Minutes

Committee Name: Merced College CTIS Advisory Committee Meeting Spring 2022

Date: March 3, 2022, 5:00 pm - 6:30 pm

Location: Zoom Meeting

Attendees: There were 28 people in attendance

Bhrigu Celly, Merced College, Professor of CS presented CTIS

Doug Kain, Merced College, Dean Science Math and Engineering

Karissa Morehouse, Merced College, Assistant Superintendent/ VP of Instruction

Kathleen Kanemoto, Merced College, Professor of CS

Christian Magliano, Bank of America, SVP Cybersecurity and Forensics

John Shi, Curacao ,VP /CIO, Compliance, Security and Infrastructure

Will Resendes, Merced College, Director, Technology, Infrastructure and Architecture

Rajat Tripathi, Apple, Product Executive

Nathan Smith, Uber, Data Scientist

Matthew Friedberg, Netflix, Product Operations

Miland Parikh, Amazon Web Services (AWS), Cloud Support Engineer, SME

Darshit Shah, Amazon, Software Engineer

Michael Irvin, MFCP, Director, Infrastructure and Security

Josh Hartman, MFCP, Manager Cybersecurity and Infrastructure

Ravi Movva, Discovery Communications, Solutions Architect

Himanshu Iyer, Nvidia, Product Marketing

Bihn Nguyen, Northup Grumman, Network Engineer

Nilesh Karwa, Realtor.com, SDET Staff Engineer

Sam Phen, Stanley Healthcare, Solutions Engineer

Thomas Jarvis, California Department of rehabilitation , Technology,

Joshue Sainz, Los Angeles Federal Credit Union, Manager, Information Security,

Catherine Liu, E&J Gallo Winery, Data Scientist and Statistician

Sharon Lewis, Los Banos School District , High School Teacher

Satish Venkata, Cloudvirga, Software Engineering, Team Lead

Al Adame, Rancho Santa Domingo School District, IT Technician

Hadi Debungg, West La College , IT Professional. Canvas Administrator

Ocean Sim, California Community Foundation , Network Administrator

Desiree Hobsongarcia - Keck Medicine of USC , Service Desk Tech

Participants who watched the recording and responded via email:

1. **Introductions**

   Meeting stated at 5:00 pm by Dean Kain an initial welcome and a short thankyou to all attendees by VP Instruction Karissa Morehouse

   Went through the agenda describing the different programs, the relationship between the current degrees and all the new degrees and certificates.

2. **About Merced College and the CTIS Department**

   Described starting of the CTIS program and introduced the objectives, approach and offering of the CTIS Program and described what was achieved over the last year with the introduction of the AS in CTIS and the four certificates and how they relate to older degrees and certificates. Introduce the concept of fast track.

   We also discussed relationship between industry standard certification and school curriculum, hiring process and understanding of certifications. Giving an overview of the certification organizations and transferring to a 4-year school and getting credentials to get employment.

3. **CTIS Prospective Students and reason for new AS Degrees**

   Went through the prospective student's breakup and described the various subclasses of students requiring upgrading skills. Describe the certification roadmaps and possible industrial certification available to pursue in part or Merced College Certificate or as an AS degree. We also showed the industry certification map and what we plan to cover.

4. **CTIS Existing Degrees and Programs and Academic Partnerships**

   Describe the current offering. Going over the AS in CTIS and the four currently offered certificates. Describing the basic components of the CTIS Curriculum. Explain how new degrees relate.

   Degree
   *   AS CTIS (60-61 units)*
   Certificates (4 classes each, 12-13 units)
   *   Computer Systems Professional*
   *   Network Professional Certificate*
   *   Security Professional Certificate*
   *   System Administrator Certificate*

   Discussed all the current partnerships with industry and ones that are in progress.

5. **CTIS AS Curriculum update**

   Describe the current flow of classes in the AS CTIS and how it relates to the new Cybersecurity, Cloud Computing and revised Computer Technology and Networking. Describe the changes in the AS in CTIS programs to match the new ICT-descriptor Degree change. An extra programming core CTIS-07 option and an elective CTIS-05 was added.

   CTIS 07: Linux Shell Scripting and Programming (3 units - Programming Core)
   CTIS 05: IT Project Management (3 units - Elective)

6. **New Degree and Certificates**

   Introduced the reasons to add new degrees and certificates. Describe the training, rational and certificate alignment with industry.

   Degrees
   *   *AS Cybersecurity*
   *   *AS Cloud Computing*
   *   *AS Computer Technology and Networking (revision)*

   Certificates
   *   *Certificate in Cybersecurity*
   *   *Certificate in Cloud Computing*
   *   *Cybersecurity Forensics Specialist*
   *   *IoT Certified Professional*
   *   *Certificate in IT Technologies*
   *   *DevOps Certified Professional*
   *   *BigData Certified Professional*

   There are no prerequisites to the beginning CTIS classes, and these are meant to attract students with different interests other than Computer Science, Working Professionals. We also describe the basic pathways showing relation between certificates.

7. **Overview of the CTIS Pathways in AS Cybersecurity, AS Cloud Computing, AS Computer Technology and Networking revision**

Described the pathway for the certificates and the AS degrees associated pathways. Described multiple levels a student can progress to get the AS Degrees in the 4 different areas.

Possible AS Degrees:
> *AS in CTIS*
> *AS in Cybersecurity*
> *AS in Cloud Computing*
> *AS in Computer Technology and Networking*

We also described how new certificates align with the final goal of attaining an AS degree and what could be accomplished every semester. Each semester was an advancement in level with skill and the final semester will be completing the GE requirements to get Associates degree.

Jobs in these areas are set to grow in our area.
https://www.bls.gov/ooh/computer-and-information-technology/home.htm

8. **Fast Track Offering**

Introduced the idea of Fastrack courses and short term classes. Walked the committee with a sample schedule for the AS in cybersecurity. Showing the sample course offerings. Discussed new infrastructure and the cybersecurity Lab to help with remote offering of current practical curriculum aligned with several IT academies like Cisco, Juniper, Oracle, RedHat, VMWare, Polo Alto, AWS, Azure, Google and other partners. Discussed the possibility of having over labs over a browser and processing being done on the server side. Describe a self-service Prerequisite module.

Introduce the equipment, Lab environment and training material offering for the fast-track program and its industry affiliation.

Comments

Binh – How many hours of lecture. Can the students get learning in a 6 week session? Worry about quality. How much student can retain?
Bhrigu Lot of reinforcement across different classes such as Ethical Hacking and Network Introduction. Multiple Labs being tried currently with the networking cohort. Reinforcement and hands on labs help improving muscle memory with exams and following bootcamp psychology. Labs are provided by industry academies. Real Equipment helps.

John Shi. Cisco, VMWare, AWS Azure. Are you saying student have access to all services and tools? How long do they have access to the labs? Is it real equipment.
Bhrigu: Students have access to all labs. AWS Academy, Google Cloud Services and quiklabs uses real cloud environment. Student have access to labs duration of the class and sometimes 2-3 months after the class. We can also provide more time when we setup the class. We open

classes one week before and keep them open a week after the end date. Infrastructure amazon and google is leveraging and is real infrastructure. Industry academies are setup with real equipment or simulations mimicking real equipment. We use NETLAB+ have pods with real routers, firewalls and switches with a web interface to interact. VMs are used for PC and endpoint simulation. We do packet tracer for simulation with cisco equipment. Current cohort Routing and Networking using labs from Juniper Networks. We also use multiple vendors for better exposure. As the program has massive web presence with the NETLAB interface.

9. **Overview of the IT Technologies Certificate**

    IT Technologies Certificate is the base for all the AS CTIS Degree Pathways for all the 4 degrees It will contain classes below and will form foundations or Level 1 in Technology Development. Explain the relevance of a basic technology offering and how it aligns with rest of the degrees. Basic preparation for help desk and entry level internships.

    Required Courses
      CPSC - 01: Computer Information Systems (4 units)
      CTIS - 03: Information & Communication Technology Essentials (4 units)
      CTIS - 09: Cloud Computing Infrastructure and Services (3 units)
      CTIS - 11: Linux System administration (3 units)
      CTIS - 15: Computer Network Fundamentals (3 units)
    One of these Programming requirement
      CTIS - 07: Linux Shell Scripting and Programming (3 units)
      CTIS - 04: Programming with Python (3 units)
      CTIS - 02: Introduction to Programming Concepts and Methodologies (3 units)
      CPSC - 05A: Application Development and Programming (3 units)

    Discussed several industries aligned certification that can be accomplished with above course material. Discussed why students would like to have the certificates.

10. **Overview of the AS in Cybersecurity**

    Went over classes and structure of the AS in Cybersecurity and the different stages of obtaining a AS degree. Discussed the breakup of the classes in the certificates and the specialization classes to complete the degree. Several new classes have been added to make the degree complete. Also went over the new Certificate in Cybersecurity and its relation to Security Professional Certificate offered already.

    We also discussed the new classes that are being added

    CTIS 19: Cyber Ops (3 units)
    CTIS 23: Network Security and Firewalls (3 units)
    CTIS 24: Cloud Security (3 units)
    CTIS 30: Cybersecurity Analysis (3 units)
    CTIS 32: Threat Hunting, Incident Response and Crisis Management (3 units)
    CTIS 35: Security Policies and Compliance (3 units)

Went over different types of industry certificates from CompTia, Cisco, Cloud Security Alliance, EC-Council, GHIC and Amazon and explain how they align to the degree.

11. Overview of Certificate in Cybersecurity

Went over the courses that make up the certificate and how it aligns to the cybersecurity AS degree as advanced courses. Went over all the different kinds of Industry Certificates.

Certificate in Cybersecurity classes

CTIS - 19: Cyber Ops (3 units)
CTIS - 23: Network Security and Firewalls (3 units)
CTIS - 24: Cloud Security (3 units)
CTIS - 30: Cybersecurity Analysis (3 units)
CTIS - 32: Threat Hunting, Incident Response and Crisis Management (3 units)
CTIS - 35: Security Policies and Compliance (3 units)

Went over different types of industry certificates from CompTia, Cisco, Cloud Security Alliance, EC-Council, GHIC and Amazon and explain how they align to the degree.

12. Overview of AS in Cloud Computing

Went over classes and structure of the AS in Cloud Computing and the different stages of obtaining a AS degree. Discussed the breakup of the classes in the certificates and the specialization classes to complete the degree. Several new classes have been added to make the degree complete. Also went over the new Certificate in loud Computing and its relation to Computer Systems Professional offered already.

We also discussed the new classes that are being added and their relevance to different cloud vendors.

CTIS - 19: Cyber Ops (3 units)
CTIS - 24: Cloud Security (3 units)
CTIS - 25: Application Development in Amazon Web Services (3 units)
CTIS - 26: Machine Learning, Analytics and Big Data in Cloud Services (3 units)
CTIS - 28: Cloud Computing with Microsoft Azure (3 units)

Went over different types of industry certificates from CompTia, Cisco, Oracle, Cloud Security Alliance, Google, Microsoft and Amazon and explain how they align to the degree.

13. Overview of Certificate in Cloud Computing

Went over the courses that make up the certificate and how it aligns to the cloud computing AS degree as advanced courses. Went over all the different kinds of Industry Certificates.

Certificate in Cloud Computing classes

CTIS - 08: Intro to Systems Analysis (3 units)
CTIS - 10: Introduction to Databases (3 units)
CTIS - 24: Cloud Security (3 units)
CTIS - 25: Application Development in Amazon Web Services (3 units)
CTIS - 26: Machine Learning, Analytics and Big Data in Cloud Services (3 units)
CTIS - 28: Cloud Computing with Microsoft Azure (3 units)

Went over different types of industry certificates from CompTia, Cisco, Cloud Security Alliance, Oracle, Microsoft, Google and Amazon and explain how they align to the degree. Show the industry connection the labs and academy. Explain Merced College relation to academy partners like CompTia and Oracle.

 Comments

Rajat Tripathi: This program looks good. This is current to the trends we are seeing in industry.
Bhrigu: That's the idea to supplement with current industry trends. We do labs on real equipment. AWS Academy provides coursework for analytics, machine learning and BigData.

Joshua Hartman: I really like the program. How it piggybacks off the certificate programs. It gets you to a point not necessary a jr sys admin but having the tools and knowledge to maneuver and adding more VM would be more essential for any aspiring Sys Admin. I like it curriculum is great.
Bhrigu: We have classes the people can supplement for VM. When you are doing basic cloud class, we do EC2 and have several VM assignments. HW and Assignments are VMWare, Virtual Box and then moving on to cloud AWS.

John Shi: I think all these programs are very good. I think they are very practical. 50% effort comes from the instructor and the resource as long as the student are dedicated they would benefit a lot going through all this training.

Joshua Hartman: I Agree john. It is also up to the individual to explore little outside. Github having a Dr. Celly provide additional resources. I Agree.

Ocean Sin: This is a very nice program. I got one question. For the certification does the school have partnership with CompTia to give discount for the student taking the certification exam.
Bhrigu: yes it does. In some cases it is free.
Ocean Sin: That's even better
Bhrigu: In some cases it is discounted. If you take the CCNA classes you get a 70% voucher for CCNA. CompTia is also close to 50% to 70%.
John Shi: How about AWS stuff.
Bhrigu: Yes. That is discounted. Cloud companies are giving you money to learn. It costs 300$ for google cloud that is given free. Each student in class gets 300$.

John: That makes sense. Otherwise, they do not go through school they have to pay their own on AWS, Google and azure. That turns out to be more expensive.

Bhrigu: They give you funding and also give you quick labs where they are using their infrastructure. They give you cloud credit and discount to take the exam.

Josh Seniz: I have been through comptia and being a student is much cheaper to get a discount then after you graduate. Its probably the best time. Look at intro certs. If you were to starting security+ is a good certificate. Get vouchers while student to do the exam later.

Bhrigu: Most of the academies have placement portals. Once you get industry certification you can go try to get placed. A lot of the jobs are remote jobs.

Josh Seniz: I agree the need for cyber positions will grow with the current scenario.

Bhrigu: Its great how this all fits together in terms of technology.

Josh Hartman: IoT is a gamechanger. Dive in deep in all that. Integrating with applications and systems.

John Seiz: Most companies are told by their auditors that they need to create a cyber department. That's good for everybody looking for a job. There are going to be a lot of entry level positions.

Bhrigu: Everyone needs to have an Analyst kind of position. Its great to have this curriculum. Little GE requirements. For Merced college AS 75% of the work is core work. Gives more exposure to all these tools to enhance skill that was a conscious choice.

Nilesh Karwa: In this certificate course are students going to create a project or application or is it more about learning about the services. Will those projects if they are doing it will be separate for a group people or will it be a common project.

Bhrigu: We plan to put a capstone and an internship where we can mirror around a proper project that can be deployed.

Nilesh Karwa: Are you planning to sync up with the companies to get the real time project. How is it going to work?

Bhrigu: We are planning to start to source internally. If we cannot accommodate everyone internally we can have capstones with outside companies. We are looking into outside companies. It's a good point. If students have real projects to show that experience works great.

John: You are talking about vocational school all day. Students get assigned to real projects.

Bhrigu: AWS Academy has projects that are called capstones can be used.

Nilesh Karwa: Merced College will have their own website and IT department. There could be something internal that the student can work on. That could be beneficial to show in real life.

Bhrigu: We are looking into internal internships. Idea is to as much as possible this content to improve what the students learn.

Ocean Sin: By looking at the curriculum that is laid out the students going to this program are more equipped to get a job then a student that came out for a 4 year school.

Bhrigu: That's the idea to make Merced College Students competitive. One student interviewed with a company in the area the company changed the job description as he knew more than bachelor candidates.

Josh Saniz: I can see that as a high possibility. When I joined this company they change few things as I had input. As you have courses related to digital forensics and ethcal hacking it does prepare student to make good contributions to the company.

Bhrigu: Policy class is where they learn to write response plans.

Josh Saniz: Incident response and crisis management is very good. Good Addition to the program.

14. Overview of Computer Technology and Networking degree and Computer Technology Certificate revision

Went over classes and structure of the AS conversion of Computer Technology and Networking degree to align to current technologies. We also discussed the different stages of obtaining a AS degree. Discussed the breakup of the classes in the certificates and the specialization classes to complete the degree. Several new classes have been added to make the degree complete. Also went over the revised Certificate in Computer Technology and Networking and its relation to Computer Network Professional offered already. Discussed the difference in the Electronics background AA and the current revision. The current revision is AS. Go over changes in addition of industry certification from CCNA to add many more CompTia certs. Going over transition from Network-to-network security engineers.

We also discussed the new classes that are being added and their relevance to current industry trends to the AS degree.

CTIS - 09: Cloud Computing Infrastructure and Services (3 units)
CTIS 11: Linux System administration (3 units)
CTIS - 12: Windows System administration (3 units)
CTIS - 16: Routing and Switching (3 units)
CTIS - 18: Network Security and Automation (3 units)
CTIS - 20: Introduction to Information Systems Security (3 units)
CTIS - 23: Network security (3 units)
CTIS - 33: Firewalls and VPN (3 units)
ELCT — 34 Digital Logic, Circuits and Systems (3 units)
ELCT — 36 Network Topologies and Cabling (3 units)

Computer Technology and Networking Certificate classes below

CTIS - 12: Windows System administration (3 units)
CTIS - 16: Routing and Switching (3 units)
CTIS - 18: Network Security and Automation (3 units)
CTIS - 20: Introduction to Information Systems Security (3 units)
CTIS - 23: Network security
CTIS - 33: Firewalls and VPN (3 units)
ELCT — 34 Digital Logic, Circuits and Systems (3 units)
ELCT — 36 Network Topologies and Cabling (3 units)

15. Overview of Cyber Forensics Specialist Certificate

Went over classes and structure of the Cyber Forensics Certificate and discussed relevance to the current workforce.

Classes for the certificate.
CRIM - 08: Introduction to Investigation (3 units)
CTIS - 22: Digital Forensics Fundamentals (3 units)
CTIS - 32: Threat Hunting, Incident Response and Crisis Management (3 units)
CTIS - 34: Mobile Forensics (3 units)

One of these
> *CTIS-20: Introduction to System Security (3 units)*
> *CTIS-04: Programming with Python (3 units)*

One of these
> *CTIS - 23 – Network Security (3 units)*
> *CTIS - 15: Computer Network Fundamentals (3 units)*

Comments

Christian: Forensic Report writing is important and need to be included.

Thomas: Agrees with Christian.

Sam Pen: Its more on report writing. Policy's students can learn by listening and seeing examples and creating your own template. Actual writing is actually very helpful to learn the terminology and formats to articulate wording.

Bhrigu: Other than Report writing is there anything else that is of importance.

Joshua Seniz: How report is structured and how you will with the incident reporting. Lessons learnt to make sure it stands with auditors analysis when report is analyzed. Handling of the incidence.

Christian: There is a sans class about auditing and report writing as well. Its an interesting take. Its not corporate speak. Communicate in executive summary. This helps auditors. Done not need a full class. Could be part of a class. Could be part of a full project end the lesson as they are doing report writing.

Bhrigu: Keep the multiple reports for reinforcement.

Christian: Something that gets them used to writing forensic reports to a very detailed level. Detail all the steps. To stand up an audit. To be able to recreate from the report.

Bhrigu: Report should be able to speak for itself.

John Shi: Process should be similar to the compliance. There is no one way of writing. Some basic principles need to be followed for what happened and how do you discover. Could be report or could be a process or template. Incident Response we have a template plan of what happened. When happened an how did it happen. Everyone writes differently but ingredients should be there.

Thomas: Merced college has a criminal justice department and there is a report writing course. I work in the government. It might be a good springboard to find some course work so more universal.

Christian: Keep in mind certain methods and formats they are the standards but they are gotchas. You are proving your results in the report. Defending what you are doing. Not to have anything questionable. I did not have those classes when I was graduating. This would have made a big difference. Corporate world it is very necessary. To be ingrained as part of the class.

Joshua Hartman: Board of directors will be happy if you took this class.

Christian: Creating an executive summary could be part of the class. Leadership prefers bullet points over sentences.

Bhrigu: Christian I will get help from you finalizing this class.

Christian: Ok.

16. Overview of IoT Certified Professional

Went over classes and structure of the IoT Certified Professional and discussed relevance to the current workforce. Giving basics of IoT.

CTIS - 04: Programming with Python (3 units)
CTIS - 36: Introduction to IoT(3 units)
CTIS - 37: IoT Security (3 units)
One of these
> *CTIS - 14: Advanced Python Programming (3 units)*
> *CPSC – 06: Programming Concepts and Methodology I (Java) (3 units)*

Comments

Christian: IoT is very important. Generally you have vendors black box so its good to know. Security side of things.

17. Overview of BigData Certified Professional

Went over classes and structure of the BigData Certified Professional and discussed relevance to the current workforce.

CTIS - 02: Introduction to Programming Concepts and Methodologies (using R) (3 units)
CTIS - 04: Programming in Python (3 units)
CTIS - 10: Introduction to Database Management Systems(3 units)
Math - 10: Introduction to Statistics (3 units)
CTIS -13: Introduction to BigData (3 units)
CTIS - 26: Machine Learning, Analytics and Big Data in Cloud Services (3 units)

Comments

John Shi: Anything specific in big data. Certification can help for entry level position. Very generic.
Bhrigu: Giving an idea with python and R. Supplement what you already have. Basics of BigData.

18. Overview of DevOps Certified Professional

Went over classes and structure of the DevOps Certified Professional and discussed relevance to the current workforce. Going over the coursework juniper networks offers and RedHat offers for network automation.

CTIS - 04: Programming in Python (3 units)
CTIS - 07: Linux Shell Scripting and Programming (3 units)
CTIS - 09: Cloud Computing Infrastructure and Services (3 units)
CTIS - 11: Linux System Administration (3 units)
CTIS - 15 - Computer Network Fundamentals (3 units)
CTIS - 37: Introduction to DevOps (3 units)

Comments

John Shi: Computer Network Fundamentals does not relate to DevOps.
Bhrigu: The assumption is the student does not have prior background. Some one on the newer side to technology.
John Shi: What does introduction to DevOps include.
Bhrigu: DevOps will include Ansible, Jenkins, Basic scripting, Server side operations,
John Shi: Are students going to get hands on. Setup equipment.
Bhrigu: Yes. Juniper Network Academy has curriculum on automation and devops. They have curriculum that does that.
John Shi: Even though it is Introduction it could be a project. When they start doing devops the already know some programming. They can build system and automate the process. Incorporate what they have learnt from the programming side into software development. This is good. Top 5 classes are fundamental. Students need to pick all the skillsets they have learned and adopt. Do real scenario. Real project-oriented class. It is hard for them to set it up if they do not know the first five classes. Everything is cloud. There is no perm setup. Programs are very good. As long as the student have 10 hrs. a week they can do well. I can see value in these programs.

19. **Voted on approving the AS degrees and Certificates**
    Bhrigu Celly asked Board Members if they agree with creating the AS Degrees and Certificates at Merced College as they were presented, it was voted on and approved unanimously.

20. **Questions and Comments.**

    In the end we opened the committee to comment.

    Comments

    Nathan Smith: Where is SQL covered.

    Bhrigu: It is covered as part of the database class CTIS-10. Do you need a dedicated class.

    Nathan Smith: No.

    Himanshu Iyer: One general comment or something you can clarify. Do you get questions from students that are interested. What is the benefit of doing these kind of certifications? This vs something that is offered directly via AWS or Google. How would you differentiate. I see some of the benefits when discussing about cloud. You are providing little bit of background on cloud providers. Something to highlight.

    Bhrigu: The material that is being used is provided by AWS and Google. AWS Academy was actually created with this in mind. The labs are by AWS and the content is by AWS.

    Himanshu Iyer: The two programs specifically the Cloud Certification and IoT Certificate. There is an industry need for those programs. A lot of benefit of whoever goes through the programs. One area or topic to consider for these programs is on the AI/ML side. There is a huge growth projected in these areas in all sorts of industries like Financial or Manufacturing or health care. Some exposure will be great.

    Bhrigu: BigData has an advanced Python class that covers some of the basic ML libraries and usage numpy, pandas and skit-learn. That's part of the BigData Professional Certification. Possibly changing the name could give more visibility.

    Himanshu Iyer: If you mention AI/ML terms in the description then it will help.

Bhrigu: Like a simple AI usage Python class.
Himanshu Iyer: Overall great initiative. I voted yes to move it forward. All the best.

Binh Nguyen: Great Program. If the degree is offered that will help a lot. In a 4 year degree this is going to help a lot or even a masters degree. Great Overall.
Bhrigu: Its good technical springboard. This offers great hands-on skill. Most 4 year degrees have less hands on. Stems of the fact that most students who do not want to go to school or want to go to school want to do it for a very short timeframe. This will entice all those students. This offers skill in a short timeframe.

Joshua Hartman: Is it more geared towards in class or remote.
Bhrigu: Geared for both. You can take a topic and then come back and take another one. Remote access to real equipment. Can take coursework from anywhere.

Darshit Shah: Will there be a possibility in the future that if you have take any certificates mentioned here can help you reducing your unit count.
Bhrigu: There is something called credit for prior learning where a certificate will translate to units. An example could be Network+ could translate to CTIS-15 or Security+ could translate to CTIS-20. CCNA could waive CTIS-15,16,18. It is in the works. That is a direct translation. You already have the certificate there is no point takin the class.

Ocean Sin: Just want to comment Do you see someone taking all classes together. Cloud, IoT, Security.
Bhrigu: You can take classes independently. It is up to you. Example could be in Winter you have time and you can take classes. In Summer you have time to take some more classes. Tea is to keep the time period short so work can be completed.

Ocean Sin: I was thinking more in line for people mixing up the classes. Doing different tracks.
Bhrigu: They can pick and choose like a buffet. You can have premade selections and you can make your own. You can take only certain classes if you like to.

Ravvi Movva: We spoke about reinforcement learning. Repetitive work. Every week there will be a quiz.
Bhrigu: Every certificate has modules and there is a quiz at the end of it. If they do a few modules they will have a few quizzes a week. They also have a skills assessment. Skill based learning.
Ravvi Movva: Fantastic. That would help them to retain information.
Bhrigu: We are doing this model with the networking cohort. They took 1.5 time the normal unit load.

Darshit Shah: will there be prerequisites where you will be enrolling in certain courses.
Bhrigu: Last semester there were some classes that had courses advised. We made two-week online modules for anyone taking the class for revision. That has worked out well. Example is basics of networking. Key points and revision. Few assignments at the beginning for reinforcing.
Darshit Shah: Can I take this certification even though I am not in school. Do I need o pick other classes too.
Bhrigu: You can enroll in school and pick any class in this curriculum. If there is good knowledge there can be a waiver for class. Most CTIS classes have pre-reqs advised vs required.
Darshit Shah: hat is the cost of each class. Will it be the same?
Bhrigu: It is a little over 150$.

21. Adjournment

Meeting adjourned at 6:30 pm by Bhrigu Celly

Meeting Chair: Dean Doug Kain, Bhrigu Celly

Here is a link to the slide decks and meeting recording:

Link : https://drive.google.com/drive/folders/1BSomxYC4A94pl3yh8rRYRLFKsQm2PkBA