

Quarterly GIS BILT Meeting – June 03, 2015

Meeting Minutes

Welcome and Introduction – Phillip Davis

Meeting Link:

https://meetings.webex.com/collabs/url/ov_B9qO76bSk-mKQEh9GXSc-QwhOyTq_wKJFdJBRZa000000

Collin – GTCM Model Program approval

JJ Nelson –In regard to GTCM approved courses that we developed, the GST 101 - 105 courses were already approved 3 years ago with corresponding awards and certificates / degrees, through Del Mar College. One of our partner colleges has assumed these classes as Continuing Education and college transfer hour courses and we thought it would be best if we went through the process of getting those same courses that were already approved, as MSA'S (Marketable Skills Awards) and certificates. They fit into their degree structure by utilizing the same KSA's that were established back then. It's pretty much a Laredo mirror image of what we have developed. Their courses will be both in CEU and college hours, so we will be going over the same terrain we did 3 - 4 years ago. Bringing up documents....

Those are the courses that were developed through the GST 101-105; where they have GISC 1011, ours was GISC 1311. These are the courses that pertain to Continuing Education units. There would be the same contact hours involved whether it was CEU or college transfer hours, so these are the exact same courses and same descriptions. So as you see, these are the same courses, the r1311, which is the GST 101, 102, 103, 104 and 105, they just have a slightly different course number than we utilize. Our understanding from them is that by following through with the criteria, the student can meet the credentials and convert it to college credit. For instance, this one would be 3 college credits, and so on; pretty much the same as Del Mar College, same course descriptions, different course numbers.

[in reference to the LCC-DMC Report doc] The way Sergio broke down each of the courses into contact hours would be similar to what we had generated with Del Mar College-- the same course description, and contact hours. These were taught as Continuing Education and college transfer hours and if the student chose to transfer it later, there was a fee attached; that's all in the documentation. They follow the same KSA's and it's already approved in regards to the GS Tech I and II, and so on. These courses are being applied to GIS path to drafting and architecture.

Sergio Lujan –We have a Marketable Skills Certificate in place: two GIS courses, plus a drafting class called Surveying that will give the students some marketable skills. From there, they can grow from a level I certificate, to level II certificate, and eventually, an Associate's Degree.

Computer Aided Drafting and Design Technology for approval

Sergio Lujan –First courses that we call GISC 1011 and GISC 2020 are in our level I and level II certificates, as well as, the Marketable Skills and Associate’s Degree plans. If you scroll down you can see the sequencing.

JJ Nelson - They are utilizing the courses as we developed them, matching those KSA’s through their MSA’s and Certificates, which mirror ours that were already approved. And you can see how they fit within our degree plan for architecture and drafting. It’s another application, in which GIS can be applied within multiple academic sectors. That’s pretty good.

Sergio Lujan – With the GISC 1011, when the student requests the Challenge Exam, they can convert that into credit by passing it with a B or better; it would become a GISC 1311.

JJ Nelson – Right. It would then attain those CEU’s that would then convert to its corresponding college transfer hours.

Sergio Lujan- Right. The same thing would apply to GISC 2020, which would eventually become GISC 2320, if they pass the exam.

JJ Nelson – So, if they complete the course and meet all the requirements of the course itself, they can take a test, only if they choose to convert it to college credit. This gives the student the opportunity to work in GIS. Let’s say they are a professional who wants to acquire the GIS knowledge and skill sets, but aren’t interested in the college credit hours, they can get it potentially cheaper and go through the registration protocol. Then later, they can pass the test and convert it. It gives the student a lot more options.

[scrolling to sequence of awards] What’s brought up for approval is the fact that they are utilizing the generated courses following the GTCM Model, GST 101 through 105, and applying them to their unique architecture and drafting program that is sequenced for their degree plan for the student. The student can either take it as Continuing Education, thereby meeting the criteria to convert it to college credit. Or, get the certificate by completing the courses, as a CEU certificate. Once they have converted it to college credit, they can apply for the Marketable Skills Award. What we are asking for is to show how we are utilizing it, how we have shared it with other partner colleges and how they’re incorporating it into their existing program. Any questions?

Sergio Lujan –One of the things are working on, this month of June until all the way to the end of July, is we have about seven students that have applied for the exam and are wanting to convert it to credit. So, we’ll get some completers by the end of this summer.

JJ Nelson – They would have already completed the CEU certificate, but now they’re going to convert it to college credit, so they will have an MSA. Although we can only count it once, they’re converting it to college credit, which is substantial. They get a CEU certificate when they complete the courses too, even if they decide not to convert them. Is that correct?

Sergio Lujan – That’s correct, yes.

Phil Davis – No additional comments.

JJ Nelson – I think it matches what we approved three years ago and how we were able to take these courses and place them within other areas of study. This is going to be a template for across the board, whether it’s in Agribusiness, Land Management, Environmental Science, or what have you. I

think these are the type of things we need to do to expand the use and application of Geospatial Technologies in many fields.

Christina Titus – We would like to ask right now if you recognize the certificates, degrees and CEU certificates that were just presented....Does the BILT recognize them? Do you retroactively recognize them?

****Business recognizes CEU certificates and degrees****

JJ Nelson – So that is approval by the GIS BILT, of the evolution of what we have developed before? *[agreed] Thank you.*

Environmental Geology – Associates of Science approval

Adam Dastrup - *[Environmental Geology – Webex]* We have an Environmental Geology Degree at Salt Lake Community College and it's part of the Geosciences Department. This is a technicality and we thought we had this approved by the BILT, as one of the programs that counts towards the grant; that's why it is up here today. The reason why we would like to have the Environmental Geology course as part of the grant, is because it's the other program within the Geoscience Program that's missing. So you can say the Geography Degree, Geospatial Technology Degree and certificate are already part of and approved by the BILT. Environmental Geology is the only one that doesn't and hasn't had an official approval from the BILT. We would like to include it because we have quite a few GIS courses in content embedded throughout the Geology program. You can see the core courses we offer in Geology. Three of the courses have GIS embedded within the curriculum, so that in the Majors Level, there's a Physical Geology with the lab. The course does use the ArcGIS 10.3, it's just upgraded. Some of the lab assignments that have been created are part of the course along with the plotter that was purchased with our grant funds, along with a couple geology resources. The Physical Geology, the GIS has the students look at the Mining and Mineral Resources that are more on the remote sensing side. The Environmental Geology course, has a couple activities with ArcGIS, which has students look at natural disasters, climate change and a few environmental degradation components. The field studies course is where students go out in the field and collect a variety of data. We try to look at water and soil quality because we have a lot of areas with some mining deposits, so we want to look at the water and soil composition. We have collected data that students bring back to the college and input into GIS. They are able to map out the spatial distribution of the data sample. All three of those courses are using GIS with the focus on undergraduate research. Every year our college has a science symposium, where students are able to bring posters, reports or oral presentations on a variety of science topics. We have many of our students that are doing the undergraduate research, who are submitting their work to the science symposium, where they are wanting to be peer reviewed by other faculty members from not only our college, but other colleges to get input on their research. Several of the core courses are using GIS, with the electives down below. There's a variety of electives. Which four-year institution the student wants to transfer to determines the elective they choose. We strongly advise that students complete the Geospatial Technology Certificate of Proficiency. That would be a stackable credential that is added onto the Environmental Geology degree. The four courses that we use for the electives are shown there. If students take all four, they only have to take one more to get the Certificate of Proficiency in Geospatial Technology, along with their Associate's Degree in Environmental Geology. Because we have quite a bit of GIS Sensing embedded throughout the curriculum, especially at the Majors level with undergraduate research, we've always felt like this program should be part of the grant due to it having been impacted by the curriculum, the lab, and the resources that were purchased. There have been a variety of ways this program has been modified and enhanced

through the grant funding. Is there any question on the degree? It's similar to our Geography degree that's been already approved, where students can get the Geography degree and the Geospatial Technology Certificate that stacks right into it. This one is pretty close, but the reason it's not part of the Certificate is because there is a little more variation depending on the four-year institution a student wants to transfer to, and what that four-year school is looking for. I really do try to push on the electives, so the students can get the stackable credential.

Demetrio Zourarakis – What is a “grant impacted course”?

Adam Dastrup –The courses are approved by the BILT. These four courses are modeled after the GTCM. The only one that's not here that is part of our certificate, is Cartography. What I mean by grant impacted is that every one of those courses had either been impacted through the curriculum that's been built, the labs that have been built, usually through Del Mar, and then modified by us. With some of the courses using virtual labs, some of the equipment has been purchased, like the plotter and the GPS, as a kit Junos GPS Unit; those are used for the 1820 Intermediate GIS course. That's what I mean by “grant impacted”; they are through the curriculum or some kind of spending have been modified.

Demetrio Zourarakis – I would substitute the word enhanced for impacted.

Adam - I agree with that. BILT's approval would allow us to count these students as part of our completion and have that retroactively approved, as well.

Christina Titus – Does the BILT recognize Adam's degree? *[yes]*

JJ Nelson – Adam, I commend you on this. One of the things we were working towards is setting up articulations for Geospatial technology courses as they apply to so many different four-year universities, as well as, where they happened to have their GIS housed. Whether it's in the Geology, Geoscience or Geography survey, the fact that you're taking and incorporating into the Geography that you have done, but also Geology, is going to be great in allowing for separate articulation agreements with multiple institutions with GIS programs.

Adam Dastrup - That's all true...The goal is to transfer the Geospatial Technology into other disciplines, as everyone on the BILT is quite aware of how interdisciplinary our field is. We have already impacted the Archeology program at our college, as well. They are now including two of our grant impacted/ enhanced courses, as core, for their Archaeology certificate. So, we have it in Environmental Geology, we have it in Geography, and surveying, we have it as electives in our Environmental Science certificate, and now our Archeology certificate.

Demetrio Zourarakis– This is a very interesting development because you don't see this back spreading of effects toward the existing curriculum in a college. We don't hear about this very often. It is very commendable.

Christina Titus – So, I have it on record, do we have BILT's approval retroactively approve Adam's degree? *[yes]*

****Business recognizes Geospatial Technology certificates and degrees****

Christina Titus – Adam, do you have any other degrees or certificates you need to get recognized?

Adam Dastrup - Not in degrees or certificates, but I want to talk to you, Christina, a little more about if it's possible to use these new Environmental Science and Archeology courses.

Demetrio Zourarakis – I wanted to say something about the Archaeology part...We have with our LIDAR Innovation Program lots going about new terrain data. I think LIDAR may be just points inside a program for GIS, but renovation data, is a special type of data that they consume ardently.

Adam Dastrup - One of the programs that I'm over is the Surveying LAS Geomatics program. We have an Associate of Applied Science degree. One of the things we purchased with grant funding was actually a LIDAR and it's not aerial based, it's ground based for more surveying application. We are now one of the few community colleges in the country that has now LIDAR and is using it for primary data collecting in our program.

Demetrio Zourarakis – You know with the UAV situation, we are experiencing too for our GIS conference, coming up in October. I think that remotely, acquisition with an LIDAR data platform would be a good synergy with two different technologies that are coming together. I don't know if it's in a high level course or not, but everyone's trying new things with sensors on them. There's opportunity to grab the math, trigonometry and algebra, and teach some of those concepts the same way.

Remote Sensing Certification to be recognized

Adam Dastrup - That leads to the other thing I need to get approved in terms of my remote sensing course. *[Webex slides being shown – Remote Sensing Certification]*

Phil Davis- I have a question. Are you guys working on a web-based GIS curriculum?

Adam Dastrup- With Rio.

Phil Davis- Can you send me a course outline?

Adam Dastrup- Yes, I'll follow up on that for sure.

I'm looking for approval from the BILT...I think it's been 6 months or so since the BILT approved my Introduction to GIS course. ESRI Crystal Campus and all the learning, the ArcGIS desktops, it's about twenty-one hours' worth of work to filter through that certificate to be part of the completions that we could use for less than one-year certificate. By completing all eight modules of that course, it can be an industry recognized certificate. They can also receive a certificate from the college, and we can use those completion rates for our less than one-year certificates. What I'm looking at is we use a series of ESRI Crystal Campus (SLCC) because we have a site license. We use several of their Virtual Campus courses to make up our Remote Sensing course. What we're looking for is whether the accumulation of these modules or certificates, if grouped together as a whole and if students completed all of them, would that justify a full, less than one-year certificate? The ESRI Modules are broken up into three, two, four hour courses. What we're hoping for is a student to complete these hours-- that would account for 26 hours of PDU's. Could they accumulate enough for a less than one-year certificate for remote sensing? The first course is a refresher on just the GIS and the labs. On this document, we are using ArcGIS 10.3; so we're not focusing so much on the other platforms. There's a GIS course that is worth 4 hours. Then we get into field referencing with rasters. Image processing is looking more at the Image Analyst tool within an ESRI. The Composite Imagery course was developed by Del Mar and I just modified it with what I wanted at first, and then the same with the unsupervised and supervised classification. The last part of the course focused quite a bit online, and again we use those ESRI courses, as well. Would the accumulation of all these modules count as electives to the certificate, as a whole? The courses are grant impacted due to a couple of the labs

being created by Del Mar and SLCC. Almost all the curriculum (ebook, etc.) was created with grant funding, either through Del Mar, modifications or add-ons. Definitely, courses that were modified or enhanced by the grant are professionally recognized credentials that students can have, as part of their portfolio.

Demetrio Zourarakis – Could they show credentialing, right? The ESRI trademark still has some value, versus perhaps, an open source platform or software environment. It would be interesting to explore what that means in terms of career opportunities for graduates.

JJ Nelson – I have to say that what Adam is doing is spot on and we do something similar in regards to the remote sensing class, the GST 105. We incorporate the 4 or 5 ESRI Raster, its processing and organizing of raster courses that are 3 hours each, with an exam. Then there are Image Analyst ESRI Seminars that are pretty great, and if I'm correct, there's 2 LIDAR ESRI. I think he is spot on in regards to utilization because once ESRI added the Image Analyst as an application within ArcMap, it really opened up the capability to people who couldn't afford some of the higher priced software. I think that's huge. So huge, I would like to borrow it.

Demetrio Zourarakis – I agree with that.

Adam Dastrup - Utah has a very strong GIS, mostly by far the ArcGIS because we have our own local BILT; we call it a program advisory committee or PAC. Most of them who are doing remote sensing application are mostly using ArcGIS in Utah. That's why we stuck with keeping the software the same, but expanding the skills set that can be done within ArcGIS, rather than keeping other software programs, like other ones out there. With this one, we model it off our other less than one-year certificate that was approved by the BILT, about six months ago. We're also trying to compile it and have the BILT recognize the holistic credential, which will be completed in less than one year and we'll get a strong foundation in remote sensing raster analysis, using ESRI curriculum; also using the curriculum in the content developed by Del Mar and SLCC, as well.

Demetrio Zourarakis – How much statistics / mathematics do people need to easily recognize multivariate analysis on image classification, and then quickly object basing the analysis? That is a huge wall that is hard to get through and they have the background. Those knowing that the principles of the emulsification, pixel based, and object based, it's like an ocean of information. This means what exactly? Do they know what the tools are? How the tools work? The basic principles behind them? This is a huge issue, for example, Google Earth engine, has classifiers that are built with algorithms writing code, and 90% are very obscure and apocryphal. The learning curve is so steep when you get to the newer networks; we have been looking at this for quite some time. Coming from GIS perspective into remote sensing, they need to pick up skills that are not GIS. See what I'm saying?

Adam Dastrup - Yes, the way I interpreted it for how it works for us in Utah, I would say my aims / goals with this is at the technician / entry level grade for remote sensing. Like I said for Utah, we did a DACUM with Geotech a little bit ago. We had much stronger job and need for training in ArcGIS, verses more high end remote sensing. I also have an articulation agreement with University of Utah, who does have a Remote Sensing Certificate, which has a much more advanced level of courses that get into using ENVI Software, for remote. So, my goal on the technician level or a GIS user is who might need some basic understanding of remote sensing processes or even remote sensing to raster, at some point. I would call it Remote Sensing with GIS, so that it was clear that the main focus was remote sensing within the GIS environment, rather than a solid upper division level Remote Sensing

course. What we try to do with our students is to use it like a carrot and provide a pathway to the University of Utah, to get those upper level Remote Sensing skill sets. Those are like 4000, 5000, or even graduate level remote sensing courses.

Demetrio Zourarakis –The certificate, the remote sensing certification Should it be like Remote Sensing Technician certification?

Adam Dastrup - Is the title I have too broad? It could infer some upper level.

Demetrio Zourarakis – It could be misleading, but not intentionally. It includes the basics, but interpretation varies. Do you include image certification? That topic is critical, interpretation varies.

Adam Dastrup -I don't have it listed in there. I do have a couple image interpretations in activities when we talk about Photogrammetry. For us, we have a Photogrammetry course in our surveying program and students who go for our GeoSpace Technology degree, are required to take Photogrammetry, which requires them, before they take that, to take our survey map, which requires them to have trigonometry skills. This course is really just to give a breadth of remote sensing and those who want to go into Photogrammetry, can take our Majors Level Surveying Course with that, or if they want to really dive into Remote Sensing, they can get their Associates at the Community College. Then they can transfer to the University of Utah for their Geography Program, to get their upper-level program of remote sensing. I can change the term to something that the BILT would feel more comfortable with. If it says Technician, Remote Sensing with GIS Technician, or we integrate Technician into the title, I'm totally accepting of that.

JJ Nelson – These are all excellent, some of the units themselves that were developed, also some of the ESRI and some of the new ones that have been added.

Demetrio Zourarakis –I was going to ask about LIDAR. And now , seen at the last year's conference. They are reprocessing all the data to make them user friendly..

JJ Nelson, - Well Adam, if copying is the best form of flattery towards you, I'm looking at what you're doing right here and I've already sent out a note to the Dean saying that this is similar to what I've been wanting to do. I may want to propose something in the near future for the same type of certificate; I think it's great idea. This will fit into our proposed UAS Program that we're trying to develop because one of the things we're asking our students is to not only have our GIS Tech I Certificate (3 GIS courses), but also have a remote sensing course, which is the 105. They would also take a Surveying Course, as a prerequisite to the UAS Courses. I look at this and it's just part of the whole puzzle, that's great!

Demetrio Zourarakis – Is there a catalog of certificates coming out on the BILT effort that we can point people to? We can say “we have five certificates that are similar, but they are different, they are distinct.”

Christina Titus – Right now, I am collecting all the certificates from each BILT that have been recognized. I would be happy to put something together and put on the website, as well as, emailing it out. That way you guys have something to see what has been recognized. I can do it by school, as well.

Demetrio Zourarakis – Are they going to be MOOCs or online? They can be anywhere in the world to take the certificates? Is that correct? Is that based on the City College? Can anybody access these courses online and take them?

Christina Titus – I don't know that all of them are online.

Adam Dastrup – This course that I offer is online and a face-to-face hybrid format. I haven't seen anything in regards to MOOCs. Probably, the closest thing I can think of is what Phil's been working with QGIS on a MOOC format.

Demetrio Zourarakis – I agree with you, MOOC has been oversold.

Adam Dastrup – The software part, you can't offer students free access to ArcGIS without some kind of agreement with ESRI but with QGIS, that's not a problem. So that's why MOOC hasn't been that popular with this. I know there's been a couple that's been out there. Two-year schools do, especially Del Mar, SLCC and several others across the country. We are at least basing a lot of our content on the GTCM standard, which is still relatively new. Too often courses are put together based on what the instructors think is important, but at least the two-year schools are using the Department of Labor standards to try to meet workforce needs. I don't know if I answered the questions, but I do think community colleges have an edge to some extent in terms of standardization of meeting what you guys are looking for.

Brian King – Have you considered talking with ASPRS to see if the courses might be enough to prepare a student to get provisional status for a Certified Remote Sensor Technologist certificate, another credential out of ASPRS? I don't know if you have explored that yet? I know that Penn State does that with their students, where they encourage them to take the test before they leave school and they get provisional status. They spend the next three years getting their experience, but they have already passed the written exam.

Demetrio Zourarakis – I support that, I think we should explore that more. I'm the Deputy Chair of Education of Professional Development Committee, but we talk to the certification folks. The next natural step is to look at this tremendous base of knowledge and ecosystem of certifications, and use them.

Phillip Davis - If you want to get free access to the QGIS version of the courses, the 101 to 105, they are going to be posted here. We already have the first ones ready to accept enrollment. The counts are free and it doesn't cost you anything. I can go in and show you how to enroll for free. These will be with the latest version software that we have. The courses are out there right now, but you see that these are QGIS2.2. The 101 is in the QGIS 2.8 version, which is the latest version and this class had 2000 students last summer just for free. We don't offer certificates or anything, but I am offering badges, so if they do the modules, take the test and score at least a 70, they can get a badge. The badge doesn't carry any weight necessarily and it's not BILT approved, it's just something they can put on their LinkedIn account, if they want to do so. This has the multimedia presentation built into it, so all they have to do is click on it if they just want to go to the series; and the 105 course has quite a bit of LIDAR. Another thing we have is labs that go along with the data, based off the QGIS Software, so everything they need is just to download the QGIS and give them the data. The entire task and the step-by-step things that they do are right here. The last thing they have is quizzes,

which go over the theory. These were produced in the last couple of weeks, but they show the user how to go through and perform the major task if they go through and do it.

Welcome to the GeoAcademy

Phillip Davis –Go to fossgeo.org, and on the home page you can access to the five courses. I'll be uploading these in the next three weeks; that's one alternative.

Demetrio Zourarakis – Yes, our conference will have a whole day of QGIS workshop with emphasis on migrating workflows from ESRI environment to QGIS, so this is very useful. We're going to point them to these things.

Phillip Davis – Tom Buhler uses a lot of our material preparing for that.

Christina Titus - Before we go on, I would like to have it on record that the BILT recognizes the Remote Sensing certificate and do they recognize it retroactively?

Adam Dastrup – Before we approve this Christina, can I get a recommendation on how I title that; I want to make sure that it is titled right. Does anybody have a recommendation? It's now titled as Remote Sensing with GIS. Is there a need to put something with "Technician" in this title?

Demetrio Zourarakis – A qualifier would be good, that's my feeling. The systematics of certificates, the same name may mean different things to different people.

JJ Nelson –You can do it like Remote Sensing Technician I, then at a higher level, Technician II, sometime later in the future. Depends on where you show it. You could look at it like ASPRS.

Demetrio Zourarakis – Yea, they have a Technician of Remote Sensing.

Adam Dastrup –With Remote Sensing with GIS Technician certificate, do I just add "Technician" to the end, would "Technician" or "Technician I" certificate, be adequate? Is the BILT looking for something worded differently? I'm not stuck on any title at all.

Demetrio Zourarakis – They call them Certified Remote Sensing Technologist. That's the name they use, if you ask. We have examples from within our system, our BILT system on differentiation between different levels of skill sets. Do we have examples of this in the BILT system, in our nomenclature?

JJ Nelson –In regards to the different MSA's we have produced before, whether they were CEU or college transfer hours; we had the Tech I and Tech II type of level analyst. It's up to Adam.

Christina Titus – Carolyn French suggested "Advanced GIS Analyst with Remote Sensing".

Demetrio Zourarakis –That sounds about right.

JJ Nelson – If incorporating GIS with the Remote Sensing, it's encompassing the two together. Using the GIS software and the Image Analyst that Remote Sensing offers plus the science...

Adam Dastrup - I just put a note about GIS Technician with Remote Sensing.

Demetrio Zourarakis – That's very close to what I think.

JJ Nelson – You would almost be an Analyst if you’re doing the Image Analysis. I think that takes you little above just the Tech level in the Analyst’s field.

Demetrio Zourarakis – Exactly, that’s where we’re going with this. It’s not only the interest of the ASPRS, but of the GON community, right? Give them jobs there, right?

JJ Nelson – Yea, GIS Analyst, and then Remote Sensing. I don’t know if any of those work, really, but I think they’re more of an Analyst. I think they’re a little higher on the scale. Would it be GIS Analyst with Remote Sensing?

Demetrio Zourarakis – If emphasis is remote sensing, then I think it should come first in the name, but remote sensing with GIS Analyst, I don’t know.

JJ Nelson - Would it be GIS Remote Sensing Analyst?

Carolyn French – I just wanted to interject... Having entered the GIS industry, and having to learn and GPS and plotting information, I would never have considered myself remote sensing or surveyor or anything like that. The opportunity to be on the safe side in terms of how you categorize skill sets, especially with all the questions about whether you are a Remote Sensor or a GIS person. I think it’s safer to say that it’s a high level GIS Analyst, with a specialty in remote sensing being added. If that makes sense.

Demetrio Zourarakis – I think it does.

Carolyn French – What’s happening here is the focus is not on GIS, as much as, it’s on remote sensing, so what you have is a person that may be highly technical on the GIS side and wants to have a specialization in a particular area; remote sensing gives them that.

JJ Nelson - Yes, I would certainly agree that they have to have the GIS background before they enter into the remote sensing specialization; that’s certainly true. That’s what it comes with, what Adam’s proposing, it certainly covers those assets. I guess it’s just down to the name?

Adam Dastrup – Does the BILT feel comfortable with the notes that I’ve been writing down on all the chats? Does the BILT feel comfortable approving it by a title based on your recommendations?

Demetrio Zourarakis – I think the fact that you stressed the importance of GIS in conjunction with remote sensing adds strength to the certificate, meaning, to get there they need to be proficient in GIS, correct?

Adam Dastrup – Correct

JJ Nelson – Did you say GIS Remote Sensing Analyst?

Demetrio Zourarakis – Yes, that’s what it says on the chat thread. Adam what do you think?

Adam Dastrup – I’m fine with the last one; I’m just trying to get feedback. I’m fine with GIS Remote Sensing Analyst, if that works for everyone.

Demetrio Zourarakis – Does anyone oppose it?

Carolyn French – Maybe if you stay within the boundaries of Bureau of Labor and what they classify, there's a separation. So, maybe you should say that it's a GIS Analyst with a specialization in remote sensing.

Demetrio Zourarakis – That is what it is.

Carolyn French – Yes that is what I would title it, there's no confusion about it. A person needs to have gone through the GIS certificate program or 2 year program, or you're blending the specialization into a two-year GIS program, so I would add more courses and have a focus. You could do the exact same thing with the Geospatial Remote Sensing and add a specialization with GIS. There may be fewer courses in that.

Adam Dastrup – I like all the comments. You guys just want me to take what we've said and just come up with something? I'm not sure how to push forward.

Demetrio Zourarakis – If everyone feels it has to be renamed to indicate what's in it, I think that is the first step. Do we have to take a vote? What is the procedure here?

JJ Nelson – I think everybody agrees that his content and curriculum in regards to it certainly meet the task; it's just simply having an appropriate name. Can we say that's what needs to be determined; everything else is agreeable?

Demetrio Zourarakis – I agree with that.

JJ Nelson – The majority of the names that were listed would suffice for the majority of the people.

Christina Titus – I would have to agree.

Christina Titus- Would all the BILT members agree that you recognize the content and you're okay with any one of those names that were thrown out there in this discussion? [yes]

Christina Titus – Once Adam has picked a name, we can send that out to everybody, so everyone knows what he called it.

Christin Titus – Adam, do you have anything else? Do we want to discuss trends very quickly?

Trends

JJ Nelson – This will be brief. We've already approved all the Certificates and the Awards, the MSA's, the AAS degree, as they pertain to Del Mar College and the GIS courses. That was done a number of years ago, but the one degree we didn't do was the AS degree, and that was simply our vanilla, very straightforward transfer GIS degree. It only had the one GIS class in it, the rest were core courses – English, History and Math. The one GIS class was for people that were just using as a basic transfer to most any university. We've moved beyond that to allow our AAS to be transferrable too, but we never had the AS approved. There's only one GIS class in it, it's simply a transfer degree for someone going into another GIS program, a four-year program. That's about it. It has your basic courses, two English, two Math, Algebra, Calculus, Physics and so on, and the one GIS class. The degree is

transferrable to any or most university's Geospatial programs. It has the Physics, all the core that would transfer over to a BS, so someone could continue their education.

It's not the AAS and it's not any of my Certificates or Degrees that's you've already approved, it's simply a transfer AS Degree; it only has the one GIS course in it. So, if somebody wants to transfer most of their core courses and one GIS to an existing GIS program to some four-year university that's what it allows them to do. I can send that out again, so you can distribute to our members and they can say yea or nay. Understanding, of course, that it's merely a transfer degree, with one GIS credit. We've already established that the certificates and awards, the AAS, were already approved.

Geographical Information Systems (GIS) GIAS.AS for approval

JJ Nelson –This is the one for approval, it's just the very basic transfer plan and there's only one GIS class in it. We decided 3 years ago not to have this one approved, but we thought let's go ahead and get everything done. This one here has already been approved, the full AAS, which a lot of the students choose to take, so they can take the courses with us at Del Mar, and then they transfer them to whatever GIS or Geography, or Geology program they're going into at a four-year university. As you can see with the AAS, already approved, it has considerably more Computer Science, GIS courses, but, not a lot of the other core courses that one would take. There are not a lot of the core courses, the Histories, the Psychologies, and so on, and then there's the one GIS class. This is an approval saying that would be a comparable transfer for any student that's just utilizing the community college to complete their core courses, the one GIS, and then moving forward. It's pretty much the standard transfer from community college to a four-year college, with one GIS course, the GST 101. This course was the one that was approved at the AAS and, of course, these are all GIS, Computer Science classes. This is for the work ready students that are going to be employed in two years, or they may want to transfer when they're allowed to do that. Some choose this route and they use the community college, as their vehicle to the four-year if they choose.

We try to give the student their options... Do they want to just get the regular vanilla transfer plan, which has the one GIS course and all their basic core, or the one that you've already approved, which is this one where there is a student suggested occupational plan? They can go right to work after the two years, but many may choose to apply it to a four-year later. So, students have different choices, we try to do that. We realized we haven't had this one approved, so we thought we probably should, even though it only has the one GIS course in it. A student will use it as their transfer.

Demetrio Zourarakis – What programs do they transfer to at the four -year?

JJ Nelson –If they're going into Texas A&M Corpus, Kingsville, or what have you, these are usually the standard core courses that most any universities are going to have: History 1302, Math 2413, Govt. 2305. These are the usual core courses that a student needs to complete once they finish their Bachelor's degree. Here, they're going to complete their AS Degree, take all the wealth of all the courses they completed, and the one GIS course, and apply that to whatever program they're going into at a university. Maybe instead of the GIS 1311, they take an Introduction to Computer Science. Each one is usually a little bit different, but the gist of it is, the core courses and the one or two of the specialized courses that are in that particular field. It's to meet the needs of the four-year program they hope to go into with that particular path.

Carolyn French - Why would you not have an introduction to database?

JJ Nelson – Once again, this is strictly a transfer program that is the accepted transfer program at different universities in regards to the core. The student would probably very well take a database class when they get to the four-year, depending on what that particular program has to offer.

Carolyn French – Your GIS course, the foundation for that in a four-year program would be an introduction to database.

JJ Nelson – Right, in my AAS, the Introduction to Database exists, Introduction to Computer, and so on. All the other Computer Science and / or GIS classes, the program they're going into will determine as they decide which university they go to. They would benefit from the database, but they will be taking that at the university when they decide to transfer. This is covering most of the core curriculum that would meet their needs for whatever degree they're going for. The usual liberal arts that one would take and add to whatever the specialty path is.

Carolyn French- I work with a number of Geoscientists who have the one track, saying they were never introduced to the database side, which now is important because of the Geodatabase stuff that was introduced in the Introduction of GIS course typically. So---instead of having a programming course, which is a higher level.

Demetrio Zourarakis – I agree with some of that, unstructured data verses structured data. You're going to extract information from unstructured data, I guess, easily. So, tables, right? Tables within tables and things like that in the database. Is there a place in the curriculum where they learn data organization?

JJ Nelson – They have some introduction to database in the Introduction to GIS course. Of course, in one of the units, they will go over that. One of the units deals with that, but primarily this was the transfer plan for the majority of our students that were transferring to Texas A&M Corpus Christi and from there, they would decide on which path they were going to take: whether it was Geomatics, or GIS. Then that would determine a lot of the path they were going to take. The only real GIS class that I had here is the 1311 and, of course, the Computer Science course. This was an afterthought; we decided to bring it for a possible approval because it had a GIS class in it.

Carolyn French – Maybe it should be optional, as Tech Introduction to Database. It doesn't make sense to me. You don't put that in there because it really is the foundation course for the Introduction to GIS.

JJ Nelson – The programming comes later and they're saying that once they get this, they're going to move into the four-year university and enroll into all the other supporting classes. You're saying they needed the database before they actually went into the Intro to GIS? This class does have a unit on database. For instance, Texas A&M Corpus Christi, Kingsville, was agreeable to feed into whatever program they had; it's just a basic transfer plan. Of course, I prefer my students to take the AAS with the core curriculum and then transfer to the university, but every student has a different path. They are either going to take the courses with me or they're going to take the courses at the university later; it's how they want to go about it.

Carolyn French – I think it's great that you have this. I didn't go to Corpus Christi because I couldn't go in person; I had to go online. And transfer to American Sentinel, who models after the Associates of Applied Science program.

JJ Nelson - Here is our Applied Science, it's got our Introduction to Computers, Operating Systems, Introduction to Databases; all those feed together as an AAS. This is the one we had approved; the student that completes this can actually go out into the workforce as a GIS Technician. Whereas the other one prepares the student to go onto the university and really start their process in their chosen field. It's a tough call on your part because you're only looking at one GIS class, so I understand that.

Demetrio Zourarakis – It's like a lite version of this, the one you just showed.

JJ Nelson – It's not even a lite version, it's really just the basic Liberal Arts Core and the one GIS class, so really the student is getting their majority or ninety-five percent of their GIS background and other Computer Science technology work is going to be done when they get to the university. Some students choose to do this path, all their core and the one GIS, and then they transfer over to the university. Which would I prefer? I prefer this one [AAS], obviously because it's more and the student has the option to go to work right afterwards, while also going to school. This is the one that we hang our hat on and that's been approved. The only reason I decided we should bring this up is because we could have one of the GTCM-GST courses in it. It's just strictly the basic vanilla version transfer plan of an AS, not an AAS.

Demetrio Zourarakis – I think we should approve it.

JJ Nelson – I do want to mention that sometime in the future, I plan on changing the AS degree. The one thing I want to change is to add a Geography course and a couple of other things that we were looking at doing to make it a little more Geospatial guided. I couldn't add an additional Computer Science course, but we were able to add database to make it more Geospatially ready. But that's not going to be until later; this is for now.

Demetrio Zourarakis – I make a motion to approve it.

Christina Titus – Does the rest of the BILT feel the same way?

Adam Dastrup – I'll second it.

Christina Titus – Do we recognize it retroactively? [yes]

JJ Nelson – Understand of course, it's just a basic transferable AS degree into a four-year program that includes whatever Geospatial type of technology program they have in existence.

****Business recognizes GIS AAS degree****

JJ Nelson – May I bring up one thing... those people that are in my area of the Coastal Bend were having our GIS Day coming up and it's getting bigger and better every year. We're doing a professional track along with the high school track, so we'll be looking for speakers and presenters where people can earn CEU certificates for presentations, seminars or workshops. I can send you more information on this; it's held in the middle of November every year. This has gotten

substantially larger, 1500 to 2000 people a year. I'll send you guys more information if that's something that you would be interested in doing. We'll let you know.

Christina Titus – We will go ahead and end this BILT meeting. Does anybody have anything else to say or add to the conversation?

JJ Nelson – I appreciate everybody over the years. It's been really amazing. I, myself have been very appreciative and have learned quite a bit from everybody in regards to all the different areas you're in.

Demetrio Zourarakis – Same here.

Adam Dastrup – I'm happy to be part of the team.

Christina Titus – This BILT will meet one more times at the end of the NISGTC grant, and that will be in September. I will send out a save-the-date to everybody.

JJ Nelson – I already know I'm going to propose something similar to what my good friend Adam proposed, in regards to that Remote Sensing one. What a wonderful idea!

Adjournment at 1:43pm

Next GIS BILT meeting will be in September.