EDUCATOR'S PORTFOLIO
xxxxxxxx, Assistant Professor of xxxx

I consider research, teaching and service as the three central components of my responsibilities at the University of Michigan. Of these, I have devoted, on average, x% of my time to fulfilling the teaching activities outlined below.

Summary of teaching activities

My teaching activities consist of classroom instruction (x1% of my time), research instruction in the laboratory (x2 % of my time), participation in graduate student dissertation committee meetings and graduate student seminars (x3% of my time), and instruction on the use of xxx technology (x4% of my time).

Classroom instruction: I have taught

(a) xxx sessions (15-17 sessions, 1-2 hours each) of xxxx course to second year medical students for three consecutive years (1997-2000; average class size 26 students/year)
(b) a graduate xxx module (9 sessions, 1.5 hours each) for four academic years (1998-2002; average class size 24 students/year over the past three years) and
(c) the xxx course (9 lectures; 1 hour each) to undergraduate students over the past two academic years (2000-2002; average class size 20 students/year).

Instruction in Research: Six PhD students have performed research rotations in my laboratory, and two have continued to do their PhD thesis research under my guidance. I have also had the opportunity to train two post-doctoral fellows. Each year, I have also had at least one undergraduate student in my laboratory.

Student dissertation committees and student seminar series: In addition to the graduate students in my laboratory, I serve on dissertation committees of x other graduate students in various PhD programs within the Medical School. I have also been evaluator for graduate student seminars in the xxxx and xxxx graduate programs. I have served on several student preliminary examination committees.

Instruction in xxxx use: I have instructed individual research groups on the use of the xxx technology.

Most important teaching contributions

Curriculum Design and Development for Graduate and Undergraduate Classes: *xxx* is one component of a series of three xxx modules that are taught by our Department . This was a new module that I developed, and integrated with two pre-existing graduate modules in xxxx. My goals in developing the new module were (a) to discuss current and emerging topics in xxxx (b) to complement material being taught in the other two xxx modules, and to the extent possible, to cover topics that all students of xxxx should know and (c) to bring to life to the students the experiments behinds the "facts" of xxx. This is a literature-based class, and the contents of the class have been modified every year. The format includes lecture and discussion components. It is a graduate level course, and is taken by graduate students, medical students in the MSTP program, and by several undergraduate Biology majors. I am providing the most recent course pack for the class.

In teaching *xxxx*, I have had the opportunity to develop a set of xxx lectures for undergraduate students. This class is a series of nine lectures (xxx in a nutshell) for students who have had no prior xxxx instruction. I am providing a recent course pack for the class.

Professional Development in Classroom Instruction:

One of our challenges as members of a leading educational institution is to be able to identify, within the classroom setting, what students of a particular class should know, and then to teach materials familiar and unfamiliar to us, in ways in which students can truly learn. We have wonderful resources within the University for consultation on our classroom teaching effectiveness, the Center for Research on Learning and Teaching (CRLT), and the Department of Medical Education within the Medical School. In winter 2002, I had a *xxxx* class comprising 11 undergraduate students and 22 graduate/MSTP students. I asked CRLT if they would attend and provide feedback to me about my *xxxx* lectures, and also consulted with them about different strategies to conduct the literature-based student-led discussions with this large and mixed student group. For the two student-led discussions this year, I chose a group of three recent papers for each topic, and organized the discussions into a "jigsaw" format that was suggested by xxxx from CRLT. This was different than the formats I have used in previous years, when there were higher graduate student ratios in the class. Based upon student enthusiasm and feedback, the jigsaw format appeared to work well, at least for the large and mixed class group. The format had also been adopted this year by another faculty member in our Department, xxxx, for a graduate xxxx class, that is composed of graduate and undergraduate students.

My goals for the coming year for teaching *xxxx* (and subsequent years in which I will teach undergraduate xxx classes) will be to reduce the information load on students, and focus instead on teaching key concepts in less conventional ways. I have spoken to Dr. xxxx, xxxx and educator, about obtaining some teaching aids for my undergraduate xxxx classes. Dr. xxxx has made short xxxx-related educational movies for the BBC and other agencies, that are at an appropriate level for an audience with no prior knowledge of xxxx. I plan to use this material, and also reorganize my lectures around questions that students can relate to.

Instruction in Research:

I have had the opportunity to work in my laboratory with several graduate students and with two postdoctoral fellows. Each trainee requires a different level of instruction and mentoring, but in the end, my goals for each of them are similar. These are (a) to be able to design and implement hypothesis-driven experiments (b) to have received instruction on several aspects of the responsible conduct of research (c) to be critical in evaluating their own data, and well as that of other scientists (d) to be able to present the basis for their research, as well as results of their research findings, to a broad audience in a clear and logical way and (e) to help them move on to future careers of their choice.

To allow for individualized contact with all the trainees, my laboratory is presently comprised of six people; two graduate students, two post-doctoral fellows, one undergraduate student, and one research assistant. I meet individually with each of the trainees in my laboratory, once per week, for discussions of experimental details. I

review their data, we discuss their interpretations of it, and plan for the next set of experiments. Additionally, we discuss experiments on a ongoing basis during the week. We also meet once a week as a group, during which time trainees (on a rotating basis) present (a) an informal seminar about their most recent research findings or (b) a discussion of a journal articles from other laboratories, that is relevant to their research. Twice a month, we meet as a larger group with the laboratories of Dr. xxxx and Dr. xxxx, for hourly research or journal presentations by trainees from one of the laboratories.

In my interactions with all the trainees in my laboratory, I emphasize the need for meticulous experimentation and careful interpretations of data. In their contributions to the manuscripts we have published together, they have worked hard to identify, undertake, and verify experiments we describe. Their reward is in the reviews that we receive on these manuscripts, that often comment on the careful experimentation and conclusions.

I have trained several undergraduate students in laboratory research. The opportunity to provide these students with a research "skill-set" when they obtain their degrees, and also to be able to influence their career choices, has been particularly rewarding.

<u>Providing expertise on the use of xxx technology</u>:
In collaboration with Dr. xxxx, a senior faculty member in our Department, we obtained in 1997, a xxxx device at the Medical School, through an NIH multiuser equipment grant. This instrumentation allows for assessment of xxxx. As a person with prior expertise in the use of this technology, I have, on an ongoing basis, instructed several research groups within the University ,and in other nearby institutions, on the use and capabilities of the equipment. I believe that participation in this type of instruction is central to the research mission of the Medical School.

<u>Evaluation Data:</u>
The Department of xxxx has assembled a set of student evaluations for all the classes I have taught, as listed above. Additionally, I have asked two students who have taken *xxxx* in past years (xxxx, graduate student, and xxxx, undergraduate student) to a provide more detailed perspectives about the class and instruction. I have also requested that former undergraduate students, xxxx and xxxx, write letters about the value of their undergraduate research experiences in my laboratory. Additionally, I have requested three users of the xxxx equipment, (Dr. xxxx (Department of xxxx), xxxx, graduate student in the MSTP program, and Dr. xxxx (an investigator in the xxxx) to write letters about their consultations with me on xxxx use and data analyses.

Concluding Statement

The teaching activities outlined above have been of great value in my own development as a classroom instructor and research mentor. I am committed to achieving excellence, and will continue to seek ways to enhance each of these activities in the coming years.