Add new courses:

**BCMB 200 – Introduction to Research in BCMB**
1 Credit Hour
Participation in an active research program in biochemistry, cellular or molecular biology. Students work with researchers to acquire expertise in laboratory practices, planning experiments, interpreting results, and formulating hypotheses.
Grading Restriction(s): A,B,C, No Credit grading only.
Repeatability: May be repeated. Maximum 3 hours.
Credit Restriction: May not be applied toward the BCMB concentration.
(RE) Corequisite(s): Biology 159,160
Registration Permission: Consent of Instructor.

**BCMB 333 - Structural Biology and Human Health**
3 Credit Hours
Structure of biomolecules and structural basis of health-related conditions and pharmaceuticals. Topics include fundamentals and experimental aspects of protein structure and function, medical conditions related to molecular structural variations and structural approaches to drug discovery and drug design.
(RE) Prerequisite(s): Biology 160 or equivalent; and Chemistry 130.
Comment(s): Intended for biology majors in the biochemistry and cellular and molecular biology concentration, but also open to biology majors in other concentrations.

**BCMB 404 - Biophysical Chemistry**
4 Credit Hours
Covers (1) thermodynamics; free energy; entropy and enthalpy; chemical equilibrium; solution chemistry; protein folding; DNA melting; protein-ligand association; phase transition; (2) enzymatics; protonation and electron transport. (3) Molecular Structure and Interaction (3a) Theory: Quantum theory, Duality principle, Wave Equation, Single atom model, (3b) Applications: Simulated Molecular Dynamics, Spectroscopy (UV-Vis, Raman, Fluorescence, Circular dichroism, NMR), X-ray diffraction and scattering.
(RE) Prerequisite(s): 401 or equivalent.
Recommended Background: Calculus.
Comment(s): Intended for biology majors in the biochemistry and cellular and molecular biology (BCMB) concentration, but also open to majors in other concentrations.

**BCMB 460 - Cancer Biology**
3 Credit Hours
A comprehensive view of cancer. Topics include the basic mechanism of cancer formation and metastasis, animal models for studying cancer, microbes and cancer, with possible clinical rounds with oncologists. The class will be taught through lectures, videos and possible "experiential" learning through UT’s Cancer Center. (Same as Microbiology 460.)
(RE) Prerequisite(s): 401.
Comment(s): Intended for biology majors in the biochemistry and cellular and molecular biology concentration or microbiology concentration but also open to biology majors in other concentrations.

**BCMB 518 - Biophysical Chemistry**
4 Credit Hours
Covers (1) thermodynamics; free energy; entropy and enthalpy; chemical equilibrium; solution chemistry; protein folding; DNA melting; protein-ligand association; phase transition; (2) enzymatics; protonation and electron transport. (3) Molecular Structure and Interaction (3a) Theory: Quantum theory, Duality principle, Wave Equation, Single atom model, (3b) Applications: Simulated Molecular Dynamics. Spectroscopy (UV-Vis, Raman, Fluorescence, Circular dichroism, NMR), X-ray diffraction and scattering.
Registration Restriction(s): Consent of instructor.
Recommended Background: Calculus.
Comment(s): Intended for graduate students in the biochemistry and cellular and molecular biology (BCMB) graduate program, but also open to majors in other concentrations.

Revise prerequisite:

**BCMB 415 - Foundations in Neurobiology**
3 Credit Hours
(RE) Prerequisite(s): Biology 160-159 or equivalent.
Formerly:
(RE) Prerequisite(s): Biology 160-159 or equivalent; and Physics 222.

Revise to add recommended background and revise credit restriction:

BCMB 452 - Independent Research in BCMB
1-3 Credit Hours
Special experimental problems under direction of a faculty member.
Repeatability: May be repeated. Maximum 12 hours.
Credit Restriction: Maximum 3 hours may be applied toward the BCMB concentration.
Recommended Background: 1 hour of BCMB 200
Registration Permission: Consent of instructor.

Formerly:
BCMB 452 - Independent Research in BCMB
1-3 Credit Hours
Special experimental problems under direction of a faculty member.
Repeatability: May be repeated. Maximum 12 hours.
Credit Restriction: Maximum 6 hours may be applied toward the BCMB concentration.
Registration Permission: Consent of instructor.

Revise to remove grading restriction:

BCMB 605 – Journal Club in Neurophysiology/Physiology
1 Credit Hours
Readings and discussion based on current literature.
Repeatability: May be repeated. Maximum 12 hours.
Registration Restriction(s): Minimum student level – graduate.

Formerly:
Grading Restriction: Satisfactory/No Credit grading only.

BCMB 606 – Journal Club in Structural Biology/Biochemistry
1 Credit Hours
Readings and discussion based on current literature.
Repeatability: May be repeated. Maximum 12 hours.
Registration Restriction(s): Minimum student level – graduate.

Formerly:
Grading Restriction: Satisfactory/No Credit grading only.

BCMB 607 – Journal Club in Cellular/Molecular Biology
1 Credit Hours
Readings and discussion based on current literature.
Repeatability: May be repeated. Maximum 12 hours.
Registration Restriction(s): Minimum student level – graduate.

Formerly:
Grading Restriction: Satisfactory/No Credit grading only.

BCMB 608 – Journal Club in Genetics/Developmental Biology
1 Credit Hours
Readings and discussion based on current literature.
Repeatability: May be repeated. Maximum 12 hours.
Registration Restriction(s): Minimum student level – graduate.

Formerly:
Grading Restriction: Satisfactory/No Credit grading only.
Revise Biochemistry and Cellular and Molecular Biology Concentration, II. Select one course:

II. Select one course:
BCMB 402 – Biochemistry II
BCMB 404 – Biophysical Chemistry
BCMB 412 – Molecular Biology and Genomics

Formerly:

II. Select one course:
BCMB 402 – Biochemistry II
BCMB 412 – Molecular Biology and Genomics

Revise Biochemistry and Cellular and Molecular Biology Concentration, III. Select (13 total hours), heading A. to:

A. Select at least 2 credit hours from laboratory courses

Formerly: A. Select one laboratory course

Revise the 8 semester uTrack plan for Biological Sciences Major – Biochemistry and Cellular and Molecular Biology Concentration:

In tracking term one, revise to:
BIOL 150* or BIOL 159* or BIOL 160* or CHEM 120* with a grade of C or better

Formerly:
BIOL 150* or BIOL 159* or CHEM 120* with a grade of C or better

In tracking term two, revise to:
Select an additional course from BIOL 150* or BIOL 160* or CHEM 120* or CHEM 130* with a grade of C or better

Formerly:
Select an additional course from BIOL 150*or CHEM 120* or CHEM 130* with a grade of C or better