

Department of Pharmaceutical Sciences

Vision

The Department of Pharmaceutical Sciences will be a recognized leader in pharmaceutical sciences by achieving excellence in research, teaching and service through innovation, collaboration and professionalism.

Indicators that we are moving toward our Vision:

- Ranking among the top 30 Pharmaceutical Sciences research and graduate programs in the U.S. based on the number and quality of graduate students and faculty, extramural funding, publications and infrastructure.
- Number and quality of publications in peer-reviewed journals.
- Research, teaching and service awards.
- The number of new collaborative projects advancing our mission.
- Business alliances with biopharmaceutical industries.

MISSION

11-27-07

The mission of the Department of Pharmaceutical Sciences is to educate and train future pharmacists and scientists and to advance pharmaceutical research that improves human health.

We will accomplish this by:

- Improving the quality of teaching and mentoring professional and graduate students.
- Conducting high-quality research in prevention, diagnosis and treatment of diseases and disseminating the results in leading scientific journals and conferences.
- Providing professional service to the College, University, and the scientific community.
- Establishing internal and external partnerships, collaborations and strategic alliances to advance our mission.

CRITICAL ISSUES

CRITICAL ISSUE 1: How do we secure sufficient financial, physical and human resources to maintain high quality research and professional/graduate education?
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Strategic Directions:

SD1. Document the return on investment to the College and University that will increase funding to the Department.

Obj 1.1 By 2013, improve the NIH national ranking of the College to the top thirty based on full-time PhD faculty. Accountable: Chair

SD2. Enhance grants and contract acquisitions in order to increase our stature, and enhance and grow our research efforts.

Obj 2.1 By 2013, each faculty at any given time during their status at the College will obtain/maintain one or more standard grants that brings in a minimum of \$142,000 per year total cost. Accountable: Faculty

Obj 2.2 By 2013, increase the number of graduate students from 25 to 35 and the number of post-doctorate fellows from 5 to 10. Accountable: Faculty and Chair

Obj 2.3 By 2009, a formal mentoring program for all faculty at all levels will be implemented in Pharmaceutical Sciences. Accountable: Dean and Chair

SD3. Develop a center for economic development in the area of biopharmaceutical research in order to generate funds from intellectual properties.

Obj 3.1 By fall 2008, submit a center grant for vaccinology and biopharmaceuticals. Accountable: Chair

SD4. Secure adequate funds to specifically address high priority areas of the Department of Pharmaceutical Sciences.

Obj 4.1 By fall 2008, in collaboration with the Development Office, identify specific needs of the Department of Pharmaceutical Sciences to be targeted by the Development Office for fundraising. Accountable: Chair and Dean

Potential needs:

- Graduate student endowed scholarships
- Maintenance of common equipment and animal facility
- Competitive faculty start-up packages

Obj 4.2 By spring 2009, based on the outcome of Obj 4.1, coordinate with the Development Office to raise \$100,000 annually for the Department of Pharmaceutical Sciences. Accountable: Chair and Dean

Obj 4.3 By fall 2008, identify and benchmark a successful department or college that has secured financial, physical and human resources to maintain high quality research and professional/graduate education. Accountable: Chair

Obj 4.4 Annually, develop and submit to the Dean a comprehensive growth plan for the research program to include the following:

- Funding for five faculty positions in the areas identified below:
 - Proteomics
 - Gene therapy
 - Biotechnology
 - Vaccinology
 - Nanomedicine
- Two technicians and one staff to support growth in education and research
- Five laboratory and office spaces in Technology Park and one staff office space.

- Equipment (MALDI-ToF, \$0.5 million; LC-MS-MS, \$0.5 million; high through-put assay, \$0.5 million; cryosection \$100k)
- Two technicians to take care of common equipment and provide service to generate income
- Specific return on investment to be expected as a result of this investment
- New core facility for our additional equipment

Accountable: Dean and Chair

Strategies:

- Utilize recruitment strategies to ensure greater numbers of qualified female faculty are in the candidate pool.
- All qualifications and other factors being equal, give preference to hiring female candidates.

CRITICAL ISSUE 2: How do we attract and retain high quality and diverse faculty and graduate students?
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Strategic Directions:

SD1. Ensure adequate space, resources and staff to attract new faculty.

Obj 1.1 By 2010, provide start-ups of \$300,00 to \$400,000 using the current sources and funds from program fees and fundraising. Accountable: Chair and Dean

Obj 1.2 By spring 2009, complete an assessment of physical space needs that includes adequate space (e.g. new addition or building) for new faculty. Accountable: Chair

Obj 1.3 By 2011, improve core facilities by addition of the following equipment:

- Cryosection
- MALDI-ToF, \$0.5 million
- LC-MS-MS, \$0.5 million
- High through-put screening, \$0.5 million

Accountable: Faculty

Obj 1.4 By 2009, hire two technicians to maintain and manage core facilities to be funded through appropriations or the center grant. Accountable: Chair and Dean

SD2. Improve the Department's competitive position relative to retaining faculty.

Obj 2.1 As our ranking improves from 45th position to 30th in NIH funding, faculty salaries will increase in accordance with AACP statistics from the current ranking of less than 50 percentile to the 65th percentile. Accountable: Dean

Strategy:

- As we progress in moving up in the rankings, utilize the programmatic fee to adjust the appropriations fee to ensure a 65 percentile of faculty salaries.

Obj 2.2 annually, adjust salaries to remove salary compression to be competitive with peer institutions. Accountable: Chair and Dean

Obj 2.3 By 2011, the Dept will develop a plan to support faculty developmental leave. Accountable: Faculty and Chair

Obj 2.4 By 2010, implement mini-sabbaticals (3-6 months) every five years to enhance faculty development. Accountable: Chair

Strategy:

- Each developmental leave request will state the expected results and a return on investment with specified goals that impact the department.

Obj 2.5 By 2010, implement one or more benchmark awards for research that are linked to new levels of achievement. Accountable: Chair, Dean and Provost

Obj 2.6 By 2010, establish at least one endowed position. Accountable: Chair and Dean

SD3. Improve the Department's competitive position relative to recruiting and retaining graduate students.

Obj 3.1 By 2010, increase the minimum scholarships to \$18,000 annually. Accountable: Faculty

Obj 3.2 By 2010, introduce a minimum of two endowed scholarships. Accountable: Chair and Dean

Obj 3.3 By fall 2008, create and implement a competitive mechanism to select students who will be reimbursed for travel expenses in connection with presenting at meetings. Accountable: Chair

Obj 3.4 By 2009, complete a budget analysis of the opportunity to subsidize or cover health insurance. Accountable: Chair

CRITICAL ISSUE 3: How do we improve the quality of teaching professional and graduate classes?
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SD1. Introduce more advanced courses for professional and graduate students.

Obj 1.1 By May 2009, complete a survey of the professional and graduate courses offered by our peer institutions in Pharmaceutical Sciences. Accountable: Jean

Obj 1.2 By December 2009, based on the survey results and faculty expertise, identify and introduce two new advanced courses covering recent literature. Accountable: Faculty

Obj 1.3 By fall 2009, and every two years thereafter, review the course contents and introduce new topics. Accountable: Faculty

Obj 1.4 Continue and expand a summer research program for PharmD students to enhance problem-solving and critical thinking skills. Accountable: Dean, Chair and Faculty

Strategy:

- Fund this program through program fees.

SD2. Coordinate the professional courses with the Department of Pharmacy Practice to reduce course overlap.

Obj 2.1 Ongoing annually, continue curriculum mapping of the courses taught by the Pharmaceutical Sciences faculty. Accountable: Faculty

Obj 2.2 Ongoing, discuss the curriculum mapping results in the college retreats. Accountable: Faculty

Obj 2.3 Ongoing, based on the results of Objectives 2.1 and 2.2, adjust the course contents to remove overlaps and to include additional topics. Accountable: Faculty

SD3. Use instructional technologies to enhance student learning.

Obj 3.1 By fall 2008 and annually thereafter, invite the NDSU instructional technology coordinator to give a presentation to the Department on available instructional technologies. Accountable: Chair

Obj 3.2 By fall 2008, each faculty will attend training sessions on the use of blackboard, personal response system and/or other instructional technologies. Accountable: Faculty

Obj 3.3 by spring 2009, each faculty will use Blackboard, personal response system and/or other available technologies to enhance student learning. Accountable: Faculty

SD4. Implement assessment methodologies throughout the Department to evaluate and improve the quality of instruction.

Obj 4.1 By 2010, implement the University's mentoring program for all faculty at all levels. Accountable: Chair

Strategy:

- Encourage faculty to become tenured.

Obj 4.2 By fall 2009, and every two years thereafter, each faculty will participate in peer review of instruction and implement the recommendations. Accountable: Faculty

Obj 4.3 Annually, evaluate the effectiveness of instructional technologies in enhancing student learning and make adjustments. Accountable: Faculty

Obj 4.4 By 2013, every faculty member will have an individual development plan created in collaboration with the Chair. Accountable: Faculty and Chair

CRITICAL ISSUE 4: How do we grow the research program to increase visibility and distinguish the Department of Pharmaceutical Sciences?

Strategic Directions:

SD1. Identify and target specific area(s) of research to grow and increase visibility of the Department.

Obj 1.1 By fall 2009, every faculty will have three peer-reviewed publications per year.
Accountable: Faculty

Obj 1.2 By fall 2009, the Department will submit a minimum of two disclosures per year.
Accountable: Faculty

SD2. Increase the number and size of research laboratories.

See Critical Issue 1, SD4

SD3. Secure sufficient financial resources to grow the program.

Obj 3.1 By fall 2008, bring together research expertise within or outside the Department to apply for a center or training grant. Accountable: Faculty

Obj 3.2 By 2013, each faculty will have one standard grant and write a minimum of two grant applications per year. Accountable: Faculty

Obj 3.3 Annually, the Department will develop and submit one instrumentation grant application. Accountable: Faculty

SD4. Ensure we have appropriate faculty and staff to support the growth in the targeted area(s).

Obj 4.1 By 2010, the Department will increase the number of graduates to at least five PhD students per year. Accountable: Faculty

Obj 4.2 By 2010, the Department will increase to five or six the number of post-doctoral research fellows. Accountable: Faculty

Obj 4.3 By 2010, the Department will recruit two full-time non-tenure track research professors. Accountable: Chair and Dean

Obj 4.4 By fall 2009, the Department will have two technicians and one additional supporting staff. Accountable: Chair and Dean

Obj 4.5 By 2010, following passage of a new PT policy by the University, the department will establish benchmarks for post tenure review to get their PT document into alignment with the new University policy. Accountable: Dept Chair