Present (12 voting members plus chair): Rian Nostrum, Chair; Mari Borr, Anne Denton, Viet Doan, Mohana Asha Latha Dubasi (proxy for Preston Gilderhus), Noah Engels (proxy for Tanner Langley), Jamal Haidari, Tanya Kramer, Jacob Lynch, John Pollock (proxy for Jalen Johnson), Mike Russell (proxy for Nichole Brunner), Michelle Sauvageau, Melissa Stotz, David Wittrock, CeCe Rohwedder

Absent: Nichole Brunner, Preston Gilderhus, Jim Hammond, Jalen Johnson, Tanner Langley

The minutes of the October 3, 2014 and November 21, 2014 meetings stood approved as presented.

Review of Action Plans received for the $50,000 available for awards
The Student Government Technology Commission reviewed and discussed all Action Plans received.

Jim Hammond provided his comments to Rian prior to the meeting.

General discussion of all Action Plans received was held, as follows:

#1501, “Cloud Observation and Collection,” Adnan Akyuz, Project Director (PD), ND Agricultural Weather Network, AES. $7,276.00 requested
- There are other resources, either free or more cost-effective, that can be utilized. Most of the funds requested are for the cost of someone to develop the app; however, the app could instead be developed as a class project.
- Jim’s comments: this is not a new proposal; it is almost identical to last year’s #1401, which was denied. Anne, who served as primary reviewer for #1401, concurred, noting that the only difference is that #1401 was web-based and #1501 is app-based, and thus riskier.

#1502, “Projection Equipment for Graduate Learning Center,” Chris Martin, PD, NDSU Libraries. $3,007.98 requested
- Jim’s comments: this project is a departmental function, and such have historically not been funded.
- There is not a full need for a projector in that space; however, it is a good idea to help graduate students, so it would be a good project to approve if there are funds available. There is a good ratio of cost vs. the number of graduate students who would use the space; it was noted that 95-97% of our graduate students are on campus, not distance students.
- Melissa noted that a computer the age of the one in that space is showing its age, but the projector has a couple more years’ worth of use left.

#1503, “ACE Group Room Study Needs” Betsy Sand, PD, ACE Tutoring Center. $12,855.00 requested
- The bigger room would be most useful – if there is funding available to provide only partial funding, this is the space to fund.
- Jim’s comments: TFAC has funded tutoring using SmartThinking – this project goes opposite from innovative technology.

#1504, “Pedagogical Lab,” Jenny Linker, PD, Health, Nutrition & Exercise Science (HNES). $18,699.80 requested
Smartboards are beneficial for training teachers. iPads are not the primary concern, and the Project Director would accept partial funding for classroom technology.

- iPads would be useful to take into the gym, which adds an innovative twist to the project. Students can use any mobile device in the gym, but they would have to purchase the app.
- The trends are for iPads to be used for all types of exercise classes, so the students would learn how to follow the latest trends as new teachers.
- The Project Director has a $6,000 commitment from the department and has applied for a grant but was denied; clearly efforts have been made to procure funding.
- Student technology fee funds are utilized only for spaces used campuswide, and there is never enough money to go around, which leaves spaces such as gyms out of eligibility.
- Jim’s comments: this is a new department request – do we need to fund such projects?

**#1505, “Classroom Technology Improvement,” Loralee Carpenter and Canan Bilen-Green, PDs, Industrial & Manufacturing Engineering. $21,994.93 requested**

- This is an enhancement to a specific department, and such projects have customarily not been funded.
- Only a limited number of students within one department would be impacted.
- The project is not very innovative.
- If there are funds left, a smart podium and projector might be funded.

**#1506, “Artistic Engineering: 3D Scanner for Additive Manufacturing Lab,” Bashir Khoda, AKM and Loralee Carpenter, PDs, Industrial & Manufacturing Engineering. $17,999.00 requested**

- The current 3D printer is fine, but scanner availability is limited; also, students can use the 3D scanner for functions currently not available to them.
- The project cost is for the software and the bios and algorithm that then follow, which are both updated as needed at no additional cost.
- Jim’s comments: this project would only make a small impact, and within only one department.
- The Project Director is willing to eventually create by spring 2016 a center that everyone on campus can use, with the location to be determined; it was suggested that perhaps the Teaching and Learning Media Center might house such a center.


- TFAC has funded BIN several times in the past; BIN is a student-driven project with faculty providing the support.
- The BIN computers are nine years old.
- A course fee for usage on projects was denied, as BIN is located in a non-NDSU facility, even though classes are held there.
- The Action Plan does not address costs for computer refresh and software licenses. CS6 can no longer be purchased, users must go to the cloud, which is expensive. A Service Level Agreement would be needed for ITS to provide support, at a cost, for models currently supported by ITS.
- Jim’s comments: care should be taken in committing funds for replacement: what is specified may not be available. Action Plans #1507 and #1508 meet the funding requirements, but there is not enough money to fund both.
- The Project Director would accept partial funding.
- The computer identified in the Action Plan is expensive, but it is the industry standard.
- In the past, BIN has been resourceful in acquiring equipment at low costs, so when they do request funding for equipment, there is a real need.
#1508, “Computer Numerical Controlled Technology and Its Cross-Disciplinary Applications,” Matthew Kirkwood, Stephanie Day and Meghan Kirkwood, PDs, Architecture & Landscape Architecture, Geoscience and Visual Arts. $41,375.00 requested

- The primary reviewer’s comments, provided to TFAC prior to the meeting, are attached.
- The Project Directors did a good job in cross-departmentally meet the needs of three disciplines.
- The project would complement what we currently do with 3D printing.
- Building a stock of material is costly. The router should last five years, with the plan being to eventually purchase a second one.
- There is outreach potential with events, such as TechGyrls and recruiting.
- Faculty are trying to develop an actual course around this technology.
- This proposal would work best with full funding.
- Jim’s comments: this is a new proposal, a nice project with good matching funds, so it is favorably viewed; Action Plans #1507 and #1508 meet the funding requirements, but there is not enough money to fund both.
- In terms of how many students would be reached: Architecture students all use such types of equipment.
- Funding this project fully would prevent funding much else.

Funding considerations
#1508: M to not fund #1508 (Haidari/Lynch).
Vote: 3 yes, 7 no, 2 abstentions. Motion defeated.

#1501: M to not fund #1501 (Lynch/Denton).
Vote: MSC unanimously.

#1505: M to not fund #1505 (Lynch/Haidari).
Vote: MSC unanimously.

[Noah Engels left the meeting at 2 p.m.; 11 voting members plus chair remaining at the meeting.]

#1503: M to fund #1503 at $4,000 to equip the large room (Haidari/Sauvageau).
Discussion: this project has good outreach, and the large room is also utilized as a classroom.
Vote: MSC unanimously.

#1507: M to fund #1507 at $25,485.00 for the cost of the computers only (Sauvageau/Russell).
Discussion: the anticipated income from the project can fund its remaining portions.
Vote: MSC unanimously.

#1506: M to not fund #1506 (Haidari/Sauvageau).
Discussion: this is a good project, but it appears to be a departmental project, and there are not enough funds to go around.
Vote: 6 yes, 5 no. MSC.

#1508: M to not fund #1508 (Haidari/Lynch).
Vote: MSC unanimously.

#1502: M to fully fund #1502 at $3,007.98 (Lynch/Sauvageau).
Discussion: the project provides good reach for many students, and the cart provides versatility.
Vote: MSC unanimously.

#1507: M to increase funding of #1507 by an additional $2,595.00 for the software subscription (Stotz/Russell).
Vote: 9 yes, 2 no. MSC.
#1504: M to fund #1504 at $12,860.02 for the classroom technology and partial funding for some of the other components of the project at the Project Director’s discretion (Haidari/Lynch).
M to amend funding of #1504 to $14,912.02 (Haidari/Lynch).
Vote on the amendment: MSC unanimously.
Vote on the amended motion: 10 yes, 1 no. MSC.

M to adjourn without objection (Haidari).

Meeting adjourned.
Notes on 1508 ALA, Geosciences, Visual Arts

Computer Numerical Controlled (CNC) router
Here is the information I gathered from our meeting with Matthew Kirkwood and Stephanie Day (project directors) and Ben Bernard (Computer Services Specialist for ALA):

Background
Unlike 3D-printing which adds the material to make the product, a CNC router subtracts or cuts the material (wood, foam, or plastic) to make the product. The three departments currently have an agreement with the Vocational Training School in Fargo to use their CNC router and in exchange to teach VTC how to use the CNC router. This agreement is temporary, since VTC was not looking for a long-term commitment to allow NDSU departments to utilize their CNC router, especially for the volume of hours the NDSU departments would like to use it.

Explanation
Essentially, the Geosciences Dept. would provide the topographic/structural data for the CNC designs, Architecture/Land. Arch. would take the designs and make the product with the CNC router, Visual Arts would display the product, and Geosciences could analyze the product/results.

The amount of wood, plastic, and foam requested in the budget would be start up material and to test out which material is best for various projects.

Utilization is expected to be heavy as some projects can take up to 40 hrs. There will be plenty of time for multiple projects, since the CNC router could run during night hours. Matt and Stephanie said the plan is to buy another CNC router in 5 years with dept. funds, if the interest warrants.

The proposal is requesting for two software programs: RhinoCAM and Aspire. RhinoCAM is a Computer Aided Machining (CAM) plugin for CNC, meaning the software needed to import the designs from elsewhere or directly made in RhinoCAM for execution of product creation. Aspire is the program that runs the CNC machine.

Finally, the proposal cannot be partially funded. They need full funding for the project to be successful.

Recommendation
After questioning and reviewing this proposal, my recommendation is to approve funding. Collaboration of three departments for a new technology that can directly serve 500 students, and create new and interactive classes working with life-size topographic surfaces is a very
innovative idea for our campus. What we have stressed to be the purpose behind the Technology Fee Action Plan funding is for new and innovative technology projects, and I think this proposal is a perfect fit.

I understand this is the most expensive project, but I do not think that should stop us from funding it. Approval of this proposal will have a huge impact not only on the three departments involved, but also in the campus and Fargo community and extending out to the region. My dad always said, “Work smarter, not harder,” and I think this collaboration is a very efficient use of multiple department’s resources with a future for further collaboration of other departments.

Review by Preston Gilderhus