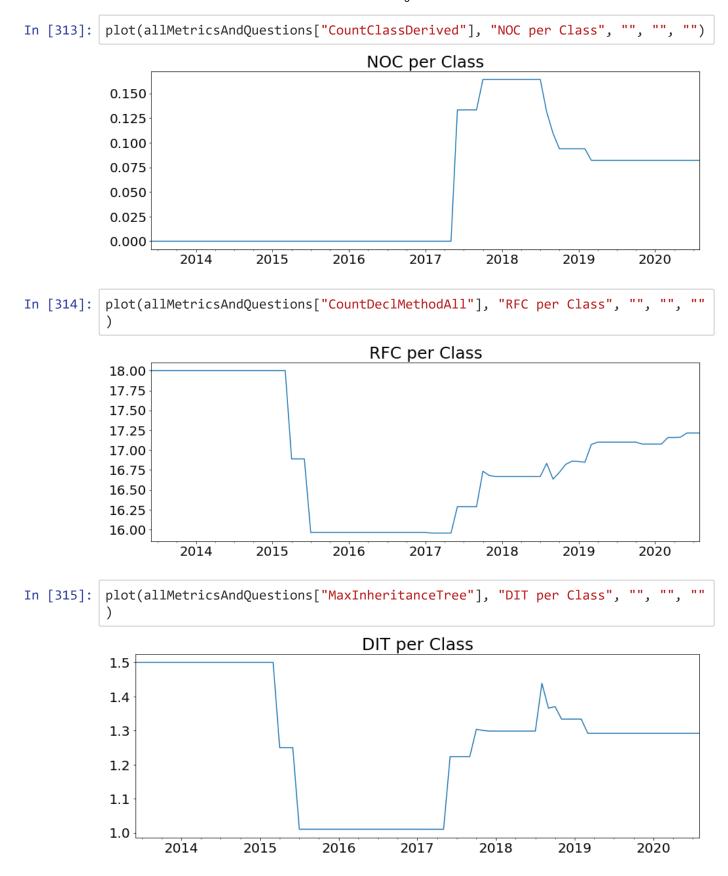
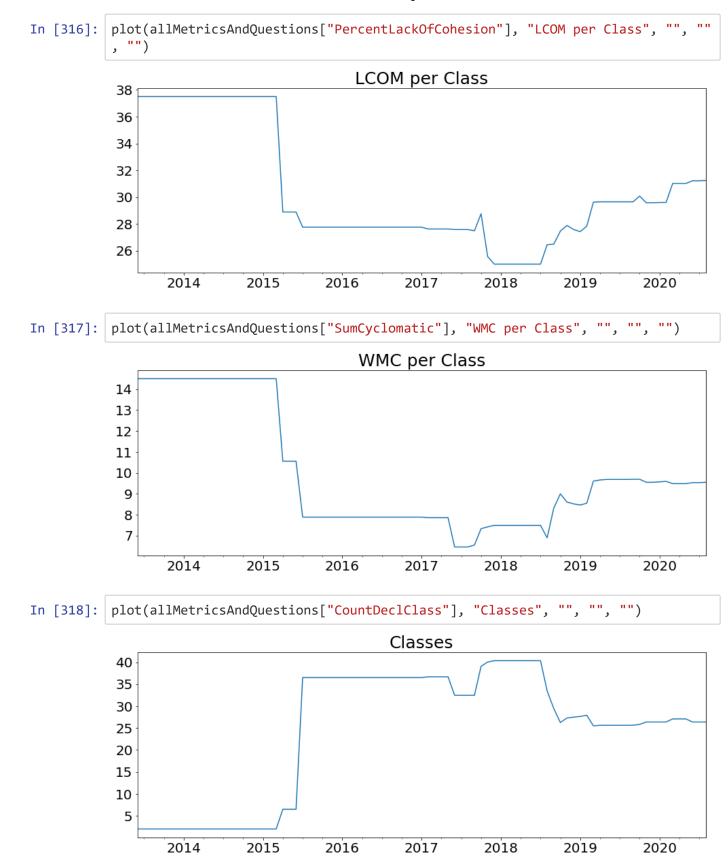


```
plot(allMetricsAndQuestions["CountLineCode"], "LOC per Class", "LOC per Class"
In [310]:
                                           LOC per Class
           75
           70
           65
           60
           55
                            2015
                                      2016
                                                2017
                                                           2018
                 2014
                                                                     2019
                                                                               2020
          plot(allMetricsAndQuestions["CountLineComment"], "CLOC per Class", "", "")
In [311]:
                                          CLOC per Class
           30
           25
           20
           15
           10
                 2014
                            2015
                                      2016
                                                2017
                                                          2018
                                                                     2019
                                                                               2020
          plot(allMetricsAndQuestions["CountClassCoupled"], "CBO per Class", "", "")
In [312]:
                                           CBO per Class
           11
           10
            9
            8
            7
            6
                            2015
                                      2016
                                                2017
                                                          2018
                                                                     2019
                 2014
                                                                               2020
```

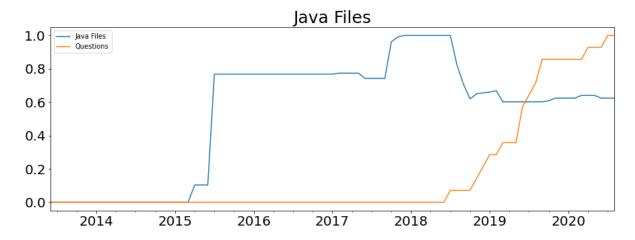




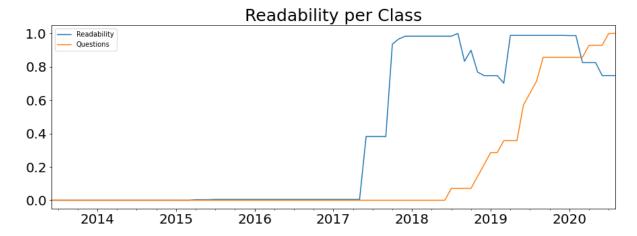
## Plotting metrics and questions

```
In [319]:
          def plot(metrics, questions, metric, title, ylabel, xlabel):
              subplot = metrics.plot(figsize=(15,5), fontsize=20, legend=True, label=met
          ric)
              subplot = questions.plot(figsize=(15,5), fontsize=20, legend=True, label=
          "Ouestions")
              subplot.set_title(title, fontsize=25)
              subplot.set ylabel(ylabel, fontsize=20)
              subplot.set xlabel(xlabel, fontsize=20)
                     subplot.figure.savefig(metric+".pdf",bbox_inches = 'tight')
```

## plot(AllMetricsAndQuestionsNormalized["numberJavaFiles"], AllMetricsAndQuestio In [320]: nsNormalized["questions"], "Java Files", "Java Files", "", "")

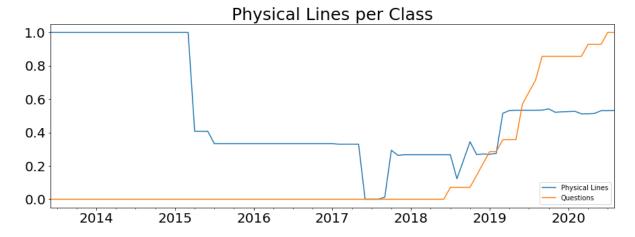


plot(AllMetricsAndQuestionsNormalized["readability"], AllMetricsAndQuestionsNo In [321]: rmalized["questions"], "Readability", "Readability per Class", "", "")

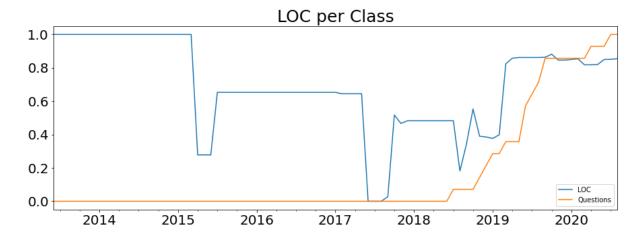


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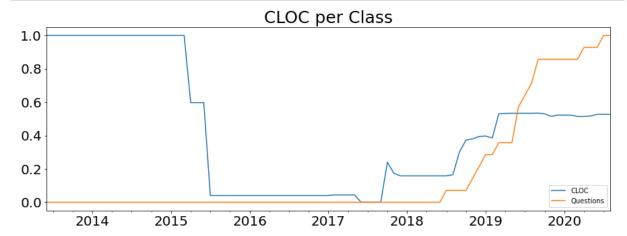
 $\verb|plot(AllMetricsAndQuestionsNormalized["CountLine"], AllMetricsAndQuestionsNormalized["CountLine"], AllMetricsAndQue$ In [322]: alized["questions"], "Physical Lines", "Physical Lines per Class", "", "")



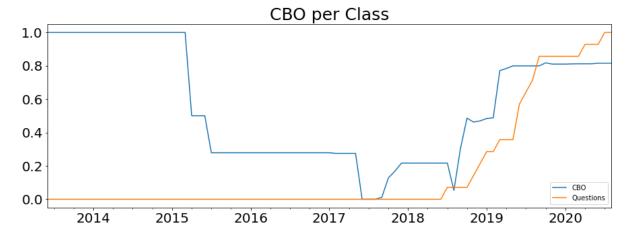
 $\verb|plot(AllMetricsAndQuestionsNormalized["CountLineCode"], AllMetricsAndQuestions|| \\$ In [323]: Normalized["questions"], "LOC", "LOC per Class", "", "")



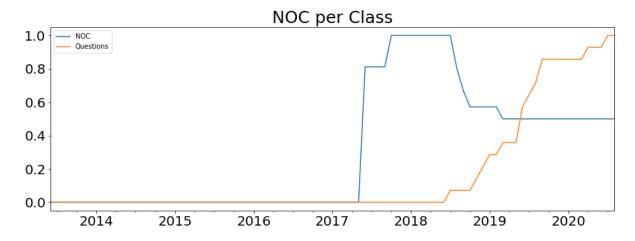
In [324]: onsNormalized["questions"], "CLOC", "CLOC per Class", "", "")



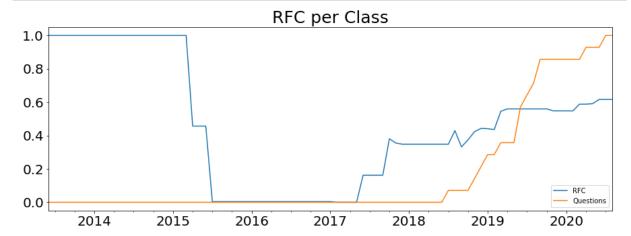
plot(AllMetricsAndQuestionsNormalized["CountClassCoupled"], AllMetricsAndQuest In [325]: ionsNormalized["questions"], "CBO", "CBO per Class", "", "")



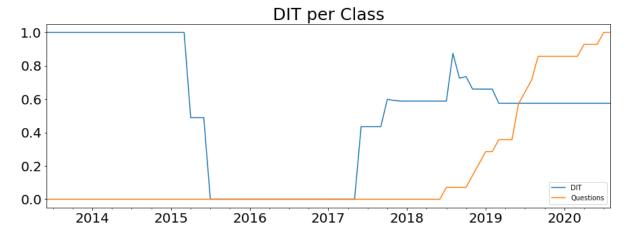
 $\verb|plot(AllMetricsAndQuestionsNormalized["CountClassDerived"], AllMetricsAndQuestionsNormalized["CountClassDerived"], AllMetricsAndQuestionsNormalized["CountClassDerived["CountClassDerived], AllMetricsAndQuestionsNormalized["CountClassDerived["CountClassDerived["CountClassDerived["Cou$ In [326]: ionsNormalized["questions"], "NOC", "NOC per Class", "", "")



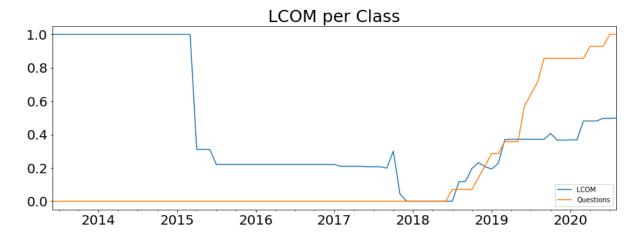
plot(AllMetricsAndQuestionsNormalized["CountDeclMethodAll"], AllMetricsAndQues In [327]: tionsNormalized["questions"], "RFC", "RFC per Class", "", "")



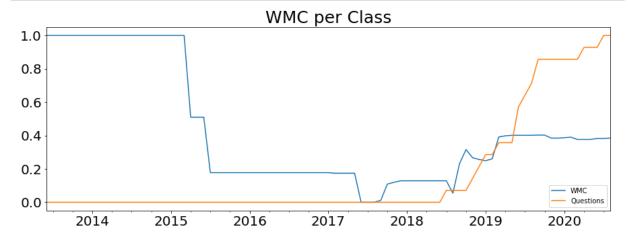
plot(AllMetricsAndQuestionsNormalized["MaxInheritanceTree"], AllMetricsAndQues In [328]: tionsNormalized["questions"], "DIT", "DIT per Class", "", "")



plot(AllMetricsAndQuestionsNormalized["PercentLackOfCohesion"], AllMetricsAndQ In [329]: uestionsNormalized["questions"], "LCOM", "LCOM per Class", "", "")



 $\verb|plot(AllMetricsAndQuestionsNormalized["SumCyclomatic"], AllMetricsAndQuestions|| \\$ In [330]: Normalized["questions"], "WMC", "WMC per Class", "", "")



plot(AllMetricsAndQuestionsNormalized["CountDeclClass"], AllMetricsAndQuestion
sNormalized["questions"], "Classes", "Classes", "")

