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### The IBIT Report

In Partnership with the Association for Information Systems

Munir Mandviwalla Crystal Harold Michelle Purnama



The Association for Information Systems and Temple University

# INFORMATION SYSTEMS JOB INDEX

2019

LEARN ABOUT CAREERS IN INFORMATION SYSTEMS





### INFORMATION SYSTEMS JOB INDEX 2019

#### **EDITORIAL TEAM**

**Munir Mandviwalla** 

**Temple University** 

**Crystal Harold** 

**Temple University** 

**Michelle Purnama** 

Temple University

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Joseph Allegra

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For additional reports, visit: http://ibit.temple.edu ISSN 1938-1271

### About the IS Job Index

The Association for Information Systems and
Temple University Information Systems Job Index is the only
longitudinal assessment of placement, demographics, type of
jobs, acceptance, geographical patterns, and knowledge of
information systems (IS), management information systems
(MIS), and computer information systems (CIS) recent
graduates from universities across the United States.

Learn more at isjobindex.com

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Fox School of Business, Temple University 1810 N. 13th Street, 210 Speakman Hall Philadelphia, PA 19122

E-mail: ibit@temple.edu | Web: ibit.temple.edu | 215.204.5642

In partnership with:

#### **Association for Information Systems**

P.O. Box 2712

Atlanta, GA 30301-2712 USA

E-mail: onestop@aisnet.org | Web: www.aisnet.org

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# 2019 IS Snapshot

### About the IS Industry

Information Systems (IS) professionals apply and develop Information Technology (IT) in organizations, and comprise a significant portion of the IT labor market.

#### WHO ARE THESE PROFESSIONALS AND WHAT DO THEY DO?

- Data Analysts
- IT Consultants
- Application Developers
- Chief Information Officers (CIO) & Chief Technology Officers (CTO)



IS professionals are experts in developing, applying, modifying, and strategizing **technology** to digitally transform organizations. IS professionals work with other business professionals including computer scientists and engineers to create platforms that integrate digital technologies to design solutions that solve organizational problems.

### The 2019 IS Job Market is Steady



#### **Job Placement Rate**

6-Months after Graduation Graduation

Bachelor's: 70%

Master's: 47% 81%

### Confidence in Job Market

Bachelor's: 64% Master's: 55%

### Average Salary

Bachelor's: \$65,314 Master's: **\$84,113** 

### Bachelor's in IS

A Bachelor's in IS is in the **top 5 in business** and **top 10 overall** of degrees in demand by employers. (Nace, 2019)



### Master's in IS

A Master's in IS is in the **top 10 overall** of degrees in demand by employers. (Nace, 2019)

### **ABOUT THE IS JOB MARKET**

There are an estimated 3 million jobs in the U.S. relevant to IS.1

There are approximately **1,300 IS programs** in the U.S., which are often offered in **Business Schools**, as well as in standalone Information Schools or integrated with Computer Science. IS programs are classified as **STEM** and are typically called:

- Management Information Systems (MIS)
- Information Systems (IS)
- Computer Information Systems (CIS)



The recruitment, mindset, education, demographics, career paths, skills, and jobs of IS professionals are different and yet remain poorly understood. The IS labor market remains largely hidden because it is mixed with computer scientists and computer engineers.

1. Bureau of Labor Statistics, Occupational Employment Statistics, May 2018. Aggregate of occupations relevant to IS

### IS Students are Happy About Their Future Jobs



### Satisfaction & Enthusiasm about Job Offer

Bachelor's: 83% Master's: 70%



### Offer from Appealing Organization

Bachelor's: **89%** Master's: **75%** 

### Participating Colleges & Universities by REGION

Thanks to the **32 universities** across the nation that agreed to formally participate in the 2019 IS Job Index.



































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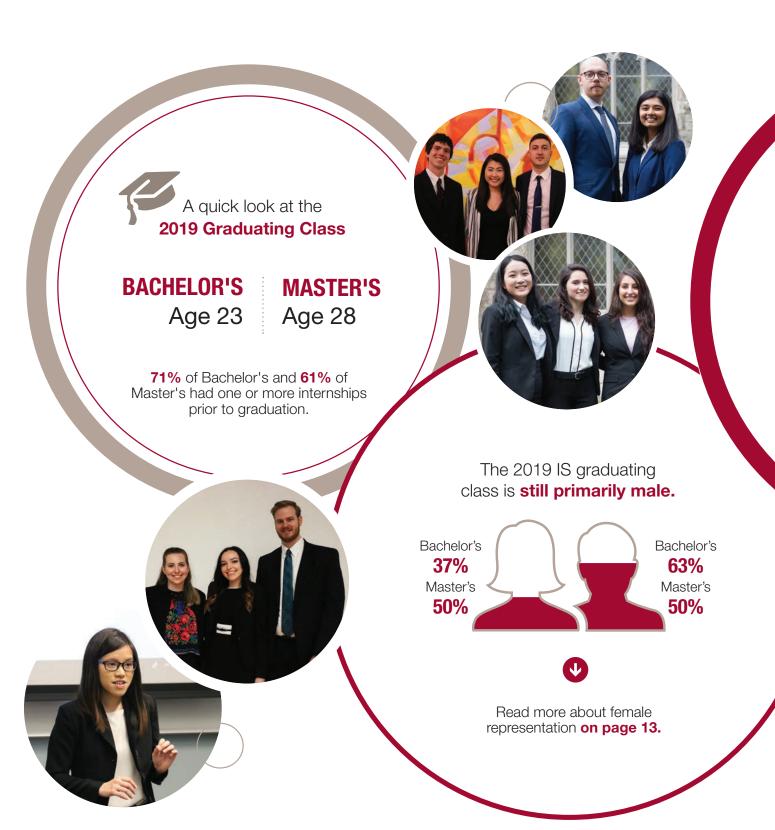




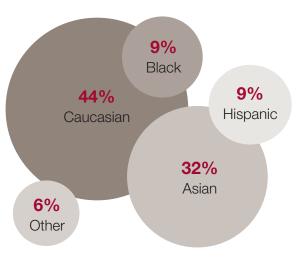


### Profile of an IS Student **FAST FACTS**

Based on 1420 recent graduates from 43 universities across the nation.



In 2019, the Bachelor's graduating class is mostly **White** and increasingly **Asian.** 



Read more about how IS student's ethnicities compare to other fields and about Master's students **on page 14.** 





### **PLACEMENT**

### Bachelor's

70% AT GRADUATION

69% 6 Months after graduation

### Master's

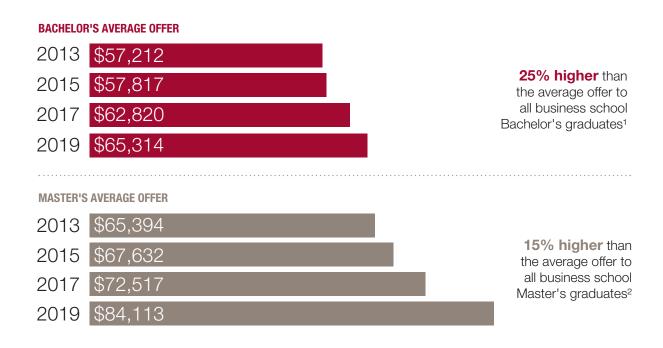
47% AT GRADUATION

81% 6 months after graduation

Read more about what impacts placement on pages 18-21.

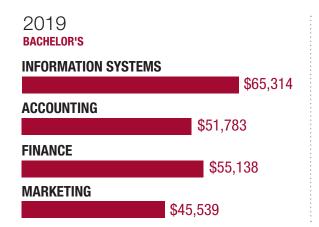
### Salaries & Offers overview

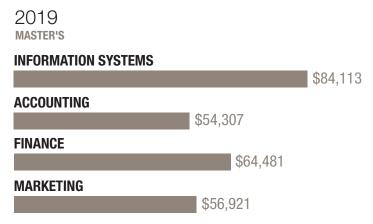
The average salary continues to **slowly increase** for both Bachelor's and Master's students.



Salaries for IS graduates are significantly higher than typical **business majors** for both Bachelor's and most Master's degrees.

Overall, IS salaries are outpacing business school salaries but growing slowly in contrast to the high demand and placement.







COMCAST

**NBCUNIVERSAL** 

Graduates entering the

workforce today have

spent their entire life using

the technology needed to

achieve symphony.

### **NBCUniversal**

NBCUniversal is one of the world's leading media and entertainment companies, focused on the development, production, and marketing of entertainment, news, and information for a global audience. In 2019, Comcast NBCUniversal ranked yet again as one Fortune's Top 5 Best Workplaces for Diversity.

Michael Bradshaw. Executive Vice President and CIO of NBCUniversal, leads the Information Technology organization, overseeing NBCU's global IT operations, strategy, infrastructure, applications, and cyber security teams. Since 2016, Michael has been driving the modernization of IT

tools, processes, and technology - leading innovation in media and entertainment to respond to today's digital world.

NBCUniversal employees have a pioneering spirit and are willing to take risks and embrace new technologies. They don't just anticipate the future; they create, invent, and deliver it. Those skills require strategies that embrace the needs and ideas of digital natives and encourages them to challenge how things are done while empowering them to change the future.

The capabilities to virtually collaborate effectively across a global workforce are essential to achieve "Symphony," which is what NBCUniversal calls synergy done right. Symphony is when all

the company's businesses work together to support a single goal. Examples of Symphony at its best include broadcasting the Olympic Games or opening a new theme park attraction at Universal Studios. Projects like these require strong partnerships

> across traditional organizational and geographic boundaries.

Today's graduates such as the ones included in the 2019 IS Job Index are better prepared to make an immediate, positive impact when joining the workforce. Michael points out, "Graduates entering the workforce today spent their entire life using the technology needed to achieve symphony." He recognizes, "They not only will be the early adopters, but they will also lead new ways of working."

Michael serves as an Executive in Residence and member of the IT Advisory Board at the Institute for Business and Information Technology, Fox School of Business at Temple University.

### Salaries & Offers by REGION

**New England** has ousted the Pacific for the highest Bachelor's salaries.

East South Central including KY, TN, MS, AL had the largest uptick in Bachelor's salaries.

2019 shows mixed salary growth as well as small decreases in different regions suggesting that the IS job market is uneven.

The **Pacific** offers the highest salaries for Master's graduates.

Mid-Atlantic and New England regions show the highest percentage growth in Master's salaries.

	(4)	€	BACHELOR'S		\$		(	€	MASTER'S		\$	
	MOVEMENT		2019 SALARY	SAL	LARY CHA	NGE	:	F PATTERNS	2019 SALARY	SAL	ary chai	NGE
	From ↓	To 🕇		2017	2015	2013	From ↓	To ↑		2017	2015	2013
NEW ENGLAND	42%	11%	\$70,763	8%	13%	20%	•		\$95,500	21%	13%	36%
MID- Atlantic	15%	36%	\$63,427	-4%	0%	16%	73%	35%	\$92,750	26%	20%	66%
SOUTH ATLANTIC	17%	21%	\$67,811	8%	16%	17%	9%	27%	\$74,645	12%	30%	42%
EAST NORTH CENTRAL	18%	38%	\$63,870	-3%	22%	20%		92%	\$74,375	4%	23%	18%
EAST SOUTH CENTRAL	65%	15%	\$61,182	17%	8%	11%			\$66,333	0%	-7%	-6%
WEST NORTH CENTRAL	20%	15%	\$61,253	6%	7%	12%	43%	43%	\$69,917	8%	10%	39%
WEST SOUTH CENTRAL	13%	8%	\$64,181	6%	10%	13%	36%	20%	\$73,489	2%	5%	13%
MOUNTAIN	24%	16%	\$65,467	7%	36%	19%	37%	8%	\$79,069	11%	11%	22%
PACIFIC	2%	22%	\$65,867	-6%	10%	19%	6%	55%	\$107,748	19%	87%	

Notes: Blank cells indicate that there is insufficient data to interpret. 'Move from' is location of university, 'move to' is location of accepted job.

Legend New England: ME, NH, VT, MA, RI, CT

Mid-Atlantic: NY. PA. NJ.

South Atlantic: WV, MD, DC, DE, VA, NC, SC, GA, FL

East North Central: WI, MI, IL, IN, OH East South Central: KY. TN. MS. AL.

West North Central: ND, SD, MN, NE, IA, KS, MO

West South Central: OK, TX, AR, LA Mountain: MT, ID, WY, NV, UT, CO, AZ, NM Pacific: WA, OR, CA, HI, AK

The Mid-Atlantic and East North Central regions are hot - about 36-38% of Bachelor's hires move there from outside the division.

Only about 10% of Bachelor's hires in New England and West South Central are from outside the region.

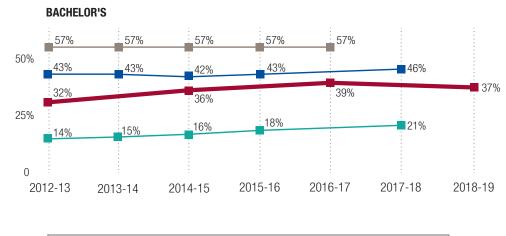
Only 2% of Bachelor's move out of the Pacific making it unlikely they will accept jobs elsewhere in the country. East South Central Bachelor's graduates are highly mobile - 65% leave for jobs elsewhere in the country.

Mid-Atlantic Master's graduates are highly mobile - 73% leave for jobs elsewhere in the country.

37% of Master's and 21% of Bachelor's IS students move to a job outside the region in which they got their degree.

### Representation by GENDER AND INTERNATIONAL STUDENTS

### IS Bachelor's female representation dipped slightly in 2019 after improving year to year since 2013.

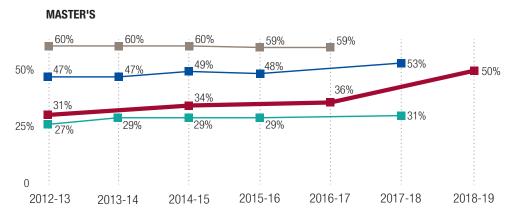


Female representation grew in **Business Schools** and for all US degrees.

IS Bachelor's female representation is still significantly higher than other STEM fields such as Computer Science.



### IS Master's female graduates grew significantly in 2019.



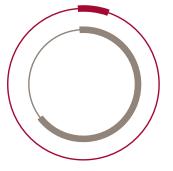
IS Master's female representation compares favorably to **STEM** fields such as Computer **Science** and is close to the ratio in Business Schools.

IS female graduates surprisingly have lower job search and market confidence than males<sup>4</sup> despite comparable placement rates and salaries.

### IS Domestic vs. International Students

**70/0 Bachelor's Degree** International Students

**Master's Degree** International Students



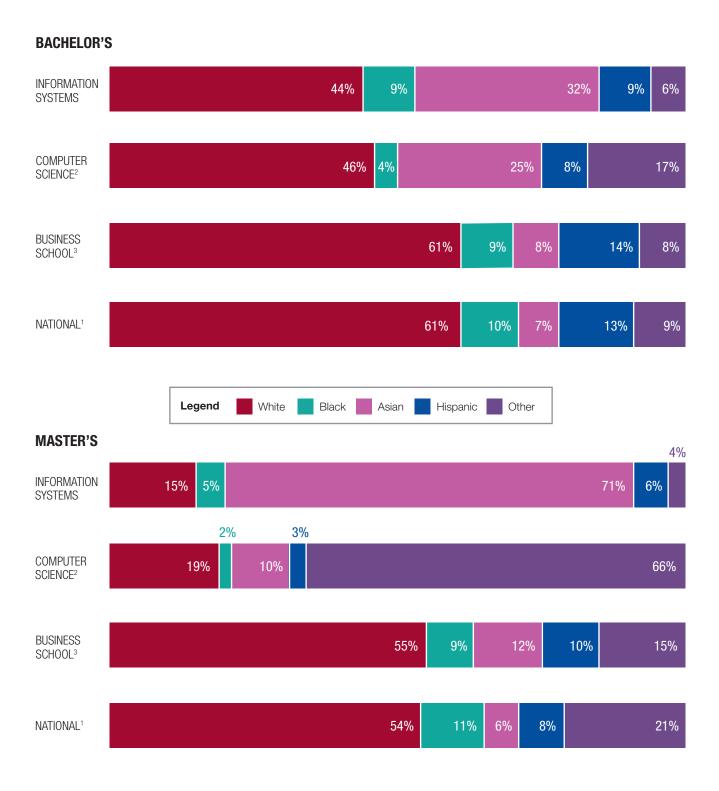
International IS Master's placement

is 38% upon graduation, climbing to 88% six months after graduation.

students are classified as a separate ethnic group)

<sup>4.</sup> Independent Samples T-test, 95% confidence

### Representation by ETHNICITY



IS Bachelor's graduates include more than double the percentage of African **Americans** than other STEM fields such as Computer Science.

There are about 5 times more Asian IS Master's graduates than the next largest ethnic group.

### Salaries & Offers by INDUSTRY

SALARY BY SIZE OF ORGANI	ZATION —
Bachelor's Students	% of
VERY SMALL (1-100 Employees)	Graduates
\$58,625	3%
SMALL (101-1,000 Employees)	00/
\$59,248	9%
<b>MID-SIZED</b> (1,001-5,000 Employee \$62,930	es) 11%
<b>LARGE</b> (5,001-10,000 Employees)	
\$63,321	12%
VERY LARGE (10,001 or more Empl	,
\$67,177	64%

76% of Bachelor's and 72% of Master's IS graduates accept jobs in very large or large firms.

SALARY BY SIZE OF ORGANIZA  Master's Students	ATION —— % of Graduates
VERY SMALL (1-100 Employees) \$72,727	8%
<b>SMALL</b> (101-1,000 Employees) \$79,750	11%
<b>MID-SIZED</b> (1,001-5,000 Employees) \$79,442	10%
<b>LARGE</b> (5,001-10,000 Employees) \$77,385	11%
VERY LARGE (10,001 or more Employ \$88,918	ees) 61%

BACHELOR'S   Salary Breakdown by Industry	
INDUSTRY	% of Graduates
INSURANCE / REAL ESTATE / LEGAL	
\$68,667	5%
BUSINESS SERVICES / CONSULTING	
\$66,697	29%
INFORMATION TECHNOLOGY	
\$66,061	20%
FINANCIAL SERVICES / BANKING / ACCOUNTING	
\$65,087	16%
BIOTECHNOLOGY / PHARMACEUTICAL / HEALTHCARE / MEDICAL	
\$65,000	5%
CONSUMER PRODUCTS / WHOLESALER / RETAILER / DISTRIBUTOR	
\$64,130	5%
MANUFACTURING	
\$62,433	7%
TRANSPORTATION / UTILITIES	
\$59,700	3%

29% of IS Bachelor's accept jobs in the Business Services / Consulting field.

MASTER'S   Salary Breakdown by Industry	
INDUSTRY	% of Graduates
INFORMATION TECHNOLOGY	
\$93,528	29%
CONSUMER PRODUCTS / WHOLESALER / RETAILER / DISTRIBUTOR	
\$90,720	8%
FINANCIAL SERVICES / BANKING / ACCOUNTING	
\$86,734	11%
BUSINESS SERVICES / CONSULTING	
\$74,537	17%
BIOTECHNOLOGY / PHARMACEUTICAL / HEALTHCARE / MEDICAL	
\$72,715	7%

The IT industry continues to pay the most and attract the largest percentage of Master's IS graduates.

16% of the jobs are in Data / Analytics

down 50% from 2017

### Salaries & Offers by JOB TYPE

### BACHELOR'S | Salary Breakdown by Job Type

JOB CATEGORY APPLICATION DEVELOPER \$72,833 INFORMATION SECURITY \$69,553 IT CONSULTANT \$69.464 PROJECT MANAGER \$66,500 SYSTEMS ANALYST \$63,643 DATA / ANALYTICS \$63,183 IT AUDITOR \$63,168 COMPUTER SUPPORT

Application Developer 19% of the jobs are in **Consulting** IT Auditor

Bachelor's salaries only grew in single digits since 2017

#### MASTER'S | Salary Breakdown by Job Type

JOB CATEGORY

\$56,261

#### APPLICATION DEVELOPER

\$99,531

IT CONSULTANT \$83,786

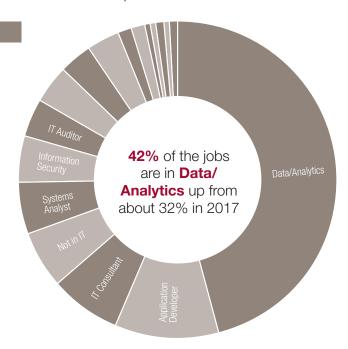
DATA / ANALYTICS

\$83,619

Master's salaries for Software Development have grown 61% since 2013.

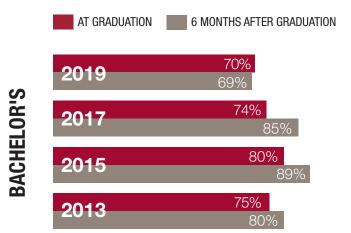
Software Development jobs pay the most for both Bachelor's and Master's IS graduates.

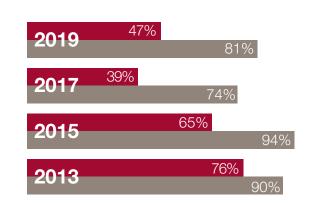
5% received Systems Analyst offers compared to 27% in 2013



### Job Placement

#### Job Placement





**Bachelor's IS placement** of 70% upon graduation is higher than the Business School rate of 59%1 and the national six month rate of 58%.2

Master's IS placement is lower at graduation than in previous years but catches up at the six month mark.

Confidence in the job market has gone down from a high around 70% in 2015 to 55% for Master's and 64% in Bachelor's IS 2019 graduates.

Placement in IS continues to do well over the last 7 years.



### Offers & Internships

### **What Impacts Offers?**

		$\Diamond$		Many.		
	Job Offer Received	Experience	Applications	Interviews	Job Search and Preparation	Internships
ACHELOR'S	NO	2.7	20	2.7	20.4	0.9
BACHI	YES	2.5	19.2	5.6	31.6	1.6
MASTER'S	NO	4.4	53	3.2	57.9	0.8
MAS.	YES	3.9	47.6	7.3	75.8	1.2
		0 5 10 (Average Years)	0 25 50 75 (Average Number)	0 5 10 (Average Number)	0 25 50 75 (Average Hours)	0 1 2 (Average Total Number)

Surprisingly, **experience** has virtually no impact on offers for Bachelor's or Master's.

Bachelor's IS students slightly improve their chances of an offer by spending additional hours on preparation including professional development, resume building, and participating in career fairs.1

### **HOW DO INTERNSHIPS AFFECT OFFERS?**

	Internships	Receive	Offers
Si		NO	YES
BACHELOR'S	0	50%	14%
뽔	1	30%	37%
BA(	2	12%	32%
	>2	9%	18%

71% of Bachelor's IS graduates have 1 or more internships

1.9 times more likely to get a job offer1

87% of the offers went to students with 1 or more internships

	Internships	Receive	e Offers
S		NO	YES
ER	0	46%	26%
MASTER'S	1	36%	46%
$\geq$	2	14%	19%
	>2	3%	10%

61% of Master's IS graduates have 1 or more internships

1.9 times more likely to get a job offer<sup>1</sup>

74% of the offers went to students with 1 or more internships

### Knowledge Level & Salary

### **BACHELOR'S** Awareness/Literacy \$59.073 \$57,561 Concept/Use \$63.855 \$62.145 **Detailed Advanced Knowledge** \$61.525 \$63.708 Legend Information Systems Business and Foundations **MASTER'S** Awareness/Literacy \$76,333 \$70.900 Concept/Use \$83,178 \$83,729 **Detailed Advanced Knowledge** \$79.739 \$79.892

#### SKILL LEVEL DESCRIPTIONS

#### **AWARENESS**

Define, list characteristics, name components, list advantage/disadvantages

#### **LITERACY**

Can compare and contrast, explain, execute, define capabilities, describe interrelations, describe framework

#### **CONCEPT / USE**

Can use, communicate the idea of, form abstraction, extrapolate, list concepts, comprehension and ability to use the knowledge

#### **DETAILED UNDERSTANDING / APPLICATION ABILITY**

Detailed understanding, search for and apply correct solution, design and implement, apply the principles, can select the right thing and use

#### **ADVANCED**

Develop, originate, construct, evaluate, judge relative value

Source: Topi et al. "IS 2010 Curriculum Guidelines..." CAIS, 2010

It Does Pay to Study: IS Bachelor's received significantly higher salary offers only when they report advanced knowledge in both IS and business/foundational knowledge. 1 IS Master's in contrast received significantly higher salary offers when they report advanced IS knowledge.1

### KNOWLEDGE DEFINITIONS

### **IS KNOWLEDGE**

- > Improving Organizational Processes
- > Exploiting Opportunities Created by Technology Innovations
- > Understanding and Addressing Information Requirements
- > Designing and Managing Enterprise Architecture
- > Identifying and Evaluating Solution and Sourcing Alternatives
- > Software Development
- > Securing Data and Infrastructure
- > Understanding, Managing, and Controlling IT Risks

#### **BUSINESS AND FOUNDATIONAL KNOWLEDGE**

- > Leadership and Collaboration
- > Communication
- > Negotiation
- > Analytical and Critical Thinking including Creativity and Ethical Analysis
- > Mathematical Foundations
- > General Models of Business
- > Business Functions
- > Evaluation of Business Performance

Source: Adapted from Topi et al. (2010) "IS 2010: Curriculum Guidelines..." CAIS, Vol. 26, Article 18, 2010

### Top and Bottom 3 Knowledge Self-Ratings

#### **BACHELOR'S**

		2019	2017	2015	2013
က္န	1	Communication	Communication	Communication	Communication
9	2	Leadership and Collaboration	Leadership and Collaboration	Leadership and Collaboration	Analytical and Critical Thinking
<b>—</b>	3	Analytical and Critical Thinking	Analytical and Critical Thinking	Analytical and Critical Thinking	Leadership and Collaboration
3	1	Securing Data and Infrastructure	Securing Data and Infrastructure	Securing Data and Infrastructure	Securing Data and Infrastructure
MOT	2	Software Development	Designing and Managing Enterprise Architecture	Software Development	Designing and Managing Enterprise Architecture
BOT A	3	Designing and Managing Enterprise Architecture	Software Development	Designing and Managing Enterprise Architecture	Identifying and Evaluating Solution and Sourcing Alternatives

IS Bachelor's are consistently unsure about their software development and cyber-security skills.

#### **MASTER'S**

		2019	2017	2015	2013
m /	1	Communication	Communication	Communication	Communication
원	2	Analytical and Critical Thinking	Analytical and Critical Thinking	Analytical and Critical Thinking	Analytical and Critical Thinking
F	3	Understanding and Addressing Information Requirements	Leadership and Collaboration	Leadership and Collaboration	Understanding and Addressing Information Requirements
က	1	Securing Data and Infrastructure	Securing Data and Infrastructure	Securing Data and Infrastructure	Securing Data and Infrastructure
TOM	2	Understanding Managing and Controlling IT Risks	Understanding Managing and Controlling IT Risks	Designing and Managing Enterprise Architecture	Understanding Managing and Controlling IT Risks
BQ ▼	3	Designing and Managing Enterprise Architecture	Designing and Managing Enterprise Architecture	Software Development	Identifying and Evaluating Solution and Sourcing Alternatives

IS Master's are unsure about their cyber-security and managing risk skills.

IS Bachelor's and Master's are consistently confident about their communication, leadership, collaboration, analytical, and critical thinking skills.

Employers rate critical thinking/problem solving and teamwork/collaboration as the two most important competencies of career readiness.1

### Why do BACHELOR'S Accept/Reject Offers?

ACCEPT	REJECT
MOST IMPORTANT REASONS	MOST IMPORTANT REASONS
Process Fairness	Process Fairness
Organization Reputation  Job Fit	Recruiter Organization Reputation
LEAST IMPORTANT REASONS	LEAST IMPORTANT REASONS
Job Attributes	Job Attributes
Compensation	Values Fit
Recruiter	Compensation

### Why do MASTER'S Accept/Reject Offers?

ACCEPT	REJECT		
MOST IMPORTANT REASONS  Process Fairness  Job Fit  Organization Reputation	MOST IMPORTANT REASONS  Process Fairness  Recruiter  Organization Attributes		
LEAST IMPORTANT REASONS  Compensation Job Attributes Recruiter	LEAST IMPORTANT REASONS  Job Attributes  Compensation  Job Fit		

The perceived fairness of the recruitment processes is the most important factor in offer acceptance or rejection.

**Reputation** matters much more in offer acceptance or rejection than attributes such as whether the job is interesting.

Compensation is one of the least important factors in offer acceptance or rejection.

#### **DEFINITIONS**

JOB ATTRIBUTES: Challenging, interesting, enjoy, freedom

JOB FIT: Looking for, match, skills, requirements **COMPENSATION:** Salary, bonuses, benefits

**ORGANIZATION:** Size, location, coworkers, supervisor, facilities, environment

VALUES FIT: Culture, work/life, values

**REPUTATION:** Reputation, distinctive, prestigious

**RECRUITER:** Answer questions, knowledgeable, informative, valuable

PROCESS FAIRNESS: Timeliness, fairness, respect, helpfulness

### About the Authors



### Dr. Munir Mandviwalla

Dr. Munir Mandviwalla is Associate Professor of Management Information Systems and Executive Director of the Institute for Business and Information Technology at the Fox School of Business, Temple University.

Mandviwalla has published articles on collaborative systems, social media, virtual teams, software training, peer review, globalization, universal access and use, design science, social media strategy, broadband policy, and industry academic collaboration in Management Information Systems Quarterly, Information Systems Research, ACM Transactions on Computer Human Interaction, Journal of Management Information Systems, Journal of the Association for Information Systems, Information Systems Journal, MIS Quarterly Executive, Communications of the ACM, and Public Administration Review.

His work has been supported by grants from the National Science Foundation (NSF), SIM Advanced Practices Council, Lockheed Martin, Bell Atlantic, IBM, Microsoft Corporation, CIGNA Corporation, Advanta Corporation, and Lotus Development Corporation.

Mandviwalla currently teaches user experience design and has previously taught the undergraduate capstone course and the graduate introduction to information systems course for the MS Digital Innovation in Marketing, EMBA, and MBA programs. He has also taught executive education seminars on systems thinking for major firms such as NBCUniversal and QVC.

Mandviwalla founded the Fox School's MIS department in 2000 and led the department till 2017. The MIS department is now recognized as one of the top in the world. Mandviwalla has contributed to the field by leading the creation of AIS student chapters, first ever national analysis of jobs in information systems, and the AIS Leadership Excellence Award.

As executive director of the Institute for Business and Information Technology (IBIT), Mandviwalla engages with industry at multiple levels including research and human capital development. IBIT provides knowledge, networking, professional development, and funding. IBIT is a model for industry engagement through the Temple IT awards, The IBIT Report, Analytics Challenge, Cyber Analyst Challenge, and IT advisory board. In 2019, IBIT inaugurated the Digital Innovation Foundry, whose mission is to generate innovation by assessing, integrating, and prototyping digital technologies in the new Capgemini Digital Innovation Lab.

Claremont Graduate University has recognized him with the Alumni Hall of Fame award. He received the Association for Information Systems Award for Outstanding Contribution to Information Systems Education in 2016. The students in the MS Digital Innovation in Marketing program selected him as Faculty of the Program in 2016.

Mandviwalla holds a BSc in Systems Engineering from Boston University, a MBA from the Peter F. Drucker School of Management at Claremont Graduate University, and a Ph.D. in Management Information Systems from the Programs in Information Science at Claremont Graduate University.



### **Dr. Crystal Harold**

Dr. Crystal Harold (PhD, George Mason University) is Associate Professor in the Department of Human Resource Management at the Fox School of Business, Temple University. Prior to joining the Fox School of Business, she was Assistant Professor in the Purdue School of Science at IUPUI and also worked as a Strategic Human Resources Consultant for numerous governmental agencies such as the Air Force, The National Geospatial-Intelligence Agency (NGA), and Department of the Interior (DOI).

Her research focuses on issues related to employee recruitment (in particular the role of PE fit and fairness) and the impact of management practices and characteristics that engender perceptions of workplace fairness and counterproductive behaviors. Her work appears in top OB/HRM outlets including

Journal of Applied Psychology, Personnel Psychology, Journal of Management, and Journal of Organizational Behavior. She serves on the editorial boards of Personnel Psychology and the Journal of Occupational and Organizational Psychology. Findings from her research have been discussed in numerous media outlets including the CBS Early Show, Strategy + Business, The Telegraph, and The Chronicle of Higher Education.

Dr. Harold was awarded a 2005 APA Dissertation Award and the HUMRRO Fellowship in I/O Psychology. In recognition of her research and teaching accomplishments, she was recently appointed a Cigna Research Fellow, a Dean's Teaching Fellow, and the Adrisani-Frank Undergraduate Teaching Award.



### Michelle Purnama

Michelle Purnama is a senior studying Management Information Systems at the Fox School of Business, Temple University. She is a Presidential Scholar at Temple in the Fox and University Honors program. During her time in college, she served as the Co-President of Women's Entrepreneurial Organization and Director of Corporate Relations of Temple Association for Information Systems (AIS). Her proudest achievements are successfully organizing the first-ever women in IT panel for Temple AIS with over 80 attendees and receiving the 2018 Student Leadership Award from Temple's Innovation & Entrepreneurship Institute.

In summer 2019, she interned at Alexion Pharmaceuticals as an IT intern working with their Regulatory Operations team. In this position, she successfully managed and established an actionable project plan to upgrade Alexion's regulatory

information management publishing tool. Besides her role as an IS Job Index Research Assistant, she gives back to the MIS community as an active mentor to several MIS students and a student ambassador for the MIS professional achievement program.

### The IBIT Report

The IBIT Report is a publication for the members of the Institute for Business and Information Technology. IBIT reports provide actionable knowledge to industry based on rigorous academic research and vendor neutral analysis. Each report focuses on an important topic of interest to our members.

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