

Module 1: week of 8/21-8/27

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| 8/21, M | Lecture 1 – Introduction to Structural Biochemistry |
| 8/23, W | Lecture 2 – Thermodynamics in Biochemistry |
| 8/25, F | Lecture 3 – Water and Hydrogen Bonding |

Quiz 1: Open 8/25, 12 PM to 8/27, 11:59 PM (covers lectures 1-3)

Module 2: week of 8/28-9/3

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|---------|---|
| 8/28, M | Lecture 4 – The Hydrophobic Effect |
| 8/30, W | Lecture 5 – Non-covalent Interactions 1 |
| 9/1, F | Lecture 6 – Non-covalent Interactions 2 |

Quiz 2: Open 9/1, 12 PM to 9/4, 11:59 PM (covers lectures 4-6)

Module 3: week of 9/4-9/10

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|--------|--------------------------------------|
| 9/4, M | No class |
| 9/6, W | Lecture 7 – Nucleic Acid Structure 1 |
| 9/8, F | Lecture 8 – Nucleic Acid Structure 2 |

Quiz 3: Open 9/8, 12 PM to 9/10, 11:59 PM (covers lectures 7-8)

Database Exercise, TBA

Module 4: week of 9/11-9/17

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| 9/11, M | Lecture 9 – Nucleic Acid Structure 3 |
| 9/13, W | Lecture 10 – Nucleic Acid Structure 4 |
| 9/15, F | Lecture 11 – Protein Structure 1 |

No Quiz

Problem solving exam 1: Open 9/12, 12 PM to 9/16, 11:59 PM (covers lectures 1-8)

Module 5: week of 9/18-9/24

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|---------|----------------------------------|
| 9/18, M | Lecture 12 – Protein Structure 2 |
| 9/20, W | Lecture 13 – Protein Structure 3 |
| 9/22, F | Lecture 14 – Protein Structure 4 |

Quiz 4: Open 9/22, 12 PM to 9/24, 11:59 PM (covers lectures 9-14)

Module 6: week of 9/25-10/1

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|---------|----------------------------------|
| 9/25, M | Lecture 15 – Protein Structure 5 |
| 9/27, W | Lecture 16 – Protein Structure 6 |
| 9/29, F | Lecture 17 – Protein Structure 7 |

Quiz 5: Open 9/29, 12 PM to 10/1, 11:59 PM (covers lectures 15-17)

Module 7: week of 10/2-10/8

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|---------|---|
| 10/2, M | Lecture 18 – Protein Domains & the Domain/Exon Connection |
| 10/4, W | Lecture 19 – Protein Folding |
| 10/6, F | Lecture 20 – Protein Disorder |

Quiz 6: Open 10/6, 12 PM to 10/8, 11:59 PM (covers lectures 18-20)

Module 8: week of 10/9-10/15

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|----------|---|
| 10/09, M | Lecture 21 – Protein-Protein Interactions & Interfaces |
| 10/11, W | Lecture 22 – Coiled-Coils |
| 10/13, F | Lecture 23 – Protein Symmetry and Misfolding: Transthyretin |

No Quiz

Problem solving exam 2: Open 10/9, 12 PM to 10/15, 11:59 PM (covers lectures 9-20)

Module 9: week of 10/16-10/22

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| 10/16, M | Lecture 24 – Hetero-associating Systems; Binding Competition |
| 10/18, W | Lecture 25 – Protein-Nucleic Acid Interactions |
| 10/20, F | Lecture 26 – Globins 1: The Allosteric Conformational Change |

Quiz 7: Open 10/20, 12 PM to 10/22, 11:59 PM (covers lectures 21-26)

Module 10: week of 10/23-10/29

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|----------|---|
| 10/23, M | Lecture 27 – Globins 2: Hemoglobin Structure and Regulation |
| 10/25, W | Lecture 28 – Globins 3: Cooperativity |
| 10/27, F | Lecture 29 – Globins 4: Protein Evolution |

Quiz 8: Open 10/28, 12 PM to 10/30, 11:59 PM (covers lectures 27-29)

Module 11: week of 10/30-11/5

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|----------|------------------------|
| 10/31, M | Lecture 30 – Enzymes 1 |
| 11/2, W | Lecture 31 – Enzymes 2 |
| 11/4, F | Lecture 32 – Enzymes 3 |

Quiz 9: Open 11/4, 12 PM to 11/6, 11:59 PM (covers lectures 30-32)

Module 12: week of 11/6-11/12

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|----------|----------------------------------|
| 11/7, M | Lecture 33 – Lipid Structures |
| 11/9, W | Lecture 34 – Membrane proteins 1 |
| 11/11, F | Lecture 35 – Membrane proteins 2 |

No Quiz

Problem solving exam 3: Open 11/6 PM to 10/30, 11:59 PM (covers lectures 18-26)

Module 13: week of 11/13-11/18

11/13, M Lecture 36 – ATP Synthase
11/15, W Lecture 37 – Protein Chaperones
11/17, F Final Project Discussion

No Quiz

WEEK OF 11/18-11/26: Fall Break**Module 14: week of 11/27-12/3**

11/27, M Lecture 38 – Prions and amyloid
11/29, W Lecture 39 – Nucleosomes and chromatin 1
12/1, F Lecture 40 – Nucleosomes and chromatin 2

Quiz 10: Open 12/1, 12 PM to 12/3, 11:59 PM (covers lectures 36-40)

Module 15: week of 12/4-12/10

12/4, M Lecture 41 – The 3D Genome
12/6, W Lecture 42 – Metabolic Integration 1
12/8, F Lecture 43 – Metabolic Integration 2

Quiz 11: Open 12/8, 12 PM to 12/10, 11:59 PM (covers lectures 41-43)

Module 16 (final exam week): week of 12/11-12//17

12/15, W Final Project, TBA

Database Links**NIH Structure Sites**

<https://www.ncbi.nlm.nih.gov/Structure/MMDB/mmdb.shtml>

https://www.ncbi.nlm.nih.gov/Structure/icn3d/docs/icn3d_about.html

<https://www.ncbi.nlm.nih.gov/Structure/cdd/cdd.shtml>

<https://www.ncbi.nlm.nih.gov/Structure/cdd/wrpsb.cgi>

Protein Databank Site

<https://www.rcsb.org/>