The Graduate School
EASTERN ILLINOIS UNIVERSITY™

TO: Dr. Peter Liu, Graduate Coordinator
Master of Science in Technology

Dr. Austin Cheney, Chair
School of Technology

FROM: Robert M. Augustine, Dean

RE: First Choice Consultation Summary

DATE: Final Report October 30, 2014

Part 1 Program Team & Review Board

Master of Science in Education in Elementary Education Program Team

Austin Cheney, Ph.D., Chair
Peter Liu, Ph.D., Graduate Coordinator
Thomas Hawkins, Ph.D., Team Member
Rendong Bai, Ph.D., Team Member
Isaac Slaven, Ph.D., Team Member
Mahyar Izadi, Ph.D., Dean Lumpkin College of Business and Applied Sciences

Council on Graduate Studies Review Board

Newton Key, Ph.D., Review Board Chair
Michael Menze Ph.D., Review Board Member
Chad Carlson Ph.D., Review Board Member
Bill Elliott, M.S., Assistant Dean of the Graduate School
Robert M. Augustine, Ph.D. Dean of the Graduate School

Part 2 Consultation and Review Summary

Initial Consultation: October 29, 2013
Consultation Report: October 30, 2014
Full Review Request: June 2014
Full Review Report Due to CGS: January 17, 2015
Full CGS Review February 17, 2015
Review Report and Recommendations TBD

Part 3 Report

Program Mission: The graduate program in Technology prepares students to become successful leaders in today's technological and global environment. The program is designed to provide students with opportunities for developing advanced professional, technical and personal competencies in the field of technology. It enables students to identify, develop and implement quality strategies and practices in contemporary organizations. Additionally, students enhance their research and communication skills necessary for technological leadership. They also gain an appreciation of ethical and social implications of technology related to a global and technological society. The Master of Science in Technology provides students with the following areas of study:

- Career and Technical Education
- Computer Technology
- Technology Management
- Training and Development

The EIU School of Technology also offers graduate certificate programs in technology to help Illinois business and industry sustain economic growth. These graduate certificate programs meet focused needs of students and working professionals in industry, business, and education and government agencies. Graduate Certificate programs include the following areas of study:

- Computer Technology
- Technology Security
- Quality Systems
- Work Performance Improvement
- Training and Development

Overview: The CGS Review Board considers that the MS in Technology meets Criterion 2, 4 and 5, but more documentation/information is required to verify if Criterion 1 and Criterion 3 were met for the sustained period. Providing clear concise evidence that the program meets its enrollment expectations and rigor for the sustained three-year period is essential for a Full Review. Details are provided in the report that follows. Overall, the Program Committee is to be applauded for a strong report that illuminates the program's strengths. The Consultation Program Team worked together to present each of the segments which demonstrated their commitment to meeting the criteria. This was clearly a department-wide effort with full support and engagement of the faculty.

Criterion 1: The program documents sustained achievements in strengthening the quality, diversity, and internationalization of the University's student body by attracting candidates who have the potential for academic and professional achievement and who complete degrees and succeed as alumni. **Rating = 1 to 5.** The evidence presented indicated that the Technology program has enjoyed substantial enrollment numbers for the past eight years. This is due to an effective promotion of the program through various resources, including:

1. A Technology website that is routinely updated at least semi-annually.
2. Various printed materials
3. Open houses and special recruitment events(advertised and promoted well in advance)
4. Print advertising in *Education International*
5. Web Advertising online in *Education International*

In addition to these tools, a considerable amount of time and effort is spent on developing personal contact with applicants, no small task considering the substantial number of applicants. The Technology program has partnered with the School of Continuing Education to offer a cohort program at off-campus locations. Additional data is needed as outlined below to provide evidence that the program meets all of the criteria.

Table 1
Application, Admission, Yield 2010-2013

Enrollment Data	F 2010		F 2011		F 2012		3 Year Mean	
	#	%	#	%	#	%	#	%
# of Applications	150		127		134		122	
# of Admission Offers	77	73	73	57	86	64	79	65
Admission Yield	47	61	39	53	26	30	37	47
Continuing Candidates	99		100		102		100	
Total Enrollment	146		139		129		138	
Diversity Rates Based on Total Enrollment								
Undergraduate Diversity	68	47	66	47	59	46	64	46
Domestic Diversity	1	1	0	NA	0	NA	0	NA
International Diversity	40	27	43	31	42	33	42	30
Gender Diversity	51	35	52	37	38	29	47	34

1ai-Enrollment Management/Recruitment Plan: A clear plan for meeting application, enrollment, and diversity goals. **Rating 5**: The technology program has put together an effective enrollment plan meeting application, enrollment, and diversity goals. The program's major strengths include its comprehensive international diversity and breadth of undergraduate preparation. The program offers an extensive web site that summarizes information about the program as well as several standard print materials, several open house programs. Advertising in international magazines and coordination with the Office of International Students and Scholars (OISS) has resulted in substantial numbers of international applications received. The program's recruitment strategy includes offering multiple study options that such as certificate programs, multiple degree programs, and dual degrees. This has created strong demand for the program resulting in a large and diverse applicant pool. The strong pool has contributed to the program's strong and sustainable enrollments and enrollment growth. The use of multiple options of study as a tool for recruitment and enrollment is exemplary and provides a visionary model for other programs to adopt. The program currently exceeds the criteria established for creating an effective recruitment plan.

1aii-Enrollment Management/Selection Criteria: A rationale for selection decisions; fulfilling its expectations for quality. **Rating = 4**. The program's selection criteria include a) 2.75 undergraduate grade point average (GPA), b) a statement of learning goals, c) two letters of recommendation, d) submission of a professional resume. Applicant files are reviewed by multiple faculty committees that screen the completed files. The screening committees forward the candidate files recommended for consideration to the Graduate Coordinator. There are four screening committees so that the applicants are evaluated by faculty members who have expertise in the applicant's area of interest. The Graduate Coordinator makes final admission decision. Balance among areas of study is achieved by ensuring that the number of candidates admitted aligns with the four areas of study. The Graduate Coordinator completes a face-to-face interview, after which a final decision is made to admit or deny the student. The program demonstrated that it uses an established and appropriate set of criteria to make admissions decisions, that it engages the graduate faculty in the admissions process, and that it uses best-practice guidelines to make final admission decisions that are balanced with the programs areas of study. The program met this criterion.

1aiii-Enrollment Management/Acceptance Rate: Desired applicants accept admission offers. **Rating = 1**. While the program provided a chart to demonstrate the ratio between applications and admissions, clear and documented data will be needed during a full review to established the acceptance rate for the program. In addition, during a full review, the program should clearly indicate if the data establish that it is meeting its own expectations for selectivity.

1b-Assistantship/Scholarship Management: **Rating = 1**. While the program documented the availability of standard Graduate School Awards, competitive Graduate School Awards, and philanthropic awards to support its candidates, it will need to clarify how these awards clearly attracted the top candidates to the program during a full review. The full review should verify the program's expected outcomes for offering assistantships and that all of these awards met desired outcomes for the 3 year period. The reviewers noted that the program earns seven standard graduate assistantships each year and that these are used by each laboratory operated by the program.

Table 2
Graduate Assistantship Summary

Academic Year Assistantships	2010	2011	2012	Mean	Current Rate
Annual Allocation	6	7.5	8	7.2	870/month
Competitive Awards	1	1	1	1.0	870/month
Grants or External Awards					variable
Philanthropic Awards					
Other Campus Assistantships	9	7	10	8.7	Variable
Total Academic Year	16	15.5	19	16.8	
Summer Assistantships					
Annual Allocation	3	3	3	3.0	870/month
Competitive Awards		1	1	1.0	870/moth
Grants or External Awards					Variable
Philanthropic Awards					
Other Campus Assistantships	3	3	9	5.0	Variable
Total Summer	6	7	13	8.7	

1bi-Assistantship/Scholarship Management/Annual Awards: The awards attract desired applicants; teaching, research, or service experiences add value to the degree. **Rating = 1**. As noted above, during a full review, an analysis should be provided to demonstrate that the program uses awards to achieve designated outcomes and that its standard awards meet or exceed its expected outcomes.

1bii- Competitive awards: The program documents that it competitively acquires additional assistantships that further enhance quality by attracting additional desired applicants and by showing that the teaching, research, or service experiences add value to the degree. **Rating = 4.** Because the program is the recipient of several presidential assistantships, it demonstrated that it is competitive for such awards. In addition, the program provided evidence of an NSF grant that also funded an assistantship. The Center for Clean Energy Research and Education (CENCRE) has also received funding for an assistantship. The program has also been supported with awards offered to candidates in the School of Continuing Education and the Center for Academic Technology Support on Eastern's campus. The awards verify that the program's degree candidates have scholarly records that make them competitive for other awards through grants and related campus offices. During a full review, the number of students supported with competitive awards should be provided.

1c-Matriculation Management: A targeted graduation rate; candidates consistently meet the program's degree completion expectations. **Rating = 1**. The presenters noted that full-time candidates require 1.5 to 2 years to complete the degree and that part-time candidates require additional time; however, a standard process to formally track candidates via a computer tracking system is currently being developed. Consistent advisement is the primary strategy used to ensure that candidates complete the program. Only anecdotal evidence was provided. During a full review, at least 3 years of matriculation data will be needed to demonstrate that the program has a degree-completion expectation and can provide evidence from the data that it is meeting that expectation.

Table 3
Matriculation Management

Entering Term	#	Degree Completion Term							
		S 2010		S 2011		S 2012		F 2012	
		#	%	#	%	#	%	#	%
F 2009	31	0	na	23	74	26	84	26	84
F 2010	47	0	na	1	2	22	47	32	68
F 2011	39	0	na	0	Na	0	na	11	28
F 2012	26	0	na	0	Na	0	na	0	na

1d-Graduate Placement: The program can document sustained placements; earning of required credentials; making important contributions to society; pursuing an advanced degree. **Rating = 1.** The presenters noted that the program does not have adequate placement data at this time, but offered examples of recent graduate placements. During a full review, at least 3 years of placement data will be needed to demonstrate that the program is placing candidates in positions that it claims in its mission.

Criterion 2: The program documents sustained achievements in fostering advanced scholarship through a depth of knowledge, critical thinking, problem solving, oral and written communication, application of technology, research/creative activity, and commitment to professional ethics. **Rating = 5**. The evidence demonstrated sustained achievements in fostering advanced scholarship were achieved.

2a-Center for Academic Support and Achievement documents that assessment data are used to improve student learning, to guide improvements to the curriculum and to achieve academic excellence. **Rating = 5**. The program provided evidence from the Director of the Center for the Academic Success and Achievement that that it uses assessment data in a variety of ways to improve student learning and academic success. A level 3 review was achieved for most areas of the assessment report. In addition, the program earned the right to provide a report on a two-year basis due to the maturity and effectiveness of the process. Finally, the review documented that the program earned the Provost's Award for Assessment in 2006 and 2012. During a full review, the Review Board benefits from clear examples of how assessment data was used in the program to make curricular changes, improve research experiences for students, or created better learning opportunities. While the evidence indicated that this criterion was met, adding more examples in a full review will support this area.

2b-Graduate School documents that assessment data are used to improve student learning based on CGS Criteria. **Rating = 5**. The Dean of the Graduate School praised the Technology program in its latest annual program review for well-focused and well-written assessment of oral and written communication that provides both direct and indirect evidence that that the program's expectations have been met. Student Scholarship is especially well emphasized. The program in total serves as a role model for other programs because of its depth and quality. The program documented that it assess all of the areas outlined by the Council on Graduate Studies. These include depth of content knowledge, oral/written communication, critical thinking and problem solving and research. The evidence indicated that this criterion was met.

Criterion 3: The program documents sustained achievements in expanding the curriculum with rigorous advanced courses and options offered through lectures, laboratories, seminars, forums, practicum field experiences, internships, and partnerships with education, business, and industry. **Rating = 2 to 5**. The evidence demonstrated sustained achievements with advancing the curriculum many areas; however additional documentation will be needed, as specified in the report that follows, for a full review.

3a-Sustained Mission and Planning Leadership: Articulates a clear mission; aligned with current and future trends in the discipline; states the program's strengths. **Rating = 2 to 3.** The presenters noted that the program consistently reviews its objectives and mission and provided evidence that the program's last revision was completed in 2005. The presenters noted that constant attention to the mission is required based on rapid changes in technology. During a full review, the program should provide evidence in the form of Department Meeting Minutes or related documents that it fully engages the faculty in an annual discussion about the program's mission or provide evidence from the department's standard practice patterns that it uses an annual meeting, retreat, summit, or other strategy to ensure that its mission is examined. If the mission has not changed since 2005, it might be valuable to show that recent reviews affirm that it is still current and well aligned with current technology. More evidence is needed to ensure that this criterion was met.

3bi-Administrative Leadership: Documents how its administrative structure and leadership advance the quality of its curriculum. **Rating = 4**. The reviewers outlined clear and appropriate administrative organization. They noted that Dr. Peter Liu, Graduate Coordinator, is responsible for all areas of administration outlined in the Graduate Coordinator Handbook. Dr. Thomas Hawkins is responsible for course scheduling and enrollments based on the allocation of resources. Dr. Austin Cheney, Department Chair, guides resource management. Faculty committees engage the faculty members in program updates, admissions, assessment, course scheduling, enrollment guidance, and resource management. This creation was met.

3bii-Graduate Faculty Leadership: Documents the significant role of the graduate faculty with advancing the curriculum through curriculum committees or appropriate curriculum processes. **Rating = 5**. Graduate faculty meet regularly with the program committee to review assessment data, and review all significant changes to course content and development. Four study areas and four graduate certificates are offered as options to students. An award from Caterpillar (Caterpillar Homeland Security Fund) grants scholarships annually to students pursuing studies in technology security. The Graduate Committee includes four members of the graduate faculty who are voting members representing the four areas of the discipline elected from the faculty. These areas include career and technical education, computer technology, technology management, and training and development. The Graduate Committee typically meets two times per year and all members of the grad faculty can attend their meeting; however, members of the graduate faculty also meet on an as-needed basis when issues arise that require their input/attention. General faculty meetings are held monthly and inform some of the issues handled by the Graduate Committee. Approve the courses, curriculum, etc. Dr. Cheney further noted that the graduate faculty in the School of Technology have frequently advanced new graduate initiatives ahead of all other programs. Examples included approving the first EIU Graduate Certificate Programs and creating the first Dual Graduate Degree Programs. He further noted that the School of Technology earned a 2005 Graduate Leadership Awards, created the Center for Clean Energy Research and Education, and have been leaders in the development of special topics and related courses that respond rapidly to disciple changes. This area was considered exemplary.

3c-Sustained Curricular Leadership by External Review: Sustained excellence based on external reviews as appropriate to the mission/discipline. **Rating = 4**. After an IBHE review in 2012 it was determined that the MS in Technology program at EIU serves the largest number of students in IL among its peer group, while maintaining a median cost in relation to other programs. The program also uses input from its Technology Advisory Board to guide relevancy of the curriculum to practice and to guide philanthropy. During a full review, provide a list of the members of the Advisory Board, its regular meeting dates, and a list of actions that followed their input.

3d-Sustained Capstone Leadership: Requires a rigorous capstone appropriate to the mission and documents the impact of each of its capstones on the quality of learning in the degree program. **Rating = 4**. Three capstone experiences are available to students in the MS in Technology program. One is the internship. Dr. Cheney explained that each credit hour of the internship requires 40 clock hours of experience and provided evidence that approximately 20 candidates complete this capstone each year. A 2nd capstone option is the Master's Thesis. Approximately five to six candidates complete theses each year. As evidence of its rigor, Dr.

Cheney noted that the 2009 Distinguished Award Recipient was a candidate from the MS in Technology and other candidates have also been nominated for thesis awards. The third capstone is the Certification of Comprehensive Knowledge (CCK). This capstone requires a mini thesis, case study, and an oral presentation. These elements of the CCK are assessed using a standard rubric. The remaining candidates select this option. This criterion was met.

3e-Sustained Student Leadership: Fosters participation of its graduate candidates on student advisory boards. **Rating = 4**. The program documented a history of student leadership through the Graduate Student Advisory Council and further noted that a candidate from the technology program served as President of the Graduate Student Advisory Council in 2011. In addition, Technology students have served in numerous leadership roles in the Association of Indian Students and the Chinese Association. This criterion was met.

3f-Sustained Alumni Leadership: The program documents how it fosters participation in alumni programs sponsored by the Graduate School Alumni Advisory Board. **Rating = 3**. The consultation report indicated that the MS in Technology program meets this requirement. Alumni have been nominated as EIU Global Ambassadors, and serve on the School of Technology Advisory Board. Alumni currently hold positions in Caterpillar, Ingersoll-Rand, Boeing, and several other major corporations. During a full review, the program should provide a list of all of the alumni who have earned Global Ambassador, Distinguished Graduate Alumni, or EIU Alumni Awards.

3g-Sustained External Partnerships: Sustained external partnerships appropriate to its mission; assets of partners advance the program's quality. **Rating = 4**. An impressive and extensive list of internship sites was provided to the review board providing evidence that graduate students are receiving practical experience in their field of study. In addition, a number of externally supported initiatives are in progress. Work and research opportunities in companies such as General Electric, PrimaSoft, EIU's Center for Academic Technology Support, and State Farm serve as additional examples of the depth and quality of opportunities available for interns and graduates of the program. This criterion was met.

Criterion 4: The program documents sustained achievements in research/creative activity with graduate students and faculty. Rating = 3 to 4. The evidence demonstrated sustained achievements in research/creative activity with graduate students and faculty.

4ai-Research Productivity: Has an annual research productivity goal and documents that its candidates meet or exceed the completion of those products. **Rating = 4.** Candidates in the program have multiple opportunities to complete research projects. These range from development of a case study, completing a capstone project or project-based activity, completing a mini-thesis or research project, or completing a Master's Thesis. The program expects to complete four to six theses per year and has achieved its goal. For a full review, a list of the theses completed during the past three years will verify that the program is meeting its expectation. A sample of the titles of the other projects and any awards or presentation that emerged from these projects will strengthen this area. It appeared that this criterion was met.

4aii-Research Engagement: Graduate candidates achieve a sustained record of scholarships through presentations, performances, or exhibits. **Rating = 4**. The program has developed and sustained a culture of research. Students know they are expected to engage in research. The program requires that projects must be submitted and meet expectations to complete the degree program. The report cited a substantial number of students whom have presented at regional and national conferences, and been published in scientific journals and papers. This criterion was met.

4b- Sustained Commitment to Research and Travel Grants: Graduate School Programs: A record of sustained participation in the annual Graduate School research and travel grants that includes both applications for awards and a record of earning awards. **Rating = 3 to 4**. The program has a sustained history of earning research travel grants to support student research presentations

through programs in the discipline, in the department, in the college, and the Graduate School. It appeared that this criterion was met; however, during a full review, a list of the recipients of these grants during the past 3 years should be included.

4c- Sustained Commitment to Showcasing Graduate Scholarship/Creative Activity: Showcases graduate research and scholarship through a sustained commitment to the Graduate Exposition by requiring students and faculty members to participate. **Rating = 4**. The program documented that students are presenting their work at regional and national conferences as noted previously in this report. Examples included. The program uses the Graduate Exposition and the College of Business and Applied Sciences Research Fair to showcase its projects. The program demonstrated a sustained effort to showcase scholarship and met the criterion.

4d- Sustained Record of Award Program Participation: Demonstrates participation in the Graduate School's Distinguished Awards Program with evidence of nominations, applications, and achievements. **Rating = 4**. The program has a sustained record of earning awards that confirm the criteria were met. From 2009, 19 award recipients have received Graduate School Distinguished Awards. As noted previously, during a full review, a list of award recipients should be included.

Criterion 5: The program documents a sustained record of developing opportunities for the discovery and application of knowledge with graduate faculty members who reflect the University's teaching and mentoring priority and who have a record of research/creative activity and professional service. **Rating = *4 to 5.*** The evidence demonstrated sustained achievements in a sustained record of developing opportunities for the discovery and application of knowledge.

5a-Coordinator Leadership: The Graduate Coordinator has a sustained record of leadership: **Rating = 5**. The report documented the leadership at the department and University levels. Extensive examples of awards received, external funding earned and Dr. Liu's directorship of CENCERE.
Examples of awards are:

1. Graduate Education Leadership Award, 2012
2. William G. Kirk International Leadership Award, 2009
3. Technology in Research and Scholarship Activity, 2006
4. Excellence in Use of Technology, 2003
5. Graduate Education Leadership Award, 2003

*5b-Graduate Faculty Scholarship***:** *Graduate faculty are active scholars in the discipline and can document a sustained a record of scholarship and extra-mural funding:* **Rating = 4**. The report provided a summary of the scholarly contributions of the faculty, the grant success, and awards earned for scholarly work. The report documented the productivity and leadership contributions of the faculty. This criterion appeared to have been met for the sustained period. A list of achievements will support a full review. The Appendix included:

1. NSF collaborative grant of $200K
2. 6 refereed journal articles
3. 2 textbooks
4. Sixteen conference presentations
5. On-campus symposium

Exemplary Achievements Exceeding Criteria Expectations

The Review Board noted the following exemplary achievements:

1. *1ai-Enrollment Management/Recruitment Plan: A clear plan for meeting application, enrollment, and diversity goals.*
2. *2a-Center for Academic Support and Achievement documents that assessment data are used to improve student learning, to guide improvements to the curriculum and to achieve academic excellence.*

3. *2b-Graduate School documents that assessment data are used to improve student learning based on CGS Criteria*. 5a-Coordinator leadership-Dr. Liu's exemplary leadership and student mentorship reflect well on the program.
4. *3bii-Graduate Faculty Leadership: Documents the significant role of the graduate faculty with advancing the curriculum through curriculum committees or appropriate curriculum processes*.
5. *5a-Coordinator Leadership: The Graduate Coordinator has a sustained record of leadership*.

Areas that must be Clarified or Improved for a Full Review

The Review Board noted that the program will need to provide data or additional documentation to show that it meets the criteria for the sustained period in the following areas. See the report for specific guidance.

- *1aiii-Enrollment Management/Acceptance Rate: Desired applicants accept admission offers.*
- *1bi-Assistantship/Scholarship Management/Annual Awards: The awards attract desired applicants; teaching, research, or service experiences add value to the degree.*
- *1c-Matriculation Management: A targeted graduation rate; candidates consistently meet the program's degree completion expectations.*
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- *1d-Graduate Placement: The program can document sustained placements; earning of required credentials; making important contributions to society; pursuing an advanced degree.*
- *3a-Sustained Mission and Planning Leadership: Articulates a clear mission; aligned with current and future trends in the discipline; states the program's strengths.*
- *3f-Sustained Alumni Leadership: The program documents how it fosters participation in alumni programs sponsored by the Graduate School Alumni Advisory Board.*

Scale Definitions

- Standard: Standard means the program has an identified goal(s), targeted performance, or expected processes that it is intentionally seeking to meet.
- Sustained Period: Refers to meeting the standard three (3) or more years.
- Exceeds Standard: Means that the program has achieved a level of performance that is higher than or better than the targeted goal, performance, or process.
- Meets Standard: Means that the program has achieved the identified goal(s), targeted performance, or expected process.
- Standard Not Specified: Means that the reviewers failed to show that the program has an established goal, targeted performance, or expected process.

Scale

- 5 = Exceeds Standard ***and*** Exceeds Sustained Period
- 4 = Meets Standard ***and*** Meets Sustained Period
- 3 = Meets Standard ***but*** Not Sustained Period
- 2 = Fails to Meet Standard
- 1 = Standard Not Identifiable by Reviewer

Contact the Dean of the Graduate School if you would like to arrange a time to discuss the Consultation Report.