**EcoSysEM package layout**

Important modules and how to import functions or classes from them are listed below. Classes names start with a capital letter, functions with a lower letter, and attributes with a dot (.) and lower letter:

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| --- |
| from ecosysem.module import function  from ecosysem.module import Class  EcoSysEM  ├── envdef  │ ├── Environment  │ │ ├── .temperature (**✔**)  │ │ ├── .pressure (**✔**)  │ │ ├── .pH (**✔**)  │ │ ├── .compounds (**✔**)  │ │ ├── .compositions (**✔**)  │ │ ├── setT (**✔**)  │ │ ├── setP (**✔**)  │ │ ├── setpH (**✔**)  │ │ └── setComposition (**✔**)  │ └── ISA {subclass of Environment}  │ ├── .altitude (**✔**)  │ ├── .temperature (**✔**)  │ ├── .pressure (**✔**)  │ ├── .compounds (**✔**)  │ ├── .compositions (**✔**)  │ ├── .H2O (**✔**)  │ ├── **getVerticalProfiles** (**✔**)  │ ├── **getDictConc** (**✔**)  │ ├── **plotTandP** (**✔**)  │ └── **plotCompsProfiles** (**✔**)  ├── thermodynamics  │ ├── ThP  │ │ ├── getThP (**✔**)  │ │ ├── setThP  │ │ ├── getDeltaG0r (**✔**)  │ │ ├── getDeltaH0r (**✔**)  │ │ └── getKeq (**✔**)  │ ├── ThEq  │ │ ├── solubilityHenry (**✔**)  │ │ ├── **pHSpeciation** (**✔**)  │ │ └── **plotpHSpeciation** (**✔**)  │ ├── ThSA  │ │ ├── **getDeltaGr** (**✔**)  │ │ └── **exportDeltaGr** (**✔**)  │ :  ├── reactions  │ ├── Reactions  │ │ ├── getRxn (**✔**)  │ │ ├── getRxnByComp (**✔**)  │ │ ├── getRxnByName (**✔**)  │ : └── setRxn  :  │  ├── ecosysem\_cmd.py (Run EcoSysEM using Command Line Interface, CLI)  └── ecosysem\_spyder.py (Run EcoSysEM using Spyder, *i.e.,* coding)  (**✔**): Done; (dev): Development version |

\*Required packages:  
 - Pandas  
 - NumPy  
 - matplotlib.pyplot  
 - operator (standard library)  
 - warnings (standard library)  
 - sys (standard library)  
 - re (standard library)