1159-53-30 **Thomas A Ivey*** (iveyt@cofc.edu), College of Charleston, Charleston, SC 29424. *A brief survey of austere submanifolds.* Preliminary report.

Suppose X is a Riemannian manifold such that T^*X carries a canonical Ricci-flat Kahler metric (e.g., $X = \mathbb{R}^n$, S^n, or a compact rank-one symmetric space). A submanifold $M \subset X$ is *austere* if its conormal bundle N^*M is a special Lagrangian submanifold of T^*X. In this talk I will give a short survey of austere submanifolds, mostly for $X = \mathbb{R}^n$ Euclidean space, where the austerity conditions (first computed by Harvey and Lawson) imply that M is minimal but also include higher-order polynomial conditions on the eigenvalues of the second fundamental form of M. I will summarize classification results for low-dimensional submanifolds in $\mathbb{R}^n$, due to Bryant and Ionel-Ivey, and constructions of austere submanifolds due to Bryant, Dajczer and collaborators. I will also discuss the austere conditions for submanifolds of $\mathbb{C}P^n$, and recent work with Karigiannis on a variation of the austere construction where the fiber of N^*M is 'twisted' away from the zero section by adding a 1-form. I will conclude with a list of open questions. (Received July 10, 2020)