receive a waiver of the \$50 remote exam proctor fee – provided exams are taken during business working hours (Central Time)

Remote Proctoring

- Examinations can be taken from your own laptop
- Government issued Photo-ID
- Need internet
- Web-Camera on the computer – your photo will be taken along with your ID and you are monitored during the exam
- Microphone
- Web-conferencing with a live proctor/monitor
- Call 1.800.843.8227 to schedule your exam



Questions

ICCP Office:
1.800.843.8227
Email:
office2@iccp.org



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[WWW.ICCP.ORG](http://www.iccp.org)

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