**Supplemental Table 4: Recommendations for maximizing out-of-course time**

|  |  |  |
| --- | --- | --- |
| **Techniques** | **Example literature to learn more about these techniques** | **Example evidence that these strategies help students in undergraduate STEM courses** |
| Dedicate time at the beginning at the semester to helping students plan their time | * **Recommendations** on how to structure this discussion provided in (Kent, 2018) | * A study showing this approach is effective for first-year students is highlighted in (Stevens et al., 2019) |
| Increase course structure to scaffold the process of students learning independently throughout the week and to provide guidance for scheduling blocks of time and coursework | * **Article** using highly structured course designs: (Haak, HilleRisLambers, Pitre, et al., 2011) | * Increased structure improves student performance (Freeman et al., 2014; Haak et al., 2011) in particular for Black and first-generation students (Eddy & Hogan, 2014). |

**Supplemental References:**

Eddy, S. L., & Hogan, K. A. (2014). Getting under the hood: How and for whom does increasing course structure work? *CBE Life Sciences Education*, *13*(3), 453–468. https://doi.org/10.1187/cbe.14-03-0050

Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2014). Active learning increases student performance in science, engineering, and mathematics. *Proceedings of the National Academy of Sciences*, *111*(23), 8410–8415. https://doi.org/10.1073/pnas.1319030111

Haak, D. C., HilleRisLambers, J., Pietre, E., & Freeman, S. (2011). Increased Structure and Active Learning Reduce the Achievement Gap in Introductory Biology. *Science*, *332*(June), 1213–1217. https://doi.org/10.12980/JCLM.2.2014C1291

Haak, D. C., HilleRisLambers, J., Pitre, E., & Freeman, S. (2011). Increased structure and active learning reduce the achievement gap in introductory biology. *Science*, *332*(6034), 1213–1216. https://doi.org/10.1126/science.1204820

Kent, C. (2018). *Teaching Students to Manage Their Time*. Inside Higher Ed. https://www.insidehighered.com/advice/2018/09/18/how-teach-students-time-management-skills-opinion

Stevens, A. E., Hartung, C. M., Shelton, C. R., LaCount, P. A., & Heaney, A. (2019). The Effects of a Brief Organization, Time Management, and Planning Intervention for At-Risk College Freshmen. *Evidence-Based Practice in Child and Adolescent Mental Health*, *4*(2), 202–218. https://doi.org/10.1080/23794925.2018.1551093