1022-05-112 **Ralph Faudree*** (rfaudree@memphis.edu), Office of Provost, Administration Building 360, University of Memphis, Memphis, TN 38152, and **Ron Gould**, **Michael Jacobson** and **Colton Magnant**. *Graphs Containing Hamiltonian Cycles with Uniformly Distributed Vertices and Edges.* Preliminary report.

For a given a positive integer k and for any $\epsilon > 0$, it is shown that for a k-connected graph G of sufficiently large order n with $\delta(G) \geq n/2$, there is a hamiltonian cycle C containing a fixed set of $S_k = \{x_1, x_2, \cdots, x_k\}$ of k vertices such that $d_C(x_i, x_j) \geq (1-\epsilon)n/k$ for $i \neq j$. If the set S_k is an ordered set of k vertices and $\delta(G) \geq \lceil n/2 \rceil + \lfloor k/2 \rfloor - 1$, then the existence of a hamiltonian cycle C containing the vertices in the given ordered with $d_C(x_i, x_j) \geq (1-\epsilon)n/k$ for $i \neq j$ is proved. Corresponding minimum degree conditions are proved that imply the existence of a hamiltonian cycle containing any (strongly ordered) (k, t, s)-linear forest such that the components of the linear forest are evenly distributed on the cycle. Examples are given to show that all of the degree conditions are sharp. (Received September 11, 2006)