

TEACHING PORTFOLIO NARRATIVE

Although I am involved in didactics to graduate and veterinarian students, resident, fellows and attendings in a variety of settings, the bulk of my teaching is one-on-one or small group settings in a laboratory setting. Below, I have outlined the different aspects of the laboratory teaching I am engaged in.

Laboratory Training

Informal – weekly meetings lasting 1-2 hours are held for all laboratory members to discuss the highlights/progress of their research over the previous week. This provides an informal setting to discuss projects and present raw data for discussion. Peer review of this progress is strongly encouraged at lab meetings, especially if problems arise in the work. All lab members are expected to contribute to this discussion (and are called upon) to weigh in on such problems by drawing on their experience and expertise. All laboratory members are encouraged to meet one-on-one with me as often as, and whenever they like, to discuss any and all issues arising inside and outside of the lab (e.g. weekly, daily). In addition, I arrange to meet with individuals to discuss their work if I don't feel that they are talking to me often enough (e.g. every other week) or if they appear to be having difficulties with their research projects (usually impromptu meetings at the lab bench to look at recent data). This level of oversight enables me to assess their general attitude to lab work, how they are thinking about their science, how their coursework is progressing and to field any questions about their progress, their future in science, how to design experiments or projects and various aspects of grant writing and publishing.

Formal – students and postdoctoral fellows are expected to formally present critical evaluations of important papers in the literature that impact their projects, particularly in the initial stages of their work. This training takes the form of slide presentations and we have purchased a slide projector for the lab specifically to give trainees access to up-to-date technology so that they may develop effective communication and presentation skills. The projector is available at all times so that students and fellows can practice presenting to the lab or for coursework or CMMG departmental seminars. When presentations are being prepared for external audiences, they are delivered at least once at a lab meeting, and as many times as necessary, to iron out ambiguities in slide content, gaps in the introduction of the work, and other aspects of presentation strategy to ensure a polished delivery. Lab meetings of this nature usually run 2-3 hours, with contributions from all lab members about their perceptions of the presentation.

Undergraduates – I have been involved principally with summer training in biomedical research of senior year high school students and sophomore through senior year undergraduates. My approach has been to expose students to extensive bench work involving animals. Students participate in managing mouse colonies and also experiment with animals after completing their university training. Despite very limited experience of almost all of these students to bench work, I have found that they have an innate sense of physiological experimentation and dissection of mice. Consequently, it is this type of project that I use to train these students. This introduction is aimed at giving students an early glimpse of experimentation. Nearing the conclusion of their term in the lab, students are trained at weekly, and if necessary daily sessions, to effectively deliver the highlights of their research to peers in a formal oral presentation.

Graduates – first year candidates for the Graduate program typically have considerable experience at researching the literature and writing short papers but with variable and often very limited experience at the bench. Consequently, student rotations in my laboratory are heavily weighted toward testing the student's experience and ability to learn basic techniques quickly from different members of the laboratory. Second year students in the Graduate program begin in the laboratory in much the same way as rotation students by managing mouse colonies and learning basic experimental skills that they will require for their project. As students become more adept at basic techniques, greater emphasis is placed on experimental design: what is the next experiment; what are the positive and negative controls; what are the anticipated results; what are the possible pitfalls and what are possible experimental alternatives?

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Frequently, students have little or no experience in these areas and particular focus on these issues is aimed at strengthening the students ability to think through an experiment before going to the bench. Equally important, I stress that one should not over-think an experiment and that the bench is the most important place for progress in a research project. Finally, I constantly impart my expectations on graduate students. The goals of their training are: to fully plan an experiment, including all necessary controls; to execute the experiment accurately and reproducibly; to analyze the data fully, drawing on and compare with the literature; and to report and discuss the results knowledgeably.

Postdoctoral fellows – fellows are at the jumping off point of their careers. During this 3-4 year training period successful fellows should be close to a decision, or already have decided, about the research field in which they will work for the first 5-10 years of their academic career. Accordingly, they need to prepare for that position before they interview. In addition, they require adequate demonstration of their technical and academic abilities in the forms of first author publications in high quality journals and presentations at conferences within their research field. The major goals of postdoctoral training in my laboratory are to train fellows how to develop projects of 3-5 years duration and to provide opportunities to develop areas of research with which to begin their own career.

Other Teaching

Public awareness – since beginning my postdoctoral training, I have believed in the importance of maintaining relevance and close ties between my research efforts and the clinics. Toward these ends, a major focus of my research has been in the context of disease and I reach out the community when possible to inform them of the research in my lab that will impact on the diseases afflicting their families.

REVIEW PERIOD: 5/01/04 - 4/30/05

Event	Dept/Group/Course	Title	Dates	Format of Instruction	# Contact hrs	# Learners	Type of Learner	Teaching Materials Produced	Comments
LECTURES	1) CMMG	Introduction to Mol. Biol. Genetics MBG 7010	5/1/04	Lectures	10	35	M.S. grad. students	Slides	
			6/1/04				Physiology Graduate Students	Lecture note handouts Oral quiz questions 2 Written exams Exam marking and grading	
	2) BMS	Med. Neurosci. YEAR 1	9/1/04	Lecture	1.5	260	1st yr medical students	Lecture handouts Lecture slides Written exam	
SMALL GROUP INTERACTIVE TRAINING	1) CMMG	SUMMER UNDERGRADUATE RESEARCH PROGRAM	6/1/04 8/31/04	Mentoring	5 per week	1	Undergraduate	Research Project training Training in Oral presentations	J. Doe
		WSU Medstart	5/1/04	Mentoring	3	7	WSU PreMed Undergraduates	Powerpoint presentation Laboratory demonstration	
		Graduate Program	11/1/04 2/1/05	Mentoring	5 per week	1	Rotation student	Research Project training Training in Oral presentations Research Report	J. Doe
		Graduate Program	2/1/05 4/1/05	Mentoring	5 per week	1	Rotation student	Research Project training Training in Oral presentations Research Report	J. Doe
		Pharmacology	1/1/05 4/30/05	Mentoring	5 per week	1	B.S. graduate	Training in Laboratory Technique Training in Oral presentation of data	J. Doe
	6) Pharmacology	Graduate Program	3/1/05	Thesis Committee meeting	3	1	3rd year MD/PHD student	Seminar Progress report	
	7) Physiology	Graduate Program	12/1/04	Exam	3	1	PHD student	PhD Thesis Defense Exam	J. Doe
	8) SOM	Graduate Student Research Day	9/23/04	Judge for Student Posters	8	6	Graduate Students Medical Students	Grading Student posters Evaluations and comments	
CLINICAL TEACHING	1) Neonatology	Physiology Series	9/1/04 12/1/04	Lectures	8	7	Residents Fellows	Slides Lecture notes	
		Neurodegeneration	10/1/04	Lecture	1	22	Residents Fellows Attendings	Slides Lecture notes	
MENTORSHIP	1) CMMG	Postdoctoral Training	5/1/04 4/30/05	Theoretical and Experimental Training	5 per week	1	Postdoctoral fellow	Evaluations of Experiment Project oversight Experimental and Theoretical Guidance Manuscript writing	J. Doe
		Postdoctoral	12/1/04	Theoretical and	5 per week	1	Postdoctoral	Evaluations of Experiment	J. Doe

REVIEW PERIOD: 5/01/04 - 4/30/05

Event	Dept/Group/Course	Title	Dates	Format of Instruction	# Contact hrs	# Learners	Type of Learner	Teaching Materials Produced	Comments
		Training	4/30/04	Experimental Training			fellow	Project oversight Experimental and Theoretical Guidance Manuscript writing	
	3) Pediatrics	Research Training	9/1/04 4/30/04	Theoretical and Experimental Training	5 per week	1	Clinical fellow	Evaluations of Experiment Project oversight Experimental and Theoretical Guidance Manuscript writing	J. Doe
CONTINUING EDUCATION	1) Biology Henry Ford Community College	Introduction to Biology	9/1/04 12/1/04	Lectures Demonstrations	8	15	Veterinary Technicians	Slides Lecture handouts Laboratory Notes	
ONLINE TEACHING	NONE								
LAY EDUCATION	1) NEMORS		12/1/04	Lecture	1	47	Patient Families	Slides Handouts	
OTHER	CMMG	NULITES	3/17/05	Mentoring	3	9	High School Students	Laboratory demonstration Laboratory note handouts	

REVIEW PERIOD: 5/01/05 - 4/30/06

Event	Dept/Group/Course	Title	Dates	Format of Instruction	# Contact hrs	# Learners	Type of Learner	Teaching Materials Produced	Comments
LECTURES	1) CMMG	Introduction to Mol. Biol. Genetics MBG 7010	5/1/05	Lectures	10	35	M.S. grad. students	Slides	J. Doe
			6/1/05				Graduate Students	Lecture note handouts Oral quiz questions 2 Written exams Exam marking and grading	
		2) BMS	Med. Neurosci. YEAR 1	9/1/05	Lecture	3	260	1st yr medical students	
3) IBS		Pharmacology and Neural Transmission	7/1/05 2/1/06	Lectures	25	15	1st year graduate students	Lecture handouts Lecture slides Written exam	
SMALL GROUP INTERACTIVE TRAINING	1) CMMG	SUMMER UNDERGRADUATE RESEARCH PROGRAM	6/1/05 8/31/05	Mentoring	5 per week	2	Undergraduate	Research Project training Training in Oral presentations	J. Doe
2) CMMG	WSU Medstart	5/1/05	Mentoring	3	7	WSU PreMed Undergraduates	Powerpoint presentation Laboratory demonstration		
3) CMMG	Graduate Program	11/1/05 2/1/06	Mentoring	5 per week	1	Rotation student	Research Project training Training in Oral presentations Research Report	J. Doe	
4) CMMG	Graduate Program	2/1/06 4/1/06	Mentoring	5 per week	1	Rotation student	Research Project training Training in Oral presentations Research Report	J. Doe	
5) Physiology	Graduate Program	12/1/05	Exam	3	1	PhD student	PhD Thesis Defense Exam	J. Doe	
6) SOM	Graduate Student Research Day	9/23/05	Judge for Student Posters	8	6	Graduate Students Medical Students	Grading Student posters Evaluations and comments		
CLINICAL TEACHING	1) Neonatology	Physiology Series	9/1/05	Lectures	8	7	Residents Fellows	Slides Lecture notes	J. Doe
			12/1/05				Residents Fellows Attendings	Slides Lecture notes	
MENTORSHIP	1) CMMG	Postdoctoral Training	5/1/05 4/30/06	Theoretical and Experimental Training	5 per week	1	Postdoctoral fellow	Evaluations of Experiment Project oversight Experimental and Theoretical Guidance Manuscript writing	J. Doe
			12/1/05 4/30/06	Theoretical and Experimental Training	5 per week	1	Postdoctoral fellow	Evaluations of Experiment Project oversight Experimental and Theoretical Guidance	J. Doe

REVIEW PERIOD: 5/01/05 - 4/30/06

Event	Dept/Group/Course	Title	Dates	Format of Instruction	# Contact hrs	# Learners	Type of Learner	Teaching Materials Produced	Comments
	3) Pediatrics	Research Training	9/1/05 4/30/05	Theoretical and Experimental Training	5 per week	1	Clinical fellow	Evaluations of Experiment Project oversight Experimental and Theoretical Guidance Manuscript writing	J. Doe
CONTINUING EDUCATION	1) Biology Henry Ford Community College	Introduction to Biology	9/1/05 12/1/05	Lectures Demonstrations	8	15	Veterinary Technicians	Slides Lecture handouts Laboratory Notes	
ONLINE TEACHING	Seminars in Technology	Society and Nanotechnology	8/1/05 12/1/05	Teleconferences	10	250 hits	High School Students	Electronic lecture notes Slides	
LAY EDUCATION	1) Nemours Foundation	Mechanisms of Neurodegeneration	12/1/05	Lecture	1	49	Patient Families	Slides Handouts	
OTHER	CMMG	NULITES	3/1/06	Mentoring	3	12	High School	Laboratory demonstration Laboratory note handouts	

REVIEW PERIOD: 5/01/06 - 4/30/07

Event	Dept/Group/Course	Title	Dates	Format of Instruction	# Contact hrs	# Learners	Type of Learner	Teaching Materials Produced	Comments
LECTURES	1) CMMG	Introduction to Mol. Biol. Genetics MBG 7010	5/1/06	Lectures	10	35	M.S. grad. students	Slides	
			6/1/06					Physiology Graduate Students	Lecture note handouts Oral quiz questions 2 Written exams Exam marking and grading
2) IBS		Pharmacology and Neural Transmission	7/1/06 2/1/07	Lectures	25	15	1st year graduate students	Lecture handouts Lecture slides Written exam	
SMALL GROUP INTERACTIVE TRAINING	1) CMMG	SUMMER UNDERGRADUATE RESEARCH PROGRAM	6/1/06 8/31/06	Mentoring	5 per week	1	Undergraduate	Research Project training Training in Oral presentations	J. Doe
			5/1/04	Mentoring	3	7	WSU PreMed Undergraduates	Powerpoint presentation Laboratory demonstration	
			11/1/06 2/1/07	Mentoring	5 per week	1	Rotation student	Research Project training Training in Oral presentations Research Report	J. Doe
			2/1/07 4/1/07	Mentoring	5 per week	1	Rotation student	Research Project training Training in Oral presentations Research Report	J. Doe
5) Pharmacology			1/1/07 4/30/07	Mentoring	5 per week	1	B.S. graduate	Training in Laboratory Technique Training in Oral presentation of data	J. Doe
6) Pharmacology			3/1/07	Thesis Committee meeting	3	1	3rd year MD/PHD student	Seminar Progress report	
7) Physiology			12/1/06	Exam	3	1	PHD student	PhD Thesis Defense Exam	J. Doe
8) SOM		Graduate Student Research Day	9/23/06	Judge for Student Posters	8	6	Graduate Students Medical Students	Grading Student posters Evaluations and comments	
CLINICAL TEACHING	1) Neonatology	Physiology Series	9/1/06 12/1/06	Lectures	8	7	Residents Fellows	Slides Lecture notes	
			10/1/06	Lecture	1	22	Residents Fellows Attendings	Slides Lecture notes	
MENTORSHIP	1) CMMG	Postdoctoral Training	5/1/06 4/30/07	Theoretical and Experimental Training	5 per week	1	Postdoctoral fellow	Evaluations of Experiment Project oversight Experimental and Theoretical Guidance Manuscript writing	J. Doe
			12/1/06	Theoretical and	5 per week	1	Postdoctoral	Evaluations of Experiment	J. Doe

REVIEW PERIOD: 5/01/06 - 4/30/07

Event	Dept/Group/Course	Title	Dates	Format of Instruction	# Contact hrs	# Learners	Type of Learner	Teaching Materials Produced	Comments
		Training	4/30/06	Experimental Training			fellow	Project oversight Experimental and Theoretical Guidance Manuscript writing	
	3) Pediatrics	Research Training	9/1/06 4/30/06	Theoretical and Experimental Training	5 per week	1	Clinical fellow	Evaluations of Experiment Project oversight Experimental and Theoretical Guidance Manuscript writing	J. Doe
CONTINUING EDUCATION	1) Biology Henry Ford Community College	Introduction to Biology	9/1/06 12/1/06	Lectures Demonstrations	8	15	Veterinary Technicians	Slides Lecture handouts Laboratory Notes	
ONLINE TEACHING	NONE								
LAY EDUCATION	1) NEMORS		12/1/06	Lecture	1	60	Patient Families	Slides Handouts	
OTHER	CMMG	NULITES	3/1/06	Mentoring	3	5	High School	Laboratory demonstration Laboratory note handouts	

TEACHING SUMMARY MBG 7010

REVIEW PERIOD: 5/01/02 to 4/30/06

Instructor Rating MBG7010

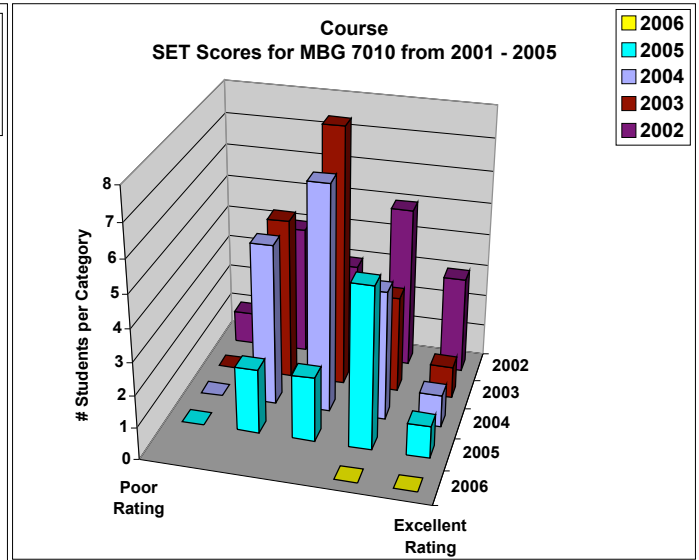
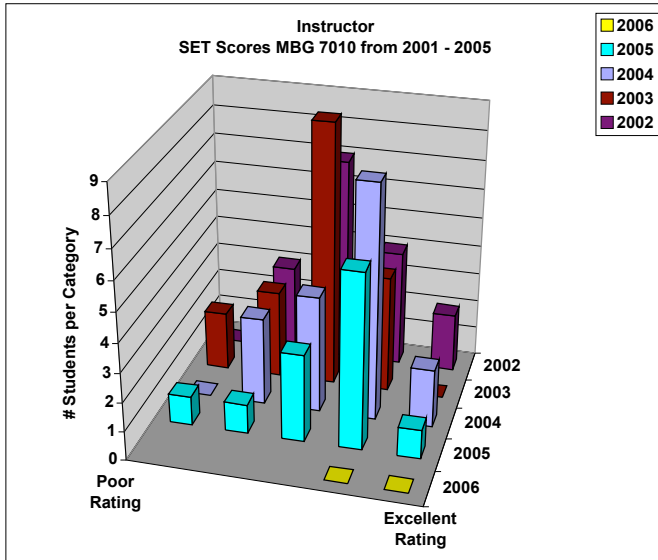
Rating Category	# OF STUDENTS PER RATING CATEGORY				
	2002	2003	2004	2005	2006
Poor	0	2	0	1	
Fair	3	3	3	1	
Good	7	9	4	3	
Very good	4	4	8	6	NOT AVAILABLE
Excellent	2	0	2	1	NOT AVAILABLE

Median Category **Good** **Good** **V. Good** **V. Good**

Course Rating MBG7010

Rating Category	# OF STUDENTS PER RATING CATEGORY				
	2002	2003	2004	2005	2006
Poor	1	0	0	0	
Fair	4	5	5	2	
Good	3	8	7	2	
Very good	5	3	4	5	NOT AVAILABLE
Excellent	3	1	1	1	NOT AVAILABLE

Median Category **Good** **Good** **Good** **V. Good**



SIGNIFICANCE:

- Over the course of 5 years (2002 - 2006) my instructor rating from responding students has steadily improved
- Over the course of 5 years (2002 - 2006) the course rating from responding students has remained largely unchanged, although is improved in 2005
- These data are encouraging and suggest that my efforts to improve my teaching effectiveness have paid dividends for the students

BMS Medical Neuroscience Year 1 Course: student evaluations between 2004 - 2006:

	Mean (out of 5)	S.D.
How would you rate the Neuroscience course?	4.12	0.8
How would you rate the organization for the Neuroscience course?	3.96	0.86
How would you rate the teaching of Neuroscience in this course?	4.07	0.8
How would you rate the lecture portion of Neuroscience in this course?	4.05	0.79

No individual faculty member evaluations available for this course

Student Comments in 2005:

Organization/Clarity	"Well organized. Very thorough slide use." "Perfect" "Lecture notes very helpful and explained things clearly."
Breadth of coverage	"Made lots of material seem more manageable." "Perfect."
Examination/Grading	"Fair, practice exams very helpful."
Summary evaluation	"Best teacher of the class. Nicely presented information, fair exams, and overall excellent teacher!"

Student Comments in 2005:

None available