ICTL and ELEC/TELCOM Advisory Committee Meeting – October 1, 2018

12:00 – 3:00 p.m.

Career Academy 217 A&B

Attendees: Steve Koppy, Cameron Fleck, Jody Leingang, Dan Schilla, Chad Betz, Jesse Schumaker, Kim Jackson, Les Hintz, Ryan Olson, Mike Mittleider, Ethan Vaagene, Calvin Aberle, Jody Leingang

BSC Attendees: Bob Arso, Vance Vesey, Scott Harris, Mike Holman, Byron Paul, Jim Guerard, Ken Busch, Carla Hixson, Jerame Novak, Alicia Uhde, Courtney Reiswig

BPS Attendees: Lee Gullingsrud, Corey Mitzel, Dale Hoerauf,

Introductions – The group introduced themselves.

Approval of Spring 2018 Minutes: Asked for additions/correction to the minutes, if any. Asked for motion to approve.

Correction: page 1 BPS program report: 1st year electronics enrollment - fall 2018 – 19 from "BSC" should be "BPS". Courtney will make the correction to the Spring 2018 minutes.

Bob Arso made a motion to approve the minutes as amended. All were in favor, the motion carried.

BPS Program Update: Update on enrollment numbers: 14 of 27 electronics I students came in to the program. Got 37 out of 59 from software class, 47 out of 64 from the hardware class, and got 17 out of 25 from the networking class. For some reason, students are having an issue getting into the classes for BPS and electronics. Career Academy/Tech Center wide, 90-95% are supposedly getting in. Since Legacy was added, scheduling has been an issue. All three high schools each have their own schedules. Dale Hoerauf mentioned there has been a big push, district wide, for Advanced Placement (AP) courses, so that is what a lot of students are choosing. Going to go in to the schools and meet with the counselors to see why those students that wanted to get here, why didn't they get here? One of the reasons are the AP courses. This is the lowest student count they've started in first year with in a long time.

12 seniors between the digital and analog classes, and at least half are planning to articulate into the program as of right now.

IT classes are still growing fairly well. Most are 9th graders.

Took two kids to Louisville, KY for Skills USA – 5th in nation in mobile electronics and 6th in the nation in electronics technology. One sophomore and one junior so both will have another shot to go down again this year.

FTC robotics – Lee took over last year. State tournament at Career Academy Feb 2. Always looking for volunteers – takes about 30. Looking like will have 24 teams (10 kids each) coming to the Career Academy. 15 from ND and 5 from SD. Hard to find someone to be a coach for a team here in Bismarck, as well as other areas. A lot of teachers are involved in other programs already. You don't have to be a teacher to be a coach on a team. Andeavor has been a huge supporter of getting the robotics program up and running in the state and funding teams (7 so far this year that have applied for grants).

NECE enrollments: Alicia Uhde, ICTL Department Chair, went over NECE, ICTL program enrollment numbers.

Spring 2018: 6 online (taking ICTL courses only).

36 total on campus – 23 in 2nd year of the program.

This fall: 47 total online (biggest numbers we've seen). 17 in 1st semester (electronics courses) and 27 in 3rd semester.

41 on campus – 21 in I&C courses, 20 taking electronics. 5 were grads from the Telecomm program last year, and coming for an additional year to earn their ICTL degree. Alicia mentioned that these students would be great to have talk to the high school students to get them interested in the electronics/IT classes in high school. Vance mentioned Michael Ternes would be good at that.

BSC Electronics enrollments: Bob Arso, ELEC/TELCOM Department Chair, shared that there are 19 electronics/telecommunications students between first and second year. 18 unique students. 23 in electronics 1st year (some ICTL and some electronics).

Polytechnic Institute – BSC is looking to become a Polytechnic Institute, which means we would add more bachelors of applied science (BAS) degrees to our program offering. Bob would like to see this committee support the ICTL and ELEC/TELCOM programs go into offering BAS. Vance mentioned that a BAS may more so look like a combination of the two programs so students come out with a broader background. Alicia mentioned that there needs to be creation of 300 and 400 level courses. We will also need to show workforce demand and need from it. We would need to show what positions this degree would fill that we aren't filling with our AAS degree right now. What is the difference? She also mentioned that polytechnic stress a full semester of internship for the students.

Carla mentioned we also need to go through our accreditation agency (HLC) and request a mission change (from being a two-year degree community college to becoming a four-year college as well) and get approval on that. It is likely that we will get that change incorporated, but that step needs to come first. It is still good to start thinking about the programs.

Steve Koppy said a BAS would be beneficial, esp. in the federal gov't.

There would need to be major support from industry in order to get a BAS program up and running. There are not a lot of grant opportunities for starting a four-year degree.

There was more discussion on this topic.

Jesse Schumaker – They look for bare minimum, specific skill sets in certain areas. Minimum is the AAS degree, but BAS would open tremendous opportunity once in the company. More marketable, move into management sooner. They see a lot of people going back to school in order to move into managerial positions.

NECE News: Alicia went over some news at the NECE.

Saudi – Starting an energy academy with a number of energy programs. 74 students started in September and their first class is English as Second Language. Will start seeing more position openings to support that initiative and those positions will be housed here at BSC.

She also went over the Career Explorer event. Looking for Industry sponsors to help sponsor meals, where you could come in and talk about your company, industry, and employment opportunities. BSC would like to sustain this year to year by making it possible for faculty and/or staff to come for free and obtain continuing education credits. Will be 30 bringing area high school counselors and teachers (30 max) in to learn about the technical programs offered at BSC.

Carla mentioned the new BSC Electronics Career Fair which will be held on April 5 (for grades 10-12).

Spring 2019 Meeting Date: April 1 is a Monday. Same time frame, 12:00 – 3:00 p.m. A motion was made, and a second was made. All approved, motion carried.

Committee Vacancies: Mike Holman noted that there is a vacancy on the ELEC/TELCOM committee with Doug N. moving to FL. If you have any contacts, please send them our way.

Electronics/Telecom Program Breakout: Arso explained how they used to build an AM/FM radio. The value of doing that has decreased quite a bit. He moved to trying to have students understand specifications used in the communications world:
Minimum discernable signal, full power sensitivity, signal to noise ratio (based on 10 dB), 20 dB quieting, 12 dB signal noise and distortion (SNAD), noise floor, 1 dB compression points, dynamic range, blocking dynamic range.

Transmitters: power measurements, frequency measurements, modulation measurements.

Emerging technologies: direct digital synthesizers, software defined radios.

Bob asked for feedback from the group regarding the topics above.

Midco offers a paid internship, but have been unable to fill that position.

It was mentioned that basic troubleshooting is a “lost art” so the topics above are important to go over.

Mike Holman – in process of redesigning all first year online courses based on some issues that came up last spring. Should all be done by next fall.

Bob asked the group to go back to BSC graduate they’ve hired and see what they think was important to learn in the program for what they are doing now.

ICTL Program Breakout:

Jim Guerard went through the prints and the process we are taking students through to create loop drawings in the prints and diagrams course.

BSC is looking for more process to develop similar print packages for the students. Jesse will look into getting us a smaller process. Alicia mentioned looking at some of the prints ONEOK has provided for their hands-on training and if they would be applicable, she will reach out to them to see if we can use them (remove any proprietary information).

Jesse – have in the budget for two interns this year. They will be at the career fair. 3 mechanics and 3 electrical.

Alicia will give Lee G information about the NECE career fair so he can get his students potentially involved. His students will graduates from high school and then go directly into the second year of our program. Those would probably be great candidates for the types of interns Jesse is looking for.