**Glendale Community College Career Technical Education** **Advisory Committee Minutes**

**Computer Systems and Information Systems**

**December 11, 2020**

**2:00 – 4:00 pm Zoom Call**

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| **Members** | **Position Title** | **Organization** |
| Alex Paransky | Software Engineering Manager | Open Table |
| Tommy Gober | Curriculum Development Specialist | Cyber |
| Vazrik Karabidian | Senior Network Engineer | LA Community College District |
| Sean McWillie | Student / Researcher | National Institute of Standards and Technology (NIST) |
| Steven Stepanek | Professor of Computer Science | CSU-Northridge |
| Narineh Makijan | College & Career Division | Glendale Unified School District |
| Sevada Isayan | ICT/Business Instructor | Clark Magnet High School |
| Federico Saucedo | Associate Dean of CTE | Glendale Community College |
| Marisela Canela | Academic Counselor Workforce & CTE | Glendale Community College |
| Tony Biehl | CSIS Faculty Programing | Glendale Community College |
| Simon Mirzayan | CSIS Faculty Could Computing | Glendale Community College |
| Vladimir Paransky | CSIS Faculty Networking and Security | Glendale Community College |
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| **Guests** | **Position Title** | **Organization** |
| Isaac Pedraza | Student Outreach Technician | Glendale Community College |
| Cynthia Vazques | Academic Counselor Business | Glendale Community College |
| Rory Schlueter | CSIS Faculty Emeritus | Glendale Community College |
| Breanna Dulay | Academic Counselor | Glendale Community College |
| Rita Zobayan | DSPS Counselor | Glendale Community College |
| Diana Carrillo | DSPS Counselor | Glendale Community College |
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| **Absent** | **Position Title** | **Organization** |
| Ashley Richardson | Systems Engineering Specialist | Palo Alto Networks Security Operations |
| Narbeh Minassian | Web Architect, Systems Programmer | LA Community College District |
| Michael Scott | Division Chair | Glendale Community College |

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| **Call to Order** | **2:06 pm** |
| * Welcome, introductions
 | * Participants Introduction
* Agenda Introduction and participants expectations for this meeting.
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| * Overview of current program
	+ 1. IT Technician I 20 units
		2. IT Technician II 32 units
		3. IT Technician III 42 units
		4. Cloud Computing Certificate 18 units
		5. Programing Certificate
		6. Programing Associates of Science Degree
 | * Vladimir Paransky discussed units overview of current IT Technician certificates and issues with high unit requirements for each certificate.
* Simon Mirzayan discussion of our new 18 units Cloud Computing Certification lunched in Spring 2019. Focused on AWS and soon Azure.
* Tony Biehl discussed Computer Software Technician 24 units certificate. Looking to revise this certificate.
* Tony Biehl discussed archiving CS/IS 130 Introduction to Algorithms
* Tony Biehl discussed Computer Science 37 units certificate, need to be restructured.
* Tony Biehl discussed computer Information Systems 32 units certificate. Oriented towards business users web development.
* Tony Biehl discussed renaming the Computer Programing Certificate to Software Developer
* Sevada Isayan confirmed the renaming of Computer Programing Certificate to Software Developer Certificate.
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| * Industry trends: Computer Programing, Cybersecurity, Networking, Cloud Computing, and Technical Support
 | * Vladimir Paransky introduced the Padlet Survey.
* Cybersecurity - What do you see as emerging trends, current and future employment need, and future directions for Cybersecurity?
	+ Tommy Gober The industry moves so quickly, we in education cannot hope to keep pace. What is important is to teach fundamentals of the systems at work, how they interact under normal conditions (baseline), broad concepts of threat minimization, and compliance, compliance, compliance. We saw it in EU with GDPR that compliance became \*the\* greatest corporate need. If a similar US bill comes to pass, compliance will blow up almost overnight. Better to be ahead than behind.
	+ Tommy Gober Risk Management and Compliance officer jobs will continue to grow but are not something a recent grad will be ready to take on. (industry experience is a must)There's likely to be Congressional action on cyber in the coming years, new grads ready to learn Risk Management policy could be ahead of the curve. It may not be the sexy-cool "hacker" role geeks might dream of, but it's a well-paid need across all industries and grads should be made aware of the growing demand.
	+ Recommend CompTIA Security +
* Computer Networking - What do you see as emerging trends, current and future employment need, and future directions for Cybersecurity?
	+ Alex Paransky grater moves to securing network. Tighter VPN access with two factor authentication. Secure assess gateway use like Okta Portal.
	+ Familiarize students with virtualization and remote access solutions.
	+ Sean McWillie basic network technology and transport layers. Network + recommendation.
	+ Tommy Gober is in support of the certification path we have planned out.
	+ Tommy Gober Computer networking is a must for Cloud computing. Understanding virtualization and reducing VM bloat that can cause security issues in an organization. Micro segmentation is idea of putting each device on its own sperate subnetting.
* Computer Technician - What do you see as emerging trends, current and future employment need, and future directions for Cybersecurity?
	+ Tommy Gober stated that the A+ is no longer a lucrative career but is fundamental in understanding the workings of systems. CompTIA A plus as a target certification is not recommended and not that desirable on the resume but the A+ knowledge should be covert in the course work.
	+ We still need computer technicians for computer delivery. setup, and user support.
	+ Consider removing the Computer Technician Degree.
* Could computing - What do you see as emerging trends, current and future employment need, and future directions for Cybersecurity?
	+ Sean McWillie advised that students need to understand Cloud Computing as well as on premises computing and coming to a balance of services within an organization.
	+ Alex Paransky cloud optimization and cloud scaling should be introduced to students.
* Computer Programming What do you see as emerging trends, current and future employment need, and future directions for Cybersecurity?
	+ Tommy Gober and Sean McWillie Python is a good way to introduce data structures. Data structures should be tough earlier in the computer programming sequence.
	+ Steven Stepanek and Sean McWillie Move Data Structures CS/IS 211 to required core program and move CS/IS 137 C++ Advanced Topics to elective section.
* What skills would you like to see from Glendale Gradates that will ensure successful employment in these respective fields?
	+ Sean McWillie Teach platform agnostic skills.
	+ Tommy Gober Cybersecurity integration across of all computer technology certification and should be covert in Computer Programming, networking, and Cloud computing.
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| * Labor Market Information overview
 | * Naming Programs: Computer Programmers are on a decline. Software Developers, are up over 15%
* Computer Networking System Administration is increasing in a positive direction 7%
* Information Security Analysts are up 8.2%
* Tommy Gober shared a link for national averages [www.cyberseek.org/heatmap.html](http://www.cyberseek.org/heatmap.html)
* Computer User Support Specialists providing support for users is on a increase 10%
* Tommy Gober what are the overlay of programs at Glendale and how it overlays on the demand data from Center for Excellence and data market research.
* Develop Associates Degree in Computer Technology
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| * New Curricula Development 18 units each:
	1. Cybersecurity Certificate
	2. Computer Networking Certificate
	3. Computer Technician Certificate
	4. Computer Technology Associates of Science Degree
 | * Tony Biehl discussed Computer Programmer Certificate revision from 25 to 19 units. To streamline to industry needs.
* Tony Biehl discussed new programming languages to introduce to GCC. C#, Swift, GO, JavaScript, R.
* Tommy Gober and Sean McWillie stated R is more of a graduate course for mathematics majors. Python is in demand and growing. Python should be a required course for certificate program and degree.
* Tommy Gober discussed introducing JAVA Scripting as it is a growing in the industry and web development and is needed for Node.js for server side back end.
* Vladimir Paransky discussed converting new certifications in the CSIS program to future degrees. Such as Computer Information Technology Degree with an option in Cloud Computing, Networking Infrastructure, or Cybersecurity.
* Vladimir Paransky Introduction to new certificates 18 units each. Presented core classes and elective classes needed for each certificate. Each Certificate is aligned with industry recognized certifications.
* Tommy Gober likes the new track and is recommend we proceed with the new lineup.
	+ IT technician of 18 units
	+ Cybersecurity Specialist of 18 units
	+ Computer Networking of 18 units.
	+ For the Computer Networking make CS/IS 194 optional course and substitute with Cloud Computing CS/IS 240 or Unix/Linux CS/IS 172 or 174.
	+ On the Cybersecurity Specialist certificate remove the Java and the C++ offering.
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| * Desired skills/qualifications for employment
 | * What equipment materials and software do you recommend that Glendale students know and learn?
* Tommy Gober Linux, VMWare, WSL
* Steven Stepanek CSU’s are not allowing second bachelor’s degree and advising students to go to community college to get the units and enroll into a master’s program.
* Alex Paransky – we are looking for individuals who have data structures experience, architecture, overall design, efficiency of algorithm implementation, big O notation, common software solutions. Flexible on languages. Primary languages for the backend Java, C# (.net), Java Script dot node. For the front end we use Kotlin for Android, Swift for IOS, Go, Kubernetes for cloud.
* Database and storage and retrieval. Table normalization, Mongo Data Base, MySQL.
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| * Discussion and Questions
 | Students return to Community College that have bachelor’s and master’s degrees and like to get certificates and skills to enter the computer technology filed. |
| * Adjournment
 | 3:54 PM |

Next Meeting: TBA