**Gems: Winter 2024 Approximate schedule:**

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| **Week (approx)** | **Topics** |
| Week 1-2 | Basic containers (smart array, linked list, tree, map, hash) and run-time trade-offs. |
| Week 2-4 | Threading (basics, asynchronous asset loading/background loader, etc.), synchronization and inter-communication |
| Week 5-6 | *Level of Detail (LOD): basics, Lindenmayer systems, GeoMipMap, Real-time Optimally Adapting Mesh (ROAM), etc.* |
| Week 7 | Mid-term exam |
| Week 8 | Persistence (file, database, streaming, etc.) – depends on how much SQL you want/know |
| Week 8-9 | Memory allocators and memory management |
| Week 10 | Terrain implementation (height fields, etc.), streaming large content data, etc. |
| Week 11- 12 | *Key algorithms: sorting; dynamic programming; divide and conquer; compression and checksum; tree and graph traversal.* |
| Week 13- 14 | GPGPU and other topics |
| Week “15” | Final-Exam/Game Jam |
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| 1 - 14 | (optional) PlayStation development (using SDK) |