Dean Linda A. Hicke in the College of Natural Sciences has filed with the Secretary of the Faculty Council the following proposal to change the Bachelor of Science and Arts degree program in the College of Natural Sciences chapter in the Undergraduate Catalog, 2018-2020. The Department of Biochemistry approved the proposal on March 31, 2017; it was approved by the Dean’s Scholars Steering Committee on September 27, 2017; and by the Course and Curriculum Committee and Associate Dean David Vanden Bout, on behalf of Dean Hicke, on September 20, 2017. The Secretary has classified this proposal as legislation of exclusive interest to only one college or school.

The Committee on Undergraduate Degree Program Review recommended approval of the proposal on February 2, 2018, and forwarded it to the Office of the General Faculty. The Faculty Council has the authority to approve this legislation on behalf of the General Faculty. The authority to grant final approval on this legislation resides with the Provost on behalf of the President.

If no objection is filed with the Office of the General Faculty by the date specified below, the legislation will be held to have been approved by the Faculty Council. If an objection is filed within the prescribed period, the legislation will be presented to the Faculty Council at its next meeting. The objection, with reasons, must be signed by a member of the Faculty Council.

To be counted, a protest must be received in the Office of the General Faculty by March 8, 2018.

Alan W. Friedman, Secretary of the General Faculty and Faculty Council
The University of Texas at Austin
Arthur J. Thaman and Wilhelmina Doré Thaman Professor of English and Comparative Literature
PROPOSED CHANGES TO THE BACHELOR OF SCIENCE AND ARTS IN THE COLLEGE OF NATURAL SCIENCES CHAPTER IN THE UNDERGRADUATE CATALOG 2018-2020

Type of Change  ☒ Academic Change
☐ Degree Program Change (THECB form required)

Proposed classification  ☒ Exclusive  ☐ General  ☐ Major

1. IF THE ANSWER TO ANY OF THE FOLLOWING QUESTIONS IS YES, THE COLLEGE MUST CONSULT LINDA DICKENS, DIRECTOR OF ACCREDITATION AND ASSESSMENT, TO DETERMINE IF SACSCOC APPROVAL IS REQUIRED.
   - Is this a new degree program?  Yes ☐  No ☒
   - Is this program being deleted?  Yes ☐  No ☒
   - Does the program offer courses that will be taught off campus?  Yes ☐  No ☒
   - Will courses in this program be delivered electronically?  Yes ☐  No ☒

2. EXPLAIN CHANGE TO DEGREE PROGRAM AND GIVE A DETAILED RATIONALE FOR EACH INDIVIDUAL CHANGE:

Astronomy Major
1. Req 1b: Add M 427J.
   Reason: M 427J is Differential Equations with Linear Algebra. This course was added to the BA, with a major in Astronomy, and the BS in Astronomy degree options for the 2016-18 catalog. The department forgot to add it to the BSA, with a major in Astronomy.

Biochemistry Major
1. Add M 408R as an alternative to M 408C or 408N and 408S
   Reason: M 408R was developed by the Department of Mathematics for majors in which students needed minimal exposure to calculus.
2. Add BIO 344
   Reason: The BS in Biochemistry eliminated a concentration in molecular biology when it was restructured in the 2016-18 catalog. Rather than create a new biochemistry course to address this, BIO 344 is added to the BS in Biochemistry fulfill this gap in knowledge. BIO 344 is added to the BSA to make the BS and BSA degrees in biochemistry more similar.

Biology Major
1. Addition of BIO 226L as alternative to BIO 206L or 208L.
   Reason: All other Biology degrees offer BIO 226L as an option instead of BIO 206L or 208L.
2. Remove BIO 323L and BIO 128L from list of approved labs.
   Reason: Department of Molecular Biosciences is unsure when course will be offered again. Students who might have taken BIO 323L or 128L will be absorbed into the other lab course options.

Human Development and Family Sciences Major
1. Drop 9 hours of upper-division HDFS courses. Add HDF 340 and 6 hours of a required research and/or field practicum requirement (chosen from HDF 352, 652F, 352L, 652P, and 355R).
   Reason:
a. The College of Natural Sciences 21st Century Undergraduate Education Working Group has recommended that a strong component experiential learning be included in all CNS undergraduate degree programs. The BS in Human Development and Family Sciences (HDFS) requires 6 credits (20 hours) of practicum experience consisting of either research experience, or field practicums that involve working directly with children and families in educational or community settings, or a combination of both. The BSA HDFS major does not require any practicum experience, and although BSA students could choose this option from among their required 18 hours of upper-division coursework, most do not and therefore have minimal exposure to experiential learning.

b. Many BSA students plan to go into the health professions or other types of graduate or professional schools. When looking into applying for these programs during their senior year, students discover too late that most of these schools require students to have research experience and/or experience in applied settings. They then ask to volunteer in our practicum settings or research labs, but are often unable to do this because the faculty have not planned for their involvement and it is too late to accommodate them. Moreover, they do not get the same degree of supervision, oversight, and accountability as volunteers that they would if they had registered for the research or field practicum.

c. HDF 340 (Ethical, Philosophical, and Professional Development Issues) was added because it is prerequisite for Human Development and Family Sciences 352, 652F, 352L, 652P. HDF 340 is also required in the BS HDFS degree. In addition, it carries the Ethics and Leadership flag, which is now required for all students in the College of Natural Sciences.

2. Add M 408R as a choice for one semester of calculus. **Reason:** M 408R was developed by the Department of Mathematics for majors in which students needed minimal exposure to calculus.

3. Add in a statement excluding PSY 304 (Introduction to Child Psychology), 333D (Introduction to Developmental Psychology), and 339 (Behavior Problems of Children) from counting as elective hours on the BSA when a student seeks the Human Development and Family Sciences major. **Reason:** PSY 304 and PSY 333D include concepts that are also contained in HDF 313 (Child Development). PSY 339 and HDF 342 (Development of Psychopathology from Infancy through Adolescence) are in a duplicate relationship. HDF majors interested in psychopathology manifesting during childhood and adolescence are better served taking HDF 342. This statement is included in the BS in Human Development and Family Sciences. It was not included in error when the BSA degree was created in the 2014-16 catalog.

**Human Ecology Major**
1. Add M 408R as a choice for one semester of calculus.
Reason: M 408R was developed by the Department of Mathematics for majors in which students needed minimal exposure to calculus.
2. Add "one of the following" to the requirement of BIO 311D, CH 302, or 302H.
Reason: Students in the Human Ecology major take the first majors-level course in biology and chemistry. They are then asked to take the second majors-level course in biology or chemistry. The current wording is confusing.
3. Add PBH 317 as a requirement to the 27 hours from the School of Human Ecology.
Reason: The public health field of study moved to the School of Human Ecology. PBH 317, Introduction to Public Health, would be a beneficial course for students who are seeking this generalized major.
4. Clarify that the 15 hours of upper-division coursework can be a combination of coursework from the HDFS, HE, NTR, PBH, and TXA fields of study.
Reason: As this is a generalized major, the School of Human Ecology is not prescriptive as to which fields of study a student chooses for coursework to fulfill the requirement. Students may choose a single field of study or take coursework across all of the School of Human Ecology fields of study.

Neuroscience Major
1. Add NEU 371M, Comparative Neuroscience, to list of acceptable courses.
Reason: To make the list of approved neuroscience consistent with the BS in Neuroscience options.

Nutrition Major
1. Add NTR 315 to both sequences in 2a.
2. Add completion of NTR 307 and 107L, or 218 and 118L, for all BSA NTR majors.
Reason: The addition of NTR 315 and the choice between 218+118L or 307+107L ensures that students will:
a. acquire knowledge of the role of nutrition in the human lifecycle (NTR 315) and
b. receive a foundation of either nutrition assessment (NTR 218 or 118L) or food science (NTR 307 and 107L).
The course additions will enhance employment opportunities for graduates with facilities such as hospitals, schools, and long-term care homes where these skills are desired.
3. Reduce overall additional hours of nutrition, from 16 to 12 hours. Reduce upper-division hours of nutrition within additional hours from 12 to 9 hours.
Reason: The department is reducing the overall amount of nutrition by 4 hours in order to add 5 hours composed of NTR 315; and NTR 307 and 107L, or NTR 218 and 118L.

Physics major
1. Add M 427J as an alternative to M 427K.
Reason: The Dept. of Mathematics now teaches M 427J, a course in differential equations that contains some linear algebra concepts. M 427J was added to the BS in Physics for the 2016-18 catalog. This corrects the omission.

3. THIS PROPOSAL INVOLVES (Please check all that apply)
   □ Courses in other colleges □ Courses in proposer’s college that are frequently taken by students in □ Flags
Course in the core curriculum ☐
Change in admission requirements (external or internal) ☐
Change in course sequencing for an existing program ☒
Requirements not explicit in the catalog language (e.g., lists of acceptable courses maintained by department office) ☐
Courses that have to be added to the inventory ☐

4. SCOPE OF PROPOSED CHANGE
   a. Does this proposal impact other colleges/schools?
      Yes ☒ No ☐
      If yes, then how would you do so?
      The Human Development and Family Sciences (HDFS) major will restrict PSY 304 (Intro to Child Psychology), 333D (Intro to Developmental Psychology), and 339 (Behavior Problems of Children) from counting toward the BSA, with a major in HDFS, due to overlap with existing HDFS coursework.
      The Human Ecology Advising Center has already been telling their BSA HDFS students that these courses cannot count, not realizing there was not a restriction in the legislation analogous to the restriction on the BS in HDFS degree. The Department of Psychology might see a drop of a seat or two per year in each course as a result of publishing the restriction, not significant enough to impact the department or to seek permission.
   
   b. Do you anticipate a net change in the number of students in your college?
      Yes ☐ No ☒
      If yes, how many more (or fewer) students do you expect?
   
   c. Do you anticipate a net increase (or decrease) in the number of students from outside of your college taking classes in your college?
      Yes ☒ No ☐
      If yes, please indicate the number of students and/or class seats involved.
   
   d. Do you anticipate a net increase (or decrease) in the number of students from your college taking courses in other colleges?
      Yes ☒ No ☐
      If yes, please indicate the number of students and/or class seats involved. 1 seat per year in PSY 304, 333D, and 339.

   If 4 a, b, c, or d was answered with yes, please answer the following questions. If the proposal has potential budgetary impacts for another college/school, such as requiring new sections or a non-negligible increase in the number of seats offered, at least one contact must be at the college-level.
   
   How many students do you expect to be impacted?
   Impacted schools must be contacted and their response(s) included:
   Person communicated with:
   Date of communication:
   Response:
   
   e. Does this proposal involve changes to the core curriculum or other basic education requirements (42-hour core, signature courses, flags)? If yes, explain: No.
   If yes, undergraduate studies must be informed of the proposed changes and their response included:
   Person communicated with:
   Date of communication:
   Response:
   
   f. Will this proposal change the number of hours required for degree completion? No.
   Note: THECB Semester Credit Hour Change Form required, download from URL: http://www.thecb.state.tx.us/reports/DocFetch.cfm?DocID=2419&format=doc
   If yes, explain:

5. COLLEGE/SCHOOL APPROVAL PROCESS
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<tr>
<th>Major</th>
<th>Department approval date</th>
<th>Approved by whom</th>
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<tr>
<td>Astronomy major</td>
<td>September 5, 2017</td>
<td>Astronomy Executive</td>
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<td>Undergraduate</td>
<td>Studies Committee</td>
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<td>September 6, 2017</td>
<td>Course and Curriculum Committee</td>
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<tr>
<td>Biochemistry major</td>
<td>October 8, 2017</td>
<td>Karen Browning, Associate Chair, Department of Molecular Biosciences</td>
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<td>Course and Curriculum Committee</td>
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<td>Biology major</td>
<td>February 10, 2017</td>
<td>Janice Fischer, Biology</td>
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<td>Instructional</td>
<td>Office, Director</td>
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<td>Course and Curriculum Committee</td>
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<td>Human Development and Family Sciences major</td>
<td>April 24, 2017</td>
<td>Stephen Russell, Chair, Department of HDFS</td>
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<td>September 11, 2017</td>
<td>Deborah Jacobvitz, Director, School of Human Ecology</td>
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<td>May 4 &amp; Sept 13, 2017</td>
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<td>Human Ecology major</td>
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<td>Nancy Hazen-Swann, SoHe representation to Course and Curriculum Committee</td>
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<td>Neuroscience major</td>
<td>October 18, 2016</td>
<td>Michael Mauk, Chair</td>
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<td>Deborah Jacobvitz, Chair</td>
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<td>Greg Sitz, Physics representative to Course and Curriculum</td>
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<td>All BSA Major Changes</td>
<td>October 11, 2017</td>
<td>David Vanden Bout, Associate Dean for</td>
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PROPOSED NEW CATALOG TEXT:

Astronomy Major

1. Mathematics:
   a. Mathematics 408C and 408D
   b. Mathematics 427K or 427J
2. Primary science:
   a. Physics 301, 101L, 315, 115L, 316, and 116L
   b. Two courses chosen from the following: Astronomy 352K, 353, and 358
   c. Six additional upper-division semester hours in astronomy and physics
3. Secondary science:
   [42] Twelve additional semester hours of majors-level coursework from one or more of the following areas. It is recommended that students select three of the 12 hours to also fulfill the Natural Science and Technology Part II core curriculum requirement
   a. Biology
   b. Chemistry
   c. Computer Science
   d. Geological Sciences
   e. Mathematics
   f. Statistics and Data Sciences

Biochemistry Major

1. Mathematics:
   a. Mathematics 408C, 408R, or 408N and 408S
   b. Statistics and Data Sciences 328M
2. Primary science:
   a. Chemistry 301 or 301H, 302 or 302H, and 204
   b. Chemistry 320M, and 353M or 455
   c. Biochemistry 339F and 369L
   d. Two courses chosen from the following: Biochemistry 339J, 339M, 339N, and 370
3. Secondary science:
   a. Biology 311C, 311D and 325, or Biology 315H and 325H
   b. Biology 344
   [h] One of the following physics sequences:
      i. Physics 317K, 117M, 317L, and 117N (recommended)
      ii. Physics 301, 101L, 316, and 116L
      iii. Physics 303K, 103M, 303L, and 103N

Biology Major

1. Mathematics:
   a. Mathematics 408C, 408R, or 408N and 408S. Students who intend to take additional calculus coursework should begin the sequence with 408C or 408N
   b. Statistics and Data Sciences 328M
2. Primary science:
   a. Biology 206L, 208L, or 226L; 311C, 311D, and 325, or 315H and 325H
   b. One of the following: Biology 320 or 344
   c. Biology 370
   d. Complete one course from each of the following:


3. Secondary science:
   a. Chemistry 301 or 301H, 302 or 302H, and 204
   b. Complete one of the following:
      1. Physics 302K and 102M (recommended)
      2. Physics 317K and 117M
      3. Physics 303K and 103M
      4. Physics 301 and 101L

Chemistry
Major
{no change}

Computer Science
Major
{no change}

Human Development and Family Sciences
Major
1. Mathematics:
   a. Statistics and Data Sciences 302
   b. Mathematics 408C or 408N, 408R, or Statistics and Data Sciences 332
2. Primary science:
   a. Human Development and Family Sciences 304, 313, 315L, and 340
   c. Six hours chosen from Human Development and Family Sciences 352, 652F, 352L, 652P, and 355R. Registration for Human Development and Family Sciences 352, 652F, 352L, 652P, and 355R is restricted to students whose practicum applications have been approved. Students who want to participate in an early childhood field experience/field practicum (HDF 352L or 652P) must also complete HDF 338 and 466 with grades of at least C-. Practicum applications are available in the School of Human Ecology advising office; application deadlines are May 1 for enrollment the following spring semester and December 1 for enrollment the following fall semester. If either May 1 or December 1 falls on a weekend or an official University holiday, the application is due the next business day.
3. Secondary science:
   a. Chemistry 301 or 301H
   b. Biology 311C
   c. One of the following courses: Biology 311D, Chemistry 302, or 302H

Psychology 304, 333D, and 339 may not count toward the Bachelor of Science and Arts, with a major in Human Development and Family Sciences.
Human Ecology
Major
1. Mathematics:
   a. Statistics and Data Sciences 302
   b. Mathematics 408C, 408N, 408R, or Statistics and Data Sciences 332
2. Primary science: School of Human Ecology coursework, including:
   a. Public Health 317 [27 semester hours from the School of Human Ecology, including the following:]
   b. One of the following: Human Development and Family Sciences 304, 304H, 313 and 113L, or 313H and 113L
   c. Nutrition 306, 312, or 312H
   d. Textiles and Apparel 303 or 205 and 105L
3. Secondary science:
   a. Chemistry 301 or 301H
   b. Biology 311C
   c. One of the following: Biology 311D, Chemistry 302, or 302H

Mathematics
Major
{no change}

Neuroscience
Major
1. Mathematics:
   a. Mathematics 408C, or 408N and 408S
   b. Statistics and Data Sciences 328M
2. Primary science:
   a. Biology 206L and one of the following sequences:
      1. 311C, 311D, 325
      2. 315H and 325H
   b. Neuroscience 330
   c. Neuroscience 335
3. Secondary science:
   a. Chemistry 301 or 301H, 302 or 302H, and 204
   b. One of the following physics sequences:
      i. Physics 317K, 117M, 317L, 117N
      ii. Physics 303K, 103M, 303L, 103N
      iii. Physics 301, 101L, 316, 116L

Nutrition
Major
1. Mathematics:
   a. Statistics and Data Sciences 302, 304, 306, 325H, or 328M
   b. Mathematics 408C or 408N or Statistics and Data Sciences 332
2. Primary science:
a. One of the following sequences:
   i. Nutrition 312, and 112L, 315, 326, and 126L
   ii. Nutrition 312H and 312R, 315
b. One of the following sequences:
   i. Nutrition 307 and 107L
   ii. Nutrition 218 and 118L
b. [46] Twelve additional semester hours of nutrition, including nine semester hours of upper-division coursework.
3. Secondary science:
   a. Chemistry 301 or 301H, 302 or 302H, and 204
   b. Chemistry 320M
   c. Biology 311C

Physics
Major
1. Mathematics:
   a. Mathematics 408C, 408D, 427K or 427J, and 427L
2. Primary science:
   a. Physics 301, 101L, 315, 115L, 316, and 116L
   b. Physics 336K, 352K, 355, 369, and 373
   c. One course chosen from the following: Mathematics 340L; and Physics 329, 333, 345, 353L, 362K, 362L, 474, 375S, 375R, or 375P
3. Secondary science:
   a. Three semester hours of majors-level coursework chosen from: astronomy, biology, chemistry, computer science, and geological sciences. It is recommended that students select a course that will also fulfill the Natural Science and Technology Part II core curriculum requirement.