MOLECULAR CELL BIOLOGY & GENETICS – 2006
Course Descriptions

COURSE DESCRIPTION CONTENTS

1. COMPETENCY-BASED GOALS AND OUTCOME OBJECTIVES

The Loyola University Chicago Stritch School of Medicine offers a required basic science course in Molecular Cell Biology and Genetics (MCGB) for first year medical students. The MCBG course provides the opportunity for students to learn the fundamental molecular, cellular, and genetic processes common to all mammalian cells, with an emphasis on clinical relevance. The course also serves to introduce students to Loyola's Vertical Genetics Curriculum, as well as its competency-based curriculum and outcomes approach to assessment. The complete Loyola University Chicago SSOM Competency Goals and Outcomes are at: http://www.lumen.luc.edu/lumen/goals.htm.

Students who successfully achieve the specific objectives for competency in (a) **Medical Knowledge** and (b) **Lifelong Learning, Problem-solving and Personal Growth** adopted by MCBG will be prepared to master key principles and concepts taught in subsequent medical school courses and have the necessary skills and attitudes to build a personal framework for understanding the scientific basis of medicine. Students who achieve the specific objectives for competency in (c) **Interpersonal and Communication Skills** and (d) **Professionalism** adopted by MCBG will be prepared to effectively work with their peers in subsequent medical school courses. They will also have a solid foundation for collaborative participation in groups of health care providers in the clinical setting and will begin to incorporate values important to their development as medical professionals. Details of the outcome objectives are discussed in Section 8.

2. OUTCOMES-BASED SELF-ASSESSMENT PLAN

A Precourse Self-Assessment and Goal-Setting Form (**Form 1**) will be distributed during Orientation Week. Students will be asked to complete this form, providing the faculty with information on their background knowledge, skills, and attitudes in the 4 competencies related to the course. The form will also serve to begin the learning cycle on which the course is based, namely Plan→Do→Assess, and which is the basis for successful independent learning.

Students will complete a Midcourse Self Assessment Form (**Form 2**) at the end of week 4 in which they will assess and revise, if necessary, their plan towards achieving their initial goals and expectations. The midcourse self-assessment will be included in the one-on-one formative feedback session with the Small Group faculty facilitator(s) during week 5 (see below).

3. COURSE ORGANIZATION

The emphasis of the course will be on **student-centered** learning. The class will meet 4 hours daily, five days a week. Students will be assigned reading from the textbooks and journal articles, and will be provided with learning objectives to guide their reading and study. Most class meetings will begin with one or two lectures to reinforce and/or supplement the reading and allow students to ask for clarification of content, expansion of information, and integration/relevance of reading material. The lecture(s) will be followed by small group problem-solving sessions (SGPSS). These sessions provide an opportunity for students to integrate information into a personal conceptual framework and to use their knowledge in an applied context. Finally, students will return to the lecture hall for a "recap" session, which is a time for clarification of issues raised during the small group work and for validation and extension of student learning. **To maximize student learning during lectures and SGPSS, the assigned readings are to be read *prior* to each class meeting. Preparation by reading textbooks and reviewing handouts will enable students to anticipate topics to be covered as well as prepare students to pay particular attention to difficult concepts and to ask specific questions.** Six lab sessions are also scheduled. These sessions will begin with a lecture in room 190, followed by lab work in assigned rooms. Weekly Q&A Sessions are scheduled on Friday afternoons. These are informal sessions which are meant to provide an opportunity for individualized interactions with faculty who have lectured during that week. Students can also address questions to faculty and to each other through a computer-based web forum that can be accessed through the MCBG website (see Section 10). Finally, students will participate in an independent research/learning project – the Medical Genetics Project (described in Section 7) -- that will culminate in a group presentation at one of three conference sessions to be held at the end of the 9-week course. A **required** class meeting is scheduled for Monday, Aug. 28, 1:30-2:30 PM, where this project will be described and questions will be answered. On Sept. 5 (9:00 AM-12:00 PM), students will meet in their small group rooms to plan their presentations and continue their library and internet research.

The course content is organized as modules, beginning with Protein Structure and Function (7/31/06 – 8/3/06), followed by Molecular Biology (8/4/06 – 8/16/06), Medical Genetics (8/17/06 - 8/24/06), Cell Biology (8/25/05 - 9/7/06), Histology (9/8/06 - 9/18/06), Advanced Molecular and Cell Biology (9/19/05 – 9/25/05), and the Medical Genetics Conferences (9/25/06-9/26/06).

The first two exams (USMLE-type multiple choice questions) are scheduled for a Monday. Exam 1 will cover content through and including the previous Friday. The material from the Friday prior to Exam 2 (9/8/06) will be tested on Exam 3. The third exam will consist of 2 parts. The first, during the

afternoon of September 28, will be a laboratory practical that covers the six histology sessions and uses the virtual microscope (computer). The second part, given the following morning, will cover new course material since Exam 2, material from the Medical Genetics Conferences and the six histology sessions. Some of the histology questions will be of the write-in type. Both Exam 2 and Exam 3 will also contain some questions on material covered in previous exams (in lieu of a separate comprehensive final exam). Additional information about exams can be found in Section 8.

4. TEXTBOOKS AND HANDOUTS

The following textbooks will be used in this course and in subsequent SSOM courses:

Molecular Biology of the Cell, 4th edition (2002), by Alberts, *et. al.*
Textbook of Biochemistry With Clinical Correlations, 6th edition (2005), ed. by Devlin
Genetics in Medicine, 6th edition, revised (2004), by Nussbaum, McInnes and Willard
Basic Histology, 11th edition (2005), by Junqueira and Carneiro.
Wheater's Functional Histology, 5th edition (2006), by Young and Heath

Course handouts for each day's session consist of a list of Key Concepts and Learning Objectives as well as copies of most slides used in lecture. The handout could contain brief discussions of material inadequately covered in the text. However, students should expect to take notes in lecture and from their assigned readings using the learning objectives as a guide. Students will be expected to demonstrate understanding of all Key Concepts at the level indicated by the Learning Objectives. ***Learning Objectives will be covered in one or more of the following: reading assignment or lecture/class discussion or small group work.***

5. ATTENDANCE

Students are expected to attend all lectures, small group meetings, recap sessions, and labs. This is especially important since Learning Objectives may be covered in the reading or in ANY of these sessions, and exam questions may be based on ANY of these sessions. Student evaluations for the **Interpersonal and Communication Skills** and **Professionalism** competencies are based primarily on observations made by facilitators during SGPSS, and frequent absences lead to assessments based on less data. A pattern of unexcused absences will result in an unsatisfactory rating for **Professionalism**.

Make-up written/practical examinations will be given only in cases of excused absence as outlined in Part I of the Academic Policy Manual. Attendance at the Medical Genetics Conferences is expected since it is a part of your professional obligation to the course. Individuals unable to be present on their scheduled day may receive partial credit for the project by preparing an extensive written report. Such absences are expected to be rare and due to emergency only. Petition for partial credit must be made in writing and will be considered on a case-by-case basis.

6. LEARNING IN SMALL GROUPS

Part of each day will be spent in small group work. Students will be assigned to groups of 5-6 students each. Three groups will meet in each Learning Cluster room with an assigned facilitator as indicated in Section 15. Students will report to their room after each lecture, assemble into their groups, and receive a problem set from the faculty facilitator. Consistent with the student-centered philosophy of this course, the facilitators will monitor groups and assist them in the discussion ***process*** but will not function as content experts. Facilitators will not lecture. Facilitators can answer questions at their

discretion, but are normally asked to respond to a question with another question or by directing students to raise the issue during the "recap session" that follows. Good communication and problem-solving skills, as well as a lively curiosity, and preparation by reading and actively listening to lectures will assure that the goals of small group sessions are met, namely that a deeper understanding of concepts is achieved by using knowledge in a different context. Students and facilitators will use the SGPSS Assessment Forms (**Forms 3** and **4**, respectively) (see Sections 8, 9, and 18 regularly to observe competencies and give feedback to the group and individuals as needed to assist in developing these skills and behaviors. The class will reassemble in the lecture room following the SGPSS for a "recap session" where faculty will discuss the problems and answer student questions. Facilitators, in consultation with the course directors, will provide an end-of-course summative evaluation of each student's competency in Communication, Problem-Solving and Professionalism (**Form 5**, MCBG: End-Of-Course Competency Assessment Form), based both on performance in small group and on the Medical Genetics independent learning project. The Medical Genetics Project is summarized in the next section and described in detail in the section entitled **Medical Genetics Project Details** at the end of this course description.

7. MEDICAL GENETICS PROJECT (Summary)

Overview

The Medical Genetics Project gives each student the opportunity to develop their knowledge, skill, and ability to effectively use information technology to search, evaluate and critically review scientific evidence related to principles and concepts covered in the course. The project also adds to each student's knowledge about a group of Genetics Disorders that were selected by the Genetics Subcommittee of the CCA as illustrating important principles in human genetics and patient care, and/or introducing important societal issues for physicians to consider. Students will be asked to demonstrate their ability to use appropriate techniques to teach their peers about their topic within a conference setting, and to work cooperatively within a group to complete a learning project and group presentation. **A required class meeting is scheduled for Monday, August 28 1:30-2:30 PM, to discuss the genetics project requirements and to answer student questions.** Students are urged to attend all the conference sessions scheduled for September 25 and September 26.

Project Description

This is an independent learning project and contributes approximately 52 points to the total of about 360 points that make up the final course grade (approximately 20 exam points, 16 presentation points, and 16 research and analysis points). Each student will be evaluated on their ability to conduct effective literature searches, critically evaluate scientific/medical literature, and effectively present/teach their topic.

Each small group is assigned a Core Genetic Disorder and is responsible for identifying, researching and teaching appropriate topics related to the disorder, such as disease etiology, pathogenesis, phenotype and natural history, management, inheritance risk, and family, social, legal, and ethical issues. The group as a whole must then plan and present a cohesive conference (oral presentation with slides) on their assigned genetic disorder. Each group member should assume responsibility for individually researching, evaluating, and teaching their topic(s) to other group members using a variety of resources including textbooks, review articles, online resources, and original research articles. Each group is required to arrange an appointment with Jeanne Sadlik (Coordinator for References & Education Services, Health Science Library X65304; jsadlik@lumc.edu) or a member of her staff to

discuss available resources and appropriate search strategies for retrieving relevant information. **Ms. Sadlik and her staff have agreed to instruct, review and evaluate each student's search strategy, and this review is obligatory (Form 6**, MCBG Genetics Project – *Research Component*). Individual groups should meet with Ms. Sadlik as soon as possible, since repeat meetings may be necessary. **Students must obtain approval of their search strategy no later than September 18.** The project culminates in student presentations on September 25 and 26. Presentations are evaluated by instructors and facilitators in attendance (**Form 7**, Medical Genetics Presentation Assessment Form).

The Medical Genetics Project has a number of requirements that must be fulfilled in order for students to be judged as 'Meeting Expectations' in the Life-long Learning, Communication and Professionalism Competencies and to receive the maximum possible points toward their final grades. Students should read the section entitled **Medical Genetics Project Details** for important information about requirements, deadlines, evaluation forms and grading.

Individual Group Disease Assignments			
Date 9/25/06 Section – time	**Conference Location**	**Presenting Groups**	**Core Genetic Disorder**
Section A1 - 1:30 PM	**Room 360**	**Room 340 – Group 1**	**Breast cancer**
		Room 340 – Group 2	**Chronic Myelogenous leukemia**
		Room 340 – Group 3	**Cystic fibrosis**
		Room 350 – Group 4	**Familial Hypercholesterolemia**
Section A2 - 1:30 PM	**Room 460**	**Room 440 – Group 13**	**Breast cancer**
		Room 440 – Group 14	**Chronic Myelogenous leukemia**
		Room 440 – Group 15	**Cystic fibrosis**
		Room 450 – Group 16	**Familial Hypercholesterolemia**
Date 9/26/06	**Location**	**Presenting Groups**	**Core Genetic Disorder**
Section B1 8 AM	**Room 360**	**Room 350 – Group 5**	**Fragile X syndrome**
		Room 350 – Group 6	**Gaucher's disease**
		Room 370 – Group 7	**Huntington disease**
		Room 370 – Group 8	**MERRF**
Section B2 – 8 AM	**Room 460**	**Room 450 – Group 17**	**Fragile X syndrome**
		Room 450 – Group 18	**Gaucher's disease**
		Room 470 – Group 19	**Huntington disease**
		Room 470 – Group 20	**MERRF**
Section C1 – 1 PM	**Room 360**	**Room 370 - Group 9**	**Neurofibromatosis**
		Room 380 – Group 10	**Prader-Willi/Angelman syndrome**
		Room 380 – Group 11	**Thalassemia**
		Room 380 – Group 12	**Turner syndrome**
Section C2 – 1 PM	**Room 460**	**Room 470 – Group 21**	**Neurofibromatosis**
		Room 480 – Group 22	**Prader-Willi/Angelman syndrome**
		Room 480 – Group 23	**Thalassemia**
		Room 480 – Group 24	**Turner syndrome**

8. ASSESSMENT OF COMPETENCY-BASED GOALS AND OUTCOME OBJECTIVES

As discussed briefly in Section 1, Stritch School of Medicine requires its medical students to develop competencies in six areas: 1) Medical Knowledge, 2) Interpersonal and Communication Skills, 3) Professionalism, Moral Reasoning, and Ethical Judgement, 4) Clinical Skills and Patient Care, 5) Lifelong Learning, Problem Solving, and Personal Growth, 6) Social and Community Context of Healthcare. The details of what constitutes competency in these areas are given at http://www.lumen.luc.edu/lumen/goals.htm. The MCGB course will evaluate student competencies in four of these areas: 1, 2, 3, and 5. The following discussion indicates which specific competencies and outcome objectives will be measured, and outlines how they will be measured:

1) Medical Knowledge Competency

Outcome objectives

By the end of this course, students must have demonstrated knowledge about the fundamental molecular, cellular, and genetic processes common to all mammalian cells and the ability to use principles and concepts of cell biology, molecular biology, genetics, and histology to analyze medically relevant data, solve problems, make predictions, and determine a course of action. Students will demonstrate understanding of the following subjects at a level that will be specified for each:

1. Protein structure and function, including:
   a. Amino acids, peptides, and polypeptides
   b. The three-dimensional structure of proteins
   c. Relationship between protein structure and function: example of hemoglobin
   d. Enzyme kinetics
2. Molecular biology, including:
   a. Recombinant DNA technology
   b. The organization and packaging of chromosomal DNA
   c. Chromosomal DNA replication
   d. DNA repair and recombination
   e. RNA synthesis and processing
   f. Protein synthesis
   g. Regulation of gene transcription
   h. Posttranscriptional gene regulation
3. Medical genetics, including:
   a. Patterns of single gene inheritance
   b. Genetic variation in individuals
   c. Genetic variation in populations
   d. Gene mapping and the human genome project
   e. Principles of cytogenetics
   f. Multifactorial inheritance
   g. Molecular genetics of cancer
   h. Special topics in Medical Genetics (see Sections 7 and 16)
4. Cell biology, including:
   a. Membrane structure
   b. Membrane transport
   c. The electrical properties of membranes
   d. Posttranslational protein transport

e. Cotranslational and vesicular protein transport
f. Golgi structure and function, endocytosis and lysosomes
g. Mechanisms of vesicular transport and targeting
h. Mitochondrial function
i. Mechanisms of cell signaling
j. Cell junctions, cell adhesion, and components of the extracellular matrix
k. Collagen and other extracellular matrix proteins and basal lamina
l. Cytoskeleton structure and function
m. The cell cycle
n. Mechanism of cell division

5. Basic histology, including:
   a. Light microscopy, staining and electron microscopy
   b. Organelles
   c. Cytoskeleton
   d. Epithelia
   e. Extracellular matrix and connective tissue
   f. Bone and cartilage
   g. Skin and oral cavity

Assessment of Medical Knowledge

Multiple choice questions, written in National Board of Medical Examiners (NBME) format and based on specific learning objectives for each lecture and SGPSS, will be used to assess knowledge of protein structure and function, molecular biology, cell biology, and genetics.

Three multiple-choice question exams will be administered during the course. Each exam will contain 6-8 questions (worth 1 point each) per each day of lecture/SGPSS since the previous exam. Exams 2 and 3 will also contain 1-2 questions per each day prior to last exam, i.e., the exams will be cumulative in nature. Each lecture/lab day (histology) will contribute 6-8 exam points, but half of those histology points will be included in a practical exam at the end of the course worth 30 points. Each Medical Genetics Conference Disease (see Section 7) will contribute 1-2 points in the form of multiple-choice questions on exam 3.

Each exam will have no more than 100 questions, each worth one point. Exams 2 and 3 will include questions from previously test material (~20% old material on exam 2 and ~35% old material on exam 3. The 30 point practical exam covering histology will be administered separately from the written exam 3.

In addition to about 20 exam points, the Medical Genetics project will contribute another 32 points towards the final course grade. Of the 32 points, 16 points will be based on the Medical Genetics presentation and 16 points will be based on required written materials. (Please read the section entitled **Medical Genetics Project Details**, which follows this course description for important information about requirements, deadlines, evaluation forms and grading). The course grade will thus be based on a total of approximately 360 points and will be assigned as follows: Honors (328-362 points); High Pass (288-327 points); Pass (252-287 points); Fail (251 points or less). The exact numbers may change depending on the final number of questions in each exam. Students that fail will be assigned a "Does Not Meet Expectations" for the knowledge component of the course. Students that pass but score less than 74% can be assigned a "Meets with Concerns" for Medical Knowledge in MCBG.

The Medical School Exam Policy will be followed. **The procedures resemble those of the National Board of Medical Examiners and have been adopted by all courses at the medical school.** Students are not permitted to ask questions during exams. Students who are suspected of cheating at any time during an exam will be asked to leave the examination room and will receive a failure on that exam. Such matters will be handled in accordance with procedures established by the Medical School Council.

2) Interpersonal and Communication Skills Competency

Outcome objectives

By the end of this course, students must have demonstrated knowledge of the basic principles of effective interpersonal communication, and the skills and attitudes that allow effective interaction with their peers, faculty, and support staff. Students will:

1. Use verbal language effectively.
2. Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, and questioning skills.
3. Use written language effectively.
4. Facilitate the learning of other students, including giving effective feedback.
5. Use information technology to manage information, access online information and communicate findings with other students.
6. Communicate essential information effectively within their small group and with others in the context of a formal presentation.

Assessment of Interpersonal and Communication Skills

Outcomes for this competency will be evaluated in the setting of both the Small Group Problem Solving Sessions and the Genetic Conferences. In Small Group Sessions students will periodically evaluate themselves, other members of the group, and the group as a whole using **Form 3** (Section 18, SGPSS Assessment Form, Student Version). The faculty facilitator will also periodically evaluate each student's interpersonal and communication skills using **Form 4** (**SGPSS Assessment Form, Faculty Version)**. The Medical Genetics Project also affords opportunities to evaluate students' abilities to communicate with and teach faculty and peers by means of written information posted to the web forum and an oral group presentation of a genetic disorder with slides. The Genetics Project, together with the forms that will be used by faculty facilitators and the course directors to evaluate verbal and written components of communication, are described in the section entitled **Medical Genetics Project Details**, which follows this course description. At course end, the course directors, consulting with faculty facilitators, will submit to the Medical School a global evaluation of a student's interpersonal and communication skills in MCBG on **Form 5** (Section 18, **End-of-course Competency Assessment Form**), which becomes part of a student's record.

3) Professionalism, Moral Reasoning, and Ethical Judgment Competency

Outcome objectives

By the end of this course, students must demonstrate a combination of knowledge, skills, attitudes, and behaviors necessary to function as a respected member of a learning team in both small group and large class settings. Students will:

1. Behave professionally.

2. Interact effectively with other small group members in the educational setting.
3. Recognize and effectively deal with unethical behavior of other members of the class, if encountered.

Assessment of Professionalism, Moral Reasoning, and Ethical Judgment

Outcomes for this competency will be evaluated in the context of the MCBG course based on observations of course directors, faculty facilitators and others. It is expected that students will be punctual, will come to class prepared, and will be respectful to their peers, to their teachers and to other course personnel. At course end, the course directors, consulting with faculty facilitators, will submit to the Medical School a global evaluation of a student's professional conduct on **Form 5** (End-of-course Competency Assessment Form), which becomes part of a student's record.

5) Lifelong Learning, Problem-solving, and Personal Growth Competency

Outcome objectives

By the end of this course students must demonstrate the knowledge, skills and attitudes needed to be able to use appropriate tools of evidence to identify and analyze books, reviews, online resources, and basic science reports for their applicability towards quality in healthcare and quality improvement. Students will:

1. Apply acquired knowledge effectively.
2. Locate, appraise, critically review and assimilate evidence from scientific studies and medical literature.
3. Use information technology learning resources to manage basic science information, access online information and support their own education.
4. Demonstrate a commitment to individual, professional and personal growth.

Assessment of Lifelong Learning, Problem-solving, and Personal Growth

The Medical Genetics Project affords opportunities to evaluate students' competencies in the above first three life-long learning outcomes. Students are expected to formulate a research strategy for collecting appropriate and meaningful information relevant to their topic, prepare an annotated bibliography describing their research strategy, identifying sources used in preparing their presentation, and justifying their slection. These materials will be evaluated by members of the library staff and the course director using evaluation tools described in the section entitled **Medical Genetics Project Details**, which follows this course description. Personal Growth will be monitored by student self-assessment. At the first Small Group session, each student will turn in a completed **Form 1** (**Pre-course Self-assessment and Goal Setting Form**). After 4 weeks, each student will turn in a completed **Form 2** (**Midcourse Self-assessment Form**) that will be discussed in the one-on-one student/facilitator meetings during week 5. At course end, the course directors, consulting with faculty facilitators, will submit to the Medical School a global evaluation of a student's life-long learning, problem-solving and personal growth competency in MCBG on **Form 5** (**End-of-course Competency Assessment Form**), which becomes part of a student's record. This evaluation will also be based on the quality of the student's library research and genetic presentation and observations of the student's small group facilitator(s).

9. SUMMARY OF ASSESSMENT FORMS

Form 1: Precourse Self-assessment and Goal Setting Form: to be completed by each student and turned in to the faculty facilitator at the first Small Group Problem Solving Session on July 31.

Form 2: Midcourse Self-assessment Form: to be completed by each student and turned in to the faculty facilitator by the end of week 4 (August 25, 2006). During week 4, facilitators will schedule individual formative feedback sessions for week 5 (August 28 - Sept. 1, 2006). The Midcourse self-assessments as well as SGPSS assessments will be discussed at these sessions.

Form 3: SGPSS Assessment Form, Student Version:
Form 4: SGPSS Assessment Form, Faculty Version:
There are two SGPSS Assessment Forms, a student version and a faculty version. Both forms assess interpersonal and communication skills, and professionalism. The student version is more explicit, describing the specific behaviors that individual members of a successful small group are likely to display. These forms will be used regularly for a "360º assessment": faculty facilitators will assess individual students; individual students will self-assess; individual students will assess their groups and their peers.

Feedback using these assessment form
s will be carried out in multiple ways: students will share self-assessments with their group on a regular basis (at least weekly); students will discuss group assessments and peer assessments within their group on a regular basis (at least weekly); facilitators will share their observations with the group on a regular basis; facilitators will meet individually with each student in their small groups during Week 5 of the course to give formative feedback.

Form 5: End-Of-Course Competency Assessment Form: to be completed by course directors with input from facilitators and staff members to report an overall summative assessment for the competency outcomes evaluated by examinations and by observations during SGPSS and the Genetics Project. Students are encouraged (but not required) to use the forms to self assess. Self-assessments must include comments to justify the rating. Completed forms are due October 6, 2006.

The competency grades are "Meets Expectations", "Meets Expectations with Concerns", or "Does Not Meet Expectations". Any grade of "Does Not Meet Expectations" or "Meets Expectations with Concerns" will be accompanied by a comment specifying what generated the concern and what needs improvement. **Competency grades are reported to a Council of Competency Directors that tracks the progress of individual students throughout all four years of the curriculum and becomes part of a student's record at Loyola**. A "Student Progress Committee", in consultation with the appropriate course and competency directors will assist students who fail to meet expectations in a particular competency to develop a remediation plan. Students that do not remediate a "Does Not Meet Expectations" or who have accumulated multiple "Meets with Concerns" in a given competency by the end of the year 2 can be prevented from proceeding to year 3. The evaluation of competency outcomes has become a feature of undergraduate and graduate (residency) medical education throughout the United States, and is not unique to MCBG or Loyola.

Course failures will be treated in accordance with Part I of the Academic Policy Manual.

Form 6: MCBG Genetics Project – *Research Assessment Form*: to be completed by the Coordinator for References & Education Services, Health Science Library, or a member of her staff.

Form 7: Medical Genetics Project – Presentation Assessment Form: to be filled out by facilitators and instructors in attendance.

Form 8: Genetics Project Grade Sheet – Presentation/Professionalism Component: to be completed by course directors with input from facilitators and instructors in attendance. The evaluation of materials submitted to the course directors will also contribute to this grade

Form 9: Genetics Project Grade Sheet – Research and Analysis Component: to be completed by the course directors with input from library staff. The evaluation of materials submitted to the course directors will also contribute to this grade.

10. TUTORING, LEARNING ASSISTANCE, AND COMPUTER LAB

It is the faculty's goal that every student successfully completes this course. To this end the faculty will provide assistance to any student requesting it. Consult Sections 11-13 for faculty office locations and telephone numbers.

Learning assistance is available from Beth A. Sonntag, M.Ad.Ed., Director of the Teaching and Learning Center. Her office location and phone number are: Room 255, 216-5447. She can provide help in such areas as test-taking skills, note-taking and study skills, managing stress, and managing time. Her service can also provide tutors for students that need additional help. ALL students are urged to consult the Teaching and Learning Center website, www.meddean.luc.edu/tlc, for a listing of services and scheduled workshops that are offered to students.

11. MOLECULAR CELL BIOLOGY AND GENETICS WEBFORUM

The student and faculty participants in this course have been placed into a computer webforum group to facilitate online discussion of learning issues. The webforum is accessed through LUMEN (Loyola University Medical Education Network) at www.meddean.luc.edu/lumen/meded/cellbio/index.htm. Students may post questions via the forum at any time, using their personal computers and modems from home or the networked computers in the computer lab (CALL). Faculty will check this online discussion daily and will post responses the same or next day. In addition, faculty may post additional information, practice questions, etc., that will enhance student understanding of lecture concepts. Student response to questions and faculty postings is encouraged and expected. We hope this discussion will bring the faculty and students together into an interactive learning community to enhance the quality of our collective understanding of the Key Concepts in this course.

12. COURSE LECTURE FACULTY

John Clancy, Ph.D., CHAIRMAN, CBNA[1], Bldg. 102, room 5653, X66352

Samuel Cukierman, M.D., Ph.D., Physiology, Bldg. 102, room 4626, X69471

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Andrew Dingwall, Ph.D., Pathology, Bldg. 112, room 334, X73141

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13. SMALL GROUP FACULTY FACILITATORS

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14. LAB FACULTY FACILITATORS

Lee Cera, D.V.M., Ph.D., Comparative Medicine, Bldg. 101, room 0745, X66746

John Clancy, Ph.D., CBNA[1], Bldg. 102, room 5653, X63353

Elizabeth Kovacs, Ph.D., CBNA[1], Bldg. 110, room 4221, X72477

Phong Le, Ph.D., CBNA[1], Bldg. 102, room 5637, X63603

Frederick Wezeman, Ph.D., Orthopedic Surgery, Bldg. 105, room 2882 X61165

Fletcher White, Ph.D., CBNA[1], Bldg. 101, room 0747, X66728

Pamela Witte, Ph.D., CBNA[1], Bldg. 102, room 5680, X63358

15. COURSE STAFF

Gregory Gale, Education Specialist, Bldg. 120, room 320, X67989

Mary Kay Olson, Laboratory Coordinator, CBNA, Bldg. 102, room 5624B, X66872

16. SMALL GROUP PROBLEM-SOLVING SESSIONS: ROOMS AND FACILITATORS

Room 340 – Allen Frankfater, Ph.D., Maurizio Bocchetta, Ph.D. - Facilitators
Groups 1, 2, 3

Room 350 - Michael Collins, Ph.D., Pamela Witte, Ph.D. - Facilitators
Groups 4, 5, 6

[1] Dept. of Cell Biology, Neurobiology and Anatomy
[2] Division of Molecular and Cellular Biochemistry, CBNA

Room 370 - Mary Manteuffel, Ph.D., William Simmons, Ph.D. - Facilitators
Groups 7, 8, 9

Room 380 - Earle Holmes, Ph.D., David Keating, Ph.D. - Facilitators
Groups 10, 11, 12

Room 440 - Richard Schultz, Ph.D., Facilitator
Groups 13, 14, 15

Room 450 – Samuel Cukierman, M.D., Ph.D., Gregory Mignery, Ph.D., Facilitators
Groups 16, 17, 18

Room 470 - Mitchell Denning, Ph.D., Kimberly Foreman, Ph.D. - Facilitators
Groups 19, 20, 21

Room 480 – Karen Visick, Ph.D., Carolyn Le Poole, Ph.D. - Facilitators
Groups 22, 23, 24

17. MEDICAL GENETICS PROJECT DETAILS

Project Description

This is an independent learning project and contributes approximately 52 points to the total of about 360 points that make up the final course grade (approximately 20 exam points, 16 presentation points – **Form 8**, and 16 research and analysis points – **Form 9**). Each small group is assigned a Core Genetic Disorder (table, section 7) and is responsible for identifying, researching and teaching appropriate topics related to the disorder – e.g. disease etiology, pathogenesis, phenotype and natural history, management, inheritance risk, and family, social, legal, and ethical issues, etc. to each other and to the rest of their class. It is not necessary or even desirable to research and present comprehensive coverage of all possible topics. The amount, level, and nature of knowledge and current research findings for each disorder varies, so that it should become apparent from your research which issues are most important to stress for your assigned disease.

A variety of resources are available to assist students in gathering information about their topic – textbooks, review articles, original research articles, and postings to governmental and private websites, and the appropriate electronic databases and tools to access them. Individual groups are required to meet with Jeanne Sadlik (Coordinator for References & Education Services, Health Science Library X65304; jsadlik@lumc.edu) or a member of her staff to discuss available resources and appropriate search strategies for retrieving relevant information. Ms. Sadlik and her staff have agreed to instruct, review and evaluate each student's search strategy. **Their review is a project requirement** (**Form 6**) **and must be completed by September 18**. The group should also meet as needed to teach each other what they have learned. The group should then develop an outline and plan a cohesive 45-minute group oral presentation that will be given to fellow students. Each group will also develop 1) a brief summary of the key information from their presentation and 2) a series of learning objectives for their topics. **The summaries, learning objectives and PowerPoint presentations must be posted to the web forum by Friday, September 22.** Contact Dr. Frankfater if problems arise. These documents will be available online to conference attendees to assist them in their note-taking and preparation for exam 3. **Approximately 20 questions on exam 3 will be based**

on these summaries and learning objectives. Some of the Core Genetic Disorders are also covered in Genetics in Medicine, 6th edition, revised (2004), by Nussbaum, McInnes and Willard.

Each student will be evaluated on their ability to conduct effective literature searches, critically evaluate scientific/medical literature, and effectively present/teach their topic (Section 8). To aid in this evaluation, **each student is required to submit the following: a written justification for their topic(s), (why is it important to learn about this aspect of this particular disorder?); a detailed description of research strategies, including *the list of search terms used in Medline*; an annotated bibliography for all resources used; PowerPoint slides and notes.** These materials are separate from those posted to the web forum. ALL materials from ALL groups are due on September 26, and must be submitted in digital form (e-mailed to the course director as a file attachment or handed in on a CD or 3.5" floppy disk). Each student must submit their own materials as a separate file identified by name and group, but it would be appreciated if the files of all group members are contained in a single e-mail, CD or floppy disk. Five points will be deducted for each late day beyond the due date.

Presentations have been scheduled for the afternoon of Sept. 25 (Conference A), and the morning and afternoon of Sept. 26 (Conferences B and C) as indicated in the course schedule. Groups in the third floor Learning Clusters will meet in the third floor Case Presentation Room (Rm. 360) and groups in the fourth floor Learning Clusters will meet in room 460. Each group will present a 45-minute talk (less for a 5-membered group), followed by a 5-minute question and answer period. There will be a 30 minute break between the second and third presentation, during which time refreshments will be served. The schedule has been arranged so that every student can attend all the presentations in either of the two case presentation rooms on Sept. 25 and 26.

Each presenter should begin by identifying themselves by name, stating the learning objectives specific to their topic, explain the importance of their topic, present what they have learned about their topic, and relate their topic to previous and/or subsequent presentations by members of their group. The first presenter should begin with an overview of the genetic disorder and a description of what topic(s) will be discussed by the group. Each presenter should conclude by emphasizing the essential "take-home" message(s) contained in their presentation. The last presenter in the group should briefly summarize the major "take-home" messages of all previous presenters.

Grading of the presentation component (16 points, **Form 8**, Presentation Grade Sheet) will be based on the quality of the PowerPoint slides, summaries and learning objectives posted to the web forum, the professionalism demonstrated by the presenters, and the quality of the individual and group presentations as judged by listeners (**Form 7**, Presentation Assessment Form). Grading of the research and analysis component (16 points, **Form 9**, Research and Analysis Grade sheet) will be based on evaluation of the written project scope, research strategies, and annotated bibliography (**Form 6**, Research Assessment Form, and submitted materials). Student performance on the Genetics Project can affect the evaluation of the Life-long Learning, Professionalism and Communications Competencies as reported for each student in the summative "End-of-Course Competency Assessment Form (**Form 5**). In addition, approximately 20 points of exam 3 will be based on the 12 Core Genetic Disorders. These questions will be drawn from the posted summaries and learning objectives on the course website. Details of the conferences including group assignments, times and locations of presentations were presented in section 7.

The following outline summarizes the requirements of the Medical Genetics Project and provides criteria and tips for their successful completion:

1. Write a brief justification for the topic that you will be presenting (evaluated by the course directors).

2. Prepare a written description of your research strategy that demonstrates effective use of information technology to perform online searches (to be reviewed and evaluated by Ms. Jeanne Sadlik, Coordinator for References and Educational Services, Loyola Health Science Library and by the course directors).
   a. Use appropriate database(s) and time-frame for online searches.
   b. Identify relevant, searchable subject headings, keywords, and concepts.
   c. Demonstrate a logical approach to narrowing searches.

3. Write an annotated bibliography that demonstrates the results of a critical evaluation of selected resources (to be submitted to and evaluated by the course directors).
   a. Select a variety of resources (minimum of 5; may include a combination of original research reports, recent review articles, book chapters, authentic and reliable web resources, etc.).
   b. Summarize major "take-home" points that you learned by reading the article, book chapter, website, etc., without recapitulating abstracts or textbook/website descriptions.
   c. Identify how and why each resource was used.
   d. Justify the reliability of each resource with specific evidence (e.g., peer reviewed journal, document or website produced by a professional society or a well-regarded public or private organization – American Medical Association, NIH, American Cancer Society – or a recognized expert or authority, etc.)
   e. Submit the written justification (1), search strategy (2), and annotated bibliography (3) learning objectives (4) and slides (5) to the course director by September 26 (e-mail, CD, or 3.5" floppy).

4. Prepare PowerPoint slides for use in teaching students about your topic (evaluated by the faculty facilitators and course directors).
   a. Create a title that is clear, represents the content and breadth of the topic, and grabs attention.
   b. Use a simple, consistent background for each slide.
   c. Identify a single main idea for each slide.
   d. Use key words or phrases in place of long or complex sentences.
   e. Enhance message with pictures, graphics, etc.
   f. Incorporate features (color, animation, transitions, etc.) that focus attention and/or emphasize concepts.
   g. Limit the total number of slides to about 5-7 per group member. (Note: multiple versions of the same slide count as 1 slide.)

5. Teach your topic to fellow students (evaluated by faculty facilitators and course directors)
   *a. **Write** a brief summary of key information from your presentation.*
   *b. **Write** two or three learning objectives per presenter. (These can be modeled after the course learning objectives that are used to guide student learning.)*
   *c. **Post** the brief summaries, learning objectives, and PowerPoint slides to the webforum by September 22 (all groups).*
   d. Devise strategies that elicit audience interest and aid recall.
   e. Tell the audience what you are going to say, say it, and then tell them what you have just said. (tell-say-tell)

f. Explain features of each slide and relate content to previous and subsequent slides.
g. Use a pointer to keep the audience focused.
h. Speak loudly enough to be heard, vary the intonations of your voice, do not rush your words, and avoid mumbling.
i. Whenever possible, maintain eye contact with all sections of the audience.
j. Exhibit a relaxed appearance and display a suitable enthusiasm for your topic.
k. Use strategies to involve the audience in active learning (ask questions, elicit responses, etc.)

6. Project a professional image in manner, dress, grooming and speech (evaluated by the faculty facilitators).
   a. Dress and groom in a manner appropriate for a professional conference.
   b. Demonstrate respect for the audience in content and delivery.
   c. Attribute sources where appropriate.

Summary of Requirements (Deadlines)

1. Attend required class meeting to discuss Genetics Project (1:30 PM, August 28)
2. Arrange group appointment with Ms. Jeanne Sadlik or a member of her staff (as soon as feasible)
3. Meet as a group to research, outline and plan presentation (9:30 AM, September 5, and other times to be arranged by group.
4. Obtain Library Staff approval of your search strategy, search results and annotated bibliography (no later than September 18).
5. Prepare presentation and post group summaries, learning objectives, and slides to web forum (September 22).
6. Submit required materials listed below to course directors (September 26)
   a. A written justification for the selection of your topic within the overall scope of the disorder
   b. An Annotated bibliography containing:
      i. a description of the research strategy used to identify the sources for the individual presentation;
      ii. a list of sources used (books, articles, websites, etc.) with appropriate attribution;
      iii. a description (very brief summary) of the information (major 'take-home points) learned from each of your sources; and
      iv. a certification/justification for the reliability of each of the sources used.
   c. Learning objectives identified by student contributor
   d. Slides identified by student contributor

Each student must submit their own materials as a separate file identified by name and group, but it would be appreciated if the files of all group members are contained in a single e-mail, CD or floppy disk.

Useful websites

www.geneclinics.org: presents detailed scientific reviews of specific genetic disorders, and labs and clinics that test for and treat specific disorders by state.

www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=OMIM: Online Mendalian Genetics in Man (OMIM) website and data base. Search morbid map (listed on left side of page) generates an alphabetical list of diseases, the affected genes involved and their locations

www.ncbi.nlm.gov/books/bv.fcgi?rid=gnd: Genes and Diseases website. The navigation tool on the left side of the page links viewers to specific classes of diseases. Clicking on a specific chromosome at the top identifies known diseases, associated genes and their locations on that chromosome. Clicking on the disease gene gives some basic information about the disease.

18. ASSESSMENT FORMS

Copies of the forms discussed in Section 9 (p. 10) are included on the following pages. Please review them carefully because they help define course expectations and they identify student outcomes that will be assessed.

FORM 1 Loyola University Chicago – Stritch School of Medicine
MCBG: PRECOURSE SELF-ASSESSMENT AND GOAL SETTING FORM

(After completing this page, make a copy to give to your small group facilitator on July 31, 2006.)

Your Name: _____

Undergraduate College: _____

Year of Graduation: _____ Major(s): _____

BRING TO FIRST DAY OF MCBG:

A. **Self Assessment:** Using the definitions below, indicate your current level of understanding (proficiency) for each of the 5 broad Medical Knowledge topics covered in MCBG (described on pages 2-3 of the Course Description) by placing an "X" in the appropriate box.

Definitions:
Novice - little or no exposure to terminology or content knowledge in this area;
Advanced Beginner - knowledge of terminology and basic concepts; can solve problems with help from source books; beginning to search for underlying reasons; uncertain when explaining basic concepts to others;
Competent - significant experience applying knowledge to solve common problems and analyze data without help from source books; requires consultation for complicated problems; generally able to explain basic concepts to others;
Proficient - able to apply knowledge to solve problems and analyze data in unfamiliar contexts; acts as consultant to others.

Level	Protein Structure & Function	Molecular Biology	Medical Genetics	Cell Biology	Basic Histology
Novice					
Adv. Beg.					
Competent					
Proficient					

B. Please describe your past learning and experience related to these content areas.

_____
_____
_____
_____
_____
_____
_____
_____
_____

C. Please describe any training and/or significant experience related to Interpersonal and Communication Skills, Professionalism, and Lifelong Learning/Problem Solving you have had.

D. Please describe **YOUR goals and expectations at this time** for each of the **4 Competency Goals** for this course.

1. Medical Knowledge:

2. Interpersonal and Communication Skills

3. Professionalism, Moral Reasoning, and Ethical Judgment

4. Lifelong Learning, Problem-solving, and Personal Growth

FORM 2

Loyola University Chicago - Stritch School of Medicine
MCBG: MIDCOURSE SELF-ASSESSMENT FORM

(After completing this page, make a copy to give to your small group faculty facilitator by August 25, 2006. Feedback sessions will take place August 28 – Sept. 1, 2006. Your SPGSS facilitator will give you directions for scheduling these individual sessions.)

Due Date: August 25, 2006

STUDENT:
_____

Write a short paragraph addressing the following questions:

1. Please review the goals and expectations you wrote in the precourse self-assessment for the 4 competencies that are evaluated for this course. What have <u>you</u> done to achieve your goals and expectations for this course? Are you achieving your goals and expectations for this course? Why or why not?

2. If you wish to revise your goals and/or expectations, please describe them in a short paragraph.

3. What do <u>you</u> plan to do in order to better meet your goals and expectations for this course?

FORM 3 **Loyola University Chicago - Stritch School of Medicine**
MCBG: SGPSS ASSESSMENT FORM, STUDENT VERSION

STUDENT (name)/GROUP No. (indicate self or other for an individual): _____

DATE: _____ASSESSOR: _____

(Please print above information. Mark the box indicating assessment type: ongoing or midcourse formative.)

Instructions:
Ongoing feedback: Observe your self and your group using the listed criteria for each outcome. Use these observations as the basis for specific feedback daily or weekly to groups or individuals. **This form should also be used to assess your own performance in the small group.** This form differs from that used by faculty facilitators in that it attempts to make explicit the kinds of behaviors that individual members of a successful small group are likely to display. Part I of the form identifies activities that are likely to promote a successful solution to the problem that the group is addressing in the approximate order in which the activities should occur. Part II identifies non-verbal communication skills and behaviors that contribute to a successful small group and that are likely to maximize the satisfaction of individual group members. Based on your observations use the following rating scale to evaluate whether and to what extent the group as a whole engages in the specific activity, whether the individual you are evaluating engages in that activity, or whether you engage in that activity. Circle the number to the right of each outcome objective that best represents your judgment for the activity described.

1 = Observed to a small extent; needs improvement (corresponds to does not meet expectations).
2 = Observed to a moderate extent; expected behavior inconsistently demonstrated (corresponds to meets expectations with concerns).
3 = Observed to a significant extent; ability at or above expected level (corresponds to meets expectations).

Part I. Communication and Problem Solving

COMMUNICATION (Opening)	1	2	3
Greeting: • *Acknowledges each group member at the beginning of the session in a positive manner* **Calibration:** • *Brief chat with other group members to assess potential barriers to communication (e.g. no sleep, illness, not prepared, etc.)*			
COMMUNICATION (Gatnering information)	1	2	3
Goal Setting: • *Reads problem before beginning* • *Discusses problem-solving goals and priorities* **Questioning:** • *Starts with open-ended question to review relevant information (e.g. Can we review topic A because it seems relevant to this problem?)* • *Progresses to focused questions to request specific information pertaining to problem (e.g. Can anyone define the term _____ in this problem? or How should we interpret this figure in this problem?)*			
COMMUNICATION (Achieving a solution)	1	2	3
Problem Content: • *Explicitly assures that everyone has the same understanding of terms and concepts* • *Identifies pertinent data to be analyzed* **Knowledge:** • *Acknowledges opinion versus fact* **Process:** • *Attempts to obtain information/opinions from all group members* • *Restates others' comments to clarify and/or indicate understanding* • *Uses flip chart for diagrams, lists, etc., to keep process group-centered* • *Avoids side discussions with other group members* • *Encourages group to reach agreement by consensus*			

Part II. Skills and behaviors

COMMUNICATION SKILLS (Non-verbal)	1	2	3
Eye Contact: • *Uses eye contact to convey interest and attentiveness* **Body Language:** • *Uses posture (upright), gestures (e.g. nodding) and sounds (e.g. "mmhmm") to convey interest, understanding and encouragement* **Silences:** • *Pauses (three or more seconds) to give others a chance to speak* • *Refrains from interrupting others*			
RELATIONSHIP SKILLS:	1	2	3
Respect: • *Open and honest about own strengths and weaknesses (knowledge, skills, attitudes)* • *Values others by acknowledging their efforts and contributions* • *Respectful of others' opinions and points of view* **Partnership:** • *Willingness to be helpful and work together*			
GROUP SKILLS	1	2	3
Ground Rules: • *Refers to ground rules to guide individual and group behavior* **Evaluation:** • *Promotes and participates in group evaluation of the group process after <u>every</u> session\ (Evaluation asks "how effective was our problem-solving process; did we address all the issues relevant to the problems; where can we improve"; NOT "were the problems solved".)* • *Participates in the evaluation of individual group members in a constructive and respectful manner* **Conflict Resolution:** • *Identifies areas of conflict and initiates strategies (discussion, resources, etc.) for resolving disputes in a timely manner.*			
PROFESSIONALISM	1	2	3
Demeanor: • *Conduct and dress is appropriate for the learning situation and does not detract from the group work* **Conduct:** • *Punctuality (arrives promptly, avoids keeping group waiting); explains lateness or absence; informs of known future absences* • *Honesty (admits errors, acknowledges any weaknesses or lack of preparation)* **Preparation:** • *Prepares for SGPSS by reading, attending lecture, and/or preparing learning objectives*			
PERSONAL DEVELOPMENT	1	2	3
• *Evaluates own performance in small group* • *Evaluates own performance in MCBG, sets goals, and devises strategies to achieve them*			

COMMENTS: <u>STUDENTS</u>: If using this form to self-assess, write what you think you do well and what you'd like to improve. Share this with your group members. If assessing another group member, write what you think that person does well and what they could improve (be specific). Share this assessment with the other group members.

FORM 4 **Loyola University Chicago - Stritch School of Medicine**
MCBG: SGPSS ASSESSMENT FORM, FACULTY VERSION

STUDENT or GROUP: _____ ☐ Ongoing Feedback
☐ Formative Assessmet

DATE: _____ASSESSOR: _____

(Please print above information. Mark the box indicating assessment type: ongoing or midcourse formative.)

Instructions:
Ongoing feedback: Observe the groups using the listed criteria for each outcome. Use these observations as the basis for specific feedback daily or weekly to groups or individuals.
Formative Assessment: Based on observations collected from ongoing feedback observations, use the following rating scale to evaluate each student's competencies. Circle the number to the right of each outcome objective that best represents your global judgment of the student's performance, and discuss each student's strengths and improvement opportunities. Use this for the scheduled Midcourse Formative Feedback Session. Final Assessment: The final assessment rating should reflect that needed improvements were observed and/or that abilities have been maintained at expected levels. The assumption is that all students will be "3 – at the expected level or better". Other ratings **must** be supported by specific comments justifying the rating.

1 = Does not meet expectations - observed to a small extent; needs improvement.
2 = Meets expectations with concerns - observed to a moderate extent; expected behavior inconsistently demonstrated.
3 = Meets expectations - observed to a significant extent; ability at or above expected level.

Please use the criteria listed for each outcome to determine your rating for this student or group.

COMMUNICATION: Use verbal language effectively:	1 2 3
• Helps to initiate the discussion. • Helps identify alternative solutions and discusses relative merits of each. • Promotes and participates in discussion to reach agreement by consensus.	
COMMUNICATION: Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, and questioning skills:	1 2 3
• Demonstrates interest and understanding. • Refrains from interrupting others. Encourage others to participate by waiting to comment. • Attempts to obtain information and opinions from all group members. • Regularly restates to clarify and/or indicate understanding. • Explicitly assures that everyone has same understanding of terms and concepts.	
COMMUNICATION: Use written language effectively:	1 2 3
• Use flip chart and/or board for diagrams, lists, etc. to keep process group-centered and open to other learning styles.	
COMMUNICATION: Facilitate the learning of other students, including giving effective feedback:	1 2 3
• Provides constructive, meaningful and nonthreatening verbal feedback to others in the group.	
PROBLEM SOLVING: Demonstrate an investigatory and analytic thinking approach:	1 2 3
• Participates in the definition of problem-solving goals before offering possible solutions. • Contributes to the identification and evaluation of pertinent data to be analyzed and alternative problem-solving strategies.	
PROFESSIONALISM: Behave professionally:	1 2 3
• Preparation (comes to the small group problem-solving session prepared) • Punctuality (explains lateness or absence; informs of known future absences) • Honesty (admits errors, acknowledges any weaknesses or lack of preparation) • Respect (acknowledges the efforts and contributions of others).	
PROFESSIONALISM: Interact effectively with other small group members:	1 2 3
• Refers to/obeys Group Ground Rules governing behaviors that promote group effectiveness • Identifies areas of conflict and initiates strategies (discussion, resources, etc.) for resolving conflicts in a timely manner.	

COMMENTS:

☐ **Ongoing Feedback**

FACULTY: On a regular basis, ask students to self assess, to assess another group member, and to asses their group (using the student version of the SGPSS Assessment Form). On a regular basis, use some time at the end of the SGPSS to point out to groups what their strengths are and what they could do to improve. Use the criteria listed above and base your comments on your observations. Be specific about the contributions of individual students and how individual students could enhance the SPGSSs. You may wish to collect all Ongoing Feedback forms in order to get an idea of students' progress in improving their abilities.

☐ **Formative Feedback Session**

FACULTY: Write a summary that includes all items discussed (what the student is doing well and what needs improvement at this time) and the improvement plan agreed on. Collected Ongoing Feedback forms will provide you with data for your discussion with each student. *Please relate comments to specific criteria listed for each outcome. You may also add comments related to specific criteria not listed, but please specify the criteria used.*

FORM 5

Loyola University Chicago - Stritch School of Medicine
MCBG: END-OF-COURSE COMPETENCY ASSESSMENT FORM

STUDENT: _____ DATE: _____

(Please print above information.)

Instructions:

For determining Course Competency Grade (Faculty): Using the following rating scale, indicate your overall summative assessment of this student, based on the listed outcomes for each of the **3** competencies by circling the number to the right that best represents your judgment. Consider SGPSS Assessment criteria and the Medical Genetics Project criteria when making your decision. **Any rating other than a "3" must be accompanied by a short paragraph using specific examples to explain the basis of the assessment**.

For Student Self Assessment: Using the following rating scale, indicate your self-assessment for each of the 3 competencies, based on the listed outcomes, by circling the number to the right that best represents your judgment. Consider SGPSS and Medical Genetics Project criteria, as well as reflection on other course experiences you have had to make your judgment. **Any rating other than a "3" must be accompanied by a short paragraph using specific examples to explain the basis of the assessment**.

Completed forms must be returned to the Course Educational Specialist by October 11, 2006.

1 = Does not meet expectations
2 = Meets expectations with concerns
3 = Meets expectations

MEDICAL KNOWLEDGE	1 2 3
• Has a knowledge of fundamental facts and principles of Protein Structure-Function, Molecular Biology, Cell Biology and Genetics	
INTERPERSONAL AND COMMUNICATION SKILLS	1 2 3
• Use verbal language effectively. • Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, and questioning skills. • Use written language effectively. • Facilitate the learning of other students, including giving effective feedback. • Use information technology to manage information, access online information and communicate findings with other students. • Communicate essential information effectively within their small group and with other students in the class.	
PROFESSIONALISM, MORAL REASONING AND ETHICAL JUDGEMENT	1 2 3
• Behave professionally. • Interact effectively with other small group members in the educational setting. • Recognize and effectively deal with unethical behavior of other members of the class.	
LIFELONG LEARNING, PROBLEM-SOLVING AND PERSONAL GROWTH	1 2 3
• Locate, appraise, critically review and assimilate evidence from scientific studies and medical literature. • Use information technology learning resources to manage basic science information, access online information and support their own education. • Demonstrate an investigatory and analytic thinking approach in SGPSS and course projects. • Demonstrate a commitment to individual professional and personal growth.	

Comments:

FORM 6 **MCBG Genetics Project – *Research Assessment Form***

Student Name: _____

Identify issues related to your topic	
Formulate your search question	
Identify background information or textbook discussion	
Use Internet to find related organizations, images, websites	
Select appropriate database to find current information	
List key concepts for search query	
Perform effective search strategy	
Annotated bibliography with appropriate citations	

Meets Expectations	
Meets Expectations with concerns	
Does not meet Expectations	

Comments:

_____

_____

_____

_____

_____

_____

Signature/Date

_____

MCBG: MEDICAL GENETICS PRESENTATION ASSESSMENT FORM

GROUP NO: _____ TITLE:
_____

DATE: _____ ASSESSOR: _____

Instructions for Individual Assessment: Using the following rating scale, enter the appropriate number for each attribute listed for each student.

1 = NEEDS IMROVEMENT
2 = ACCEPTABLE

Individual Presentation Attributes	**Student Name**					
Professionalism						
Appropriate dress and grooming.						
Attributed sources where appropriate.						
Demonstrated respect for audience.						
Communication - Verbal						
Identified themselves by name						
Clear introduction, middle, and conclusion.						
Effectively explained important features of each slide.						
Effectively used pointer to keep audience focused.						
Clear voice (loudness, no mumbling) throughout presentation.						
Rate of speech appropriate throughout presentation.						
Varied voice intonations to keep audience interest.						
Demonstrated no nervous habits that distracted from presentation.						
Did not read notes excessively or at all.						
Communication - PowerPoint Slides						
Each slide had a clear title that identified a single main idea						
Key words were used in place of lengthy sentences						
Pictures, graphics, etc. were used to focus attention and emphasize concepts						

Instructions for Group Assessment: Using the following rating scale, circle the appropriate number for each attribute listed for this Group.

1 = NEEDS IMPROVEMENT
2 = ACCEPTABLE

Group Presentation Attributes	
Presentation had a clear organizing theme, with clear main ideas and overall conclusion.	1 2
Relationships between the topics within the presentation were clearly explained and made sense.	1 2
All slides within presentation had a consistent background/theme.	1 2
Each presenter understood the previous and subsequent presentations and how they related to their own topic.	1 2
Enthusiasm for presentation was high and maintained throughout presentation.	1 2
Group effectively involved the audience in active learning.	1 2
Presentation took up the time allotted (not too long or too short)	1 2

For each attribute noted as "Needs Improvement", please write specific comments related to individuals or the group below and on the back of this form.

FORM 8

MCBG GENETICS PROJECT
Grade Sheet: Presentation/Professionalism Component

Name: _____

Competency: Interpersonal and Communication Skills

Outcomes Assessed:

- ***Use written and verbal language effectively.***
- ***Use information technology to manage information and communicate findings with other students.***
- ***Facilitate the learning of other students.***
- ***Communicate essential information effectively.***

Competency: Professionalism

Outcomes Assessed:

- ***Behave professionally.***

Abilities: criteria	**Possible Points**	**Points Earned**
PowerPoint slides were an aid to student learning. Clear titles that identified single main idea for each slide Simple consistent background Used key words, not complete sentences Enhanced message with pictures, graphics, etc. to focus attention and emphasize concepts	4	
Teach your topic to fellow students.		
Wrote 3 learning objectives.	2	
Posted PowerPoint slides and learning objectives to webforum	2	
Communicated effectively (from Genetics Presentation Assessment Form - requires mostly 2's for full credit)	3	
Worked effectively as part of a group (from Genetics Presentation Assessment Form – requires mostly 2's for full credit)	2	
Project a professional image in manner, dress, grooming and speech (from Genetics Presentation Assessment Form)**.**		
Dress and grooming were appropriate for a professional conference.	1	
Demonstrated respect for audience in delivery and discussion.	1	
Attributed sources where appropriate.	1	
TOTAL	16	

FORM 9

MCBG GENETICS PROJECT
Grade Sheet: Research and Analysis Component

Name: _____

Competency: Lifelong Learning, Problem-solving, and Personal Growth		
Outcomes Assessed: • ***Locate, appraise, critically review and assimilate evidence from scientific studies and medical literature.*** • ***Use information technology learning resources to manage basic science information, access online information, and support your own education.*** • ***Demonstrate an investigatory and analytic thinking approach.***		
Abilities: criteria	**Possible Points**	**Points Earned**
Write a description of your research strategy that demonstrates effective use of information technology to perform online searches.		
Use appropriate database(s) and time frame.	2	
Identify relevant, searchable concepts.	2	
Demonstrate a logical approach to narrowing searches.	2	
Write an annotated bibliography that demonstrates the results of a critical evaluation of selected resources.		
Select a variety of resources.	2	
Summarize major take home points you learned.	3	
Identify specifically how and why each resource was used.	4	
Justify reliability of each resource.	1	
TOTAL	16	