

| Course objective | Geisel competency | Course Objective |
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| 1 | 1a, 1b | To explain the major catabolic and anabolic pathways by which human cell types metabolize carbohydrates, lipids, amino acids and nucleotides. |
| 2 | 1a, 1b | To recall the key regulatory points in human metabolic pathways. |
| 3 | 1a, 1b | To explain how diet and hormonal signaling regulate major human metabolic pathways. |
| 4 | 1a, 1b | To recognize the role of vitamins and minerals in intermediary metabolism. |
| 5 | 1a, 1b | To describe how vitamin deficiencies impact human metabolism and pathophysiology. |
| 6 | 1a, 1b | To define the biochemical functions and integrated metabolism of major tissues including brain, digestive system, liver, red cell, muscle and adipocyte. |
| 7 | 1a, 1b | To explain the molecular mechanisms underlying the major inherited diseases of metabolism. |
| 8 | 1a, 1d, 1e | To explain how certain medicines and drugs impinge upon metabolic pathways. |
| 9 | 1a, 1d, 1e, 1f | To interpret how specific genetic tests and perinatal screening results can indicate metabolic disorders. |
| 10 | 1a, 1d, 1e, 1f | To describe how interaction of environmental and genetic factors can contribute to specific diseases of metabolism. |
| 11 | 1a | To practice and demonstrate systematic problem-solving skills. |
| 12 | 1e, 1f | To connect specific symptoms in clinical case presentations to metabolic disorders. |
| 13 | 1b, 5b, 5e | To critically evaluate and discuss the primary literature in small literature discussion groups. |
| 14 | 1b,5b | Critically evaluate studies in the biomedical literature that use biochemical, molecular biological and genetic techniques |
| 15 | 3f,3h | Communicate and interact with colleagues effectively and collegially. |
| 16 | 4a,4b | Behave respectfully and responsibly and meet professional responsibilities fully, including being punctual, present, and engaged. |
| 17 | 4h | Take responsibility for his or her own medical education. |