8:00 – 9:00 Registration and Continental Breakfast

**Dr. Conway Jeffress Welcome Address:**
Dr. Jeffress spoke about his recent experience speaking with 9th and 10th graders about why they should major in math and science. He presented this topic as part of a small group of educators in conjunction with the 50th anniversary of the launching of Sputnik. They explained the importance of math and science in the design of Sputnik. The delivery system for Sputnik implied that weapons could also be delivered long distances. During the Sputnik time there was a push by Eisenhower on math and science education to try to raise the intellectual level of the country to counter the threat created by this technology. This is no longer a threat.

Today many students can not find China or Nebraska on a map. Many students can not do math or science or read. Currently there is no national drive to create math and science scholars which once again makes the US vulnerable. Schoolcraft is promoting math and science by including math and science in all of its programs and by making higher levels of math and science available which may not typically be available at the community college.

Schoolcraft is building a new building, the “Bio-Medical Technology” building which will house most of the math and science courses. This building is scheduled for classes in September 2008.

**Updates from each college and university:**

**Kettering University – Wyn Wilson:** Engineering enrollments down (for past few years). New program – engineering physics.

**Lake Superior State University:** ABET accreditation visit – all programs were accredited. Computer engineering program was newly accredited. Engineering programs include - mechanical, electrical, computer. Technology programs include industrial technology, engineering technology in manufacturing. Recipient of Michigan Economic Development Corporation grant – started a prototype development center. Students did better than average on the FE exam. Placements and salaries have been good.

**Northwestern Michigan College - Jim Coughlin:** Enrollment 4500 students (steady) 120 of which are engineering. NMC recently approved an associate degree in engineering for financial aid reasons. NMC has a strong articulation agreement with Michigan Tech.
NMC is partnered with MSU in a study abroad mission in Russia (faculty and students). This program is open to any students (not limited to MSU and NMC).

**Michigan Technological University – Mark Provoast:** Enrollment up slightly, 3700 students in college of engineering. Graduate side dropped 14 students. There are 638 women total– same as last year, 158 women in freshman class. The civil engineering department has 33 new freshman students and 63 new (total) students.

**Central Michigan University – Marci Otteman:** Enrollment steady, freshman class total 3771 students this year. Engineering program relatively new - 3 years for mechanical (61 students) and electrical (32 students) majors. Technology programs dropped - 5 to 10 % decrease.

**North Central Michigan College – Bob Marsch:** NCMC is a 2 year college and they don’t do much with engineering although they have many of the pieces – math and science – enrollments steady and increasing – looking for ideas to expand in engineering. NCMC is seeing a lot of displaced workers.

**Wayne State University – Namrata Murthy:**

**Kellogg Community College – Michael Houston:** KCC is strong in science and math. They rely heavily on transfer guides from 4 year schools. KCC has links on web site for scholarship information from other schools. They offer associates degree in computer engineering technology and CADD; however students lose half of the credits when they transfer. 4 year schools need to keep them informed about engineering programs.

**Oakland University – Bhushan Bhatt:** 18,000 students enrolled (university wide). Engineering enrollments are down 6-7% undergrad, grad down 4%. Computer Science is up 5%, Computer Engineering up 3%, information technology program up 90%. Mechanical and electrical under stress related to automotive industry. Graduate mechanical engineering is up 20%. OU has a new program in engineering biology – working towards a med school (2010). Systems engineering program changed to industrial and systems engineering accredited. OU has a new PhD program in computer science and informatics. Other PhD programs include mechanical engineering and a school wide program in systems engineering. A PhD program in electrical engineering is planned. No shortage of jobs for new graduates. Job placement is good. 71 employers came to the OU job fair, 21 of these employers were from out of state. In a Free Press article – the number of engineering grads is 2% less than jobs available.

**Macomb Community College – Peter Klein:** The pre-engineering program is holding steady – mainly due to engineering 1000 class (intro to engineering). The Electromechanical program is changing to mechatronics. MCC has the equipment which will simulate a mechatronics system. They are trying to get away from pure manufacturing because everything is automated. 2 classes will be offered in January. The full program will be offered in the fall of 2008. They are teaming up with Wayne State for articulation agreements in place for this program. This is an engineering technology program not
engineering because students are weak in calculus. Peter hopes to see that change with the stronger high school requirements. Enrollments are holding steady. Vehicle design area enrollments are down. Students are going into design engineering instead. LTU takes a lot of MCC technology courses as transfer into their program

Kalamazoo College –Tom Askew: KC is a 3:2 institution; students take 3 years at Kalamazoo College and 2 years at a transfer institution. At KC everyone must take calculus, including pre-med. KC is trying to integrate science, applied science and pre engineering into one curriculum. Looking for PhD in engineering to fill physics faculty position

Eastern Michigan University: EMU is looking for a new president. EMU looking at dual degree arrangement with UMAA, Curriculum in physical science in secondary ed. EMU has articulation agreements with 2 universities in china – the rest of the world is ahead of us in Math and Science.

University of Michigan Dearborn – Reinaldo Perez: Written report handed out. UMD has had as enrollment decrease for the past several years. This year the freshman class is larger than last year. Anticipate increased enrollment over all. Small drop in grad students ended this year. Total engineering enrollment this year is 1800 students. This is the 5th largest in the state. There is still a shortage of engineers in the US. Some companies are offering sign on bonuses up to 25% of the first year’s salary. UMD has the only accredited program in software engineering in the state of Michigan. Electrical and computer engineering is UMD’s biggest department. UMD has many generous scholarship programs. Their largest scholarship is the Patten scholarship for electrical and computer engineers. There is more money for these students than for any other major. UMD’s Career night is not meant to be a recruiting event but an informational event about engineering jobs. 4 young engineers will talk about their jobs at this event. UMD is participating in a joint institute with UMAA and with a college in China. There is a demand for software engineering students. Software engineering includes computer game design – some grads have been placed in this field. One student did programming for the “Spiderman” game and another for the “Pirates of the Caribbean” game.

Henry Ford Community College – Tom Kelly: Assoc of science in pre engineering (3rd year for degree) has very little financial and time support. 200 students say they want to be pre-engineering students but very few graduate since their goal it to make it to the 4 year programs. These students focus on taking the courses that will transfer to the 4 year program. They have a 3/2 program with MTU. New president wants strategic planning. The pre-engineering program is going on the front burner in the math department. Science division started an early college for high school students in health careers.

West Shore Community College – Paul Drelles: Not much has changed. The overall enrollment is about 1400 students (down). Enrollment is down in calc classes. The pre-engineering enrollment is at about 20. A new building will be opening in Jan 08 for student services (no classrooms).
Grand Rapids Community College – Nancy Forrest: GRCC hit maximum capacity (15,500) this year and had to turn students away. They have no engineering department but engineering concerns are covered by their math and science departments. They have a combined linear algebra and differential equations class and would like to know what other schools do.

Wayne County Community College – Bhawatosh Bagchi: WCCC has 5 campuses however only 2 offer physics. Enrollment is high, over 40,000 this semester. WCCC offers midnight classes and early morning classes and they are running.

Western Michigan University – Fred Sitkins: A written report was passed around the room. WMU has a new president, the last one was asked to leave as was the provost for academic affairs. WMU also lost the vice president in enrollment management. These positions are posted. Their current enrollment appears to be holding steady. Have a lot of students from Northwestern Community College. WMU has a new program in civil engineering – see flyer for programs and co-op program information. WMU engineering programs are ABET accredited. The WMU undergraduate engineering management technology program is number 3 in the nation. Their graduate engineering management program is number 1 in the nation. WMU is working on a solar car project which ties engineering and engineering technology students together. The car will race about 2500 miles on solar power alone.

Western Michigan University: WMU has appointed their 8th president, Cr. John Dunn. National search for a new provost of Academic Affairs has begun. National search for a new Vice President for enrollment management is underway. Enrollment is below expectations. New students must carry a full credit load, commit to annual advising, declare major by sophomore year. Under plan student who maintain a 3.0 during their first year will receive $500 in financial aide. Living on campus under plan will end.

Wayne State: – Most graduates find good jobs in SE Michigan. Fall enrollment 2006-2007; 1333 undergraduate students 987 graduate students. WSU has the only undergraduate engineering program at a Carnegie I research institute. Enrollment declined slightly in both undergrad and grad. WSU has a bridge program for at-risk students. They are building a new engineering addition which opens in the fall of 2008. Classes will not be offered in this building just labs. GM designates Wayne as a partner for the advancement of collaboration engineering education.

Saint Clair County Community College – Haddock Snyder: Enrollment up college wide, engineering enrollment down. SCCC has an associate of engineering degree.

University of Detroit Mercy – Carolyn Rimle, Leo Hanifin; (see handout) – UDM admission standards have not changed. About 10 full scholarships are offered for incoming transfer students. 100% of grads have jobs (in field) or are going on to grad school. UDM is in the top 10% in country for women studying engineering (27%). 1/3 of the students at UDM are underrepresented minorities. Mechanical engineering students placed 3rd in ASME in human powered water purification programs. UDM placed 3rd in
intelligent ground vehicle (global) competition. Autonomous vehicles begin building in freshman year. UDM has 3 NSF grants in mechatronics. UDM has 4 foundation grants to develop a program in entrepreneurship. UDM is the lead university in 5 university transportation center. They are working on alternative fuels, smart cars, smart highways and more. All freshman students next fall will get tablet computers. Engineering student computers will come loaded with about 50 software packages including CATIA and AutoCAD. If students can’t afford this computer, a loan will be provided. UDM has a 5 yr BS / MS program. UDM enrollment down 5% over the past 5 years for freshman. Pre-med and pre-dental enrollments are doubled. Graduate engineering enrollments are up. Michigan engineering enrollments are down 17% national engineering enrollments are down 1.5%. 45% of the students in China are studying engineering 4.5% in US.

Grand Valley State University – Charlie Standridge: GVSU has a mandatory co-op program. 603 undergraduate 50 graduate students (engineering). Manufacturing engineering is now product design basis. Students learn how to design and build products on a large scale basis. GVSU is starting a minor in bio medical. There is a lot of push in energy and sustainability. Their mechanical – thermo fluids program is changing to have an energy focus. Their architectural engineering students are pushing for a program. They place all students in jobs. Scholarships are available especially for transfer students. Senior project are done in teams and are sponsored by local industry.

Alpena Community College – Jim Berles: ACC enrollment up 10 -11% at the highest point for the last 20 years. Pre-engineering program continues to struggle with low numbers. Engineering courses have been reduced to Intro to engineering, statics, and dynamics, no more mechanics of materials. Enrollment in pre-engineering is in the single digits. ACC has an engineering camp in summer for local middle school and high school students – hopefully this will raise pre-engineering student enrollments. ACC struggles with low math skills in students interested in engineering and is hoping the new state requirements will change this. ACC has a strong dual enrollment program with High School (calculus students). Jim Berles is interested in which CAD software programs transfer to the universities.

University of Michigan, Ann Arbor – Gary DeGuzman: UMAA is developing relations with China and will be getting 100 students from China. Enrollment numbers are up in engineering; 4900 students last year, 5100 students this year. 24% of the engineering students are women, 10% are under-representative minorities. UMAA has established a new transition team for all transfer students. UMAA has implemented a new program called schematics for success. 97 transfer students registered for this new program. UMAA is involved in the Jack Kemp Cook program. UMAA wants to visit all CC in Michigan to strengthen relationships. UMAA has an equivalency data base - see handouts. UMAA has a “tech day” – all about Michigan engineering, November 10th.

Spring Arbor University - Fred Trexler: Spring Arbor has about 4000 students overall including graduate programs. This year Spring Arbor has its largest freshman class 305. 15 students stated physics or math as their major. There are 3 students who are ready to transfer; most students transfer to UM. Fred has tried recruiting students at first robotics
contest, and tried to give away scholarships but he was unsuccessful. Spring Arbor is beginning the design process for new science building. Spring Arbor is looking for new president, and a tenure track person in physics. Spring Arbor is combining linear algebra and differential equations into a 4 credit course.

Saginaw Valley State University Altaf-Ur Rahman: – SVSU added a 16 million dollar addition to their engineering building; including new equipment, new facilities, and larger classrooms. SVSU engineering programs are ABET approved. Enrollment is stable. The Student Research Creativity Institute gives students in senior design class money to work on their research projects. SVSU open house was on October 13th. SVSU coordinates with other schools in other countries – Tai won, China, India. SVSU won first place in robotics competition. They also participate in the formula car program. SVSU has a large group of international students; 150 students from Saudi Arabia, spend one year learning English. They have many students from Canada who pay in-state tuition. The international advisor is very active. There are a couple of endowed chairs 2 in engineering – 1 in alternative energy. They are looking for an increase in enrollment from international students. Electrical Engineering students are finding jobs. Mechanical Engineering students have had some difficulty.

Lawrence Technological University: LTU was unable to make it due to computer problems. Enrollment is up in all engineering fields except Mechanical. Bio-medical is growing. They have a new BS degree in Industrial Operations engineering. They are posting positions for mechanical and electrical engineering chairs. They have a new dean of engineering. They have a 2 + 2 agreement with Schoolcraft College where students can get their mechanical engineering degree from Lawrence Tech at Schoolcraft College on Friday evenings and Saturday mornings.

Schoolcraft College – Lisa Zaccone: Enrollment is up. Classes would close and new classes would appear in the schedule in all core subjects. 4 Intro to Engineering classes ran this semester. SC offers Statics, Dynamics, and Mechanics of Materials classes in an alternative format which allows for students to enroll for classes in the online format or the classroom format and they can move between the modalities as needed. All students must take the exams at a proctored testing center.

Lunch

Afternoon Discussion

There was no meeting in 2005

Review of minutes from 2006

Mission Statement

Wyn Wilson read the mission statement from the email. Alexandra Oakes moved to accept mission statement. HC Snyder supported it. Discussion – why did we say between instead of among? Rey Perez supported the change of words to among. The group voted to change to among. It was suggested to add computer in the statement –
another stated that computer engineering is a part of engineering and should not be added. The question was raised to whether we should add science and technology? Leo Hanifin suggests that we not add computer and science and stay focused on engineering. HF Snyder suggests leaving it as is. It was voted that the mission statement stay as written with the change from “between” to “among”.

MISSION STATEMENT:

"The purpose of MECCCA is to provide a forum to share information among institutions of higher education with a vested interest in engineering."

Committee Structure
The committee consists of 5 positions. The current and next year’s hosts hold 2 positions on the committee. The remaining positions are; Chairperson, Vice Chairperson, member at large. The current Vice Chair (from GVSU) recently moved out of Michigan so that position is open.

Membership list – Wyn Wilson sent the membership list out to all to be updated for each institution. We were to solicit members from institution that were not represented last year. We hope for 3 members from each institution, a faculty member, an administrator, and a student services rep although more are welcome to attend. Wyn asked if anyone recruited members. One person tried to reach Jackson Community College but was unable to get the email through.

Leo Hanifin said that there are gatherings of the Michigan engineering deans on a semi regular basis. It might be appropriate to have a member from this group meet the engineering deans group with information about this organization.

Wyn Wilson did a count on how many people were from 4 year and 2 year institutions – it appears to be about 50% from each. Delta is not represented here, Mott is not here. Wyn suggests that we have faculty representation in this group from each school. Wyn asked each school to identify one person from one school and invite them to attend these meetings. It was asked where the information should be reported to. Wyn says that you should report the information to the keeper of the list and to the chairperson (currently Wyn).

Organization and Officer Names
Wyn Wilson suggested that the word “committee:” keeps people away from the group. Should the name be changed to “association”? Do we think that the name makes a difference? Should the person in charge be called the “chairperson” or the “president”?

One comment – association would be a better choice.

HC Snyder suggested collaborative or cooperative.
Rey Perez asked if the name has ever been a barrier. (No response). Comment; it does not matter what we call it; if the meeting is useful we will continue to attend.

Other comment – it depends on what you want the committee to do, we continue to talk about the issues with math and science. Does this organization want to stay the way it is and just exchange information or do we want to make affective changes?

Nancy Forrest suggests that we change the name to association, the word committee suggests that it is part of a bigger thing and when does the real one meet? This is the real one.

Other comment; when we have met in the past we talk about what courses we offer, etc. The discussions have been academic. We have not taken our decisions up to the deans or cabinets at the schools. By changing the name from “committee” to “association” we would be better able to get our message to the deans.

Gary DeGuzman (UMAA) It is all about the students and student success. If we are all about the student an “association” would be fitting.

Name change motioned and seconded. New name Michigan Engineering College / Community College Association (MEC/CCA)

Discussion:
Peter Klein – Association of Michigan engineering college / community colleges
What if you call if Michigan Engineering Colleges Association
Wayne State – feels excluded, not an engineering college.
Voted on MEC/CCA passed with 2 dissenting votes

Change executive committee names to president and vice president (motioned from Peter Klein) seconded by HC Snyder, motion approved.

Other Organizational Issues:
Organization should define what they need in the annual report. This was not defined in the executive committee. Wyn says that as long as the reports are less than 5 minutes per school – or if schools want to provide a paper copy or power point it is ok. If you want people to have more information than what would work in 5 min you can provide your information in advance to the committee for distribution before the meeting.

We need an archivist for the material. We do not have someone to maintain the information from year to year so that we can review the old minutes etc. Wyn says that when he belonged to MACRO they found it useful to be able to look at information from the 60s.

Who will host the meeting year after next. Most recently it alternated between 2 year and 4 year schools. UDM and Western volunteered to host the next meeting, but no 2 year schools responded. Let’s not be concerned that it is not a 2 year school. Peter Klein
volunteered Macomb. Wyn read the requirements to Peter Klein. Macomb will host in 2009. 2010 will be UDM 100\textsuperscript{th} year of engineering – Western volunteered as well. Tabled for now, the exec committee will work this out during the January meeting. Other executive committee members:
Carolyn Rimle – member at large – 2 year commitment
Lisa Zaccone – Vice President – 3 year commitment – keeps the membership list
Dr. Oakes - Eastern Michigan University – archivist – not on the executive committee indefinite term

Wyn Wilson will act as president will the president for one more year.

Other members of executive committee –
Marci Otterman (Central Michigan University – 2008 host)
Peter Klein (Macomb – 2009 host)

Transfer Matrix – Nancy Forest GRCC
www.grcc.edu/engineering
Undergraduate engineering transfer programs are in the matrix
Live links take you to the live pages for the engineering schools.
If you do not have a live link and you want one email your link to Nancy Forrest. She will make the changes. Feel free to link to the matrix for your students.

Action Item Exec Committee: Review matrix – see if the presentation can by simplified.

Michigan Transfer Network
www.michigantransfernetwork.org
Marci Otterman presented this web site. This web site provides information on transfer courses for all schools in Michigan.
You can search by receiving institution or transfer institution. Not all schools are in on at this time. Contact Alex Torres at MSU to get your school information in. Paul Schmidt at Monroe Valley CC can also help. This is hosted by MSU. Share this information with your institution. It is the responsibility of the receiving institution to maintain their information.

Software / Math Requirements
A list was passed around for each school to address the following:
CAD Requirements
MAT Lab / Math CAD
Programming Software
Diff EQ and linear algebra, separate classes or combined.

Enrollment Trends / Intro to Engineering Course
Who has it? Who uses it?
UDM uses it to give an engineering experience early and to bring faculty from different disciplines together. This course exposes students to different engineering fields.

Delta has 2 separate courses. Intro course in first semester,
HC Snyder – project orientated engineering course
Leo Hanifin would like to see the course at Community Colleges to help retention in engineering.
Wyn Wilson – a lot of programs will not accept it as a transfer course. Kettering does not have room for this course in their program.
Alpena – 1 credit survey course overview of engineering, and another course in graphics communication which does and does not transfer at different schools.
SVSU offers the course with Delta – engineering concepts and perspectives. Students design a race car with the proper gear ratios to climb a hill. Mechanical engineer – gear design, electrical engineer – design the motor
UMAA – offers Engineering 100 and/or Engineering 110
Leo Hanifin – UDM offers ethics and politics of engineering, but accepts other schools intro to engineering for transfer
Mark Provost – wants transfer students – anything that is a road block to the students transferring is an issue. MTU intro to engineering – for transfer students a computer programming class will be allowed as the first fundamental of engineering course. For the second one, students can transfer a solid modeling course. MTU may accept some intro to engineering courses depending on content.
UDM – will combine class to transfer. Leo thinks that the experience of engineering in an intro course will help sustainability of engineering program. Young women go into engineering because they want to make the world a better place.
Oakland – EGR-120 introduction to CAD. Introduction to CATIA.
Schoolcraft – design as part of ENGR-100. Schoolcraft holds the Rube Goldberg Contest as part of this course.

**Enrollment Issues**
Question – when should we engage students in engineering – middle school (according to the group) How do we engage 6th, 7th, and 8th graders. UMD does an engineering career night during engineering week in Feb. As an organization we could promote statewide engineering days for middle school students. HC says that we can get the 11th and 12th
graders for engineering nights. The courses that they take in High School will determine who the future engineering students are.

Alpena has an engineering camp (3 to 4 days ). They have a bridge design competition with a capacity of 40 participants. It was filled to capacity.
Wyn Wilson – administrators don’t want to pay for these programs.

What is a low cost way to promote engineering?

Peter Klein (Macomb) – Lego league, first robotics, egg drop, bridge building all sold as science fair problems but these are really engineering design problems. We should all go to one class and show something exciting to middle school students about engineering. It will take us visiting high schools one on one to promote these programs. Skills USA.

Wyn Wilson - administrators need to give the support to us so that we can do these things to promote engineering at an earlier age. (middle school)

The problem is in High School math . More applied content. University of Chicago math has to go. Learn statistics by running a casino. Learn trig with surveying equipment – math needs to be fun.

Peter Klein – students who took the AP classes will pass at least into Calc at college.

Alpena – students are too dependent on calculators

UMAA – partner up grad students with middle schools.

UDM – is there a group like this that works in university education programs. Get to the people who are teaching the future teachers and tell them about our concerns.

Wayne State – use PTA to get information to the kids about engineering.

John Nee

John Nee was instrumental in maintaining the matrix and keeping this organization afloat. Can we recognize John Nee at the meeting next year at Central with a certificate of sorts. John Nee kept the membership roster and the list of meeting dates.

It was voted on and approved to recognize John Nee for his contributions to this organization.