

PV des notes CC par matière (Enseignant)

#	Matricule	Nom	Prénom	Note CC	Note corrigée	Signature
1	242434022901			17.0		
2	242434081210			17.0		
3	242434031904			17.0		
4	242434041915			19.0		
5	232334072510			18.0		
6	242434030907			19.0		
7	242434032012			17.0		
8	232334007414			18.0		
9	232434102602			16.5		
10	242434019208			15.0		
11	232334039908			17.0		
12	242434007910			17.0		
13	242434019404			17.0		
14	242434042003			18.0		
15	242434030407			19.0		
16	242434031213			17.0		
17	232334040011			18.0		
18	242434031505			19.0		
19	242434008719			17.0		
20	242434006809			18.0		
21	232434098212			17.0		
22	242434022001			17.5		
23	242434067417			17.5		
24	242434067617			17.5		
25	242434020903			17.5		
26	242434008416			18.0		
27	242434042213			19.0		
28	242434007310			18.0		
29	232434098210			17.0		
30	242434041913			18.0		
31	242434019816			17.5		

PV des notes CC par matière (Enseignant)

#	Matricule	Nom	Prénom	Note CC	Note corrigée	Signature
1	242434051918			18.0		
2	232434097301			18.0		
3	242434060820			18.0		
4	242434061119			18.0		
5	242434056513			18.0		
6	232334070318			18.0		
7	242434007605			18.0		
8	242434021502			18.0		
9	242434056317			18.0		
10	242434009717			18.0		
11	242434078504			18.0		
12	242434019201			19.0		
13	242434033111			18.0		
14	242434061001			18.0		
15	242434032802			18.0		
16	242434061204			19.0		
17	242434081112			18.0		
18	242434078506			18.0		
19	242434007114			19.0		
20	232434101012			18.0		
21	242434018617			18.0		
22	242434020102			18.0		
23	242434019209			18.0		
24	232334039204			18.0		
25	242434065304			19.0		
26	242434048012			18.0		
27	242434033505			18.0		
28	232434097320			19.0		

PV des notes CC par matière (Enseignant)

#	Matricule	Nom	Prénom	Note CC	Note corrigée	Signature
1	242434042501			16.25		
2	242434007701			16.0		
3	212134004427					
4	222234006418			14.5		
5	242434043207			15.0		
6	242434081117			16.5		
7	242434061720			16.5		
8	242434081408			14.5		
9	242434020603			16.25		
10	242434042611			16.5		
11	242434032013			15.0		
12	242434047713			16.0		
13	242434021006			17.0		
14	232334029601			16.0		
15	242434034208			16.5		
16	242434042604			16.25		
17	232334074901			16.25		
18	242434078619			16.0		
19	232434097104			16.0		
20	232434100315			17.0		
21	242434078720			16.0		
22	232334068314			15.0		
23	242434031819			16.25		
24	242434032119			16.25		
25	242434041712					
26	242434078708			16.25		
27	242434021811					

PV des notes CC par matière (Enseignant)

#	Matricule	Nom	Prénom	Note CC	Note corrigée	Signature
1	242434041502			16.0		
2	232334031317					
3	242434021713			16.5		
4	242434030518			14.0		
5	242434043010			17.5		
6	242434009401			16.5		
7	232334057501			17.0		
8	242434041908			14.0		
9	232334044918			16.0		
10	232334040414			16.0		
11	242434042914			14.0		
12	242434006206			14.0		
13	242434079002			16.0		
14	242434067415			14.0		
15	242434006915			15.0		
16	232334039616			12.0		
17	242434072010			16.0		
18	242434043115			17.25		
19	242434048206			17.5		
20	242434042302			16.0		
21	242434041106			16.5		
22	242434019503			17.0		
23	242434060715			16.25		
24	232334027306			14.0		
25	242434076307			16.0		
26	232334065916					
27	242434011915			14.0		
28	242434061319			17.25		

Spécialité: sciences biologiques
Niveau: Licence 2ème Année
Matière: Biostatistique
Section/Groupe: Section 1 / Groupe 5

Période: Semestre 4

PV des notes CC par matière (Enseignant)

#	Matricule	Nom	Prénom	Note CC	Note corrigée	Signature
1	242434006116			14.5		
2	242434056518			19.0		
3	232434101004			15.5		
4	242434098107			17.5		
5	202034007813			17.5		
6	242434056410			18.0		
7	242434056505			19.0		
8	232334040703			17.5		
9	242434029809			2.5		
10	232434102710			18.0		
11	232334040718			16.0		
12	242434067419			10.0		
13	232334016210			9.0		
14	222434102501			14.5		
15	242434029812			8.5		
16	222434101002			13.5		
17	232334075009			16.5		
18	212434097707			9.0		
19	242434009316			15.0		
20	242434041918			17.5		
21	242434006908			17.0		
22	242434032118			18.0		
23	242434031102			16.5		
24	242434021919			18.0		
25	242434078509			17.5		
26	232434100205			17.5		
27	242434006316			11.0		
28	242434032211			18.0		
29	232334040320			18.0		

Spécialité: sciences biologiques
Niveau: Licence 2ème Année
Matière: Biostatistique
Section/Groupe: Section 1 / Groupe 6

Période: Semestre 4

PV des notes CC par matière (Enseignant)

#	Matricule	Nom	Prénom	Note CC	Note corrigée	Signature
1	242434067608			18.0		
2	242434073801			18.0		
3	242434076010			17.0		
4	242434007105			18.0		
5	242434030814			18.5		
6	242434055806			17.5		
7	242434033608			17.5		
8	242434021920			17.5		
9	232434105313			17.0		
10	242434067616			17.0		
11	242434067411			17.0		
12	242434067817			17.5		
13	242434021405			17.5		
14	232334057505			16.0		
15	242434047412			18.5		
16	242434076005			17.0		
17	232434099416			17.5		
18	242434061702			17.0		
19	232434104012			17.0		
20	242434020115			18.0		
21	242434034012			17.5		
22	242434021908			17.0		
23	242434056607			17.0		
24	242434031219			18.0		
25	242434033703			18.0		
26	242434072002			3.0		
27	242434078517			17.5		
28	232334095701			17.0		

PV des notes CC par matière (Enseignant)

#	Matricule	Nom	Prénom	Note CC	Note corrigée	Signature
1	242434020111			15.0		
2	222234019316			15.0		
3	242434009608			15.0		
4	242434041411					
5	242434068104			15.0		
6	242434100705			17.0		
7	232334049317			15.0		
8	232334029406			15.0		
9	242434041905			15.0		
10	242434047503			15.0		
11	232334029512			15.0		
12	242434018217			15.0		
13	242434007014			15.0		
14	242434007510			15.0		
15	242434006415			15.0		
16	242434043314			15.0		
17	222434103804			15.0		
18	232434100312			15.0		
19	242434079017			15.0		
20	242434041711			15.0		
21	222434097909			17.0		
22	242434031620			16.0		
23	232334006216			17.0		
24	232432510511			17.0		
25	242434007901			16.0		
26	212434100308			14.0		
27	242434042202					

PV des notes CC par matière (Enseignant)

#	Matricule	Nom	Prénom	Note CC	Note corrigée	Signature
1	232334032319					
2	242434007110			17.0		
3	232334048317					
4	232334031516					
5	242434020811			17.0		
6	232334027504			17.0		
7	232334070416					
8	222234045006			15.0		
9	242434041407			15.0		
10	242434008812			17.0		
11	242434061315			17.0		
12	242434007203			17.0		
13	242434031214			16.0		
14	232334018101					
15	242434019202			15.0		
16	242434019102			15.0		
17	242434078701			15.0		
18	242434078706			15.0		
19	242434100417			15.0		
20	242434021710			15.0		
21	232334040702			15.0		
22	242434067610			15.0		
23	242434021404			16.0		
24	242434032217			15.0		
25	232434098703			15.0		
26	242434009304			15.0		
27	242434033916			15.0		
28	242434006620			15.0		

PV des notes CC par matière (Enseignant)

#	Matricule	Nom	Prénom	Note CC	Note corrigée	Signature
1	242434030601			17.5		
2	232434097204			12.5		
3	232334045008			19.0		
4	232334019905			14.5		
5	242434103517					
6	232334015905			11.0		
7	232334017408			16.0		
8	242434006604					
9	242434076320			19.0		
10	232334044710			9.5		
11	232334064104			18.0		
12	222234021413			14.5		
13	232334019304			16.0		
14	242434034113			15.5		
15	242434060711			12.0		
16	242434019110			2.5		
17	242434060606			14.5		
18	242434056010			8.5		
19	242434052217			10.0		
20	242434047501			11.0		
21	232334008907			19.5		
22	232334038913			10.0		
23	232334097509			19.5		
24	242434031115			16.5		
25	242434067618			10.0		
26	242434069912			19.0		
27	232334028420			17.0		
28	242434042217			19.0		
29	222234029108			10.5		
30	242434020501			2.5		
31	222234021005					
32	242434052917			19.5		
33	232334031903					

PV des notes CC par matière (Enseignant)

#	Matricule	Nom	Prénom	Note CC	Note corrigée	Signature
1	232334015902			12.0		
2	222234035804					
3	232334070104					
4	222234038407			16.0		
5	232434103309			15.5		
6	222234028506					
7	232334044714					
8	242434020003					
9	222234005511			3.0		
10	232334028317					
11	232334096905					
12	242434043019			14.5		
13	242434031413			16.0		
14	222234045619					
15	242434030815			19.0		
16	232334018705			12.5		
17	232334006918			3.5		
18	222234069706			18.0		
19	242434052807			13.5		
20	242434072109			3.0		
21	242434020907			17.5		
22	222234005305					
23	232334029501			3.5		
24	232334039420			10.5		
25	242434078920			13.5		
26	232334040806					
27	232334049104			18.0		
28	232334029502					
29	232334070411			14.0		
30	242434060507			19.0		

PV des notes CC par matière (Enseignant)

#	Matricule	Nom	Prénom	Note CC	Note corrigée	Signature
1	232334030502			18.0		
2	232334373314			18.0		
3	242436270010			18.0		
4	242434030818			16.0		
5	242434030520			17.0		
6	242434018319			15.0		
7	242434067720			17.0		
8	242434104805			15.0		
9	232334028008			15.0		
10	222234026902			17.0		
11	242434022206			17.0		
12	242434033811			16.0		
13	242434076206					
14	242434009918			15.0		
15	242434060503			14.0		
16	232334018801			14.0		
17	232334040916			17.0		
18	242434022914			17.0		
19	242434042204			14.0		
20	242434043219					
21	242434041617			15.0		
22	242434056107			14.0		
23	242434007702			14.0		
24	232334039104			17.0		
25	242434052801			17.0		
26	242434060613			16.0		
27	232434102215			17.0		
28	222234057216			14.0		
29	242434071904			14.0		
30	191934006358					

PV des notes CC par matière (Enseignant)

#	Matricule	Nom	Prénom	Note CC	Note corrigée	Signature
1	191934007906					
2	232334259107					
3	202034011417			15.0		
4	202034009144			18.0		
5	212134001425					
6	222234006618					
7	242434017801			15.0		
8	222234009502					
9	242434047915			14.0		
10	232434099820					
11	242434071706			18.0		
12	242434060807			16.0		
13	242434007915			14.0		
14	222234018701					
15	232334006811			17.0		
16	242434056215			16.0		
17	232434099410					
18	242434018514			15.0		
19	242434006807			18.0		
20	242434060719			16.0		
21	212134001429			14.0		
22	242434019002					
23	242434006712			15.0		
24	232334039008			15.0		
25	242434006119			14.0		
26	242434056508			14.0		
27	232334017016			18.0		
28	232334028203			17.0		
29	242434034306			14.0		
30	232334061415			14.0		

PV des notes CC par matière (Enseignant)

#	Matricule	Nom	Prénom	Note CC	Note corrigée	Signature
1	242434022901			14.0		
2	242434081210			15.0		
3	242434031904			15.0		
4	242434041915			16.0		
5	232334072510			17.0		
6	242434030907			17.0		
7	242434032012			15.0		
8	232334007414			12.0		
9	232434102602			13.0		
10	242434019208			12.0		
11	232334039908			16.0		
12	242434007910			14.0		
13	242434019404			15.0		
14	242434042003			15.0		
15	242434030407			19.0		
16	242434031213			16.0		
17	232334040011			16.0		
18	242434031505			18.0		
19	242434008719			10.0		
20	242434006809			15.0		
21	232434098212			13.0		
22	242434022001			12.0		
23	242434067417			13.0		
24	242434067617			13.0		
25	242434020903			12.0		
26	242434008416			17.0		
27	242434042213			19.0		
28	242434007310			13.0		
29	232434098210			10.0		
30	242434041913			15.0		
31	242434019816			13.0		

PV des notes CC par matière (Enseignant)

#	Matricule	Nom	Prénom	Note CC	Note corrigée	Signature
1	242434051918			17.0		
2	232434097301			16.0		
3	242434060820			15.5		
4	242434061119			12.0		
5	242434056513			16.0		
6	232334070318			15.0		
7	242434007605			15.5		
8	242434021502			14.0		
9	242434056317			16.0		
10	242434009717			15.0		
11	242434078504			17.5		
12	242434019201			17.5		
13	242434033111			16.5		
14	242434061001			18.0		
15	242434032802			15.0		
16	242434061204			17.0		
17	242434081112			15.5		
18	242434078506			16.5		
19	242434007114			13.0		
20	232434101012			17.0		
21	242434018617			12.5		
22	242434020102			16.0		
23	242434019209			15.5		
24	232334039204			17.0		
25	242434065304			18.5		
26	242434048012			13.5		
27	242434033505			16.0		
28	232434097320			17.0		

PV des notes CC par matière (Enseignant)

#	Matricule	Nom	Prénom	Note CC	Note corrigée	Signature
1	242434042501			5.5		
2	242434007701			15.25		
3	212134004427			5.25		
4	222234006418			8.75		
5	242434043207			16.75		
6	242434081117			14.75		
7	242434061720					
8	242434081408			12.5		
9	242434020603			8.75		
10	242434042611			18.5		
11	242434032013			13.5		
12	242434047713			11.75		
13	242434021006			16.0		
14	232334029601			19.25		
15	242434034208			13.5		
16	242434042604			17.75		
17	232334074901			9.75		
18	242434078619			18.0		
19	232434097104			18.25		
20	232434100315			17.25		
21	242434078720			11.5		
22	232334068314			13.75		
23	242434031819			12.25		
24	242434032119			13.25		
25	242434041712					
26	242434078708			13.25		
27	242434021811					

PV des notes CC par matière (Enseignant)

#	Matricule	Nom	Prénom	Note CC	Note corrigée	Signature
1	242434041502			15.0		
2	232334031317					
3	242434021713			16.5		
4	242434030518			17.5		
5	242434043010			13.0		
6	242434009401			16.0		
7	232334057501			13.0		
8	242434041908			13.5		
9	232334044918			15.0		
10	232334040414			16.5		
11	242434042914			12.0		
12	242434006206			17.0		
13	242434079002			18.0		
14	242434067415			17.0		
15	242434006915			15.5		
16	232334039616			15.5		
17	242434072010			16.5		
18	242434043115			18.0		
19	242434048206			13.5		
20	242434042302			15.0		
21	242434041106			16.5		
22	242434019503			17.0		
23	242434060715			14.0		
24	232334027306			15.0		
25	242434076307			16.5		
26	232334065916					
27	242434011915			16.5		
28	242434061319			17.0		

PV des notes CC par matière (Enseignant)

#	Matricule	Nom	Prénom	Note CC	Note corrigée	Signature
1	242434006116			12.0		
2	242434056518			16.0		
3	232434101004			0.0		
4	242434098107			15.0		
5	202034007813			15.5		
6	242434056410			16.5		
7	242434056505			15.5		
8	232334040703			15.0		
9	242434029809			16.0		
10	232434102710			15.0		
11	232334040718			15.0		
12	242434067419			10.0		
13	232334016210			14.5		
14	222434102501			15.0		
15	242434029812			12.0		
16	222434101002			13.0		
17	232334075009			12.0		
18	212434097707			13.0		
19	242434009316			13.0		
20	242434041918			14.0		
21	242434006908			13.5		
22	242434032118			14.5		
23	242434031102			14.0		
24	242434021919			13.0		
25	242434078509			13.5		
26	232434100205			17.0		
27	242434006316			13.5		
28	242434032211			13.0		
29	232334040320			14.5		

Spécialité: sciences biologiques
Niveau: Licence 2ème Année
Matière Biostatistique
Section/Groupe Section 1 / Groupe 6

Période: Semestre 4

PV des notes CC par matière (Enseignant)

#	Matricule	Nom	Prénom	Note CC	Note corrigée	Signature
1	242434067608			14.25		
2	242434073801			9.25		
3	242434076010			11.5		
4	242434007105			14.25		
5	242434030814			16.25		
6	242434055806			14.5		
7	242434033608			11.75		
8	242434021920			13.25		
9	232434105313			15.25		
10	242434067616			16.5		
11	242434067411			15.5		
12	242434067817			14.5		
13	242434021405			15.5		
14	232334057505			9.75		
15	242434047412			15.25		
16	242434076005			10.25		
17	232434099416			15.0		
18	242434061702			18.75		
19	232434104012			17.25		
20	242434020115			14.0		
21	242434034012			14.25		
22	242434021908			8.25		
23	242434056607			16.0		
24	242434031219			15.5		
25	242434033703			16.5		
26	242434072002					
27	242434078517			17.5		
28	232334095701			12.25		

PV des notes CC par matière (Enseignant)

#	Matricule	Nom	Prénom	Note CC	Note corrigée	Signature
1	242434020111			14.0		
2	222234019316			11.0		
3	242434009608			16.5		
4	242434041411					
5	242434068104			14.5		
6	242434100705			16.0		
7	232334049317			17.5		
8	232334029406			16.0		
9	242434041905			13.0		
10	242434047503			17.5		
11	232334029512			17.0		
12	242434018217			15.0		
13	242434007014			18.0		
14	242434007510			16.0		
15	242434006415			17.5		
16	242434043314			16.5		
17	222434103804			11.0		
18	232434100312			10.0		
19	242434079017			13.5		
20	242434041711			16.5		
21	222434097909			13.0		
22	242434031620			11.0		
23	232334006216			15.5		
24	232432510511			13.5		
25	242434007901			11.5		
26	212434100308			9.0		
27	242434042202			13.0		

PV des notes CC par matière (Enseignant)

#	Matricule	Nom	Prénom	Note CC	Note corrigée	Signature
1	232334032319					
2	242434007110			12.25		
3	232334048317					
4	232334031516					
5	242434020811			13.75		
6	232334027504			11.75		
7	232334070416					
8	222234045006			8.75		
9	242434041407			15.75		
10	242434008812			14.5		
11	242434061315			17.25		
12	242434007203			16.25		
13	242434031214			18.5		
14	232334018101					
15	242434019202			13.25		
16	242434019102			9.25		
17	242434078701			17.0		
18	242434078706			17.5		
19	242434100417			9.75		
20	242434021710			11.75		
21	232334040702			9.75		
22	242434067610			18.75		
23	242434021404			14.5		
24	242434032217			16.0		
25	232434098703			9.25		
26	242434009304			11.25		
27	242434033916			9.75		
28	242434006620			8.5		

PV des notes CC par matière (Enseignant)

#	Matricule	Nom	Prénom	Note CC	Note corrigée	Signature
1	242434030601			10.25		
2	232434097204			16.75		
3	232334045008			10.25		
4	232334019905			10.25		
5	242434103517					
6	232334015905			5.75		
7	232334017408			13.25		
8	242434006604					
9	242434076320			13.75		
10	232334044710			9.75		
11	232334064104			6.25		
12	222234021413			3.75		
13	232334019304			9.75		
14	242434034113			18.0		
15	242434060711			11.75		
16	242434019110			12.75		
17	242434060606			8.25		
18	242434056010			17.75		
19	242434052217			14.0		
20	242434047501					
21	232334008907			9.75		
22	232334038913			11.75		
23	232334097509			8.25		
24	242434031115			15.75		
25	242434067618			17.75		
26	242434069912			10.75		
27	232334028420			8.75		
28	242434042217			16.0		
29	222234029108					
30	242434020501					
31	222234021005					
32	242434052917			8.5		
33	232334031903					

PV des notes CC par matière (Enseignant)

#	Matricule	Nom	Prénom	Note CC	Note corrigée	Signature
1	232334015902					
2	222234035804					
3	232334070104					
4	222234038407			8.0		
5	232434103309			15.5		
6	222234028506			0.5		
7	232334044714					
8	242434020003					
9	222234005511			15.0		
10	232334028317					
11	232334096905					
12	242434043019			13.0		
13	242434031413			16.0		
14	222234045619					
15	242434030815			16.5		
16	232334018705			12.5		
17	232334006918					
18	222234069706			14.0		
19	242434052807			16.0		
20	242434072109			13.5		
21	242434020907			14.0		
22	222234005305					
23	232334029501			14.0		
24	232334039420			16.0		
25	242434078920			15.5		
26	232334040806					
27	232334049104			17.0		
28	232334029502					
29	232334070411			15.0		
30	242434060507			14.5		

PV des notes CC par matière (Enseignant)

#	Matricule	Nom	Prénom	Note CC	Note corrigée	Signature
1	232334030502			11.0		
2	232334373314			12.0		
3	242436270010			11.0		
4	242434030818			10.0		
5	242434030520			10.0		
6	242434018319			11.0		
7	242434067720			11.0		
8	242434104805			10.0		
9	232334028008			14.0		
10	222234026902			13.0		
11	242434022206			12.0		
12	242434033811			10.0		
13	242434076206			11.0		
14	242434009918			11.0		
15	242434060503			10.0		
16	232334018801			8.0		
17	232334040916			11.0		
18	242434022914			14.0		
19	242434042204			14.0		
20	242434043219			0.0		
21	242434041617			10.0		
22	242434056107			8.0		
23	242434007702			10.0		
24	232334039104			12.0		
25	242434052801			14.0		
26	242434060613			10.0		
27	232434102215			12.0		
28	222234057216			14.0		
29	242434071904			11.0		
30	191934006358			0.0		

PV des notes CC par matière (Enseignant)

#	Matricule	Nom	Prénom	Note CC	Note corrigée	Signature
1	191934007906					
2	232334259107					
3	202034011417			13.5		
4	202034009144			13.0		
5	212134001425					
6	222234006618			0.5		
7	242434017801			10.0		
8	222234009502			13.5		
9	242434047915			15.5		
10	232434099820					
11	242434071706			18.0		
12	242434060807			14.0		
13	242434007915			14.0		
14	222234018701					
15	232334006811			15.5		
16	242434056215			14.5		
17	232434099410					
18	242434018514			16.5		
19	242434006807			14.0		
20	242434060719			11.0		
21	212134001429			15.0		
22	242434019002					
23	242434006712			16.0		
24	232334039008			16.5		
25	242434006119			15.5		
26	242434056508			14.0		
27	232334017016			17.0		
28	232334028203			16.0		
29	242434034306			14.0		
30	232334061415			16.5		

PV des notes des examens par matière (Enseignant)

#	Matricule	Nom	Prénom	Note Examen	Note corrigée	Signature
1	242434022901			15.5		
2	242434081210			17.0		
3	242434031904			17.0		
4	242434006116			16.5		
5	242434041915			18.5		
6	232334072510			18.5		
7	242434030907			18.0		
8	242434032012			14.5		
9	232334007414			8.0		
10	232434102602			10.0		
11	242434041502			14.5		
12	242434019208			11.0		
13	232334039908			12.0		
14	242434007910			15.5		
15	242434019404			4.0		
16	242434042003			15.0		
17	242434042501			1.0		
18	242434030407			19.0		
19	242434031213			14.0		
20	232334040011			15.0		
21	242434031505			16.5		
22	242434008719			9.0		
23	242434007701			15.0		
24	242434007110			12.5		
25	242434006809			15.5		
26	232434098212			12.0		
27	242434022001					
28	242434067417			13.5		
29	242434067617			16.5		
30	242434051918			14.5		
31	232434097301			12.5		
32	242434060820			15.0		
33	242434061119			12.5		
34	242434056513			15.5		
35	232334070318			13.0		
36	242434007605			13.0		
37	212134004427			4.0		
38	242434021502			10.0		
39	242434056317			17.5		
40	242434009717			15.5		
41	242434078504			20.0		
42	242434019201			9.5		
43	242434033111			17.5		
44	242434061001			17.0		
45	242434032802			15.0		
46	242434061204			14.0		
47	242434081112			9.0		
48	242434078506			10.0		
49	242434007114			10.0		
50	232434101012			19.5		
51	242434018617			9.0		
52	242434020102			9.0		
53	242434019209			6.5		
54	232334039204			17.0		
55	242434067608			12.75		
56	222234006418			7.0		
57	242434065304			13.5		
58	242434048012			14.5		
59	242434043207			17.5		
60	242434081117			12.0		
61	242434061720					
62	242434081408			17.0		
63	242434020603			3.0		
64	242434042611			19.0		
65	242434032013			13.5		
66	242434047713			9.0		
67	242434021006			18.5		
68	232334029601			18.0		
69	242434073801			4.0		
70	242434034208			15.0		
71	242434042604			20.0		
72	232334074901			10.0		
73	242434078619			15.5		
74	242434020111			14.0		
75	232434097104			18.0		
76	232434100315			15.5		

#	Matricule	Nom	Prénom	Note Examen	Note corrigée	Signature
77	242434078720			15.5		
78	222234019316			8.5		
79	242434020903			7.0		
80	232334068314			15.0		
81	242434031819			16.5		
82	242434032119			11.5		
83	242434041712					
84	242434078708			12.5		
85	242434021713			16.5		
86	242434021811					
87	242434030518			14.0		
88	242434043010			13.5		
89	242434009401			17.0		
90	232334057501			13.0		
91	242434041908			10.5		
92	232334044918			14.5		
93	242434033505			14.0		
94	232334040414			16.0		
95	242434042914			8.0		
96	242434006206			12.0		
97	242434079002			17.5		
98	242434067415			19.5		
99	242434020811			16.0		
100	242434006915			13.0		
101	232334039616			11.5		
102	242434072010			19.0		
103	242434043115			19.5		
104	242434048206			11.5		
105	242434042302			19.0		
106	242434009608			19.5		
107	242434041106			11.5		
108	242434008416			20.0		
109	242434056518			10.0		
110	242434019503			17.0		
111	242434042213			14.5		
112	242434060715			15.0		
113	232334027306			15.5		
114	232434101004			15.5		
115	242434098107			18.5		
116	202034007813					
117	242434056410			20.0		
118	242434056505			13.0		
119	232334040703			13.0		
120	242434029809			15.5		
121	232434102710			11.0		
122	232334040718			14.0		
123	242434067419			7.0		
124	232334016210			13.5		
125	242434007310			17.5		
126	222434102501			11.5		
127	242434029812			14.0		
128	232334027504			9.5		
129	222434101002					
130	232334075009			15.5		
131	212434097707			17.0		
132	242434009316			10.5		
133	242434041918			11.5		
134	242434076307			17.0		
135	242434076010			6.5		
136	242434006908			8.25		
137	242434032118			12.0		
138	242434031102			14.0		
139	242434021919			12.5		
140	242434078509			10.5		
141	232434100205			15.5		
142	242434006316			13.0		
143	242434032211			11.5		
144	242434007105			13.5		
145	242434030814			11.5		
146	232434098210			17.5		
147	242434055806			12.0		
148	232434097320			20.0		
149	242434033608			3.0		
150	242434021920			8.25		
151	232434105313			12.0		
152	242434067616			18.0		
153	242434067411			9.0		
154	242434067817			15.5		
155	242434021405			15.5		
156	232334057505			9.5		
157	242434047412			11.0		
158	242434076005			8.5		

#	Matricule	Nom	Prénom	Note Examen	Note corrigée	Signature
159	232434099416			14.0		
160	242434061702			17.5		
161	232434104012			17.0		
162	242434020115			11.5		
163	242434034012			12.5		
164	242434021908			11.0		
165	242434056607			20.0		
166	242434041913			12.5		
167	242434031219			14.5		
168	242434033703			16.5		
169	242434072002					
170	242434078517			16.0		
171	242434041411					
172	242434068104			12.5		
173	242434100705			12.0		
174	232334049317			17.0		
175	232334029406			17.5		
176	242434041905			14.0		
177	242434047503			12.0		
178	232334029512			16.5		
179	242434018217			11.0		
180	242434007014			17.0		
181	242434007510			15.0		
182	222234045006			16.0		
183	232334040320			10.0		
184	242434006415			19.0		
185	242434043314			13.5		
186	222434103804			14.0		
187	232434100312			12.0		
188	242434079017			8.0		
189	242434041711			19.0		
190	242434011915			16.0		
191	222434097909			16.0		
192	242434031620			12.0		
193	232334006216			15.5		
194	232432510511			11.5		
195	242434007901			19.0		
196	242434041407			12.0		
197	212434100308			11.5		
198	242434008812			18.5		
199	242434061315			14.0		
200	242434061319			18.5		
201	242434042202			12.0		
202	242434007203			11.5		
203	242434031214			16.75		
204	242434019202			12.0		
205	242434019102			8.0		
206	242434078701			17.5		
207	242434078706			11.75		
208	242434100417			10.5		
209	242434021710			12.5		
210	232334040702			13.0		
211	242434067610			16.75		
212	242434021404			7.5		
213	242434032217			11.5		
214	242434019816			12.5		
215	232434098703			3.5		
216	242434009304			13.0		
217	242434033916			5.5		
218	242434006620			10.5		

PV des notes des examens par matière (Enseignant)

#	Matricule	Nom	Prénom	Note Examen	Note corrigée	Signature
1	242434030601			16.0		
2	232434097204			19.0		
3	232334045008			12.0		
4	232334019905			5.5		
5	232334015902			11.5		
6	242434103517					
7	232334015905			7.5		
8	232334017408			11.0		
9	242434006604					
10	242434076320			18.5		
11	222234038407			8.5		
12	232334044710			4.5		
13	232334064104			13.0		
14	222234021413			6.0		
15	232334019304			10.0		
16	242434034113			14.5		
17	242434060711			10.0		
18	242434019110			12.5		
19	242434060606			9.0		
20	232434103309			16.0		
21	242434056010			14.0		
22	242434052217			8.0		
23	242434047501			5.5		
24	232334008907			17.5		
25	222234028506					
26	232334038913			10.0		
27	232334097509			13.0		
28	242434031115			8.5		
29	242434067618			18.0		
30	242434069912			13.5		
31	232334028420			8.0		
32	242434042217			14.5		
33	222234029108			7.0		
34	242434020501					
35	242434020003					
36	222234005511					
37	222234021005					
38	232334096905					
39	242434052917			18.0		
40	242434043019			7.5		
41	242434031413			15.5		
42	242434030815			5.0		
43	232334018705			9.0		
44	232334006918					
45	222234069706			14.5		
46	232334031903			6.0		
47	242434052807			13.5		
48	242434072109			12.5		
49	242434020907			8.5		
50	232334029501			4.5		
51	232334039420			8.0		
52	242434078920			16.0		
53	232334040806					
54	232334049104			12.5		
55	232334070411			12.0		
56	242434060507			10.0		

PV des notes des examens par matière (Enseignant)

#	Matricule	Nom	Prénom	Note Examen	Note corrigée	Signature
1	232334030502			9.5		
2	191934007906					
3	232334373314			4.0		
4	242436270010			14.25		
5	242434030818			2.0		
6	242434030520			13.5		
7	242434018319			9.5		
8	242434067720			9.0		
9	242434104805			9.0		
10	232334028008			6.0		
11	222234026902			4.5		
12	242434022206			4.5		
13	242434033811			10.5		
14	242434076206			18.0		
15	242434009918			3.0		
16	242434060503			6.5		
17	232334018801			14.0		
18	232334040916			14.0		
19	242434022914			8.75		
20	202034011417			7.5		
21	242434042204			9.5		
22	202034009144			1.5		
23	212134001425					
24	222234006618					
25	242434043219					
26	242434041617			7.25		
27	242434056107			10.0		
28	242434007702			2.5		
29	232334039104			11.5		
30	242434052801			9.0		
31	242434060613			6.0		
32	232434102215			9.5		
33	222234057216			10.25		
34	242434071904			13.0		
35	242434017801			15.0		
36	222234009502			11.75		
37	242434047915			14.5		
38	232434099820					
39	242434071706			18.5		
40	242434060807			9.5		
41	242434007915			3.5		
42	232334006811			12.5		
43	242434056215			11.5		
44	232434099410					
45	191934006358					
46	242434018514			12.0		
47	242434006807			5.5		
48	242434060719			11.5		
49	212134001429			6.0		
50	242434019002					
51	242434006712			11.25		
52	232334039008			18.25		
53	242434006119					
54	242434056508			1.5		
55	232334017016			12.5		
56	232334028203			6.0		
57	242434034306			15.0		
58	232334061415			11.5		

التصحيح النموذجي لإمتحان مادة الإحصاء الحيوي

التمرين الأول

البيانات التالية تمثل قياسات لكمية السكر في الدم (Glycémie) بمليمول/لتر لمجموعة من الأفراد:

Glycémie	[4,8 – 5[	[5 – 5,2[	[5,2 – 5,4[	[5,4 – 5,6[	[5,6 – 5,8[
n _i	4	7	6	5	3

1. حدد بدقة المجتمع المدروس، الصفة المدروسة وما نوعها.

• المجتمع المدروس: الإنسان. 0,5

• الصفة المدروسة: كمية السكر. 0,5 كمية مستمرة. 0,5

2. أرسم جدولاً احصائياً يمثل النتائج السابقة.

E _i	n _i	c _i	f _i	F _i ↑	N _i ↑
[4,8 – 5[	4	4,9	0,16	0,16	4
[5 – 5,2[	7	5,1	0,28	0,44	11
[5,2 – 5,4[	6	5,3	0,24	0,68	17
[5,4 – 5,6[	5	5,5	0,2	0,88	22
[5,6 – 5,8[	3	5,7	0,12	1	25
		0,5	0,5	0,5	0,5

3. أوجد المنوال بيانياً (الشكل -1-).

4. أوجد المدى. 0,5

$$E = 5,8 - 4,8 = 1$$

5. أحسب الوسيط.

الفئة الوسيطة: [5,2 – 5,4[. 0,5

$$M_e = L + \left[\frac{\frac{N}{2} - N_{M_{e-1}}}{n_{M_e}} \times h \right]. \quad \text{0,5}$$

لدينا

$$L = 5,2. \quad \frac{N}{2} = 12,5. \quad N_{M_{e-1}} = 11.$$

$$n_{M_e} = 6. \quad h = 0,2$$

ومنه

$$M_e = 5,2 + \left[\frac{12,5 - 11}{6} \times 0,2 \right] = 5,25. \quad \text{0,5}$$

التمرين الثاني

البيانات التالية تمثل قيمة PH وكمية CO (Carbone Organique) المقاس في عينات ميدانية لمجموعة من الحفري الغابة:

PH (X)	5,7	5,2	5,8	5,4	5,6	5,1	5,5
CO (Y)	2,1	1,9	1,2	1,3	2,25	1,25	1,1

• أحسب معامل بيرسون للبيانات السابقة ثم علق عليه.
حساب المجاميع.

$$\sum x = 5,7 + \dots + 5,5 = 38,3. \quad \text{0,5}$$

$$\sum y = 2,1 + \dots + 1,1 = 11,1. \quad \text{0,5}$$

$$\sum xy = (5,7 * 2,1) + \dots + (5,5 * 1,1) = 60,85. \quad \text{0,5}$$

$$\sum x^2 = 5,7^2 + \dots + 5,5^2 = 209,95. \quad \text{0,5}$$

$$\sum y^2 = 2,1^2 + \dots + 1,1^2 = 18,98. \quad \text{0,5}$$

معامل بيوسون.

$$r_p = \frac{[n \sum xy] - [\sum x \sum y]}{\sqrt{[(n \sum x^2) - (\sum x)^2][n \sum y^2 - (\sum y)^2]}}. \quad \text{0,5}$$

$$r_p = \frac{[7 * 60,85] - [38,3 * 11,1]}{\sqrt{[(7 * 209,95) - (38,3)^2][7 * 18,98] - (11,1)^2}}$$

$$= \frac{425,95 - 425,13}{\sqrt{[(7 * 209,95) - (38,3)^2][7 * 18,98] - (11,1)^2}}$$

$$= \frac{425,95 - 425,13}{\sqrt{(2,76)(9,65)}} = \frac{0,82}{\sqrt{(2,76)(9,65)}} = \frac{0,82}{5,16}$$

$$= 0,15/0,16. \quad \text{1}$$

التعليق: ارتباط طردي موجب. 0,5

البيانات التالية تمثل توزيع مجموعة من أوراق النباتات حسب عدد المسامات:

x_i	10	11	13	14	15
n_i	7	10	15	9	7

4. مثل بيانيا المتغير المدروس (الشكل -2).

5. أحسب المتوسط الحسابي.

$$\bar{x} = \frac{1}{N} \sum n_i \times x_i = \frac{606}{48} = 12,62. \quad [0,5] + [0,5]$$

6. أحسب التباين والانحراف المعياري.

$$v_x = \left[\frac{1}{N} \sum n_i \times (x_i)^2 \right] - (\bar{x})^2$$

$$= \left[\frac{1}{48} (7784) \right] - (12,62)^2 = 2,9. \quad [0,5] + [0,5]$$

$$\sigma = \sqrt{v_x} = \sqrt{2,9} = 1,7. \quad [0,5]$$

6. ما طبيعة (شكل) منحنى التوزيع التكراري؟

$$\alpha_p = \frac{\bar{x} - M_e}{\sigma} = \frac{12,62 - 13}{1,7} = -0,22$$

[0,5]

$$\alpha_q = \frac{Q_3 - 2Q_2 + Q_1}{Q_3 - Q_1} = \frac{-1}{3} = -0,33$$

• منحنى التوزيع التكراري ملتوي جهة اليسار. [0,5]

1. حدد بدقة المتغير المدروس، الصفة المدروسة وما نوعها.

• المتغير المدروس: النباتات. [0,5]

• الصفة المدروسة: عدد المسامات. [0,5] كمية متقطعة. [0,5]

2. أرسم جدولا احصائيا يمثل النتائج السابقة.

x_i	n_i	f_i	$F_i \uparrow$	$N_i \uparrow$
10	7	0,14	0,14	7
11	10	0,2	0,34	17
13	15	0,31	0,65	32
14	9	0,18	0,83	41
15	7	0,14	0,97	48
		[0,5]	[0,5]	[0,5]

3. أوجد الربيعيات.

$$Q_1: \frac{N}{4} = \frac{48}{4} = 12.$$

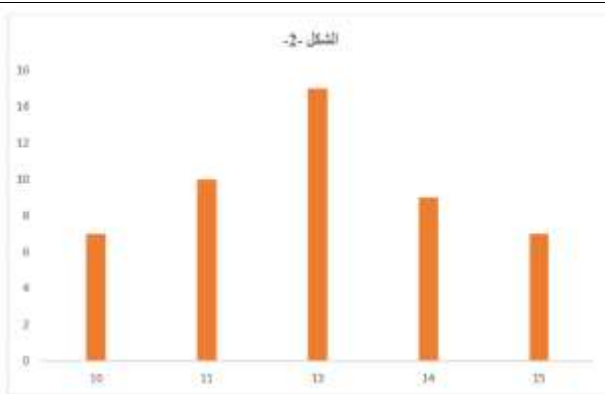
أو $N_i^\uparrow = 17 \geq 12 \Rightarrow Q_1 = 11. \quad [0,5]$

$$Q_2: \frac{N}{2} = \frac{48}{2} = 24.$$

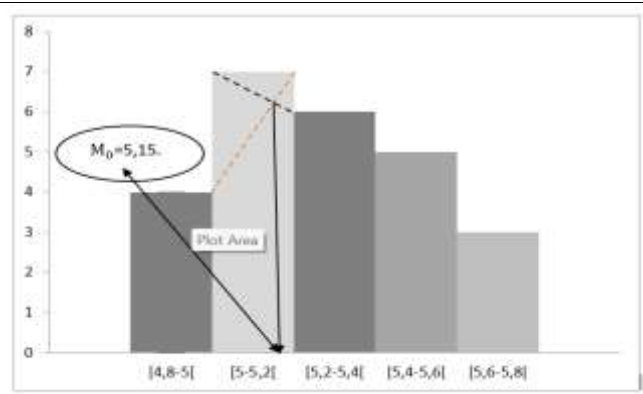
$$N_i^\uparrow = 32 \geq 24 \Rightarrow Q_2 = M_e = 13. \quad [0,5]$$

$$Q_3: \frac{3N}{4} = \frac{144}{4} = 36.$$

$$N_i^\uparrow = 41 \geq 36 \Rightarrow Q_3 = 14. \quad [0,5]$$



[1]



التمثيل البياني + قيمة المنوال [0,5] + [0,5]

ملاحظة (التمرين الثالث)

$$\bar{x} = 12,625 \Rightarrow \begin{cases} v_x = 2,76 \\ \sigma = 1,66 \end{cases}$$

Notes des étudiants endettés en L2 (S4)

Matricule	Nom	Prénom	Spécialité	Examen	CC
19193400891 8	AZRI	Nacereddine	BTV	/	/
22223401621 8	BOUADIS	Ayoub	BTV	/	/
34007661	BENARAB	Mohamed	BTV	/	/
23233409171 1	ABES	ARIDJ NOUR EL IMANE	Physiologie animale	15,5	/
22223402880 1	OUSSAR	Dia eddine	Physiologie animale	6	/
22223405711 8	BELLOUTI	Bouthaina	Ecologie	10	15