

## **Biomedical Sciences Department Undergraduate Strategic Plan for 2014-17**

Approved by the BMS Department, October 2013

### ***A. Introduction***

The Department of Biomedical Sciences was originally a component of the School of Health Sciences and became established as an independent unit when the School of Health Professions was formed in 1998. We are uniquely positioned between the Biology Department and the College of Health Professions as a department that teaches biology from a human perspective, with a focus on health and disease. We offer a major that provides the foundation required for most health professions programs as well as for graduate programs in the sciences. There were originally two majors offered: Health Sciences, for those going on to masters programs in the health professions (physician assistant, occupational therapy, physical therapy) and Biomedical Sciences, for students bound for medical school, graduate school or similar professional programs. In 2004, the Health Sciences major became the Health Professions major within the College of Health Professions. The Department of Biomedical Sciences is now focused on one major track with 2 emphases that strive to provide the best possible preparation for students to be successful in their application to professional programs or in employment within the science community. This strategic plan was developed by the assessment committee using the department's previous strategic plan and feedback from faculty.

### ***B. Mission***

The Department of Biomedical Sciences seeks to guide and educate students in such a way that it maximizes their opportunities for advancement in biomedical sciences-related fields. This means our students will be nationally competitive for admission to professional and graduate programs and will be able to secure employment directly related to their fields of study.

### ***C. Vision***

The Department of Biomedical Sciences will prepare students to be professionals who exhibit the scientific literacy and interpersonal skills to successfully contribute to the society in which they live. We will foster the lifelong pursuit of inquiry, discovery, discourse and reflection.

### ***D. Guiding Values***

- We believe in the value of scientific inquiry that forges a strong foundation in the discipline while expanding the intellectual and personal limits of the participant.
- We value analytical skills that permit critical assessment of scientific claims and the value of their application as solutions to current problems.
- We value teaching that is cross-disciplinary in nature and leads to an understanding of human biology and medicine in the context of the whole person.
- We value learning from a global perspective that engenders personal responsibility and contribution as a citizen of the world community.
- We value the professional development of our faculty to be life-long learners and active contributors to their professional societies.
- We value clear, consistent communication with other academic units and the administrative components of the university.
- We value timely and clear communication of departmental accomplishments.
- We value a fair and equitable appraisal of faculty and student work
- We value a culture of diversity and inclusion in the department
- We value providing our new faculty (adjunct, visitors, affiliate and tenure track) with the support necessary to ensure their successful integration into the department

## ***E. Strategic Plan***

### **1. PROGRAMMATIC GOALS:**

**Goal 1:** Provide our students with the classes that prepare them for careers in the biomedical sciences.

Objective 1.1.1: Initiate a broad curricular review to determine whether the required BMS classes adequately prepare our majors for their intended career goals. *[Aligned with University goals 2, 3 & 4 and CLAS goal 2.1, 2.2, 3.2, 3.5 4.2 & 4.7]*

Rationale/purpose: As a number of years have passed since the department curriculum was evaluated, the time has come to reevaluate how effectively our classes prepare students for their career goals. This includes evaluating the quality of the emphases, possibility of new emphases, development of new classes for student assistants, evaluating content consistency in multi-section classes, honors sections of BMS classes, scientific writing and new MCAT alignment (required for entry into medical school and is changing in 2015).

Metrics:

- (1) An increase in the professional exam scores of BMS students
- (2) An increase the number of BMS students accepted into professional and graduate schools
- (3) An increase in the number of students registered for classes that involve a student assistant experience
- (4) Peer evaluations indicating that no drift in content in multi-section BMS classes

Unit Strategy: Faculty members within each emphasis will evaluate the quality of their curriculum. Faculty members who are not currently part of an emphasis will meet to discuss the benefits and costs of developing an emphasis. Faculty lab coordinators in anatomy and microbiology, with input from other interested faculty, will develop classes for student assistants. Evaluate the scientific writing component of the curriculum. Faculty who teach required BMS classes will meet to determine course alignment with MCAT objectives. In addition, faculty teaching electives will also address course alignment with MCAT objectives to determine which classes to recommend for MCAT preparation. Members of BMS will be part of the task force that addresses the alignment of other units' classes with MCAT objectives (Chemistry, Physics, Biology, Psychology, and Sociology, and CLAS advising). The task force will provide the unit with information on the alignment of their classes with the MCAT. Based upon that information, the department curriculum committee will recommend changes to the BMS curriculum and will facilitate its implementation. The assessment committee will analyze the data required to address the metrics.

Responsible party(s): Unit head, faculty teaching classes, department curriculum committee, assessment committee and task force

Objective 1.1.2: Provide BMS students with quality advising in both their undergraduate education and career aspirations. *[Aligned with University goal 6; CLAS goals 6.1-6.4]*

Rationale/purpose: With the large number of BMS students, advising has been viewed as an onerous task. In addition, the training of new faculty in this endeavor has been informal and inconsistent. Although student advising is part of each faculty member's teaching assignment, the unit has also not evaluated the quality of this advising. As it is important for their success that students receive accurate/timely advising, the unit should implement policies that demonstrate BMS values quality advising.

Metrics:

- (1) Student surveys indicating an increase in quality of advising
- (2) Surveys of new faculty members indicating increased satisfaction with their preparation in student advising

Unit Strategy: A task force will be generated to address the current state of advising in the department and provide the unit with a plan to enhance that process. Part of this recommendation should include generating a document that informs faculty of the requirements for the BMS degree and the responsibilities of the advisor including how to get things done at the Registrars office (guidelines on degree substitutions and waivers). The quality of advising will be addressed by student surveys created and administered by the advising task force and by the assessment committee by analyzing student survey information. In addition, the advising task force will consider a mechanism to reward quality advising.

Responsible Party(s): Unit head, task force and assessment committee

**Objective 1.1.3:** Address the continued success of the regular department-sponsored seminar series.

Rationale/purpose: A vibrant science department includes one (or more) regular seminar series to communicate both current faculty research and relevant ongoing research of scientists outside of the department and university.

Metrics:

- (1) An increase in the funding supporting the department seminar series
- (2) An increase in the attendance at the seminar series

Unit strategy: The committee will provide recommendations on how it would manage and schedule the seminar, including how to fund the series as lack of funds limits our ability to invite people from outside of the region to present. The seminar committee will collect data on student and faculty attendance at the seminar series and the assessment committee will analyze the data required to address the metric.

Responsible party(s): Unit head, assessment committee and seminar committee

## **2. FACULTY GOALS:**

**GOAL 1:** Promote a healthy and productive workplace for faculty and staff in the BMS department.

**Objective 2.1.1:** Determine an equitable distribution of faculty workload in the areas of teaching and service.

Rationale/purpose: As the department has grown in recent years, the amount and variety of responsibilities charged to its members, *i.e.* faculty workload, has also increased. The extent to which each class, lab, and service responsibility impacts workload is quite variable. This can lead to the perception of inequity in workload. Thus, the unit will develop a plan to equitably distribute workload across faculty.

Metrics:

- (1) Faculty/staff surveys indicating increased satisfaction with workload distribution
- (2) Faculty/staff surveys indicating increased overall job satisfaction

Unit strategy: The Personnel committee will collect a description of the current responsibilities from faculty in those positions that include Chair, Assistant chair, committee chairs (especially Graduate coordinator, which has responsibilities outside of the unit), lab/class coordinators, lab supervisors, administrative assistants, affiliate faculty, and adjunct faculty, as well as duties like mentor and advisor. The unit head, in consult with the executive committee, will generate a recommendation on equitable distribution of workload in the department. The assessment committee will collect and analyze the data required to address the metrics.

Responsible party(s): Unit head, personnel committee, assessment committee, and faculty in those positions

**Objective 2.1.2:** Evaluate the capacity of the unit to meet curricular demands. (*Aligns with CLAS goal 1.4.2, 1.4.4, 5.1.1*)

Rationale/purpose: Enrollment pressure on the department from other units requires that the BMS department determine an enrollment capacity (both in terms of class size and number of sections) that is reasonable and sustainable. This is important in evaluating the impact of potential changes to the curriculum.

Metrics:

- (1) An increase in the number of permanent faculty to meet curricular demands
- (2) Less than 95% of the seats in each class taught by the BMS department will be filled

Unit strategy: The unit head can determine the current capacity of the department to deliver our curriculum. The unit head will, in consultation with the assistant chair, formulate a long-term plan for faculty teaching in the Fall, Winter and Summer semesters. The assessment committee will collect and analyze the data required to address the metrics.

Responsible party(s): Unit head, assessment committee and executive committee

**GOAL 2:** Promote excellence in teaching and research among BMS faculty.

Objective 2.2.1: Provide support for excellence in teaching among BMS faculty. (*Aligns with CLAS goal 5.1.2 & 5.3*)

Rationale/purpose: Teaching is a process that requires continual feedback and reflection in order to enhance one's skills. To that end, the unit should evaluate the process by which feedback (peer and student) is elicited in the BMS department to ensure it fosters the kind of reflection that enhances teaching. Part of this should involve a review of student evaluations in an attempt to enhance their utility by evaluating the questions (focus them on the most important concerns) and the manner of delivery (online vs paper).

Metrics:

- (1) An increase in the number of faculty who participate in FTLC and other teaching fora.
- (2) An increase in the frequency of peer evaluations

Unit strategy: A task force will evaluate the current student evaluations including which questions are important to BMS faculty and the possibility of switching to a paper evaluation. At the same time, the current system of peer evaluation will be strengthened on the recommendations of the personnel committee. Finally, faculty will be strongly encouraged to take advantage of the learning opportunities regarding teaching that are offered at GVSU through the FTLC and other entities. The assessment committee will collect and analyze the data required to address the metrics.

Responsible party(s): Unit head, task force, assessment committee and personnel committee

Objective 2.2.2: Ensure faculty are provided with sufficient space to meet their teaching requirements and to promote excellence in their scholarship. (*Aligns with CLAS goal 5.1.2 5.2 & 5.4*)

Rationale/purpose: As GVSU has added faculty in recent years to keep up with student numbers, space for offices and research labs has dwindled. Currently, non tenure-track faculty must share office space with one or more colleagues. Similar constraints prevail for research spaces; in particular, limited lab bench space hampers productivity and creates overcrowding issues. More importantly, it is becoming difficult to hire new tenure-track faculty, who have research productivity expectations for tenure, when there is not enough space for them to be successful.

Metrics:

- (1) An increase in office space assigned to BMS adjunct and visiting faculty.
- (2) An increase in research space assigned to BMS faculty
- (3) An increase in the number of faculty publications

Unit strategy: The unit head will meet with the Dean's representatives to investigate the options for both office and research space of the BMS department. As the new building is completed and the remodeling of Padnos begins to be planned (back-filling), the unit head will strongly advocate for office and research space for the unit. The unit head will collect and the assessment committee will analyze the data required to address the metric

Responsible party(s): Unit head and assessment committee

Objective 2.2.3: Evaluate the mechanisms that support faculty involvement in undergraduate research. (*Aligns with CLAS goal 7.7, 8.1.3 & 8.2*)

Rationale/purpose: While the cost of research has increased, the internal money available to fund research at GVSU has appeared stagnant. As engagement of faculty and students in research is important to BMS (and required for tenure and promotion), the unit should investigate other avenues of funding support in order to foster faculty/student research.

Metrics:

- (1) Faculty survey indicating an increase in satisfaction with the funding of undergraduate research
- (2) An increase in the number of grant applications submitted by members of the BMS department

Unit strategy: The Unit head will encourage the submission of grant applications, especially those to external funding sources, and investigate workload release to support BMS 499 research credits. For students taking BMS 499 research credits, a final written product describing their research experience will be a requirement. We will evaluate the potential of adjusting workload based upon faculty involvement in directing student research. If travel funding is obtained, a final product should be expected in the form of a poster or paper that summarizes the experience. The assessment committee will collect and analyze the data required to address the metrics.

Responsible party(s): Unit head, curriculum committee and assessment committee

### **3. STUDENT GOALS:**

**GOAL 1:** Foster a vibrant culture of student engagement within the biomedical sciences.

Objective 3.1.1: Enhance BMS student engagement in research and other experiential learning experiences (High Impact Experiences [HIEs]) (*Aligned with University/CLAS Objectives 8.2*)

Rationale/purpose: BMS students benefit from their engagement in research and other HIEs during their tenure at GVSU. As experiential learning is integral to student success, the department should make every effort to connect students with these opportunities.

Metrics:

- (1) An increase in the number of undergraduates performing research in the BMS department
- (2) An increase in the number of BMS students engaged in other HIEs

Unit strategy: The seminar committee will begin by evaluating our current recruiting strategies (Research Night and Research in BMS link on department webpage). It will obtain feedback from students regarding the utility of those strategies. In addition, CLAS advising will be asked for feedback on availability of HIEs within GVSU and research opportunities outside of GVSU, and on mechanisms to collect and disseminate that information to students. Finally, faculty will be polled to determine what would be required to increase the number of students in their lab. With that information, the seminar committee will recommend to the unit strategies to connect students with research opportunities. Once implemented by the unit head, the assessment committee will collect data to evaluate the success of the plan.

Responsible party(s): Unit head, seminar committee and assessment committee.

Objective 3.1.2: Provide BMS students with the opportunity to present the results of their research projects at regional/national scientific meetings. (*Aligned with University/CLAS Objectives 8.1*)

Rationale/purpose: An important part of the research is to communicate one's findings to the broader community of scientists. As this is new to students, involving them in the presentation experience could foster their development into researchers.

Metrics:

- (1) An increase in the number of BMS students who receive funding to attend region/national meetings
- (2) An increase in the number of BMS students presenting research at regional/national meetings

Unit strategy: The majority of the responsibility lies with the faculty advising student research. The students should have a summative generation of a poster that can then be presented by the student at scientific meetings. There are a number of internal grants available to present that work that should be obtained by student/faculty. As meeting travel is quite expensive, the funding may need to be supplemented by the unit. The assessment committee will collect the data required to address the metrics

Responsible party(s): Unit head, assessment committee and faculty advising student research

#### **4. ADDITIONAL GOALS**

**GOAL 1:** Embrace and pursue other objectives that align with CLAS and University Strategic Plan as they are updated or in response to changes in the environment of higher education.

Objective 4.1.1: The BMS department will address other goals and objectives that could not be envisioned at the time this document was generated that are consistent with CLAS and University Strategic plan.

Rationale/purpose: Recognizing that administrative expectations are a work in progress and that pedagogy and education are similarly in flux, the unit needs to be flexible enough to take on new goals and objectives as they are conceived internally or externally.

Metrics: As the new goals and objective are generated, an appropriate metric will be developed.

Unit strategy: Strategies will be developed to address new objectives as they are defined by the unit. These new goals/objectives will be added to the Strategic plan including the metric and strategy for implementation.

Responsible party(s): Unit head and executive committee

The Biomedical Sciences department generated and approved the Strategic Plan for the Undergraduate degree program in the Fall of 2013. The department is currently developing a Strategic Plan for the BMS Graduate program (MHS degree), which will be completed and approved during the Winter semester 2013.