

## **REN Program Advisory Meeting**

May 13, 2021

### **Welcome and Introductions**

- Joe Kilcoyne member of IBEW Local 134/adjunct at Triton College
- Robert Hattier business representative of IBEW 134, Executive Director of IBEW Renewable Energy Fund, Adjunct at Triton College
- Frances Figg, Coordinator for Architecture, Construction Technology and Renewable Energy Technology at Triton
- Dr. Jennifer Davidson, Dean for Business and Technology Programs at Triton College
- Jennifer Fleck – Teaching and Learning Coordinator, Leo Catholic High School
- Katy McGuinnis – Assistant Director of Career Services, Triton College
- Michelle Lisack – Retention Specialist for the Schools of Business and Technology, Triton College
- Jo Costigan – IBEW
- Tom George French – Teacher at Prosser Career Academy
- Daniel Becker – Adjunct at Triton College; Siemens
- Tim Nystrom – Director of Triton College Dual Credit Program
- Jin Jo – Professor of Technology at Illinois State University
- Tylor O’Conner – Triton REN Student
- Ken Smith – Director of Admissions at Triton College
- Kiruthiga Narayanaswamy – Adjunct Faculty at Triton College
- Antigone Sharris - Coordinator Engineering and Technology

History of the IL IBEW Renewable Energy Fund (REF) came about through the Future Energy Jobs Act (FEJA). Part of the bill was opening up incentives programs for Illinois and the community solar, a big portion of the bill was for work force development. IBEW Local 134 applied for a grant for the solar craft apprenticeship and were awarded the grant and formed the Illinois IBEW Renewable Energy Fund (REF). They partnered with all 17 IBEW locals in Illinois and 3 community colleges including Triton College and have the other partnership with 2 City Colleges of Chicago, those are just solar classes not a certificate or degree program. They have also partnered with 4 high schools in the state (3 in Chicago and 1 in Springfield). They also do training with the Cook County Department of Corrections.

This degree and certificate program at Triton is funded by the Renewable Energy Fund (REF). There is a scholarship available to all students taking the courses and maintaining a C in all the courses. The scholarship covers the materials and the credit hour fees associated with that.

REN just finished the second semester. 4 students that have completed the requirements for the REN certificates, and all 4 will be continuing for the degree in the Fall. In the Fall will be starting another cohort coming through the program.

Bob Hattier shared the PPT presentation. He indicated that they wrapped up the second semester of the program it’s been a great semester and a lot was done despite the challenges. Spring semester, all REN class met remotely, and projects were completed remotely. It was very successful in spite of the challenges.

## **Spring 2021 Program Updates**

IBEW REN fund is running a pilot program which is facilitating an internship for student who have finished their first year of the program. It will link them with IBEW contractors who are signatories to Local 134 and specifically working or seeking work in the renewable energy sector. This developed through conversations in class with Trevor Cole and Tylor O'Connor. REF Saw a need and thinks it will be a great and beneficial program. This will be an office internship and would work alongside estimators, project managers, designers, office staff and superintendent. Had 2 students out of the 4 seeking the internship and 2 were placed (100% placement).

Tylor O'Connor said the program seemed to form organically, feels this is a good middle ground step and a natural progression. Happy to be part of the program that could benefit future school generations. Thanked Joe K. for setting it up.

Robert Hattier shared the benefits of being able to work with an Electrical Contractor. The way the program is designed there are no summer classes so the students are engaged in the topic and industry and want to learn as much as they can. They felt the best way to gain more experience beyond what they would get in the classroom would be to work within the industry. Did not want to get them out into the field yet because the apprenticeship is the ultimate goal. There are so many other sides to renewal energy industry beside people on rooftops, installing equipment and climbing wind towers. There are Engineers, Project Managers, and material procurers and other aspects. This summer will allow a few month period to have the opportunity to have a paid internship where you are working in the industry and getting exposed to other avenues of job creation within renewables. This may lead to another passion or pathway for people who don't want to work in the field installing systems on the day to day basis. There are lots of opportunities created in the offices as well.

## **Overview of Classes**

### **Spring Semester 2021**

#### **REN 100 Introduction to Renewable Energy**

Joe Kilcoyne taught this course and it was completely online. All four of the classes were online courses. The classroom was being used as the vaccination site at Triton. This class went very well with 14 students who were very engaged. There are 5 students seeking the REN degree program. Everyone was very enthusiastic and hungry for the knowledge in the renewable energy world. Touched on many aspects of it and many different technologies and tied it to their lives and the future that is rapidly increasing in the sector that seen in this industry.

Rober Hattier joined the REN 100 class several times throughout the semester and found it to be a very well-formed class. Most impressed with how many students were engaged, asking questions and bringing other topics to the table. Each week Joe introduced a new technology on Monday and on Wednesday there was a lot of follow-up and discussion about the technology.

#### **REN 130 National Electrical Code and Renewable Energy Systems**

This class initially focused on the structure of the National Electrical Code and its history and how the code is modified in its 3-year cycle. There was a lot of front-end information on the code process itself. Harry went overall of the articles. The first half up to midterms covered code structures and all the articles that applies to all electrical work and after midterm he focused specifically on batteries and renewable energy systems. Robert Hattier thought this was an excellent course that was taught, and a

lot of information relayed. The interesting thing about code its hard to find an instructor that has enough passion for it to really keep the students engaged because it can be a dry material. Rober Hattier felt Harry did a great job with that.

### **REN 200 Photovoltaic System Integrator**

This class was taught by Robert Hattier this semester. He had a similar format as Joe Kilcoyne had but the class only met once a week. Each week he dove into a different subjects related to renewable energy development and got into topics on community discussions, workforce development, land acquisition and permitting and inspection. There was a midterm and final project, one of the big topics for the project was where we currently stand on a national and state level with our energy bills. With focus on the competing energy bills in Illinois, there are now 4 bills up for a vote for this legislative session. Course went well with a lot of topics to cover; with the student engagement they were able to get through it.

### **REN 220 Wind Power Generation Design Fundamentals**

This course is focused on wind and covered the fundamentals of wind power. Getting into sighting and system design but also getting into some of the complexities of wind power development. Students met one time in person for the class at the Great Escape Restaurant in Schiller Park to visit a 108kw wind turbine. Abram Galvin a student helped organize the visit and the owner of the restaurant gave a tour of the wind turbine and talked about how it benefitted his restaurant, generating 120% of the energy needs of the restaurant. Robert Hattier felt it was a rewarding conversation coming from experience and not from the textbook, he also felt the student got a lot of visits since it gives you real world scenarios which helps with retaining the knowledge of what is covered. Felt it was excellent that one of the students initiated the field trip.

Tyler O'Connor shared that it was his favorite day of the class, super fun. The restaurant owner was great because he was 10 years ahead of the curve, he just decided to do it himself. You could tell he had passion, he did all the maintenance on it and was proud to show it to the group. It was a cool taste of where the textbook ended and the real world starts. It could be an annual trip for future students. Joe Kilcoyne said it probably would be since it's so close by. Joe noted that there were electric vehicle charging stations on site and they were able to have a conversation with the owner about this system. It was very interesting to see these applications in person, it's not too common to see a wind tower of this size very close to the city. You usually see them on I65 or I55 at the large wind farm. This is a very large system sitting close to triton to check out.

### **2021 Triton Auto Show**

The REF group was invited to the Triton Auto show and found it to be a fun and rewarding experience. Enjoyed meeting students from REN 100. There was a walk thru tour of the renewable energy truck; students were able to see the parts and components discussed in class. Frances was with the group for most of the day, Michelle and Jennifer also stopped by.

The truck is driven throughout the state visiting area high schools.  
Next year the truck will be driven to Leo High school.

Frances Figg said this may be an annual event, other people are interested in joining so Robert Hattier will be invited back to bring the truck.

Kenneth Smith one of the people responsible for organizing the event felt it was a good turnout and hoped to attract more people in the future and help the enrollment of the program at the same time. He thanked Robert Hattier for taking part in the first annual car show.

Joe Kilcoyne shared that IBEW retirees that were participating in the show with their cars on display toured the truck and saw where the industry is going.

### **Overview of Fall 2021 REN Classes**

**REN 100 Introduction to Renewable Energy** - For the time being REN-100 will be offered every semester serving as the gateway to the program and a means to gain more students. This will be an introduction to the technology setting them off on a path that will increase through the programs. REN-100 is now required for all COT AAS degree students, and is an option for ARC AAS degree students.

**REN 110 Electrical Construction Safety for Renewable Energy** - This class has completely been reworked and is being resubmitted to the college board. Saw the need to combine some things within the safety courses to be tailored with the conversation of renewable energy in mind. This will be an OSHA-10, a National Safety Council First Aid CPR AED class and a NFPA 70e all combined into one. This would be all through the lens of Renewal energy specific hazards and considerations that renewable energy workers would be very concerned about in the field.

*Robert Hattier is looking forward to this class, it's a great opportunity to tie all these things together and make it a very cohesive message about safety for the students. Robert Hattier felt it made absolute sense to combine all 3 for this class. Joe Kilcoyne is an OSHA 500 instructor so he can cater the class to meet the requirements of an OSHA 10 card but has enough flexibility to gear it specifically to renewable energy and there really aren't any other courses like this being offered. This will be fantastic and eye opening for the students. Being able to frame all this information will be a great benefit for the industry.*

**REN 120 Photovoltaic Design Fundamentals** - is the backbone of the first year of the program it's really where student dive into everything about photovoltaics. From the science behind it and all the components that make it happen. How we site a system, how we plan out the materials with safety being a big portion of this. Within this course student go from fundamentals, to design, to installation all the way through commissioning of these systems; it's everything entailed in a photovoltaic system.

*Last fall for their final project all the students designed a system. Some designed systems for their own homes or a family members home. It was great for the students to take what they learned in the class and apply it to something practical.*

**REN 210 Advanced Photovoltaic Installations** student get into this course during the third semester. The instructors are excited about having a dedicated classroom for this program because this is where all the hands on are coming together. Students will be working on utility interactive, standalone systems, hybrid systems, multimode systems with energy storage included. This class will be primarily hands-on with a lot of theory behind it.

*Robert Hattier is very excited for the students to move into this phase of their education. The student will have the base knowledge on the safety and components and this class will help them put it together.*

**Renewable Energy Technology Certificate (C360A)** which is currently being changed for semesters 3 and 4. Classes are being reworked and resubmitted. Frances Figg shared that the curriculum changes have been submitted to the board and will be submitted to the state; hopefully, we'll hear back in early June and classes can be scheduled. The REN 100 class has been added to the Construction Technology and Architecture degrees, because it's an important piece for the student to know and it boosts up the base course. Some of the students may shift over to renewable energy. This year all the courses for the students were on Monday and Wednesday, next year all the second-year students will have courses on Monday and Wednesday and the first-year students on Tuesday and Thursday. We are well on our way to a fully established program.

*Robert Hattier shared that with the earlier differences between semesters one and two for the degree and certificate it was decided to make these semesters uniform for both programs and pick up on any extra courses in the third semester. This would allow the student to choose a degree after they get a certificate.*

### **REN Classroom T-160**

New dedicated REN classroom will be available later this summer to prepare for the Fall semester. This room will allow for more hands-on training opportunities.

Joe Kilcoyne and Robert Hattier are looking forward to building out the classroom over the summer. It will be a great to have a classroom where all the courses will be held in, adding uniformity to the program. The truck will also be parked outside some times.

### **Solar District Cup Competition 2021 presentation**

This was headed by Electricity II instructor Andrea Blaylock (ENT), Tylor O'Conner and his classmates joined the design competition in the second semester and the objective was to size a system for the University of Nebraska at Lincoln. Taking everything, they learned over two semesters and applying it to a megawatt sized structure. The theories and methods used for system sizing a house to project on a much larger scale, the experience is good resume builder. He learned a lot and was excited to be part of the finalist team. In their design they took a more realistic approach using the NEC rules, but in the end the team that won had more flash. it was a great competition, happy to be a part of it, he will definitely take what he learned from last year and move forward.

Antigone Sharris explained it was a team effort from multiple students from different classes across the campus.

Robert Hattier said they did a fantastic job and further pointed out that the students were competing against others from 4-year degree and Engineering focused schools. To have the opportunity to compete with them was awesome and the students definitely rose to the challenge.

Joe Kilcoyne thanked Tylor O'Conner and Antigone Sharris for sharing.

### **Q&A**

Frances Figg asked Tim Nystrom to talk about dual credit.

Tim Nystrom told the group that REN-100 has not been approved for dual credit at the college for area high school students to enroll in or at the high schools. If anyone is interested in getting this set up at the high school, there are 3 components that need to be ironed out to run the program.

- Equity credentials for REN-100 is a Bachelor's degree in Engineering or in tandem with 2,000 hours of work experience.
- Course alignment essentially the required contact hours being met within the semester of the school year and the objectives of the course are being fulfilled.
- Completing the application and being able to register with the department.

Tim Nystrom really wants to get this started but this year has been tremendously difficult. His department consists of him, and a part-timer and they facilitate the enrollment across the board over at the high school and at Triton. For a few months he was without a support staff member and is finally getting back into the swing of things, he would like to continue exploring this with the committee and get it set for hopefully the next school year if not the school year following. Thinks this is a tremendous program that students could benefit from learning about all the hands-on competencies involved and how this is a very new program but within a growing industry. It's a tremendous opportunity and he would love to continue to explore it.

Robert Hattier will have this conversation with his contacts at Leo (Jennifer Fleck) and Prosser (Tom French) the renewable energy partner high schools.

Tom French asked if there was a game plan in place on how to introduce these programs to the students.

Tim Nystrom explained that when there was a dual credit course running at the high school the students are not charged tuition or fees for taking the course. It's a symbiotic relationship between the college and the high school. It gives the student(s) a jumpstart on their future college or career goals. If it's one or two classes, it sets the tone for them to really understand that they are capable of pursuing things further. As far as marketing within dual credit and the pathway it is something they can work on, going forward and exploring the career field and the curriculum within the program, this is the area where the Triton personnel (i.e. Frances and Robert) would come in.

Robert Hattier add that this was an opportunity for Tom French student with the upcoming co-hort. Students would have to go thru the admission process and the program offers scholarships.

He would be willing to speak to Tom's students. He will also reach out to Leo over the summer about opportunities. Stay tuned

Tim Nystrom shared that dual enrollment is similar to dual credits, it is for students looking to get a jumpstart on their college education. They are taking the class just for college credit (not the dual credit with the high school credit being awarded. With dual enrollment students are charged the standard tuition and fee rate, when looking at an out of district high school those students will be charged the out of district tuition rate unless they get a joint agreement approved.

Antigone Sharris shared that in the first cohort there are some out of district student who are getting charged in-district tuition for taking this group of classes because it is an IBEW partnership for this curriculum. The student gets their bill adjusted to the in-district tuition.

Dr. Jennifer Davidson clarified that the students are getting charged in-district tuition because the program does not exist at other schools yet.

Tim Nystrom added that it would have to be within that associates of applied science program but dual credit students are not under a degree seeking program when they're in the dual program. This is murky territory, generally a joint agreement will not be approved for an individual class it will be for a student actually pursuing an actual degree. Approval does come from the local community college and not from Triton. He would like for it to be made clear so students coming into the program assuming it would be free tuition or in district tuition when that might not happen.

Antigone Sharris asked Robert Hattier if he would be sponsoring the student through the IBEW foundation Grant? Robert Hatter - if a student is enrolled in a certificate or degree program there is a scholarship for the tuition

Antigone Sharris told Tom French that this might be an option for his students at Prosser. When she visited Prosser to promote the idea the tuition was the catalyst for the meeting, to try and figure out how it would be handled. Antigone Sharris will send the letter to Frances Figg regarding this tuition issue with the first co-hort.

Frances Figg asked Jin Jo (ISU) to share how these students could transfer to Illinois State University that has a great renewable energy program. For students who might like to get a Bachelor's Degree in Renewable Energy Frances Figg asked if the program seem like a good transfer fit.

Jin Jo said it was definitely a good transfer fit. Shared that his students participated in in the Solar District Cup Completion for the first time this year and won 3rd Place in the region. Found the experience to be time intensive, challenging and rewarding. After participating he gained knowledge on how to better advise students in the future. In terms of the transfer process he could think of a number of different ways:

- 2+2 program, a more formal process that involves different levels of the administrative knowledge to set thing up.
- Program to Program an articulation could be done, when he was a coordinator he did articulation with a few community colleges. This would not be difficult, the courses would have to be reviewed and try to minimize time for the student who transfer to the program. ISU does get a lot of community college transfer students, occasionally for some transfer students it might not be a perfect match and it takes more time in their program.

He would be happy to discuss more and get other people involved with the process

Frances Figg will arrange for a meeting with Jin Jo and Nelly from the Triton Transfer Center.

Robert Hattier asked if anyone had any questions, comments or ideas of what could be done with the program. He is excited about moving into the 2nd cohort starting the program and also rolling into semester 3 for the 4 students pursuing a degree.

Dr. Jennifer Davidson mentioned that she had a meeting with the Des Plaines Valley Region (the high school consortium for the district). Discussed the high school visit for the fall, and the structure which was set up tentatively the same as it had been for the past 2 years. In the meeting Dr. Davison asked if they were open to expanding the visits to the other disciplines offered within business and technology. They agreed to accept high school student for a visit for Renewable Energy, Architecture, and Construction. The group was excited about the Renewable Energy program. In September or October students will be visiting the campus.

Tom French would like to have a promotional visit at Prosser to give the kids more ideas of what's out there for them.

Dr. Jennifer Davidson gave kudos to Jo Kilcoyne and Robert Hattier for all the work they did this semester on the curriculum. With the 9 courses in Renewable Energy they took a deep look after teaching the last few semesters to improve the program and make it just as they hoped it would be in the future so that the students are benefitting the most for the program. It was a lot of work and we helped them through it, now we are just waiting for approvals so we can offer these new versions of the courses. Thank you so much for all your hard work and we look forward to offering them.

Jin Jo is very excited about the programs being offered and is happy to help.

Tylor O'Connor in regards to the promotional ideas is willing to offer his time to speak to any high school students about the program. In the future he would one day love to teach a course.

Frances already has Tylor O'Connor and Trevor on her radar to get practical experience. She thinks it's a great idea because what she has heard from students it's a much bigger impact when someone closer to their age talks to them.

Tom French would like to get some Triton gear, poster or flag in his room to promote the school.

Frances Figg held off on creating a brochure because of all of the curriculum changes, once done she will send them out as pdf and a physical copies.

Joe Kilcoyne thanked everyone for joining the meeting.

Next Meeting will be in the Fall of 2021