

The design of the Biological Data Sciences proposal was a five-year process that was accomplished in three stages. Below, we have listed all the steps we took to ensure the OSU community was engaged.

STAGE 1: Taskforce to develop strategic plan to coordinate curricula in “Computational, quantitative, and systems biology” (now Biological Data Sciences)

1. Involved 20 faculty, including Patrick DeLeenheer (Math), Yanming Di and Tom Sharpton (Statistics), Xiaoli Fern, Stephen Ramsey, and David Hendrix (EECS) and faculty representing programs in the life and earth sciences (2013).
2. Led by Brett Tyler.
3. A subgroup formed a committee to make recommendations for undergraduate curriculum.
 - a. Jeff Chang (BPP); Michael Freitag (BB); Yanming Di (Stat); Patrick DeLeenheer (Math); Kathleen O’Malley (F&W); Xiaoli Fern (EECS).
 - b. Recommended developing a new major.
 - c. Developed learning outcomes.
 - d. Using currently available courses, recommended a structure for curriculum w/ courses in LS, Math, Stat, and CS.
 - e. Suggested new courses.
4. Met with unit leaders and had town hall-style interactions with the OSU community.
 - a. Sept 23, 2014 Brett Tyler, Jeff Chang, Patrick DeLeenheer, and Tom Sharpton met with Deans Dan Arp, Mark Zabriske, Sastry Pantula, and Stella Coakley, to preview the taskforce report.
 - b. October 13, 2014 Brett Tyler met with Scott Ashford, Dean, College of Engineering to preview the taskforce report.
 - c. October 20, 2014 Report emailed to CGRB community, Provost, VPR, Deans and Dept heads.
 - d. November 4, 2014 Brett Tyler met with Dee Denver, Director, Molecular and Cellular Biology (MCB) Graduate Program.
 - e. November 4, 2014 Brett Tyler met with Luiz Bermudez, Director Comparative Health Sciences Graduate program and Head, Biomedical Sciences.
 - f. November 5, 2014 Brett Tyler met with Virginia Weis, Head, Integrative Biology.
 - g. November 5, 2014 Brett Tyler met with Horticulture faculty.
 - h. November 7, 2014 Brett Tyler presented a Town Hall to the OSU community.
 - i. November 11, 2014 Brett Tyler presented a Town Hall to the OSU community.
 - j. November 12, 2014 Brett Tyler and Molly Megraw met with Brenda McComb, Dean of the Graduate School.
 - k. November 14, 2014 Brett Tyler presented a Town Hall to the OSU community.
 - l. November 17, 2014 Brett Tyler and Jeff Chang met with Rich Carter.
 - m. November 17, 2014 Executive Summary Sent to Provost and Senate.
 - n. November 19, 2014 Brett Tyler, Jeff Chang and Xiaoli Fern met with Bella Bose (Head, EECS).
 - o. November 19, 2014 Brett Tyler met with Dee Denver, Director, MCB.
 - p. November 20, 2014 Brett Tyler, Yanming Di and Tom Sharpton met with Ginny Lesser (Head, Statistics).
 - q. November 20, 2014 Brett Tyler, Jeff Chang, Molly Megraw met with Joey Spatafora and Lynda Ciuffetti (Head, Botany and Plant Pathology).
 - r. November 20, 2014 Brett Tyler, Patrick DeLeenheer and David Koslicki met with Enrique Thomann (Head, Mathematics).
 - s. November 21, 2014 Brett Tyler met with Dan Edge (Head, Fish & Wildlife).
 - t. November 25, 2014 Brett Tyler met with Craig Marcus and Robert Tanguay (Environmental and Molecular Toxicology).

- u. November 25, 2014 Brett Tyler and Kathleen O'Malley met Selina Heppell (Grad Coordinator, Fish & Wildlife).
- v. November 26, 2014 Brett Tyler met John Killefer (Head, Animal and Rangeland Sciences).
- w. December 2, 2014 Brett Tyler met Crop and Soil faculty.
- x. December 2, 2014 Brett Tyler, Taifo Mahmud and Andrey Morgun met with Gary Delander (Pharmaceutical Sciences).
- y. December 3, 2014 Brett Tyler met with Virginia Weis and David Lytle (IB).
- z. December 3, 2014 Brett Tyler met with Jim Coakley (Faculty Senate).
- aa. December 3, 2014 Brett Tyler met with Richard Nafshun and P Mathew (Faculty Senate).
- bb. December 3, 2014 Brett Tyler met with Dee Denver, Director, MCB.
- cc. December 4, 2014 Brett Tyler met with Tammy Bray and Marie Harvey (CPHHS).
- dd. December 4, 2014 Brett Tyler and Yvette Spitz with Mark Abbott, Anita Grunder (CEOAS).
- ee. December 5, 2014 Brett Tyler met with Dee Denver and Brenda McComb (Grad Sch).
- ff. December 9, 2014 Brett Tyler met with Richard Nafshun and Gary Beach (Senate).
- gg. December 16, 2014 Brett Tyler and Kathleen O'Malley met with Bruce Mate, Bob Cowen, Michael Banks, Scott Baker, Ari Friedlaender, Leigh Torres (HMSC).
- hh. December 17, 2014 Brett Tyler met with Nancy Laurence and Cindy Lehto (registrar's office).
- ii. December 18, 2014 Brett Tyler met with Theo Dreher and Jerri Bartholomew (Microbiology).
- jj. December 19, 2014 Brett Tyler met with Robert McGorin and Neil Shay (Food Science and Technology).
- kk. December 19, 2014 Brett Tyler met with Dee Denver, Director, MCB.
- ll. December 19, 2014 Brett Tyler met with John Bolte and Adam Higgins (CBEE, BEE and Bioengineering Ph.D. program).
- mm. January 22, 2015 Updated Report emailed to CGRB community, the Provost, VPR, Deans and Dept heads.

STAGE 2: First committee to build upon recommendations

1. Members included Patrick DeLeener (IB; Math; CoS), Kate Field (Micro; CoS & CAS), Yanming Di (Stats; CoS & CAS), Taal Levi (F&W; CAS), Michael Freitag (BB; COS), Xiaoli Fern (EECS), and Jeff Chang (chair; BPP; CAS).
2. Committee worked on the Cat I draft from Jan-April, 2015.
3. Jeff Chang met with Ginny Lesser (June 9th, 2015; date not certain).
4. Patrick DeLeener requested information to present BDS to Math faculty; dovetailed with the Math Bio option they were developing at the time (Sept, 2015).
5. Jeff Chang met with Bella Bose and Xiaoli Fern in EECS (do not have record of date).
6. Jeff Chang presented BDS to SLS curriculum committee on several occasions (dates not known; Jeff Chang serves on the committee).

STAGE 3: Committee to finalize CAT I

1. Members included Maude David (Micro & Pharm), Rebecca Hutchinson (EECS & F&W), Molly Megraw (BPP), Brett Tyler (BPP), and Jeff Chang (chair; BPP).
2. Committee worked on Cat I during spring of 2018.
3. Draft sent out to > 20 unit leaders in August of 2018. Included Tom Weller (EECS), Bill Bogley & Mina Ossiander (Math), Ginny Lesser (Stats), and Roy Haggerty (COS).
4. Math curriculum committee met to discuss (date unknown).

- a. Joey Spatafora and Jeff Chang met with Mina Ossiander (9/26/18).
- b. As requested, we removed MTH 323 from the EEI option and replaced with MTH420.
- c. We responded in writing to all other comments.
5. Removed BB315 at the request of Andy Karplus (10/20/18).
6. Joey Spatafora and Jeff Chang met with Dean Haggerty (11/20/18).
7. Joey Spatafora and Jeff Chang met with COS leadership (Deans, head/chairs of departments) (12/11/18).
 - a. Bill Bogley was present and reminded us of changes recommended by Math.
 - b. Lisa Ganio was present.
8. Jeff Chang met with Carlos Jensen, Tom Weller, Ben Lee, and Mike Rosulek (1/17/19).
 - a. EECS agreed to open seats in CS161, 162 and 261; follow formula used for Biology majors, administered by IB.
 - b. At their recommendation, we removed CS321 and CS381.
 - c. At their recommendation, we developed BDS 492.
 - d. Expressed concern with accommodating large numbers of BDS students in 300-level CS courses; concerns addressed by clarifying that only students pursuing "Computational Biology" option will be required to take upper division CS courses to fulfill degree.
9. Jeff Chang met with Mike Rosulek and curriculum committee and received support for BDS.
10. Joey Spatafora and Jeff Chang met with Lisa Ganio (4/16/19).
 - a. Revised Cat I to address concerns raised by Lisa over collaborative teaching.

Significant changes to core courses that affect other units (during the 2015 to 2018 transition)

Stats: ST 411/412/421/422 -> ST351/411/412 (discussed with Yanming Di in 2018)

Math: unchanged

CS: CS161/162/261/325 -> CS161/162/261 (discussed with Rebecca Hutchinson)

Life Science programs: unchanged

Since 2015, courses listed as electives have been changed, as recommended during the liaison process.