

# MEMORANDUM

**DATE:** 20 October 2009

**TO:** Dr. Sherry Queener, Chair-Graduate Affairs  
Committee

**FROM:** Jay Siegel

**RE:** Master of Science in Forensic Science – Review 1

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I wish to thank reviewer 1 for the helpful comments concerning the Master of Science in Forensic Science proposal that is before the Graduate Affairs Council. I would like to address the reviewer's concerns in this memo. I will list each concern and then my response to it so that my responses will be easier to follow. I look forward to GAC consideration of this proposal.

1. One is that the proposal mentions cutting-edge research. I am not convinced that five faculty would have the time and breadth needed to support 20 students getting a thesis masters degree and do cutting edge work at the same time. Much research effort takes more than three semesters to obtain publishable data of outstanding quality. The proposal would be strengthened if I knew that adjunct faculty would be available to assist in the research work.

My practice in running the Michigan State University Forensic Science Master's Program for twenty five years was to involve faculty other than those directly involved in the program to help supervise student research projects as much as was feasible. There are faculty members at IUPUI who are not directly associated with the FIS program who are capable and willing to supervise student projects. These include faculty from earth science, biology, psychology, pharmacology/toxicology, chemistry and other units who have expressed an interest in interacting with the FIS program. In addition, I have sent students for many years to forensic science laboratories to conduct research. I intend to continue this practice. I have already had an undergraduate student at the US Secret Service lab, who conducted research and reported on it at a national forensic science meeting.

We have recently hired Dr. John Goodpaster (he will join the faculty in the fall of 2007) as a full time member of the FIS faculty in forensic chemistry. He was hired with one of the two CTE positions awarded to the FIS program in 2006. Dr. Goodpaster is one of the leading forensic analysts and researchers in trace evidence, especially explosives, in the US. He will bring a wealth of research ideas and knowledge and will no doubt secure many research grants. Dr.

Siegel is still active in research with two active Federal research grants and another one pending. Dr. Li also has some Federal research money and is pursuing additional funding. Ms. Ammerman, our lecturer, is also involved with supervision of graduate students (chemistry) who are conducting forensic science research presently.

2. The proposal also mentioned that the State needs scientists in leadership positions. Unfortunately, the curriculum does not mention any didactic or experiential classes or sessions that might be tied to leadership or administrative development. This aspect of the training could be expanded.

This is an excellent point. Unfortunately, there are no specific courses in crime lab management anywhere in forensic science programs in the US to draw upon. I have been in discussions with local crime lab directors and faculty in SPEA to develop a certificate program in crime lab management for crime lab personnel. When we get this program going, we can easily adapt some of its pedagogy to serve interested graduate students. Crime labs have an almost universal practice of promoting from within, using longevity as the main characteristic for promotion to administrative positions. The program that we are considering would help change that practice.

3. On page 3 there is mention of a minimal GPA of 3.0, yet the first class has an average of 3.75. I wonder if the minimum is too low and might mislead applicants into applying who clearly do not have the credentials for admission. The same point applies to the upper one-third on the GRE general exam. There is much work in processing applications and I do not think the program has the staff needed to process large numbers of applications

There may be some misunderstanding here. The GPAs and GREs that were referred to in the proposal represented my experiences at MSU. We received routinely, 150 or more applications for the graduate program there and the decisions on who to accept essentially boiled down to a meritocracy; in general we took the best academic students. There were exceptions, however, to the GPA and GRE levels of successful candidates. These were based on a number of defensible factors. I don't know what the future holds for the IUPUI program, but I have no reason to doubt that our experience will be similar; there will be lots of pressure on applications. I want a talented, diverse, broad pool of applicants from which to choose and thus want to keep the 3.0 GPA floor as a qualification for admission.

As for infrastructure, the FIS program is blessed with an extremely talented, full time advisor/program coordinator, Kristi Shea, who is well able to process the applicant pool, especially since we will use a computerized tracking system similar to the one that I instituted at MSU.

4. On page 4, a sample curriculum is outlined. Why is the course work so heavy (15 credits in fall versus 12 in spring and only 3 in summer. Most graduate programs use the 12-12-6 model for credits throughout the year.

Again, I was using my experience at MSU, where many of our students wished to complete all of the course work in the academic year and we did not offer courses in the summer except for research. I would be happy to modify the proposal to reflect this. That is no problem.

5. On page 6, there is discussion of a needed teaching lab for forensic toxicology. Is there no need for research space as well and/or is that supplied by the Department of Toxicology. Will any Pharm/Tox faculty be involved in the research projects of these students?

6. There is no discussion of the issues of joint appointments between IUSM and PU School of Science. If the new forensic toxicologist is to be a joint appointment, then there are many issues of 10 versus 12 month appointments, tenure expectations, etc. that are not addressed in the document.

When this proposal was first developed, it was contemplated that it would contain tracks in chemistry, biology and toxicology. When the FIS program received two CTE positions in 2006, I wanted one of them to be someone who could teach forensic toxicology for the FIS program. Since then I have had a number of meetings with Dr. Mike Vasco, Chair of the Dept. of Toxicology/Pharmacology, in the IUSM and Dr. William Bosron, Acting Dean of The School of Science. We decided that this CTE position would be an academic specialist, rather than a tenure track faculty member, that the person would be jointly hired by the Schools of Medicine and Science and would serve half time teaching in the FIS program and half time working with the State Department of Toxicology, which is administered by the School of Medicine. The teaching duties of the person would be in the FIS undergraduate program and the existing graduate degree program in toxicology, which would add a forensic concentration. The result is that the proposed Master's degree in Forensic Science will have two tracks; chemistry and biology at its inception. The academic specialist position is currently being recruited.

7. It is clear that Dr. Siegel has the expertise to direct BS and MS programs in forensic sciences, and that Dr. Li would be an appropriate member of the faculty. However, their research publications and research grant support are minimal (especially since 2004) and I wonder about the quality of research theses that will be produced by the MS program students. If the program is to be high quality, then the theses should also be of high quality.

This is not a legitimate criticism, probably due to a lack of information provided in the proposal, although there is more information in the vitae of the faculty in the program. When Dr. Siegel and Dr. Li were hired, the FIS program consisted of (and still does) of a bachelor's degree program. Both people were hired with the expectations that they would establish funded research programs. Establishing such a program is very difficult when the only students available are

undergraduates. Perhaps the committee that put together the FIS program contemplated that graduate students could be plucked from Dr. Siegel's and Dr. Li's home departments; chemistry and biology. This is of course, one reason why we seek to establish the master of science degree – to be able to conduct important and hopefully, funded research in forensic science.

In spite of the fact that I was hired in 2004 to build this program from nothing and hire faculty and an advisor and establish a laboratory, I have been able to secure two Federal research grants (National Institute of Justice) totaling \$320K and write two forensic science text books, while, at the same time, helping MSU with the graduation of 18 master's students in forensic science that came there when I was the Director (this was agreed to by IUPUI and MSU). Dr. Li was hired in 2005 and has established a laboratory for teaching and research in DNA, developed and taught courses in DNA analysis and he has worked on an existing Federal grant that he had in Houston and has secured an additional grant. It is hardly fair to have expected a torrent of research publications since 2004. I have a track record of graduating over 70 master's students in the past 11 years that MSU has had exclusively a MS program in Forensic Science. I have no doubt that we will continue this at IUPUI.