

MAJOR COURSEWORK TEMPLATE

I: Introductory
A: Advanced / Intermediate

Course							
Required / Elective	R E	R E	R E	R E	R E	R E	R E
If elective, % of BMB students taking the course							
1: Energy Is Required By And Transformed In Biological Systems							
1.1 Nature	I A	I A	I A	I A	I A	I A	I A
1.2 Catalysis	I A	I A	I A	I A	I A	I A	I A
1.3 Coupling	I A	I A	I A	I A	I A	I A	I A
2: Macromolecular Structure Determines Function And Regulation							
2.1 Macromolecules	I A	I A	I A	I A	I A	I A	I A
2.2 Structure	I A	I A	I A	I A	I A	I A	I A
2.3 Function: Small mol.	I A	I A	I A	I A	I A	I A	I A
2.4 Function: Interact.	I A	I A	I A	I A	I A	I A	I A
2.5 Dynamics	I A	I A	I A	I A	I A	I A	I A
2.6 Regulation	I A	I A	I A	I A	I A	I A	I A
2.7 Physical basis	I A	I A	I A	I A	I A	I A	I A
2.8 Measuring S/F	I A	I A	I A	I A	I A	I A	I A
3: Information Storage And Flow Are Dynamic & Interactive							
3.1 Genomics	I A	I A	I A	I A	I A	I A	I A
3.2 Central dogma	I A	I A	I A	I A	I A	I A	I A
3.3 Cell division	I A	I A	I A	I A	I A	I A	I A
3.4 DNA metabolism	I A	I A	I A	I A	I A	I A	I A
4: Discovery Requires Objective Measurement, Quantitative Analysis and Clear Communication							
4.1 Process of science	I A	I A	I A	I A	I A	I A	I A
4.2 Comprehension	I A	I A	I A	I A	I A	I A	I A
4.3 Community	I A	I A	I A	I A	I A	I A	I A
Evolution							
1 Significance	I A	I A	I A	I A	I A	I A	I A
2 Mechanisms	I A	I A	I A	I A	I A	I A	I A
3 Natural selection	I A	I A	I A	I A	I A	I A	I A
4 Molecular basis	I A	I A	I A	I A	I A	I A	I A
Homeostasis							
1 Biological need	I A	I A	I A	I A	I A	I A	I A
2 Steady state processes	I A	I A	I A	I A	I A	I A	I A
3 Quantifying	I A	I A	I A	I A	I A	I A	I A
4 Control mechanisms	I A	I A	I A	I A	I A	I A	I A
5 Cellular & organismal	I A	I A	I A	I A	I A	I A	I A
Other							
Communication							
Teamwork							
Labs							
Safety							
Responsible conduct of research							

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