Graduate Council Program Review Summary
Prepared by: Agamemnon Crassidis, Chair, Graduate Council

Program Title	Software Engineering
Originating College	GCCIS
Program Contact	Stephanie Ludi
Degree Type	Master of Science, M.S.
SCH New Program	36
QCH Old Program	52
NYSED IRP Code:	31249
HEGIS Code:	0999.00
Conversion Type	Type 1 Conversion: ☒ Type 2 Conversion: ☐
Recommendation	Graduate Council recommends **approval** of this program
Responsible Sub-Group	Graduate Council **Group A**
Meeting Date/Time	Monday, March 7th, 2011/10 am – 11 am
Meeting Attendance	Agamemnon Crassidis (KGCOE); Don Wilson (SCB); Hossein Shahmohamad (COS); Joel Kastner (COS); Linda Underhill (CAST); Kevin Gold (GCCIS); Andrew Moore (Dean of Graduate Studies); Peter Lutz (GCCIS); Jim Vallino (GCCIS); Stephanie Ludi (GCCIS)
Meeting Location	CST Rm 82-1150
Checklist Complete?	Yes
Concerns?	No major concerns sited. Following items needed to be corrected in the documentation: 1. Table 1b, there should be an "X" in place of a "Y" or "N" for the "New" column 2. Table 1b, course numbers should include a 4 letter prefix to adhere to the new course numbering scheme and should be consistent throughout all the documents. Following recommendations were made: 1. Consider splitting the Thesis credit over two semesters. Current structure has the students taking all 6 SCHs in the Spring Semester of Year 2. Grad Council felt it was better to have the students enroll in 3 SCH Thesis in the Fall Semester of Year 2 and 3 SCH Thesis in the Spring Semester of Year 2 for the "Thesis Track" option of the proposed program. 2. Consider moving the 640 Research Methods course from the current proposed Fall Semester of Year 2 to the Spring Semester of Year 1 so that student have an opportunity to begin Thesis of Capstone Project option earlier.
Discussion	The proposed semester-based program is a near direct conversion from the current quarter-based model (52 QCH to 36 SCH). The program has been in existence since 2007 and is the first Master's in Software Engineering in New York. It is built on reputation for hands-on, contemporary education at undergraduate level. The Software Engineering department supports Core and Track courses with electives generally from Computer Science, Business, Computer Engineering, IT/Networking. The faculty supports the current

Capstone Projects (Experience and Research Reports). Also, in the current program students can do co-op but is not mandatory. The enrollment trend has been fairly flat since 2007 with about 10 students per year and the program coordinators acknowledge improvement is required. They see the semester conversion as an improvement opportunity to increase the quality of the program as well as potential increase in enrollment. Most students take 1-3 bridge courses entering the program (**361 Introduction to Software Engineering** and **362 Engineering of Software Subsystems** most common). Currently, students take anywhere from 1 to 3 years to complete the degree depending on status and coop. Students are international applicants, industry professionals with many international students taking advantage of optional coop. The admission requirements are: 3.0 or better undergraduate GPA; Software Engineering, Computer Science, Computer Engineering or related background; experience developing software is preferred; TOEFL required for International Applicants; and Resume and Statement of Purpose material. For the new proposed program a new core course introduced (**610 Foundations of Software Engineering**) and will take the place of 2 bridge courses (**361 Introduction to Software Engineering** and **362 Engineering of Software Subsystems**) and will provide a common foundation to SE, with an introductory research focus, for all MS students. The **Empirical Software Engineering** course is removed with the topics of this course integrated into **Process Engineering** course in order to provide more contexts for the case studies. The **Architecture & Product Lines** course and **Quality Engineering** are now both required due to the need to provide additional breadth based on student and faculty feedback. The *Practicum* courses are removed with the topics of these courses integrated into the **Foundations of Software Engineering**, **Quality Engineering**, **Process Engineering** courses for greater context and depth. The new program has an important additionally option, a Thesis option to provide a research component (hopefully to increase enrollment as well). The **Capstone Research Project** course renamed from **Experience and Research Report** course to provide consistency in naming. A new track was introduced, the Thesis Track, along with a mandatory **Independent Study** course for this track that will serve as an introductory research opportunity for students. The students who perform the Capstone track will be required to take an additional elective course.

-<u>Don Wilson</u>: in the presentation should it be Experience *and* Research Report or Experience *or* Research Report for the current culminating experience?
-<u>Ans from Stephanie Ludi</u>: the experience is part of the course work.
-<u>Don Wilson</u>: asked if the current 361 and 362 bridge courses are lower division courses and if so are there any other courses that are more upper division that can be used?
-<u>Ans from Stephanie Ludi</u>: there are no current upper division courses that will work. However, the new proposed program will handle the bridge course work in a better manner with the introduction of a new mandatory course, i.e., the **610 Foundations of Software Engineering** course that covers the required material in 361 and 362.

	-<u>Agamemnon Crassidis</u>: wondered with this new course if all the bridge requirements will be waived? -<u>Ans from Stephanie Ludi</u>: 361 and 362 will not be required bit some other bridge courses may be required depending on the student's prior work. -<u>Don Wilson</u>: asked about the new proposed independent study course? -<u>Ans from Stephanie Ludi</u>: it's a separate course to serve as an introductory research opportunity for students. The Research Methods course is where the students create a Thesis or Capstone proposal. -<u>Joel Kastner</u>: wondered why all the Thesis credits were taken in the Spring Semester of Year 2? Inquired if the students would be able to finish the Thesis track in one semester? -<u>Ans from Stephanie Ludi</u>: many will not and will be given a continuation. The Research Methods course will help as well. -<u>Agamemnon Crassidis</u>: wondered if the Thesis could be broken up over two semesters by applying 3 SCH in the Fall Semester of Year 2 and 3 SCH in the Spring Semester of Year 2? -<u>Ans from Stephanie Ludi</u>: didn't know we could split up the 6 SCH Thesis "course". Preferred to do this anyways and will consider making the change. -<u>Agamemnon Crassidis</u>: indicated there were typos in Table 1b. Course numbers must have a 4 letter prefix and the "New" column is improperly used? -<u>Ans from Stephanie Ludi</u>: ensured the Graduate Council membership course numbers will be updated in the documentation and Table 1b will be corrected. -<u>Agamemnon Crassidis</u>: wondered how may Ph.D. program in Software Engineering are there? -<u>Ans from Stephanie Ludi</u>: 2-3 in the US with more on other countries.
	Graduate Council accepted friendly amendments to splitting up the Thesis credit hours and moving the Research Methods course to the first year study.

Vote Tally	Approve: **10**	Not Approve: **0**	Abstain: **0**
Signature	Agamemnon Crassidis	*Agamemnon Crassidis*	