

HONORS OPPORTUNITIES
IN THE
COLLEGE OF PHARMACY
UNIVERSITY OF MINNESOTA
2006-2007

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THE HONORS PROGRAM IN THE COLLEGE OF PHARMACY

When you join the Honors Program you join a large group of students University-wide who are committed to accessing the best educational opportunities the University has to offer. This is your opportunity to learn all that you can learn, to achieve all that you can achieve, to be all that you can be.

The Honors Program was established in the College of Pharmacy in 1982 as part of a University-wide effort to provide expanded learning opportunities for outstanding students. The program provides interested students with opportunities to interact with faculty, develop new and specialized skills, learn about research, enhance their professional development, and earn additional recognition for achievements made while students in the College. The program in the College is part of a University-wide system of Honors Programs in the various academic units. In 1999 the University Senate mandated university-wide changes in Honors Programs intended to achieve more uniformity across campus. Efforts are currently being made to link the various Honors Programs together to make available expanded opportunities for honors students in all the academic units. These honors programs have been linked to other recognition mechanisms so that the only way Latin designations for graduation with distinction (*summa cum laude*, *magna cum laude* and *cum laude*) can be given at the University of Minnesota is through participation in an Honors Program. Perhaps in keeping with Minnesota's traditions of egalitarianism, it was felt that these distinctions should not be given for just high grades alone.

BENEFITS OF PARTICIPATION IN THE HONORS PROGRAM

The greatest benefits of the Honors program are intangible. Below are some of the more tangible ones.

1. Meet and get to know professors in the College and practitioners in the community. They may be useful sources of letters of reference.
2. Learn about research.
3. Learn about the profession.
4. Develop specialized skills in the laboratory or clinic.
5. Take advanced courses in your areas of interest.
6. Graduate with the honors distinction in one of the following categories:

	G.P.A.
<i>cum laude</i>	3.50 - 3.65
<i>magna cum laude</i>	3.66 - 3.74
<i>summa cum laude</i>	3.75 - 4.00

7. Demonstrate your commitment to excellence.
8. It will look good on your resumé.

GRADUATION "WITH DISTINCTION"

Although completing the Honors Program is the only way to graduate with a Latin designated honors designation, it is possible for students to also graduate from the College of Pharmacy "with distinction," if they graduate with a cumulative G.P.A. of 3.75 or higher in required College of Pharmacy curriculum course work. Similarly, they will have the option of graduating "with high distinction," if they have a cumulative G.P.A. of 3.90 or higher. Students who have completed the Honors Program will have the option of graduating with both the

“*summa cum laude*” designation plus the appropriate "with distinction" or "with high distinction" designation.

The Honors Program offers the advantage of allowing students to graduate with Honors at a G.P.A. lower than those required by the “with distinction” system, and more people know what the Latin designators mean. Students who are concerned that their G.P.A. might slip below 3.75 would be well advised to begin the Honors Program early, if they wish to graduate with some form of honors recognition.

TYPES OF HONORS ACTIVITIES

People in the Honors Program must accumulate at least 5 honors credits in order to graduate with one of the honors distinctions. To earn an honors credit a student participates in special, enrichment-type of activity. It is a mandated, University-wide requirement that Honors activities be above and beyond the normal educational experience; i.e., an overload. The following are some examples.

1. Laboratory research projects.
2. Clinical research projects.
3. Social science research projects.
4. Pharmacy education research projects.
5. Library research projects.
6. Oral presentations, e.g., a seminar.
7. Coursework-associated projects.
8. Students Helping Students tutorial program.
9. Other community service projects.
10. Honors courses for credit (see below for more details).
11. Student-designed projects.

If you can design a project that you think would make a good honors project, even if it isn't on the list, you are encouraged to approach a faculty member that might be interested in the area or approach the honors coordinator about having it approved. Some particularly large and demanding projects may be approved for two honors credits, but it is more desirable to break a large project up into logical pieces, if possible, and present them for approval as two separate projects. In general, you should have no more than two honors options with the same professor, and have at least three different advisors for the five options. One the goals of the program is to provide a vehicle for students to meet the faculty; this goal is not served if students do too many of their options with one faculty member.

Another thing to consider in designing honors projects is other programs and activities in the College. The UROP program has been particularly useful in this regard. Students might use their UROP project as one option (if their adviser approves) and a written a research report or background information paper related to it for a second honors option. Learning to obtain double or even triple credit for the things you do is part of becoming an efficient professional, and it may be the most valuable lesson you learn from the Honors Program. Usually a brief written report is required on completion of a project that doesn't otherwise generate a written final product.

ELIGIBILITY FOR PARTICIPATION IN THE HONORS PROGRAM

Eligibility requirements in the various Honors Programs at the University vary substantially; a grade point average of 3.50 has been generally adopted as the eligibility requirement. Currently, the most liberal possible interpretation of this limit is used in the College of Pharmacy, UM-TC. That is, the Honors Program is open to all students who had a G.P.A. of 3.50 or more in previous coursework before admission, or who have achieved a G.P.A. of 3.50 or more while in the College, or who expect to bring their G.P.A. up to 3.50 or more by the time they graduate. However, the *cum laude* designation will be awarded on graduation only to those students who actually do get the G.P.A. for their College of Pharmacy coursework up to 3.50 or more. Students who do not expect to be able to get their G.P.A. up to 3.50 by graduation would usually be well-advised to focus their efforts on their coursework.

REQUIREMENTS FOR SUCCESSFUL COMPLETION OF THE HONORS PROGRAM

Successful completion of the Honors Program is accomplished by accumulating five (5) honors options, including at least one honors project. All five options may be honors projects or the five may be a mix of honors courses plus honors projects. Projects do not have to be completed by the end of the semester in which they were begun, but all five do have to be completed by one week before graduation. This deadline gives the printer time to designate you as an Honors graduate in the graduation program.

HONORS COURSES

The College of Pharmacy offers several honors courses listed below. Some of these are advanced courses taught concurrently with a graduate course. Several are seminar courses in which the honors student may give a single formal 50-minute seminar on a topic of importance in recent research. In the other weeks of the semester other honors students or graduate students give similar talks. Other honors courses consist of didactic lectures. Most can be used as career tracking electives, particularly in the Research and Graduate Studies track. They will require approval by your adviser, but they usually will not be difficult to get approved. If approved, you will simultaneously satisfy requirements for both career tracking electives and honors options. You may accumulate up to 4 honors options this way. Please note that each honors course provides only one honors option, even if it is a 3- or 4-credit course. A list of honors courses being offered the following semester will be distributed with registration materials each semester.

Please note that some honors courses have as a prerequisite the consent of the instructor. In order for you to register you will need to have approval of the instructor. Before giving approval to release a “magic number” to you, the instructor will determine if you have sufficient background to be able to benefit from the course. For some of the courses listed below very extensive background is required, and it is expected that only rarely will honors students be found to have sufficient background. If a student is not adequately prepared for a course, it makes the semester very difficult for both the student and the professor.

(Abbreviations: prereq #, prerequisite is consent of the instructor; cr, credit)

Phar 6150H. MEDICINAL CHEMISTRY SEMINAR. (1 cr; prereq #, A-F only)

Current topics in medicinal chemistry.

Phar 6230H. SOCIAL AND ADMINISTRATIVE PROGRAM SEMINAR. (1 cr, prereq #)
Contemporary issues related to social/behavioral aspects of pharmacy practice.

Phar 6246H. CHEMICAL ASPECTS OF DRUG METABOLISM AND BIOACTIVITY. (2 cr;
prereq #, A-F only)
Chemical/enzymatic mechanisms of biotransformation/bioactivation of drugs and other xenobiotics. Reactivity/fate of bioactivated metabolites. Taught every other year.

Phar 6247H. ADVANCED CONCEPTS IN DRUG DESIGN. (2 cr; prereq #; A-F only)
Current approaches to rational design of drugs.

Phar 6260H. PHARMACEUTICS SEMINAR. (1 cr; prereq #; A-F only)
Contemporary topics in pharmaceuticals research.

Phar 6262H. BASIC PHARMACOKINETIC MODELING. (2 cr; prereq Phar 6163; A-F only)
Computer simulation of compartmental/physiologic modeling in pharmacokinetics. Additional project.

Phar 6270H. CRITICAL CARE SEMINAR.

HOW TO SET UP AN HONORS PROJECT

The usual approach to setting up an honors project is to identify a faculty member whose coursework teaching or research activities interest you. It is then up to you, the student, to approach the faculty member and express your interest in working on an honors project with him/her. The following sections list faculty members who have responded to a survey inquiring who was interested in serving as advisers to honors students. If the faculty member you would like to work with is not on the list, do not hesitate to approach him or her anyway. There are lots of reasons why faculty might not have responded to the survey even if they are interested (e.g., they may have been on leave at the time, or never received the survey e-mail). It helps to have some idea of the type of project in mind when you approach the faculty member. Term papers are usually easy for a faculty member to accommodate, particularly if you can identify an area that interests both of you. Your term paper, if you do your literature search well, can serve to bring the faculty member up to date in the area. Faculty members are also usually very responsive to projects that would involve you teaching all or part of a lecture in one of their courses, either to your own class or to lower classmen. Laboratory research projects are also a possibility, but you should be aware that they are usually more demanding on the faculty member than on the student. Usually it takes about 3 months in the laboratory before students can develop enough skill so that it doesn't take longer for a faculty person to teach the student to something than to do it him or herself.

The most frequently used project advisers are probably faculty members currently teaching one of the student's courses. However, you are strongly advised to seek project advisers among your preceptors, employers or clinical faculty you may not have yet met in courses. If that person isn't on the faculty, the Honors Coordinator can approve the project.

When you have completed your project, have your project adviser send a memo to that effect to the Honors Coordinator. Alternately, complete and have signed a copy of the Honors programs Credit Report Form found on the last page of this booklet. Include also a copy of the project, if it is in written form.

If your honors option is an honors course, register for the course using the appropriate call number. When you have completed the course, make certain that Robin Stouder or the professor in the course sends a memo to the Honors Coordinator listing the honors students that have completed an Honors option by means of the course.

FACULTY WHO HAVE EXPRESSED INTEREST IN ADVISING HONORS STUDENTS ON PROJECTS

The following is a list of faculty members who have responded to annual surveys inquiring who was interested in serving as advisers to honors students. You can be assured that each of these faculty members is, at least under normal circumstances, receptive to the idea of your doing an honors project with them. If the faculty member you would like to work with is not on the list, do not hesitate to approach him or her anyway.

In the survey faculty members were invited to suggest projects they might be interested in offering to honors students, and some specific topics for library research papers (term papers). The latter might be (i) specific coursework subjects covered in their lectures, (ii) subjects peripheral to the faculty person's teaching or research interests that they would like to be brought up to date on, or (iii) completely off-the-wall topics of marginal interest to the faculty member that might nevertheless spark a lot of interest in a particular student. For each faculty member the list of topics given should not be considered exhaustive - it is very likely he or she will have come up with several new ideas since the survey questionnaire was completed.

A. DULUTH FACULTY WHO HAVE EXPRESSED INTEREST IN ADVISING HONORS STUDENTS

Grant W. Anderson

1. A library research project (term paper) on any topic of mutual interest. Specific areas of interest include: hormonal control of brain development, lipid metabolism and cancer; control of cholesterol and lipid metabolism by drugs interacting with orphan nuclear receptors; retroviral infections of the central nervous system; treatment of central nervous system injuries; and transport mechanisms within the central nervous system.
2. A laboratory research project in one of the following areas: hormonal control over brain development, drug and hormonal control over lipid metabolism, and attention deficit and hyperactivity disorder.

Melissa Bumgardner

1. A short paper on any educationally relevant, curriculum-oriented topic, such as technology (e.g. use of PDAs in curricula), problem based learning, etc.
2. Literature search/review on any topic related to new/innovative teaching methodologies used in colleges of pharmacy.
3. Development of learning materials to be used in courses taught by the Office of Educational Development.
4. A clinical practice research project on the impact of pharmaceutical care (and/or other pharmacy services) on the quality of care or prescribing practices provided in ambulatory care or community pharmacy practice.

Haim Einat

1. A number of research projects related to validating animal models for bipolar disorder.
2. A research project exploring the involvement of mTOR inhibition in affective disorders.

Michael P. Gulseth

1. Develop a warfarin initiation protocol for outpatient use.
2. Investigate the literature and reimbursement for home INR monitoring for the SMDC health-system. The end result of this project will be deciding if SMDC should invest in forming the system infrastructure to support patients doing home INR monitoring.

Venkatram R. Mereddy

1. A library research project (term paper) on any topic of mutual interest. Specific areas include: natural products in cancer chemotherapy, boron neutron capture therapy, monoclonal antibodies as therapeutics, cancer chemoprevention, and statin drugs as cholesterol lowering agents.
2. A laboratory research project in one of the following areas: stereoselective syntheses of new generation anticancer agents, rational design and syntheses of antifolate drugs, and development of novel methodologies for targeted drug delivery.

Ayman A. Noreddin

1. A library research paper (term paper) on any topic of mutual interest. Specific areas of interest include the following: role of infection in the pathogenesis of atherosclerosis, effect of stress of the immune system, and pharmacokinetics and pharmacodynamics of antibiotics.
2. Laboratory research project in one of the following areas: pharmacokinetics and pharmacodynamics of antibacterials.
3. Computer based research in the area of clinical pharmacokinetics.
4. Clinical research in the area of antibiotics use in the community.

Jon N. Rumbley

1. A library research paper (term paper) in the following areas: molecular evolution, directed evolution, single-chain antibody construction and expression, single-chain antibody use in human disease, ligand binding optimization using phage display and/or directed evolution, protein folding/unfolding, protein stability, phylogenetics, and pharmacogenetics of membrane transport proteins.
2. Develop and deliver a full lecture in Biochemistry of Medicinals I or II.
3. A laboratory research project in the area of protein folding or protein thermodynamics using cytochrome c as a model system.
4. A research project evaluating quantitative structure-activity relationships (QSAR) of organic anion transporting proteins.

Gregory E. Rutkowski

1. A library research project (term paper) on any topic of mutual interest. Specific areas include neural tissue engineering, bioreactor design, gene therapy, microencapsulation, drug delivery, biomaterials.
2. A laboratory project in one of the following areas: engineering of neural tissue, *in vitro*, for use in surgical repair; tumor tissue based bioreactor for pharmaceutical production; delivery of hydrophobic cytotoxic agents; microencapsulation of single cells for delivery and microcontrol of tissue growth.
3. A student designed project related to the areas of tissue engineering, gene therapy, pharmaceutical engineering, drug delivery, or biomaterials.

Sarah M. Westberg

1. A library research project (term paper) on any topic of mutual interest. Specific areas of interest include: impact of pharmacists on chronic disease management, and a systematic review of treatment options for a disease state managed in an ambulatory care setting.
2. A clinical practice research project on the impact of pharmaceutical care (and/or other pharmacy services) on the quality of care or prescribing practices provided in ambulatory care practice.
3. Development and delivery of a seminar, designed and given to internal medicine providers or community pharmacists.
4. Other projects mutually agreed upon with student.

Marcia M. Worley

1. A library research paper (term paper) on any topic of mutual interest. Potential topic areas include the following: pharmacist-patient relationships and the medication use process in diabetic patients; application of self-efficacy theory to study patient medication use; application of relationship marketing theories to investigate pharmacist-patient relationships.
2. A social science research project in the area of diabetic patient's medication management behaviors and pharmacist-patient relationships.
3. A social science research project in the area of survey development to investigate pharmacist-patient relationships.

B. ON-CAMPUS TWIN CITIES FACULTY WHO HAVE EXPRESSED INTEREST IN ADVISING HONORS STUDENTS**Yusuf Abul-Hajj**

1. A library research paper (term paper) on any topic of mutual interest.
2. Deliver part of or all of one lecture in one of his courses to either your class or to a lower class.
3. A laboratory research project in collaboration with one of his graduate students or postdoctoral fellows.

James C. Cloyd

1. A term paper on a topic of mutual interest in the general area of clinical neuropharmacology or neurotherapeutics.
2. A research project on some topic in the general area of clinical neuropharmacology or neurotherapeutics.

Earl W. Dunham

1. A library research paper (term paper) in the area of studies on the biosynthesis vasoactive mediators produced by endothelial cells and by the intact kidney.
2. A focused, concise laboratory research project on the same subject, using cultured mammalian cells.

Ronald S. Hadsall

1. A library research paper (term paper) on any topic of mutual interest.
2. Specific areas of interest for library research papers include the following: pharmacy economics issues, managed care issues, and pharmacy management issues.
3. A research project on an issue in managed care.
4. A research project on an issue in cost-effectiveness of drugs.

Patrick E. Hanna

1. A library research paper (term paper) on any topic of mutual interest.
2. A specific area of interest for a library research paper is the relationship of genetic factors to the metabolism and toxicity of various drugs and environmental chemicals.

Brian Isetts

1. A library research paper (term paper) on any topic of mutual interest.
2. Data analysis for a clinical research project "Effects of Collaborative Pharmaceutical Care on Achieving Therapeutic Outcomes."

Kristin K. Janke

1. A short paper on any educationally relevant, curriculum-oriented topic, such as technology (e.g. use of PDAs in curricula), problem based learning, etc.
2. Literature search/review on the use of performance exams, such as OSCE, for assessment of pharmacy student competency.
3. Literature search/review on the use of milestone or progress (written) exams for assessment of pharmacy student competency.

Rodney L. Johnson

1. A library research paper (term paper) on recent advances in the development of new therapeutic drugs that relate to one of the drug classes taught by me in Medicinal Agents I (Phar 6154).
2. Laboratory research project. Research interests of my laboratory include the design and synthesis of peptidomimetics, modulation of dopamine receptors and excitory amino acid receptor ligands.

Michael Kotlyar

1. A library research paper (term paper) on a topic of mutual interest likely related to nicotine addiction or physiological response to stress
2. Involvement in ongoing clinical research project
3. Analysis and interpretation of data from clinical research studies

Tom A. Larson

1. A library research paper (term paper) on any topic of mutual interest.
2. Conduct class demonstrations in Dermatology (Fall semester). For example, prepare and conduct a demonstration in class on the use of wet dressings.
3. Assist in the construction of a rural pharmacy web site.

Pamala Jacobson

1. A library research paper (term paper) on any topic of mutual interest.
2. Research projects related to oncology or bone marrow transplantation. Examples are bench top and clinical research projects related to pharmacokinetics, metabolism and pharmacodynamics of antineoplastics and immunosuppressants.

Thomas E. Lackner

1. Research projects on pharmacoeconomic analysis of pharmacotherapy.
2. Research projects on pharmacoeconomic analysis of clinical outcomes.

Henry J. Mann

1. A library research paper (term paper) on any topic of mutual interest. Specific areas of interest for library research papers are various critical care topics including cardiology, hemodynamics, fluids and electrolytes, antibiotics, monoclonal antibodies, ARDS, organ failure, pharmacokinetics and stress ulcer prophylaxis.
2. Data analysis for clinical research projects.
3. General pharmacotherapy reviews.

Rory P. Rimmel

1. A library research paper (term paper) on any topic of mutual interest.
2. Specific areas of interest for library research papers include the following: a) advanced methods in quantitative drug analysis including supercritical fluid gas chromatography, chiral separations of drugs on cyclodextrin columns, ion spray mass spectrometry, capillary zone electrophoresis, and enzyme immuno-chromatographic assays; b) research topics on antiepileptic drugs and their interactions (e.g., write a paper on a new investigational anticonvulsant such as flunarazine, felbamate, topinamate, etc.); c) research topics on AIDS drugs (e.g., prodrug strategies for brain delivery of nucleosides, or investigational nucleoside AIDS compounds).
3. A laboratory research project (~6 hours/week) in the area of antiepileptic drug interactions, specifically mechanisms and models.
4. A laboratory research project (~6 hours/week) on the development of a bioartificial liver.
5. A laboratory research project (~6 hours/week) in the area of assay development for drugs used for treatment of AIDS.

John Rotschafer

1. Research projects on antibiotic pharmacodynamics.

Ronald J. Sawchuk

1. A library research paper (term paper) on any topic of mutual interest.

W. Thomas Shier

1. A library research paper (term paper) on any topic of mutual interest.
2. Specific areas of interest for library research papers include the following: TGF- β as an immunosuppressant; clinical studies on recombinant erythropoietin; anti-inflammatory activity of IL-1 receptor blockers; clinical uses of insulin other than treatment of diabetes; manufacturing processes for biotechnology-derived pharmaceuticals.
3. Deliver part of or all of one lecture in my course Recombinant DNA-derived Drugs, Phar 6158, to either his/her class or to a lower class.

Todd D. Sorensen

1. Residency program seminar. The seminar meets weekly (Wednesday afternoons) and consists of pharmacotherapeutic topic discussions, case presentations, grand rounds. Honors students could participate in the various discussions that occur during the year. For completion of the experience, the student would be expected to prepare and deliver a grand rounds presentation once during the year.

Robert J. Straka

1. A library research paper (term paper) on any topic of mutual interest.
2. Specific areas of interest for library research papers include the following: a) Clinical consequences of stereopharmacology; and b) Clinical consequences of polymorphic drug metabolism.

Shana J. Sturla

1. A library research paper (term paper) on any topic of mutual interest.
2. Carry out library research on a topic of mutual interest and present a seminar on the topic to a group of medicinal chemistry researchers.
3. Specific areas of interest for research papers and seminars include the following: a) experimental methods for DNA amplification and sequencing, b) mechanisms of specific classes of drug-metabolizing enzymes, c) DNA-alkylating anticancer agents
4. Nuclear Magnetic Resonance (NMR) is an important technique for determining structures of modified nucleic acids that may play a role in the development of cancer. An interested student could contribute to the development of a database compiling literature NMR values and structures.

Raj G. Suryanarayanan

1. A library research paper (term paper) on any topic of mutual interest.
2. Students serving as tutors/teaching assistants in my course. The student need not be a tutor for the entire semester. He/She can work only in those sections in which they feel they have interest/expertise.
3. Learn some specific research techniques by working under the supervision of a graduate student in my laboratory.
4. Survey pharmacists and collect questions/concerns regarding drug products. These may be questions raised by the pharmacist or questions that the patients have asked the pharmacist. (For example: A suspension formulation should have been refrigerated. However, the patient forgot to refrigerate it. Is the product still usable?) The next phase of the project will be to attempt to answer the questions raised. This will be done through a literature search and also by contacting the manufacturers.

Timothy S. Tracy

1. A library research paper (term paper) related to studies including the following: drug metabolism, drug-drug interactions, pharmacogenetics, drug transporters, pharmacokinetics of drugs in pregnancy and cervical delivery of drugs.
2. A laboratory research project (~6 hours/week) in the area of cytochrome P450 mediated drug metabolism.
3. A laboratory research project (~6 hours/week) in the area of in vitro prediction of drug interactions.

Natalia Tretyakova

1. Small laboratory research projects related to the mechanisms of antitumor drug interactions with DNA.

Timothy S. Wiedmann

1. A library research paper (term paper) on any topic of mutual interest.
2. Specific areas of interest for library research papers include the following: novel dosage forms; delivery problems associated with protein and peptide drugs; any aspect of lung surfactant including delivery, formulation, clinical effectiveness, etc.; transdermal drug delivery; any aspect of normal or diseased epidermal tissue, any aspect of aerosol or respiratory drug delivery.
3. A project on any area touched upon in Pharmaceutic courses that the student wishes to pursue.

Chengguo Xing

1. A library research paper (term paper) on any topic of mutual interest.
2. A library research paper (term paper) with the specific topics on: a) recent advances in the development of new anticancer drugs; b) research topic in cancer biology; and c) research topic in combinatorial chemistry.
3. A laboratory research project (~6 hours/week) in the area of synthesizing anticancer agents in collaboration with one of his graduate students or postdoctoral fellows.
4. A laboratory research project (~6 hours/week) in the area of over-expressing proteins in collaboration with one of his graduate students or postdoctoral fellows.

Cheryl L. Zimmerman

1. Laboratory projects in basic pharmacokinetic research.
2. Computer projects with the use of standard pharmacokinetic software.

OFFICE OF EDUCATIONAL DEVELOPMENT**Priya Bardal**

1. Analysis of survey data on the outcomes of our online course work.
2. Assist in running focus groups to better understand pharmacist opinions on educational programs.
3. Locate and review websites with resources in various topic areas to be included in online resource centers.

C. FACULTY AT UNIVERSITY OF MINNESOTA COLLEGE OF PHARMACY, DULUTH WHO HAVE EXPRESSED INTEREST IN ADVISING TWIN CITIES HONORS STUDENTS**Melissa Bumgardner**

1. Draft educational materials (e.g. handouts, presentations) for a variety of online courses delivered to undergraduate and/or other health professions students.
2. Participate in data analysis and/or patient follow-up for instructor's ongoing research projects.

D. FACULTY AT AFFILIATED INSTITUTIONS WHO HAVE EXPRESSED INTEREST IN ADVISING HONORS STUDENTS**NORTH MEMORIAL MEDICAL CENTER****Scott Chapman**

1. A library research topic on any topic of mutual interest.
2. Research project involving data collection and analysis involving cardiology or critical care patient outcomes.

ORPHAN MEDICAL INC., MINNETONKA**Carl S. Hornfeldt**

1. Preparing case reports for publication.
2. Performing small retrospective studies in an area of human or veterinary toxicology.

HUDSON HOSPITAL**Penny W. Lepinski**

1. Drug Use Evaluation - any area of interest.
2. Evaluation of patient outcomes using structured care plans (critical pathways).
3. Pain management.
4. Impact of clinical interventions on cost/quality of care.
5. Staff development.
6. Prepare a paper for publication.
7. Develop a proposal to implement an ambulatory medication monitoring program.
3. Performing telephone surveys.

HENNEPIN COUNTY MEDICAL CENTER**Wendy L. St. Peter**

1. A library research paper (term paper) on any topic of mutual interest.
2. Specific areas of interest for library research papers include the use of erythropoietins, vitamin D, calcimemetics, phosphate binders, cardiovascular medications or other medications in patients with chronic kidney disease.

SAFETYCALL INTERNATIONAL POISON CENTER**Leo J. Sioris**

1. A library research paper (term paper) on any topic of mutual interest.
2. A research project in the area of poison control or clinical toxicology.

**COLLEGE OF PHARMACY HONORS PROGRAM
CREDIT REPORT SHEET**

Course Number and Title (if the option is a project associated with a course):

Period Project or Course was Completed:

Brief Description of the Honors Option (in the space available be specific in describe the mutually acceptable project; e.g., a 5-page, typed, double-spaced library research paper on a topic of mutual interest, including a least 10 references):

 Course Director

Date

 Honors Student

Date

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Course Number and Title (if the option is a project associated with a course):

Period Project or Course was Completed:

Brief Description of the Honors Option (in the space available be specific in describe the mutually acceptable project; e.g., a 5-page, typed, double-spaced library research paper on a topic of mutual interest, including a least 10 references):

 Course Director

Date

 Honors Student

Date