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# UND SMHS Strategic Plan Individual Unit Report for 2021

## GOAL 3 for **Biomedical Sciences**

### LEARNING

**One UND Strategic Plan Goal 3: *Deliver more educational opportunity online and on-campus.***

**UND SMHS Strategic Plan Goal 3: *The SMHS will identify opportunities to employ state-of-the-art technologies to enhance education.***

### 1. Describe if/how your unit has addressed this goal.

**BIMD 220/221 + Labs.** Self Paced Enroll Anytime (SPEA) online versions of these courses launched in February 2021. They will be continually available for distance students. In addition, starting in fall 2021 a online asynchronous section of the lecture portion of these courses will be available to students. These online options maximize flexibility for students to take these courses. All versions of these courses also utilize TopHat, an active learning platform for online and in-person courses that help mediate evidence based educational practices. This includes a virtual textbook. The labs use AnatomyTV, a 3D modeling software for anatomy visualization.

**BIMD 301 and BIMD 401.** Both were both offered in hybrid format in AY 2020-2021. All exams have been converted to online tests via Blackboard. Course development and use of technology for hybrid format was facilitated by TTAaDA. The use of Zoom has continued in 2021-2022 in conjunction with face-to-face instruction. The tool is fully integrated into small group learning and creates the opportunity for students to participate remotely when circumstances prevent them from participating in person.

**BIMD 302/L.** General Microbiology lecture/lab have been converted to HyFlex courses to be flexible for students and their attendance needs. Lectures are livestreamed and recorded using current technology tools that incorporate active learning through student interaction and discussion. Labs are facilitated through in-person and YouTube videos created by the instructor.

**BIMD 202/L.** Intro to Medical Microbiology Lab is currently being offered online, asynchronous Fall, Spring, and Summer sessions. It is offered on campus, traditional face-to-face Fall semester. Having this large enrollment course available across multiple formats and each semester (and summer) allows for greater flexibility for students. Face-to-Face courses use Top Hat, an online student response and homework system. Online sections utilize McGraw-Hill Connect for interactive assignments and virtual labs.

**BIMD 302 and 328.** General Microbiology and Immunology lectures are taught as HyFlex courses in the Fall (328) and Spring (302). This allows students to take the course regardless of location or time-conflicts. These courses use Top Hat, an online student response and homework system.

**BIMD 328.** Intro to Immunology was converted to HyFlex to be flexible for students and their attendance needs. Lectures are livestreamed and recorded using current technology tools that incorporate active learning through student interaction and discussion.

**BIMD 494 – Special Topics Intersession “HeLa – The Mother of Modern Science”**

**Medical: (IBS)** An IBS team of basic scientists and clinicians is developing instructional modules to integrate basic sciences into the clinical phase of the medical curriculum. Two of three planned modules have been implemented for the Internal Medicine clerkship. Instruction is virtual and interactive, and serves students at all SMHS campuses. (*Preclinical lectures*) Preclinical lectures were delivered over Zoom this year.

**Integrating Basic Sciences Curriculum Redesign team.** Case based workshops were launched by our team in fall 2020. They also utilize the TopHat platform for active questioning of students.

## 2. Describe how your efforts are being assessed.

**BIMD 220/221 + Labs.** These courses are continually assessed via the SELFI surveys. The instructor of record is also pursuing grant funding for additional assessment of their unique components.

**BIMD 301 and BIMD 401:** Modality of participation is tracked in BIMD 301. In the first seven in-class sessions of 2022, about 10% of students participated remotely and synchronously.

**BIMD 202/L, 302 and 328.** The general SELFI is used to assess these courses.

**Undergraduate.** The departmental Undergraduate Education Committee offers opportunities for annual course evaluation. All undergraduate courses have the opportunity to be evaluated annually by the departmental undergraduate education committee.

**Medical: (IBS)** The development team meets monthly to develop, implement, review, and improve instructional models. Students are surveyed after each instructional module. (preclinical lectures) At the instructor level, preclinical lectures are assessed through self-reflection.

**Integrating Basic Sciences Curriculum Redesign team.** Student response surveys are collected after each workshop.

The undergraduate instructors utilize internal assessment forms that are completed at the conclusion of each academic year. The undergraduate courses in Biomedical Sciences are service courses for other majors and not part of a standalone program. Therefore, formal assessment through the University Assessment committee is not completed.

SELFI data is also used for assessment.

### 3. Describe how your unit analyzed these data and what assessments were determined.

**BIMD 220/221 + Labs.** Since these courses launched in fall 2020 limited analysis has occurred, but the instructor did receive a course development award for the SPEA versions and was nominated for the undergraduate teaching excellence award for Founder's Day.

**BIMD 202/L, 302 and 328.** SELFI scores are high across these courses for all areas measured. Students often indicate that they appreciate the use of Top Hat to interact with material. The virtual labs are also rated high by students.

**Undergraduate.** The annual course evaluation includes review of course syllabus and course objectives, grade outcomes, DFW rates, SELFI evaluations, reflective statements and goals for next year by the instructor, and peer feedback.

**Medical. (IBS)** The IBS team regularly debriefs, analyzes student responses, and plans ways to improve. (Preclinical lectures) item analysis of assessment questions are requested from Education Resources.

**Integrating Basic Sciences Curriculum Redesign team.** Since these workshops launched in fall 2020 limited analysis has occurred.

The undergraduate assessment forms are reviewed by the other undergraduate instructors and feedback is given for continuous improvement of the courses. Changes are made to new iterations of the course based on this feedback and the student feedback included in the SELFI.

#### 4. Describe how your unit will implement any further changes and what barriers may exist.

**BIMD 220/221 + Labs.** A barrier to the current technology being used for these courses is the subscription prices for students. This could be eliminated with a university or school wide subscription.

**BIMD 202/L, 302 and 328.** Changes are difficult to add beyond what has already been done because of limited faculty time and classroom space.

**Undergraduate.** Course evaluations inform future changes with the aim of striving for best practices. One significant barrier is the inability to schedule SMHS classrooms on a schedule that is observed by the main campus.

**Medical.** (IBS) Formal assessment of the learning outcomes for the new instructional modules will be a necessary next step. (preclinical lectures) One barrier to assessment is the need to actively request item analysis. Automating this would be helpful. Another barrier is the absence of a formal process for assessing teaching effectiveness at the individual instructor level in the medical curriculum.

**Integrating Basic Sciences Curriculum Redesign team.** Currently these workshops use a "free" version of the TopHat platform that we use as a goodwill agreement because many of us on the team use the platform in our larger undergraduate courses. This could be eliminated with a university or school wide subscription.

The undergraduate instructors review their courses each year and make changes as they see necessary. One challenge that we experience each semester is the ability to secure classroom space in SMHS. The current method of room reservations does not work well with the scheduling of courses for students on the main campus. We all have high enrollment courses, and very few rooms on campus can accommodate them. We ask that rooms can be reserved earlier enough so that when registration is open to students they know which rooms their courses are offered in. Knowing our rooms in advance helps us to be knowledgeable of the space and what technologies we can utilize.

**PROVIDE A RATING OF YOUR PROGRESS ON THIS GOAL:** X  **On Track;**  **Delayed;**  **Behind**

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