

Minutes of August 11, 2010 WMU-STEP Advisory Board Meeting

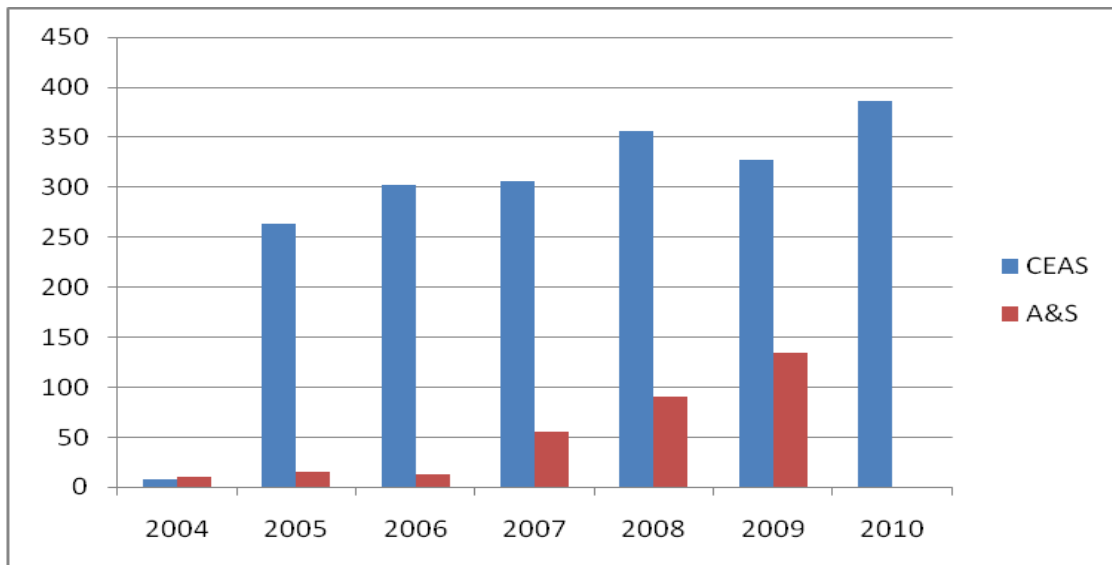
Present

1. STEP Advisory Board: Diane Anderson, Daina Bredis, Bill Cobern, Paul Engelmann, Alex Enyedi, Len Ginsberg, Tim Greene, Dan Litynski, Ekk Sinn, Tony Vizzini
2. STEP Project Team: Laura Darrah, Cynthia Halderson, Carey Schoolmaster, and Edmund Tsang

Briefing Report

1. 2010 CEAS-STEP Cohort

- a) Number of Students Involved: In Fall Semester 2010, 386 first-time first-year CEAS students are placed in 18 learning communities. This represents 87.7% of the students who attended summer orientation.



- b) Mathematics Placement: The profile of first-time first-year CEAS students as indicated by first-semester mathematics enrollment is shown in table below.

First Semester Math	2004 (%)	2005 (%)	2006 (%)	2007 (%)	2008 (%)	2009 (%)	2010 (%)
Calculus II and higher	7.0	9.7	5.4	5.1	5.2	7.9	7.5
Calculus I	22.2	31.5	35.3	42.7	39.2	34.3	40.7
Pre-Calculus	23.7	24.9	31.0	31.1	29.8	27.9	25.2
Algebra II	30.3	23.4	17.7	13.7	18.9	22.0	19.1
Algebra I and lower*	12.5	7.0	10.3	7.2	5.9	7.6	6.8
No Math Data	4.2	3.5	0.3	0.3	1.0	0.3	0.7
Total	100	100	100	100	100	100	100

*Include MATH 1160, MATH 1100, and MATH 1090

2. 2010 STEP Programming Elements

\$\$ - New Dollars \$\$ -- Off-Set Dollars \$\$ -- Need Continued Support

Programs	Target Population	Start Date	Personnel	Budget
<ul style="list-style-type: none"> Engineering House/Special Housing Option 	All Students (Universal Programs)	9/1/2010 (onward)	Darrah*/Tsang♦	1 DOSA GA Yr. 1-5
<ul style="list-style-type: none"> Engineering Peer Mentor, including Student Success Center 	All Students (Universal Programs)	9/1/2010	Engelmann♦/Darrah*	<ul style="list-style-type: none"> 5 Engineering Peer Mentors @ \$4,015 each for Year 1; 8 EPM for Years 2-5 Training (\$40/day x 2 days/EPM x 5 EPM in Yr. 2; 8 EPM for Years 2-5) \$500 in Year 1 for Programming (\$750 Yr. 2-3; \$1,000 Yr. 4-5)
<ul style="list-style-type: none"> Residence Assistant Programming 	All Students (Universal Programs)	9/1/2010	Eikelberg*/Wall*/Tsang♦	<ul style="list-style-type: none"> Residence Life budget
<ul style="list-style-type: none"> Faculty Mentor 	1 st -Year Students	9/1/2010	Anderson*/Tsang♦	\$30,000
<ul style="list-style-type: none"> Student Assistant s to Faculty Mentors 	Faculty mentors	9/1/2010	Project Manager	10,000
<ul style="list-style-type: none"> Early Intervention Initiative 	1 st -Year Students	9/1/2010	Tsang♦/Darrah*	No cost
<ul style="list-style-type: none"> Career Advising 	1 st -Year Student	9/1/2010	Swartz♦/Albertson (Maggio)*	Swartz: ½ Summer month in Yr. 1; ¼ summer month in Year 2 to develop materials for incorporation in IME 1020
<ul style="list-style-type: none"> Summer Bridge Program 	1 st Year Algebra II Students	7/1/2010	Kline♦/Aller♦	<ul style="list-style-type: none"> Kline: ½ summer month in Yr. 1-5 Aller: ¼ Summer month in Yr. 1-5 1 hourly Graduate Student Yr 1 (\$3,500) Programming Cost: \$7,000 in Yr. 1; 3% increase in subsequent years
<ul style="list-style-type: none"> Engineering Math – ENGR 1990 	1 st Year Algebra II Students not in Bridge Program	9/1/2010	CEAS Instructor	No cost – part of teaching load
<ul style="list-style-type: none"> Alumni Mentoring 	<ul style="list-style-type: none"> Female/URM Returning Sophomore CC Transfer 	<ul style="list-style-type: none"> 9/1/2010 (onward) 9/1/2011 (onward) 9/1/2011 (onward) 	Abdel-Qader♦/Albertson*	<ul style="list-style-type: none"> Abdel-Qader: ½ summer month in Yr. 1-5 ½ CEAS-GA \$500 in Year 1 for Programming (\$750 Yr. 2-3; \$1,000 Yr. 4-5)
<ul style="list-style-type: none"> Career Preparation 	<ul style="list-style-type: none"> Returning Sophomore Female/URM CC Transfer 	<ul style="list-style-type: none"> 9/1/2010 (onward) 9/1/2011 (onward) 9/1/2011 (onward) 	Albertson (Maggio)*/Sitkins♦	<ul style="list-style-type: none"> Sitkins: ½ summer month Yr. 1; ¼ summer month Yr 2; 1/8 summer month Yr. 3-5 ½ CEAS-GA
<ul style="list-style-type: none"> Engineering Experience 	<ul style="list-style-type: none"> Transfer Returning Sophomore Female/URM 	<ul style="list-style-type: none"> 9/1/2011 (onward) 9/1/2012 (onward) 9/1/2012 (onward) 	Sitkins♦/Engelmann♦	<ul style="list-style-type: none"> Sitkins: ¼ summer month Yr. 2; 1/8 summer month Yr. 3-5 ½ CEAS-GA \$750 in Yr 2-3; \$1,000 in Yr. 4-5 for programming
<ul style="list-style-type: none"> Transfer Student Host 	<ul style="list-style-type: none"> CC Transfer 	<ul style="list-style-type: none"> 9/1/2010 (onward) 	Conant♦/Wall*	<ul style="list-style-type: none"> 1 Undergraduate Student Assistant Summer – 20 hrs/wk x 10 wks x \$15/hr Academic Yr – 15 hrs/wk x 28 wks x \$8.50/hr

• Recruiting (CC + High Schools)	• Female + URM	9/1/2010 (onward)	Conant♦/Ikhlas Abdel-Qader♦	<ul style="list-style-type: none"> • \$8,000 to produce recruiting materials • \$3,000 in Yr. 1-5 for operating
• Evaluate Student Essay Using Rubric	• 1 st -Year student	9/1/2010 (onward)	Place/♦Aller♦	<ul style="list-style-type: none"> • Place: 1 summer month Yr. 1-5 • Aller: ¼ summer month Yr. 1-5
• Overall Project Administration and Reporting	<ul style="list-style-type: none"> • National Science Foundation • Advisory Board 	• Yr.1-5	Tsang♦	<ul style="list-style-type: none"> • Program Manager @ \$20,000, 3% increase subsequent year • 1 Undergraduate Student Assistant <ul style="list-style-type: none"> ○ Summer – 20 hrs/wk x 10 wks x \$15/hr ○ Academic Yr – 15 hrs/wk x 28 wks x \$8.50/hr
• Data Management		•	Tsang/Halderson	• 1 CEAS GA
• Project Management Team Bi-annual Retreat	• Project Management Team	• Yr. 1-5	Tsang♦/Darrah*/Project Manager	• \$15/persons x 15 persons x 2; increase 25% each subsequent year
• Computers for Engineering House		• 9/1/2011	Tsang	• \$10,000
• Project Evaluation – SAMPI Subcontract		• Yr. 1-5	Halderson	• \$18,200 Yr 1; 3% increase each subsequent year
• Professional Development	• CEAS/DOSA	• Yr. 1-5	Tsang♦/Darrah*	• \$4,000 in Yr. 1-5
• CEAS/DOSA Active Collaboration	• CEAS/DOSA	• Yr. 1-5	Tsang♦/Darrah/Engelmann♦/Anderson /Project Manager	• \$15/person x 15 persons x 6 events/yr in Yr. 1-5
<ul style="list-style-type: none"> • Fall Welcome/STEP Kick Off /E-Week/March Outing/STEP Student Handbook STEP t-shirt/ • End-of-Year Celebration 	• 1 st Year Students	• Yr. 1-5	Tsang♦/Engelmann♦/Conant♦/Darrah*/Eikelberg*	<ul style="list-style-type: none"> • \$7,500 • 2 Summer Undergrad Student Assistant @ 20 hrs/wk x 10 wks x \$15/hr • 3 Academic Yr Undergrad Student Assistant @ 15 hrs/wk x 28 wks x \$8.50/hr • \$500 in Year 1; \$750 in Yr. 2-3; \$1,000 in Yr. 4-5
• Create learning communities templates	• 1 st Year Students	• Fall and Spring Semester, Yr. 1-5	Tsang/Advising Staff	• Part of work load

* DOSA (Division of Student Affairs); ♦ CEAS

3. 2009-10 Results

- a. 2009 Fall Welcome: CEAS held a special interest program during Fall Welcome 2009. Two hundred and ninety-eight (298) students were given a “passport” to collect stamps from various stations in the engineering building where the students either engaged in hands-on activities and met with faculty mentors, department administrators and staff, and advising staff. The students who participated in the “Passport Day” have a statistically-significant higher GPA in fall semester and for the academic year than those students who signed up for Fall Welcome but failed to show up for the engineering event.

Fall Welcome CEAS Participation	Number of Students	Avg. F 2009 GPA ¹	Avg. 2009-10 GPA ²
Yes	298	2.83	2.42
No	74	2.53	2.22

¹P = 0.005

²P = 0.017

Discussions: What can we learn about students who do not live in residence hall, and what can CEAS do to support this student population? Can CEAS engage this student population by, for example, work study? Is there any difference in 2nd-year retention to CEAS between these two student populations?

- b. Improvement in CHEM 1100: In the August 2008 STEP Advisory Board meeting, discussions were held on student performance in CHEM 1100, particularly regarding the difference in success rates (grade \geq C) among the sections. At the meeting, Dr. Ekk Sinn, Chemistry Chair, said the chemistry faculty would be meeting in Fall Semester 2008 to discuss improvement. Beginning Fall Semester 2008 and forward, there are smaller differences in success rates among the different sections of CHEM 1100.

Fall 2005

CRN	TOTAL	A	B	C	D	E	W	I	% Successful**	Statistically Sig.
41969	195	8	20	54	64	41	7	1	42.05	41960 vs. 41967
41967 HC	62	8	9	21	6	12	6	0	61.29	41967 vs. 41969
41960	162	10	21	32	41	44	14	0	38.89	41969 vs. 41971
41971	180	10	35	67	30	29	9	0	62.22	41960 vs. 41971

**Grade \geq C

P < 0.01

Sp 2006

CRN	TOTAL	A	B	C	D	E	W	I	% Successful**	Statistically Sig.
10033	227	23	31	105	18	42	7	1	70.04	10033 vs. 10035
10035	233	15	24	46	37	70	40	1	36.48	

P < 0.01

Fall 2006

CRN	TOTAL	A	B	C	D	E	W	I	% Successful**	Statistically Sig.
41607	176	13	52	59	19	19	14	0	70.45	41607 vs. 41598
41604	73	17	18	24	5	7	2	0	80.82	41604 vs. 41605
41605	223	15	40	74	29	38	27	0	57.85	41605 vs. 41598
41598	226	142	46	14	3	12	8	1	89.38	

P < 0.01

Sp 2007

CRN	TOTAL	A	B	C	D	E	W	I	% Successful**	Statistically Sig.
-----	-------	---	---	---	---	---	---	---	----------------	--------------------

10025	231	140	43	28	3	6	11	0	91.34	10025 vs. 10027
10027	189	13	32	71	41	16	16	0	61.38	

P < 0.01

Fall 2007

CRN	TOTAL	A	B	C	D	E	W	I	% Successful**	Statistically Sig.
41383	117	113	0	0	0	0	3	1	96.58	41383 vs. 41381
41381	235	28	58	79	21	34	13	2	70.21	41383 vs. 41376
41376	228	15	41	64	43	39	26	0	52.63	41383 vs. 41380
41380	60	13	14	15	7	8	3	0	70.00	41381 vs. 41376

41376 vs. 41380

P < 0.01

Sp 2008

CRN	TOTAL	A	B	C	D	E	W	I	% Successful**	Statistically Sig.
10021	231	14	32	98	39	39	9	0	62.34	10021 vs. 10023
10023	218	22	36	43	45	43	29	0	46.33	P < 0.01

Fall 2008

CRN	TOTAL	A	B	C	D	E	W	I	% Successful**	Statistically Sig.
41246	236	49	82	51	30	11	13	0	77.12	41246 vs. 41249
41252	185	17	40	70	27	20	11	0	68.65	P < 0.02
41250	233	45	45	67	25	39	12	0	67.38	
41249	65	16	21	15	5	5	3	0	80.00	

Sp 2009

CRN	TOTAL	A	B	C	D	E	W	I	% Successful**	Statistically Sig.
10020	236	45	48	71	38	11	23	0	69.49	No difference
10018	251	44	39	91	37	27	9	4	69.32	

Fall 2009

CRN	TOTAL	A	B	C	D	E	W	I	% Successful**	Statistically Sig.
41181	153	27	25	44	22	19	14	2	62.75	41181 vs. 41175
41178	66	6	26	16	11	2	5	0	72.73	P = 0.02
41175	200	37	45	66	25	11	15	1	74.00	
41179	201	37	39	61	29	25	9	1	68.16	

Sp 2010

CRN	TOTAL	A	B	C	D	E	W	I	% Successful**	Statistically Sig.
10017	265	25	43	102	47	29	19	0	64.15	10017 vs. 10019
10019	219	40	64	62	27	11	14	1	75.80	P = 0.03

Discussion: What can we do to continue to improve overall student success because 25-35% of students still get grades less than "C"? A student's commitment and maturity are probably greater factors than mathematics skills in predicting success in Chemistry I.

Edmund Tsang said STEP student assistants have told him that they love the clicker technology but they found the online homework assignment tedious and not very helpful to learning the material.

- c. Summer Bridge Program 2010: Five (5) students from the incoming 2010 STEP cohort enrolled in a pilot Summer Bridge program with the goal of moving them to a higher math class in Fall Semester. At the end of the Summer Bridge program, one student stays in Pre-Calculus, three students moved from Algebra II to Pre-Calculus, and one student moved from Algebra II to Calculus I.
- d. LSAMP Summer Program: Sixteen (16) students participated in the LSAMP Summer Program. At the end of the summer program, students were given the opportunity to take math placement exam with the hope of moving to a higher math class in Fall Semester. Two LSAMP participants moved from MATH 1090 to Algebra II, one participant moved from Algebra I to Algebra II, and four participants moved from Algebra II to Pre-Calculus.

Planning

1. National Survey of Student Engagement (NSSE) Data for CEAS-STEP

WMU has participated in NSSE since 2005. Presently, the results are not disaggregated by colleges.

As the STEP project moves into Phase 2 where CEAS collaborates with Student Affairs/Residence Life to develop students' academic skills and habits, life skills, and connection, a planning question is whether results from NSSE can be used as formative assessment for the STEP project. And, if the answer is "affirmative," how can the NSSE data be used and what must happen to the current state of the NSSE results?

Discussions:

- a) Given the small sample size of first-year students and seniors who participated in the NSSE survey (invitation to participate in survey was sent to 50% of first-year students and seniors, and the response rate from the students is ~25%), disaggregating the data by college may not yield meaningful results. To get large enough sample size, we will need greater student participation as well as adding a question to the survey that identifies student sub-population (e.g., STEP).
- b) There is a concern that disaggregating the data by college may lead to faculty perception of competition among the colleges.
- c) There was discussion regarding whether we can get the information by adding questions on engagement to the STEP Fall Survey without disaggregating the NSSE data. The concern is copyright if the STEP Fall Survey include items from the NSSE survey that measure student engagement.
- d) There is the possibility of creating a STEP-specific NSSE survey to get information on student engagement. Edmund Tsang will follow-up with Eileen Evans.
- e) Cynthia Halderson asked whether WMU has an institution-wide license of an online survey tool. Diane Anderson said Student Affairs uses SurveyMonkey. Tim Greene said he will look into an institution-wide online survey instrument.

2. STEP Benchmark for Year 1

Programs	Description/Goal	Year One Benchmarks	STEP Advisory Board Feedback
Engineering House (EH)/ Special Housing Option (SHO)	<ul style="list-style-type: none"> • Special-interest residence program that groups students by academic interest/major • Relate to STEP Goal 1 	<ul style="list-style-type: none"> • At least 70% of Bigelow Hall residents are CEAS majors • Develop promotional materials for a CEAS transfer student learning community experience; housing assignment logistics completed • CEAS transfer student numbers in the residence halls by 10% by start of Year 2 • Develop a special housing option for upper-level CEAS students who want a housing experience other than Bigelow Hall • Establish baseline data for CEAS students in EH/SHO 	<ul style="list-style-type: none"> • Is there a percentage that STEP set for CEAS students in residence hall? • Are benchmarks needed for the Lee Honors Housing Option, since significant number of LHC students are in CEAS?
Engineering Peer Mentors (EPM)	<ul style="list-style-type: none"> • Upper-division CEAS students placed in EH or SHO to model academic and professional attributes • Relate to STEP Goal 1 	<ul style="list-style-type: none"> • 30% of Bigelow CEAS residents report using an EPM or the SSC for tutoring or academic advice • Student evaluations give positive feedback for at least 75% of all types of needs/ requests of EPMs • Logs provide complete information for at least 80% of users of the SSC and EPM in-room content tutoring • 100% EPMs and content tutors have received training on CEAS curriculum and teaching and learning pedagogy 	
Early Intervention in IME 1020	<ul style="list-style-type: none"> • IME 1020 instructors ask Residence Life staff to check on a student when s/he misses consecutive classes • Relate to STEP Goal 1 	<ul style="list-style-type: none"> • Active attempts to speak with 100% of student referred • Connect with 90% of the students referred • Make connection with student within 2 days of referral • Refer student to appropriate services and follow up 	
RA Programming in EH	<ul style="list-style-type: none"> • Based on the philosophy that activities and interactions help improve student success, develop personal character, create connection, and foster positive experience at WMU • Relate to STEP Goal 1 	<ul style="list-style-type: none"> • A CEAS representative attends centralized RA programming training sessions and participates in programming/planning with EH staff • Three (3) engineering-specific programs are collaborations among RA/EPM/RL/CEAS from idea stage through evaluation • RAs demonstrate intentionality in assessing student needs and addressing them through programming (where appropriate) • RA programming content will fall into the following breakdown: 45% address the goal of connection, 25% address academic skills and habits (with EPMs), 25% address life skills • EH RAs collect at least 75% of participant names from each major program • At least 65% of student end-of-program (EOP) ratings and comments in EH are positive 	
Alumni Mentoring	<ul style="list-style-type: none"> • Recent CEAS alumni serve as role models for 1st year female 	<ul style="list-style-type: none"> • Match every first-year female student in EH to an alumni mentor • Hold initial face-to-face meeting to introduce mentor to mentee in Fall 2010 	<ul style="list-style-type: none"> • Would and when other underrepresented students participate?

	<p>students</p> <ul style="list-style-type: none"> • Relate to STEP Goal 1 	<ul style="list-style-type: none"> • Each mentee initiates first communication with mentor • Each mentor holds at least two activities with mentee per semester • Invite mentors and mentees to E-Week Dinner • Hold end-of-semester event to celebrate relationship and evaluate program effectiveness 	
Career Preparation for Returning Sophomores	<ul style="list-style-type: none"> • Prepare returning sophomores to obtain internship or co-op education jobs • Relate to STEP Goal 1 	<ul style="list-style-type: none"> • Sophomores are more aware of Career services, including planning for Co-Op in junior year • Advisors are more aware of referral options to career advising • 20% of CEAS sophomores use career advising services • A web-based career development targeting STEP sophomores is created by end of Year One 	
Summer Bridge Program	<ul style="list-style-type: none"> • Assist first-year students under-prepared in mathematics to make a successful transition • Relate to STEP Goal 1 	<ul style="list-style-type: none"> • An effective process for recruiting participants for Summer 2011 has been established • The bridge curriculum for 2011 is revised based on evaluation and feedback of pilot program • 75% of bridge participants move one math level higher based on math placement test 	
Transfer Student Host	<ul style="list-style-type: none"> • Assist community college student with transition issues • Relate to STEP Goal 1 	<ul style="list-style-type: none"> • Program designed, TSH selected, pilot roll out spring 2011 • Contact made with all incoming Spring 2011 CEAS TS • TSH participates in 1 CC recruitment event in Spring 2011 	
Student Recruiting	<ul style="list-style-type: none"> • Increase the number of female and under-represented CEAS students • Relate to STEP Goal 3 	<ul style="list-style-type: none"> • Recruiting materials targeting female/URM created by 9/30/2010 • Participate in at least on college fair for URM with WMU student involvement • Conduct one high school recruiting event with KCC • Conduct one cc recruiting event 	
Faculty Learning Community	<ul style="list-style-type: none"> • Increase faculty mentors' effectiveness by leveraging services and expertise of Student Affairs • Relate to STEP Goals 1 and 2 	<ul style="list-style-type: none"> • CEAS faculty mentors become more aware of SA services to help students become successful • 30% of CEAS faculty mentors refer students to SA service • 15% of CEAS faculty mentors co-host program with SA • An award to recognize CEAS faculty mentor/SA collaboration is given in Spring 2011 	

Edmund Tsang requested board members to provide feedback because there might not be sufficient time to review the benchmarks for all the programs.

3. Joint CEAS-KCC Recruiting to High School

WMU-CEAS and KCC have a joint admissions agreement. The joint admissions agreement gives high school students multiple pathways to obtain a B.S. degree in engineering and applied sciences. For example, for those junior or senior high school students who have not taken the necessary mathematics/science courses but still wish to study engineering and applied sciences, an attractive and viable pathway would have the students begin their studies at KCC then continue on at WMU. There have been discussions in CEAS about joint WMU/KCC recruiting trips to high school to publicize the various pathways. The STEP proposal narrative also mentions joint WMU-KCC recruiting (or between WMU and other community colleges) as a strategy to increase enrollment, particularly from underrepresented student populations such as females and ethnic minorities.

Scot Conant recently attended a conference on recruiting and retaining community college students. Scot reported that the joint admissions program and the Special Housing Option for transfer students are examples that place WMU as a leader in transfer student relations. Scot also reported that many universities are considering a transfer student center that takes a relational rather than a transactional approach to servicing transfer students, and what would be needed to implement the center. Keith Hearit said the Admissions Office is considering or may already have many of these ideas in place (such as support from the president and provost, buy-in from across the campus, etc.).

Planning questions include the strategies to implement joint recruiting, what resources are required from STEP and/or from Admissions Office, and whether or how to implement a transfer student center.

Discussions:

- a) The recruiting brochure for joint admissions describing the various pathways should not convey the impression that the community-college pathway is a remedial program.
- b) Send communication to admitted community college transfer students and invite them to participate in CEAS Fall Welcome Passport Day, STEP Kick-Off Event, etc.
- c) Transfer Student Host to serve as lead to send such invitation, particularly concentrating on Kalamazoo Valley Community College and Muskegon Community College.
- d) Other community college partners include Muskegon Community College, which is about to sign an agreement with WMU-CEAS on August 30; Oakland Community College which is visiting IME this afternoon, and Lake Michigan Community College.