

MAJOR COURSEWORK TEMPLATE

Use the following template to map required courses to learning objectives associated with ASBMB concept and skill areas. Boxes should be checked as “covered” only if there is substantial time spent on the topic or skill (e.g., a line in the syllabus or coverage in one or more course hours).

I: Introductory

A: Advanced / Intermediate

Course								
Concept area 1: Energy is required by and transformed in biological systems								
1.1 Nature	I	A	I	A	I	A	I	A
1.2 Catalysis	I	A	I	A	I	A	I	A
1.3 Coupling	I	A	I	A	I	A	I	A
Concept area 2: Macromolecular structure determines function and regulation								
2.1 Macromolecules	I	A	I	A	I	A	I	A
2.2 Structure	I	A	I	A	I	A	I	A
2.3 Function: Small mol.	I	A	I	A	I	A	I	A
2.4 Function: Interact.	I	A	I	A	I	A	I	A
2.5 Dynamics	I	A	I	A	I	A	I	A
2.6 Regulation	I	A	I	A	I	A	I	A
2.7 Physical basis	I	A	I	A	I	A	I	A
2.8 Measuring S/F	I	A	I	A	I	A	I	A
Concept area 3: Information storage and flow are dynamic and interactive								
3.1 Genomics	I	A	I	A	I	A	I	A
3.2 Central dogma	I	A	I	A	I	A	I	A
3.3 Cell division	I	A	I	A	I	A	I	A
3.4 DNA metabolism	I	A	I	A	I	A	I	A
Concept area 4: Discovery requires objective measurement, quantitative analysis and clear communication								
4.1 Process of science	I	A	I	A	I	A	I	A
4.2 Comprehension	I	A	I	A	I	A	I	A
4.3 Community	I	A	I	A	I	A	I	A
Underlying concept: Evolution								
1 Significance	I	A	I	A	I	A	I	A
2 Mechanisms	I	A	I	A	I	A	I	A
3 Natural selection	I	A	I	A	I	A	I	A
4 Molecular basis	I	A	I	A	I	A	I	A
Underlying concept: Homeostasis								
1 Biological need	I	A	I	A	I	A	I	A
2 Steady state processes	I	A	I	A	I	A	I	A
3 Quantifying	I	A	I	A	I	A	I	A
4 Control mechanisms	I	A	I	A	I	A	I	A
5 Cellular & organismal	I	A	I	A	I	A	I	A
Other								
Communication								
Teamwork								
Labs								
Safety								
Responsible conduct of research								

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