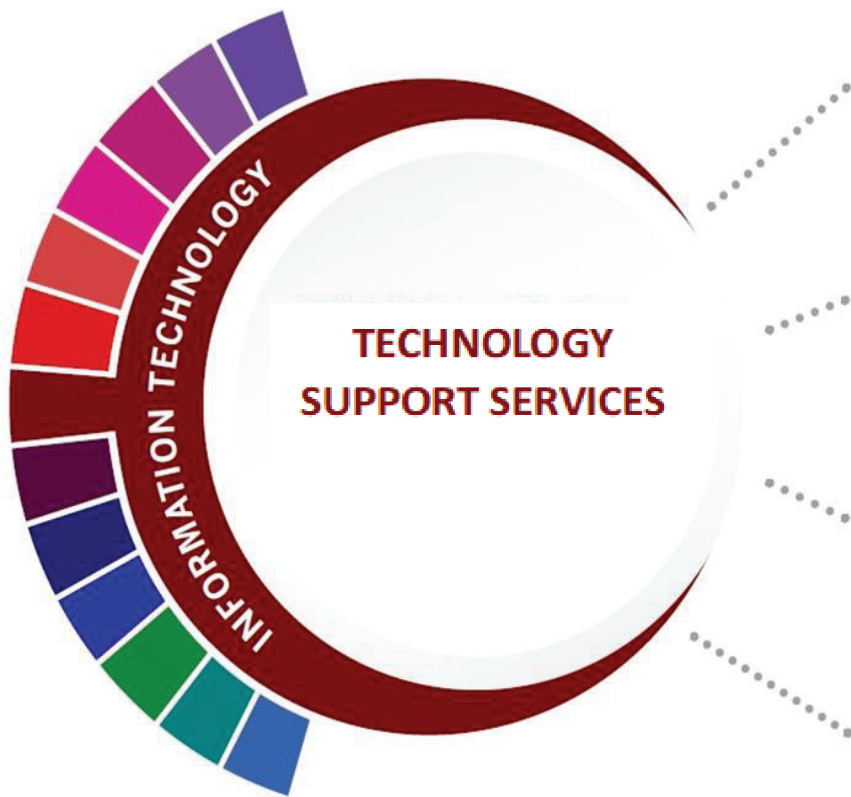


# SCHOOL OF INNOVATIVE TECHNOLOGY

JACK E. SINGLEY ACADEMY

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	<b>Principles of Information Technology</b> [75301/2 PRINIT 13027200]	
	Credit: 1	<b>And</b>
<b>Level 1</b>	<b>Digital Media</b> [75341/2 DIMEDIA 13027800]	
	Credit: 1	
<b>Level 2</b>	<b>Computer Maintenance Lab</b> [77841/2 COMMLAB 13027310]	
	Credit: 2	
<b>Level 3</b>	<b>Computer Technician Practicum I DC</b> [79881/2 COMPT1 H/DC 13027500]	
	Credit: 2	<b>Or</b>
<b>Level 3</b>	<b>Computer Technician Practicum I</b> [75331/2 COMPT1 13027500]	
	Credit: 2	
<b>Level 4</b>	<b>Computer Technician Practicum II</b> [77881/2 COMPT2 13027510]	
	Credit: 2	

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE / LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Microsoft Technology Associate Windows Operating System Fundamentals	IBM Certified Specialist - InfoSphere Optim for Distributed Systems Fundamentals	Computer and Information Sciences, General	Computer and Information Sciences, General	Computer and Information Sciences, General
ERSI ArcGIS Desktop Entry	IBM Certified Database Associate - DB2 11 Fundamentals for z/OS	Computer and Information Systems Security/ Information Assurance	Computer and Information Systems Security /Information Assurance	Computer Systems Analysis/ Analyst
CompTIA A+	HP ASE - ProLiant Server Solutions Integrator V2	Information Technology	Computer Engineering, General	Computer Engineering, General
CompTIA IT Fundamentals +	Oracle Linux 6 Advanced System Administration	Computer Systems Networking and Tele- communications	Computer Systems Networking and Tele- communications	Information Technology

Occupations	Median Wage	Annual Openings	% Growth
Database Administrator	\$83,075	1,063	19%
Computer Hardware Engineer	\$111,738	343	24%
Computer System Analyst and Support	\$87,568	5,937	29%

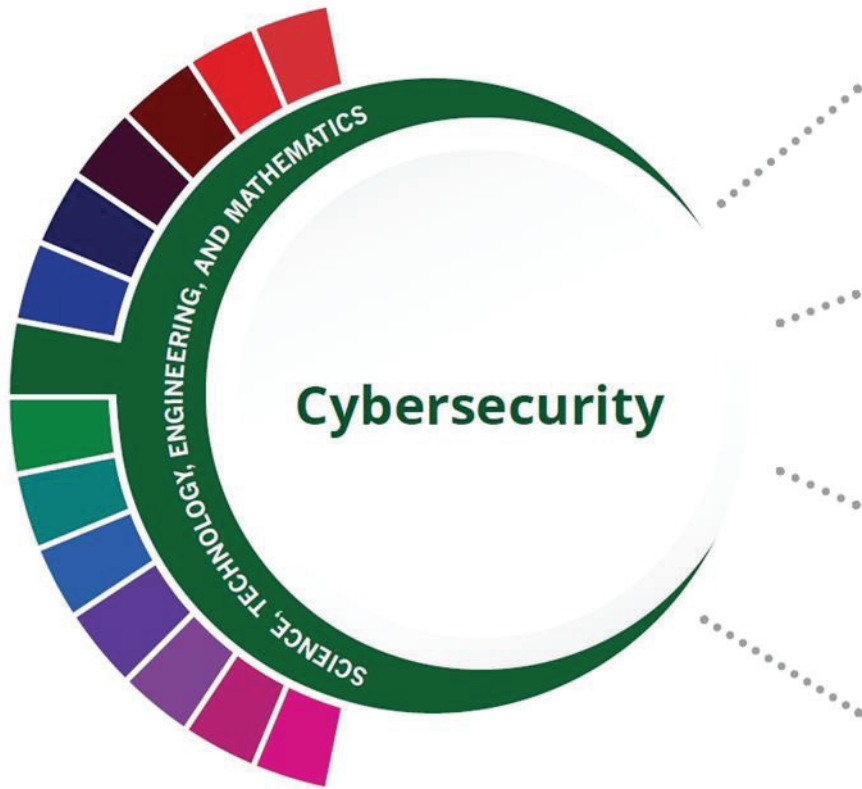
Exploration Activities:	Work Based Learning Activities:
Join TSA Job shadow a database administrator or computer hardware engineer	Obtain a Certification

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

The Information Technology Support and Services program of study explores the occupations and educational opportunities associated with administering, testing, and implementing computer databases and applying knowledge of database management systems. This program of study may also include analyzing user requirements and problems to automate or improve existing systems and review computer system capabilities. This program of study may also include exploration into the research, design, or testing of computer or computer-related equipment for commercial, industrial, military, or scientific use.

 The Information Technology (IT) Career Cluster focuses on building linkages in IT occupations for entry level, technical, and professional careers related to the design, development, support, and management of hardware, software, multimedia, and systems integration services.

Successful completion of the Information Technology Support and Services program of study will fulfill requirements of the Business and Industry endorsement or STEM endorsement if the math and science requirements are met.



	<b>Principles of Information Technology</b> [76981/2 PRINITYBR 13027200]	
<b>Level 1</b>	Credit: 1	<b>And</b>
	<b>Foundations of Cybersecurity</b> [79581/2 TAFICYBR 03580850]	
	Credit: 1	
	<b>Networking</b> [79651/2 NETWRK 13027400]	
<b>Level 2</b>	Credit: 1	<b>And</b>
	<b>Fundamentals of Computer Science</b> [79591/2 TAFSCYBR 03580140]	
	Credit: 1	
	<b>Digital Forensics</b> [77361/2 TADGR 03580360]	
	Credit: 1	
<b>Level 3</b>	<b>Cybersecurity Capstone</b> [79941/2 TACYBCAP 03580855]	
	Credit: 1	
	<b>Practicum in Cyber Security</b> [77741/2 PRACCYBRSEC 13028000]	
<b>Level 4</b>	Credit: 2	

HIGH SCHOOL/INDUSTRY CERTIFICATION	CERTIFICATE/LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/DOCTORAL PROFESSIONAL DEGREE
Oracle Certified Associate Java SE 8	GIAC Reverse Engineering Malware	System Networking, and LAN/WAN Management	Computer Systems Networking and Telecommunications	Computer Systems Analysis/Analyst
Oracle Certified Database Associate	Certified Advanced Windows Forensic Examiner	Information Technology	Computer Systems Networking and Telecommunications	Information Technology
Cisco Certified Entry Networking Technician (CCENT)	SAP Certified Technology Professional System Security Architect	Computer and Information Sciences, General	Computer and Information Sciences, General	Computer and Information Sciences, General
CompTIA A+, Network+, Security+, and IT Fundamentals	Cisco Certified Network Professional Security Certification	Computer Science	Computer Science	Computer Science

Occupations	Median Wage	Annual Openings	% Growth
Information Security Analysts	\$91,915	814	29%
Network and Computer System Administrators	\$82,597	2,814	19%
Computer System Analysts	\$87,568	5,937	29%

Exploration Activities:	Work Based Learning Activities:
Join TSA Job Shadow a computer system analyst or information security analyst.	Obtain an industry-based certification.

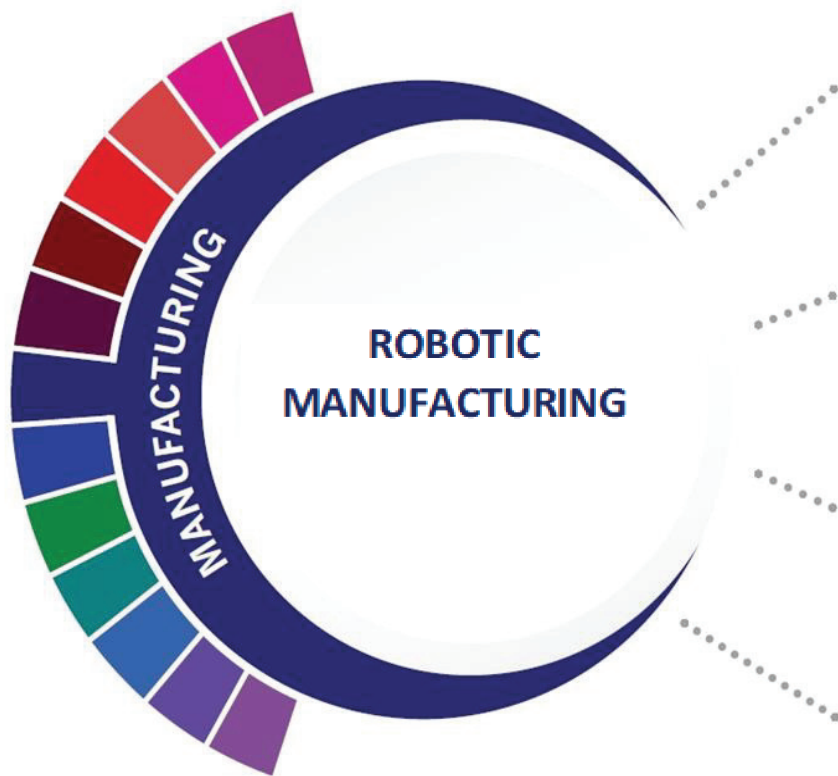
Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

The Cybersecurity program of study includes the occupations and educational opportunities related to planning, implementing, upgrading, or monitoring security measure for the protection of computer networks and information. This program of study may also include exploration into responding to computer security breaches and virus and administering network security measures.



The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster focuses on planning, managing, and providing, scientific research and professional and technical services, including laboratory and testing services, and research and development services.

Successful completion of the Cybersecurity program of study will fulfill requirements of the Business and Industry or STEM endorsement if the math and science requirements are met. Revised - July 2020



<b>Level 1</b>	<b>Principles of Robotic Manufacturing</b> [75481/2 PRINROBMAN 13032200]	Credit: 1	<b>And</b>
	<b>Principles of Robotic Engineering</b> [77941/2 PRAPPENG 13036200]	Credit: 1	
<b>Level 2</b>	<b>Manufacturing Engineering Technology I</b> [77951/2 MANENGT1 13032900]	Credit: 1	<b>And</b>
	<b>Robotics I</b> [75671/2 ROBOTIC1 13037000]	Credit: 1	
<b>Level 3</b>	<b>Manufacturing Engineering Technology II</b> [77961/2 MANENGT2 13032950]	Credit: 1	<b>And</b>
	<b>Robotics II</b> [77971/2 ROBOTIC2 13037050]	Credit: 1	
<b>Level 4</b>	<b>Practicum in Robotic Manufacturing</b> [79501/2 PRACROBMAN 13033000]	Credit: 2	

HIGH SCHOOL/INDUSTRY CERTIFICATION	CERTIFICATE/LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/DOCTORAL PROFESSIONAL DEGREE
MSSC Certified Production Technician	Certified Welder or Welder Inspector	Welding Technology/Welder	Welding Engineering Technology/Technician	Welding Engineering Technology/Technician
ISCET Associate-Level Certified Electronics Technician	Machining Level 1 - CNC Milling; Programming Setup & Operations	Machine Shop Technology/Assistant	Biomedical Technology/Technician	Occupational Health and Industrial Hygiene
Mastercam Professional Level Certification	Certified Welding Engineering	Operations Management and Supervision	Operations Management and Supervision	Operations Management and Supervision
NIMS Industrial Technology Maintenance - Basic Mechanical System	Certified Environmental, Safety, and Health Trainer	Occupational Safety and Health Technology/Technician	Environmental Health	Environmental Health

Occupations	Median Wage	Annual Openings	% Growth
Mechanical Engineering Technicians	\$57,117	453	9%
CNC Machine Operators	\$39,250	1,319	12%
Aerospace Engineering and Operations Technicians	\$60,757	114	9%
Electrical and Electronics Engineering Technicians	\$60,382	1,439	9%
Industrial Engineering Technicians	\$61,672	326	9%

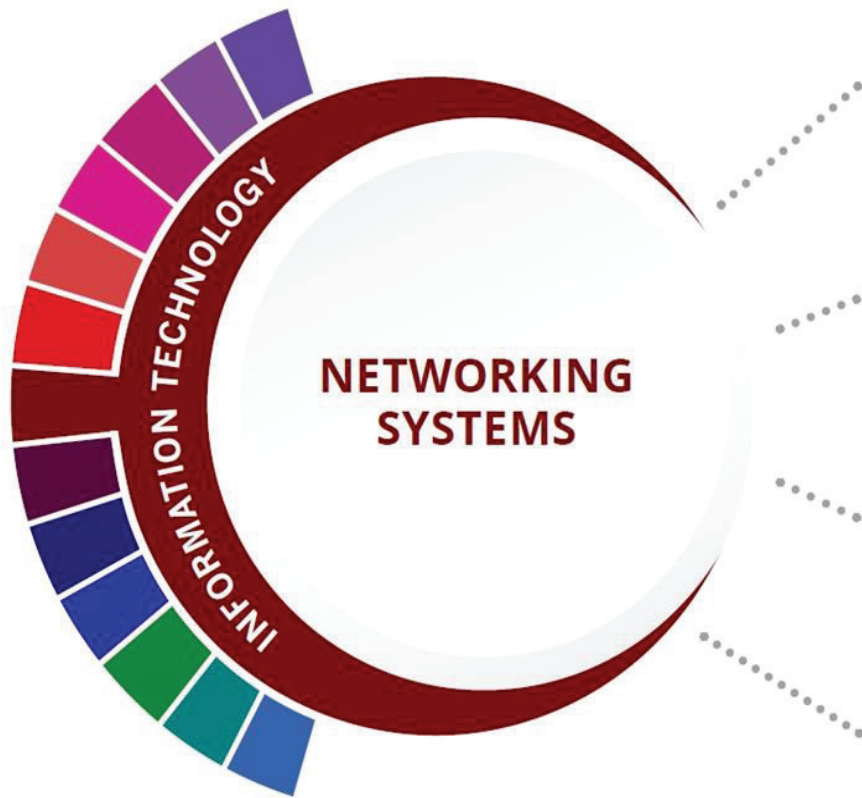
Exploration Activities:	Work Based Learning Activities:
Participate and compete in SkillsUSA Job shadow a machinist	Apprenticeship at a local business or industry American Welding Society

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

The Manufacturing Technology program of study focuses on the development and use of automatic and computer-controlled machines, tools, and robots that perform work on metal or plastic. CTE learners will learn how to set up and operate a variety of machine tools to produce precision parts and instruments. Students will also learn how to modify parts to make or repair machine tools or maintain individual machines, and how to use hand-welding or flame-cutting equipment.



The Manufacturing Career Cluster focuses on planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance, and manufacturing/process engineering.



**Principles of Information Technology**  
[79641/2 PRINITNET 13027200]

**Level 1** Credit: 1 **And**

**Networking**  
[79651/2 NETWRK 13027400]

Credit: 1

**Internetworking Technologies**  
[79661/2 INTNET1 1302803]

**Level 2**

Credit: 1

**Networking Lab**  
2022-2023 Course  
[PRACIT1 13028000]

**Level 3**

**Practicum of Information Technology**  
2022-2023 Course  
[PRACIT1 13028000]

**Level 4**

HIGH SCHOOL/INDUSTRY CERTIFICATION	CERTIFICATE/LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/DOCTORAL PROFESSIONAL DEGREE
Oracle Certified Associate Java SE 8	AEM 6 Business Practitioner	Computer and Information Sciences, General	Computer and Information Sciences, General	Computer and Information Sciences, General
Oracle Certified Database Associate	Intelligence Planner Certification Program	Computer Systems Networking And Tele-communications	Computer Systems Networking And Tele-communications	Information Technology
Cisco Certified Entry Networking Technician (CCENT)	Cisco Certified Entry Networking Technician	Information Technology	Computer and Information Systems Security/Information Assurance	Computer and Information Systems Security/Information Assurance
Associate of (ISC)2	Microsoft Networking Fundamentals	Network and System Administration/Administrator	Computer Engineering, General	Computer Engineering, General

Occupations	Median Wage	Annual Openings	% Growth
Computer Network Architects	\$111,633	1,082	23%
Computer Systems Analysts	\$87,568	5,937	29%
Computer Network Support Specialists	\$68,037	1,824	19%

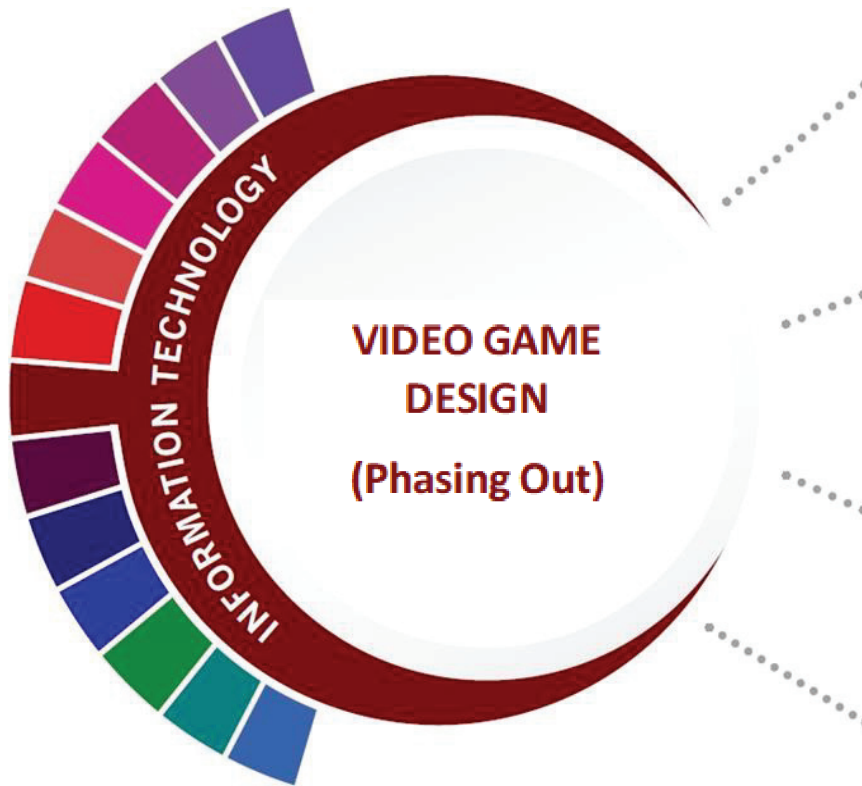
Exploration Activities:	Work Based Learning Activities:
Join TSA Job shadow a computer network architect or support specialist	Earn an industry-based certification.

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

The Networking Systems program of study explores the occupations and educational opportunities associated with designing and implementing computer and information networks, such as local area networks (LAN), wide area networks (WAN), intranets, extranets, and other data communications networks. This program of study may also include exploration into analyzing science, engineering, and other data processing problems to implement and improve computer systems.



The Information Technology (IT) Career Cluster focuses on building linkages in IT occupations for entry level, technical, and professional careers related to the design, development, support, and management of hardware, software, multimedia, and systems integration services.




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**Animation II H/DC**  
[76381/2 ANIMAT2 H/DC 13008400]

Credit: 2

**Level 4** **Or**

**Animation II**  
[78631/2 ANIMAT2 13008400]

Credit: 2

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HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE / LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Oracle Certified Associate Java SE 8	AEM 6 Developer	Computer Programming/ Programmer, General	Web/ Multimedia Management and Webmaster	Computational Science
WD Certified Web Design Certification	Certified Webmaster Professional	Computer Science	Computer Science	Computer Science
Microsoft Technology Associate Introduction to Programming Certifications	Adobe Campaign Developer	Web Page, Digital/ Multimedia and Information Resources Design	Web Page, Digital/ Multimedia and Information Resources Design	Information Science/ Studies
	IBM Certified Solution Developer – Open Social	Computer Systems Networking and Tele-communications	Computer Systems Networking and Tele-communications	Computer Systems Networking and Tele-communications

Occupations	Median Wage	Annual Openings	% Growth
Web Developers	\$67,912	1,079	39%
Web Administrators, Computer Occupations	\$85,197	1,616	20%
Software Developers	\$104,499	6,311	30%

Exploration Activities:	Work Based Learning Activities:
Join TSA Participate in a coding or computer programming club Create a web page	Get an Oracle or CISCO Certification

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

The Web Development program of study explores the occupations and educational opportunities associated with designing, creating, and modifying websites. This program of study may also explore integrating websites with other computer applications, and converting written, graphic, audio, and video components to compatible web formats by using software designed to facilitate the creation of web and multimedia content.



The Information Technology (IT) Career Cluster focuses on building linkages in IT occupations for entry level, technical, and professional careers related to the design, development, support, and management of hardware, software, multimedia, and systems integration services.

Successful completion of the Web Development program of study will fulfill requirements of the Business and Industry endorsement or STEM endorsement if the math and science requirements are met. Revised - July 2020



**Web Design**  
[75271/2 TAWEBDN 035880820]

**Level 1** Credit: 1 **And**

**Digital Art and Animation**  
[79611/2 TADGAAWEB 03580500]

Credit: 1

**Computer Programming**  
[79621/2 COMPPRO1WEB 13027600]

**Level 2** Credit: 1 **And**

**Animation I**  
[79631/2 ANIMAT1WEB 13008300]

Credit: 1

**Computer Programming II**  
*2022-2023 Course*  
[79621/2 COMPPRO2WEB 13027700]

**Level 3**

**Animation II**  
*2022-2023 Course*  
[79631/2 ANIMAT2WEB 13008400]

**Level 4**

**Practicum of Information Technology**  
*2022-2023 Course*  
[PRACIT1 13028000]

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE / LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Oracle Certified Associate Java SE 8	AEM 6 Developer	Computer Programming/ Programmer, General	Web/ Multimedia Management and Webmaster	Computational Science
WD Certified Web Design Certification	Certified Webmaster Professional	Computer Science	Computer Science	Computer Science
Microsoft Technology Associate Introduction to Programming Certifications	Adobe Campaign Developer	Web Page, Digital/ Multimedia and Information Resources Design	Web Page, Digital/ Multimedia and Information Resources Design	Information Science/ Studies
	IBM Certified Solution Developer – Open Social	Computer Systems Networking and Telecommunications	Computer Systems Networking and Telecommunications	Computer Systems Networking and Telecommunications

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