Curriculum Committee Minutes
9:00 – 11:30 am, November 17, 2017
Ware Student Commons Room 207

Present: Becky Burton, Beth Rodriguez, Brent Cavanaugh, Brian Farmer, Brian Jacob, Carol Buse, Carol Summers, Claudie Biggers, Daniel Esquivel, Diane Brice, Frank Sobey, Jerry Terry, Jodi Lindseth, Kelly Prater, Kristin McDonald-Willey, Lesley Ingham, Margie Netherton, Mark Rowh, Mary Clare Munger, Michael Hart, Penelope Davies, Renee Vincent, Shawna Lopez, Stefanie Decker, Tina Babb, Victoria Taylor-Gore and Sarah Davis, recorder.

I. **Minutes**
   Minutes of the October 27 meeting were reviewed; motion made to approve, seconded and approved by all.

II. **Update: BCIS 1305 – Word Processing**
   Carol Buse updated the committee on the redesign of BCIS 1305: Currently, the course is broken up into an introduction to Blackboard, how to do things and file management, two weeks of Word, two weeks of PowerPoint, and Excel. The redesign is does not drop Word, but makes it one week instead of two. Since Word is an everyday practice, the students will receive what they need. Will drop PowerPoint and focus on critical thinking with coding and maybe more Excel, as well as focus on data management and analysis.

   Frank Sobey stated there will not be a formal approval with this update, but this will be noted in the minutes.

III. **Social Sciences: PSYC 2315, 2319 and PSYC 2400**
   Beth Rodriguez presented the proposal to revise the program for the Psychology majors to align with WTAMU. These two courses do not transfer to WTAMU as psychology credits, but as electives.

   This proposal is to require PSYC 2301 General Psychology, PSYC 2400 Research Methods, SPYC 2314 Lifespan Growth and Development **or** PSYC 2306 Child Psychology and PSYC 2315 Psychology of Adjustment or PSYC 2319 Social Psychology. This will keep the 12 hours in major course requirements while better serving our students, and the classes will transfer to WTAMU and other universities.

   Dr. Rodriguez also presented the proposal to add the new course PSYC 2400 Research Methods, which can serve as a building block to ensure that the student is more prepared for whichever university he or she decides to transfer to and that it will count towards the required hours for a degree in psychology. Again, these changes keep the Amarillo College program in alignment with WTAMU.

   Discussion followed.

   Frank Sobey: At the beginning of the year we were given two main charges by Dr. Lowery-Hart and this is one of the charges to audit and align our programs with our primary transfer institutions, WTAMU. This is also an example of how the curriculum maps have to be updated. Beth has to add this course to the program and identify what

is being introduced, developed, mastered, and worked into the rubrics that are used for student artifact.

Motion made to approve, seconded and approved by all

IV.   **Visual Art**

The following changes are requested due to courses being removed from the Creative Arts Core by the Co-board, as they are skills based courses. The courses removed by the Co-board are Drawing I, Photography I, Ceramics I and Design I. Therefore, we need to make the following changes.

1) Remove ARTS 1311 Design I from the Creative Arts Core.
2) Make ARTS 1304 Art History II the required Creative Arts Core. Art History II is offered in the Creative Arts Core and is relevant to graphic design history and styles. It will transfer to other graphic design programs and to 2 and 4 year programs.
3) Move Design I into the major course requirements. Design I will continue to be a part of the Graphic Design curriculum as a major course requirement, as it covers essential design skills for graphic designers.
4) Remove ARTC 1353 Computer Illustration from the degree plan to make room for Design I. Skills covered in Computer Illustration will be integrated into other courses.

a. **Graphic Design:**
    i.   Web Design Option
    ii.   Animation Option
    iii. Print Media changes as listed above with **Additional Option**: Under Major options for print media, add ARTS 2346 Ceramics I as an option along with ARTS 2323 Life Drawing I and ARTS 2316 Painting. This adds the option of working with 3D materials to strengthen students' design capabilities in 3D packaging design.

Discussion followed.

b. **Drafting:** Proposal is to remove ARTS 1316 Drawing I from the Creative Arts Core for Drafting AAS. ARTS 1316 Drawing I is being removed from the Creative Arts Core by the Co-board in the Fall of 2018.
    i.   Remove ARTS 1316 Drawing I from the General Education Requirements of the Drafting AAS.
    ii.   Replace this with the option to select ARTS 1301 Arts Appreciation, ARTS 1303 Art History I or ARTS 1304 Art History II as the Creative Arts General Education Requirement.

Discussion followed

Motion made to approve Graphic Design and Drafting proposals, seconded and approved by all.

c. **Photography AAS:** Requesting the following change due to ARTS 2356 being removed from the Creative Arts Core by the Co-board.

      i.   Take ARTS 2356 Photography I (fine arts emphasis) out of the Creative Arts Core for this degree.

      ii.   Make ARTS 1304 Art History II the required Creative Arts Core class for this degree. Art History II is offered in the Creative Arts Core and is relevant to photography's history and styles. It will transfer to other 2 and 4 year photography programs.

      iii.   Move ARTS 2356 Photography I (fine arts emphasis) into the major course requirements for this degree. ARTS 2356 covers necessary skills required of a successful photographer and it is a prerequisite to several other photography courses.

      iv.   Remove PHTC 2353 Portrait II from the degree plan to make room for ARTS 2356 Photography I. Portrait II skills will be integrated into other photography courses.

d. **Photography AS:** Requesting the following change due to ARTS 1311 Design I being removed from the Creative Arts Core by the Co-board.

      i.   Remove ARTS 1311 Design I from the Creative Arts Core for this degree.

      ii.   Make ARTS 1304 Art History II the required Creative Arts Core class for the Photography AS degree. Art History II is offered in the Creative Arts Core. It includes major artists, architecture and design, and is very relevant to photography's history and styles. It will transfer to other photography programs and to a 4 year program.

      iii.   Move ARTS 1311 Design I to the Major Course Requirements for this degree. Design I transfers into 2 and 4 year photography programs, and provides important design skills for photographers.

Motion made to approve Photography AAS and AS proposals, seconded and approved by all.

V. **Engineering**

Penelope Davies presented the request to add a new course ENGR 1201 Introduction to Engineering. This will require the Pre-requisite of MATH 1414 College Algebra/STEM course (or can be taken as a co-requisite) designed to help students master the fundamental skills to successfully complete their Engineering Courses.

Discussion followed.

Frank Sobey explained this is different than our normal pre-req/co-req. petition. If the Curriculum Committee approves this request, then Mr. Sobey will add the language of the co-req. for submission to the data warehouse.

Motion made to approve, seconded and approved by all.

VI. **Automotive**

a. **Advanced Automotive Certificate AUMT.CERT.PTRN (Level II Cert.)**

Brian Jacob presented the following Curriculum Revision for the Advanced Automotive Certificate. The decline in enrollment is partly due to the math and writing requirements. Also going through our certifications, we needed additional contact hours. After meeting with the Advisory Board and reviewing program courses, we would like to make changes in the core requirements as follows.

Remove these core courses:
ELPT 1311 Basic Electrical Theory (3 hours)
ETWR 1302 Introduction to Technical Writing (3 hours)
INMT 1305 Introduction to Industrial Maintenance (3 hours)
MCHN 1343 Machine Shop Mathematics (3 hours)

Replace with these core courses:
AUMT 1307 Automotive Electrical Systems (3 hours)
MCHN 1320 Precision Tools and Measurements (3 hours)
AUMT 1319 Automotive Engine Repair (3 hours)
AUMT 1213 Automotive Suspension and Steering System Theory (2 hours)
AUMT 1191 Special Topics in Automotive: ASE Prep (1 hour)

Discussion followed:
The students are required to be TSI Compliant. Diane Brice explained that students that have taken the college prep course while in high school are able to take the courses, but they are not TSI compliant and cannot be graduated. There is not a course in this curriculum that would make the student TSI Compliant.

Frank Sobey explained the college prep course gives the student a two-year waiver to take and pass the TSI test to be TSI compliant or take a course to complete the TSI requirement.

We are talking only about the students that have taken the college prep course instead of taking the TSI test.

Motion was made to table this proposal at this time and revisit the request after further investigation. Motion seconded and approved by all.

VII. **Mass Communications**
Victoria Taylor-Gore presented: Propose to **delete a COMM 2326** Media Internship from the inventory. This course is no longer funded by THECB effective Fall 2017 and is scheduled for deletion.

To replace this course we request to **use COMM 2324** Practicum in Electronic Media. This course is almost identical to the one being deleted (COMM 2326).

Motion made to approved, seconded and approved by all.

At this time we would like to **table the RTVB.CERT.ADV** Mass Medial Advance Certificate that was to be presented.

The Proposal to Revise RTVB.CERT.OM.ADV Online Marketing Advanced Certificate is one we would like the Committee to consider today. The Co-board felt there were too many options with the previous certificate and we needed to make a revision.
This Revision is decreasing the numbers of hours from 42 to 30 hours.
This creates a more specific option for student who have completed the basic online marketing certificate and is more focused than the previous.

Motion made to approve, seconded and approved by all.

VIII.   **Emerging Technologies Task Force: Mary Dodson et al**
Report "Industries of the Future and Amarillo College" attached below.

(Presentation slide show did not work with the system and was sent to each Committee Member after the meeting adjourned.)

Leslie Shelton, Mary Dodson and Austin Rios presented:

Immediate ideas:
- Construction: incorporating certifications for Electrician, General Contractors and HVACR.
- Dairy Industry: continue to train personnel to run the backend and deliver and ship products.
- Vet Tech program: development of the biochemistry degree
- Business: Insurance Sales Agent, Personal Financial Advisor, Real Estate Inspector and Accounting/Bookkeeping.
- Culinary Art courses and programs: CE cooking courses
- Healthcare: Health Informatics, expanding EMS, CMA, LVN, Dental Hygiene, Echocardiography and Sonography, as well as CAN and Massage Therapy

Long-term ideas:
- Aerial Vehicles
- Autonomous Transportation
- 3D printing
It was felt at present AC should begin addressing Drone Aviation and 3D Printing.

Additional discussion followed requesting people to contact them with ideas.

Report is attached to the minutes.

Meeting adjourned.

Curriculum Petitions may be viewed at the following link
https://www.actx.edu/forms/curriculum/index.php

Industries of the Future and Amarillo College

INTRODUCTION

This Committee was charged with investigating future industries and how best Amarillo College can remain viable in light of rapidly changing technological advances. As H. G. Wells notes, "adapt or perish." Indeed, we have examined our need to adapt to the arrival—and future—of a brave, new world. As explained by Webb in her book, *The Signals are Talking*, "'the future' is a meaningless distinction, especially when it's used to make projections or decisions. The future is simultaneously three hundred years, one decade, twelve months, two days, or forty-seven seconds from this very moment" (Webb 54). So, a need for clarification of what is meant by "the future" per this investigation is in order: we are looking at two "futures" broadly defined as the immediate and the long-term.

IMMEDIATE FUTURE CONCERNS

Research, as well as a meeting with Steve Pritchett, member of the Amarillo Economic Development Corporation, resulted in this Committee breaking down immediate future concerns of AC into six areas: construction, dairy, veterinary, business, food services, and healthcare.

Residential construction in Amarillo is up 29% from last year, and commercial construction is booming. Local businesses are hiring office personnel in specialized areas requiring certificates. We recommend incorporating three specialized certifications into our offerings: Electrician Certification, General Contractor Certification, and HVACR Certification. West Texas Electrical Joint Apprenticeship and Training Committee does offer apprenticeship and electrician training in our area. So, we further recommend establishing a partnership with them in order to teach such classes through AC; indeed, the ACE Scholarship Program could then offer more students the chance to succeed in this field.

The dairy industry is strong and expanding into sub-industries such as Hilmar Cheese in Dalhart. This plant produces cheese and whey protein products. Lone Star Dairy Products in Canyon taps into the local supply of dairy farms to produce butter and cream as well as dry milk products. AC can best support these areas by continuing to train personnel to run the backend and by making sure we have those trained to deliver and ship product. We believe our Industrial Technology and Office Administration Certificates cover these bases. However, we are curious about the possibility of offering a pre-Ag program and believe this idea may warrant consideration.

It would be worthwhile to create a Vet Tech program on the East campus for large animals. Local veterinarians are having difficulty finding well trained vet techs, and they have offered to assist in observations and training. The current development of a biochemistry degree would be beneficial for the students wanting to become a veterinarian.

Businesses are hiring, and we recommend further study to determine the need for and interest in Insurance Sales Agent Certification, Personal Financial Advisor Certification, Real Estate Inspector Certification, and Accounting/Bookkeeping Certification.

Community colleges across the country offer successful culinary arts courses and programs. According to the Bureau of Labor Statistics, the job outlook for Head Chefs and Cooks will grow by 11,300 jobs between 2014 and 2024. The recent announcement regarding a Double-A baseball team coming to Amarillo and beginning playing in the new downtown ballpark in 2019 could result in restaurant growth in that area. Amarillo College should be poised to capitalize on such opportunities. We need to foster relationships with WTAMU, Texas Tech and/or ENMU in this regard. It would also serve us well to keep in contact with food service industry professionals and companies such as Ben. E. Keith, Food Safety Net Services, Affiliated Foods, Elizabeth Jane Bivins Culinary Center, Hilmar Cheese, and our local hospitals and others to seek their input as to the need for and interest in a culinary arts program.

We also recommend AC consider offering continuing education cooking courses via a new approach—assessing a membership fee for a series of class with 3 package options (Basic, Full, and Premium). The courses would have to be of high quality and utilize our mass communication resources which includes filming in our studio. We think that cooking classes might be a good place to test this approach before trying it elsewhere, but the possibilities are endless—even an elderly shut-in could learn how to knit, play an instrument, paint or bake bread, etc. It would be a good stream of revenue with limited upfront cost of paying an instructor a one-time fee for creating a recording in our studio. For the convenience of the members, courses would be available 24/7. AC could entice membership renewal by introducing new classes on a regular basis.

Healthcare is ever-evolving. Possible investigations into this area include the area of Health Informatics, expanding Emergency Medicine Services Professions to the Northern Panhandle in conjunction with Frank Phillips, piloting the Clinical Medical Assistant (CMA) program pathway to Licensed Vocational Nursing (LVN) , exploring additional nursing student acceleration options, creating a pathway from Dental Assisting to Dental Hygiene, creating a new certificate for Echocardiography & Vascular Sonography, expanding clinical simulation at the new SIM Central for Surgical Technology & Pharmacy Technician students, exploring the Healthcare Academy in order to make sure all courses for the certificate are relevant to student progress and job opportunities, exploring credit options for prior learning experiences for veterans, developing nitrous oxide and laser certificates for the dental community, and expanding and growing various Health Science programs via online delivery. Furthermore, we recommend expanding CE offerings to include opticians, opthamologists, nursing home administrators, dental hygienists, and dental assistants. Additional Nursing Assistant CE offerings are needed to comply with new state regulations, and inter-professional conferences with SIM Central would reduce needs for hospitals to provide these trainings. The expansion of the CNA Program to include River Road School and creating a fast-track CNA section for 2nd-degree nursing students is desirable. We also suggest changing Massage Therapy to an academic program.

LONG-TERM FUTURE CONCERNS

Primary long-term concerns relate to, first, the increased interest in and usage of unmanned aerial vehicles (see attached report 1), second, the development of autonomous transportation (see attached report 2), and, third, the reliance on 3D printing (see attached report 3). At present, AC should begin addressing these fields by offering Drone Aviation and 3D Printing courses.

Additional long-term concerns are in the areas of data mining and biogenetics and bioethics. Moore's Law argues that the overall processing power for computers will double every two years. Indeed, this ever-increasing-rate of knowledge has resulted in a new equation: information = power. Data mining is the practice of examining large databases in order to generate new information. So, data mining is—and will continue to be—a field in demand. Universities are adding degrees in data mining, and we strongly believe AC needs to add it into offerings for CIS as an AS to transfer. The need for Biogentic Technicians and Bioethic Assistants is right around the corner. These areas require in-depth exploration by faculty teaching such in such fields and input from our legal expert, Mark White.

INTERDISCIPLINARY APPROACHES

Courses in the liberal arts are essential to developing critical thinking skills, and critical thinking is essential for successfully embracing and implementing 21st century technologies. We recommend that representative faculty from the liberal arts and STEM areas meet with Futurist, Dr. Monique Wilson to better investigate her contention that an interdisciplinary approach incorporating cutting-edge technologies maximizes both areas and best serves students.

PROCESS

This investigation is but a beginning. The future is ever-evolving: what is trendy does not necessarily become a trend that needs to be taken under serious advisement. Thus, we propose that this PLI "Industries of the Future" group serves as the first Emerging Technologies Task Force (ETTF) and that it is established as an ongoing task force reporting to the Curriculum Committee at least once per

semester. We suggest that the first such meeting takes place this fall semester in order to present the recommendations made in this report to the Curriculum Committee for consideration.

We further propose that future members of the Emerging Technologies Task Force (ETTF) be appointed by the out-going PLI Committee and be selected from the pool of those who have previously attended the President's Leadership Institute. We suggest that future ETTF Committees be comprised of seven members with one representative from Advising, East Campus Faculty, West Campus Faculty, Washington Academic Faculty—Liberal Arts, Washington Academic Faculty—STEM, Business and Industry Center, and Career Services.

An additional aspect of this process is the on-going need to cultivate an atmosphere that encourages innovations and limits institutional barriers. Faculty should be encouraged to "try" and not be fearful of outcomes. And, Administration must invite faculty to openly discuss any bureaucratic hurdles they encounter that might slow down AC's ability to progress.

CONCLUSION

Changes are occurring more rapidly than at any time in previous history as a direct result of 21st century technologies. This report has attempted to pragmatically address the vastness of local and immediate as well as more long-term and global concerns as they relate to a community college. It is, admittedly and for the most part, general in its comments, and each recommendation presented requires further investigation regarding specific implementation. Thus, we believe the process proposed and outlined above is essential if Amarillo College wants to be prepared to adapt to and embrace the constantly evolving needs of the future.

Dr. Claudie Biggers, Eddie Casias, Brian Frank, Richie Garza, Courtney Milleson, Jason Norman, Mitch Parker, Austin Rios, Leslie Shelton and Dr. Mary Dodson, Co-Chairs.

UAV/Drones

Unmanned aerial vehicles (UAV), or, as most people know them, Drones, are an emerging technology with applications in many existing industries. The FAA has already established guidelines and rules to regulate the use of UAVs for commercial use. Currently, other colleges and training facilities modify an existing aviation program to include FAA curriculum pertaining to UAV/UAS. This would be one way that AC can begin integrating UAV/UAS training into our programs. A person who holds an FAA UAV certification would possess the skills to work in many different industries. In addition to having an FAA accredited license, the pilots gain access to insurance opportunities once they obtain the certification. As the industry grows, the credentials one holds will become more important. Amarillo College has the facilities and aviation foundation that are waiting to bring impact to our area in these new emerging industries.

Someone that holds an FAA accredited UAV/UAS certification would have access to a very broad assortment of employment opportunities. Below are a few such opportunities:

- Land surveyor
- Facilities inspection (Hazardous area inspection)
- Cinematography (real estate,)
- Race/competition (recreation)
- Private contract pilot services

Currently, there are many community and 4-year colleges that offer Associate to Master's level degrees in Unmanned Aerial Systems. Many other places offer minors or specialization opportunities within their existing degrees. Given the lack of course options in the area, AC could pioneer the learning environment in the Texas Panhandle.

See:

http://successfulstudent.org/15-best-drone-training-colleges/

https://www.theatlantic.com/technology/archive/2017/01/drone-pilot-school/515022/

https://mag.dronesx.com/state-of-the-uav-uas-industry/

Autonomous Transportation & AC

As noted by Alec Ross, author of *The Industries of the Future*, "almost every major car company is researching and building its own version of a driverless car" (29). The advancement of autonomous vehicles will affect all but, according to Ross, "will most directly affect the approximate two and a half million people in the United States who make their living from driving trucks, taxis, or buses . . ." (31). Without a doubt, AC must devote time and energy to studying and preparing for this major shift.

Currently, AC converses regularly with local/regional industries regarding this issue. At this point, our industry contacts report that the technology is 15+ years away from affecting local businesses. Jerry Terry is a newly elected board member of the National Association of Publicly Funded Truck Driving Schools. This board consistently reviews legislative and technological change and presently shares the "15+ years" opinion. Mr. Terry visited with Aaron Peterson, Chief Development Engineer with International Trucks, to gain further insight. Mr. Peterson stated that "it will be at least 20 years before autonomous trucks become a reality," adding that "they would never completely replace the need for human drivers." AC does embrace this potential area of change and intends to stay on top of local industry and developing needs. As this technology is refined, initial training will be in the Programming/CIS area in order to develop software skills that will control vehicles.

As this technology develops, one avenue worth investigating is grant funding for community colleges interested in the possibility of autonomous transportation programs. Washtenaw Community College recently received a $2.47 million from the U.S. Department of Transportation to focus ". . . in the field of comprehensive transportation safety, congestion, connected vehicles, connected infrastructure, and autonomous vehicles."* (See http://sites.wccnet.edu/atc/funding/) This Committee recommends that AC investigates and prepares to take advantage of such possibilities.

3D Printing at AC

3D printing is an emerging technology that is finding its way into many different industries. There are applications in the Health Sciences, Biology, and Aerospace. Aside from the industries one would assume to be tech related, others, such as Art, Fashion, and Culinary enterprises, are also using 3D printing technologies. There are many different types of 3D printing methods that include molten metal layering to create bridges and frameworks, and SLS methods (selective laser sintering) where a project rises from the ooze as a laser hardens. There are many community colleges that create what is known as "Makerspaces" that have similar offerings to tutoring labs. These spaces are where students have the tools and guidance to discover innovative ideas and turn them into real world objects in a matter of hours. With our new commitment to innovation at AC, 3D printing is a wide ranging technology that should be included in our offerings.

For further information, see:

https://www.digitaltrends.com/cool-tech/3d-food-printers-how-they-could-change-what-you-eat/

https://buildingradar.com/construction-blog/how-3d-printing-could-revolutionise-the-construction-industry/

http://delabuzz.com/3d-printers-meet-the-fashion-industry/10074

http://www.engineering.com/AdvancedManufacturing/ArticleID/14218/Additive-Manufacturing-in-the-Aerospace-Industry.aspx

http://medicalfuturist.com/3d-printing-in-medicine-and-healthcare/