UNIVERSITAS
NEGERI YOGYAKARTA
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STUDENT WORKLOAD REPORT

FACULTY OF ENGINEERING

Master of Electrical Engineering Education (MEEE)
Master of Electronics and Informatics Engineering Education (MEIEE)
Master of Mechanical Engineering Education (MMEE)
Bachelor of Informatics Engineering Education (BIEE)

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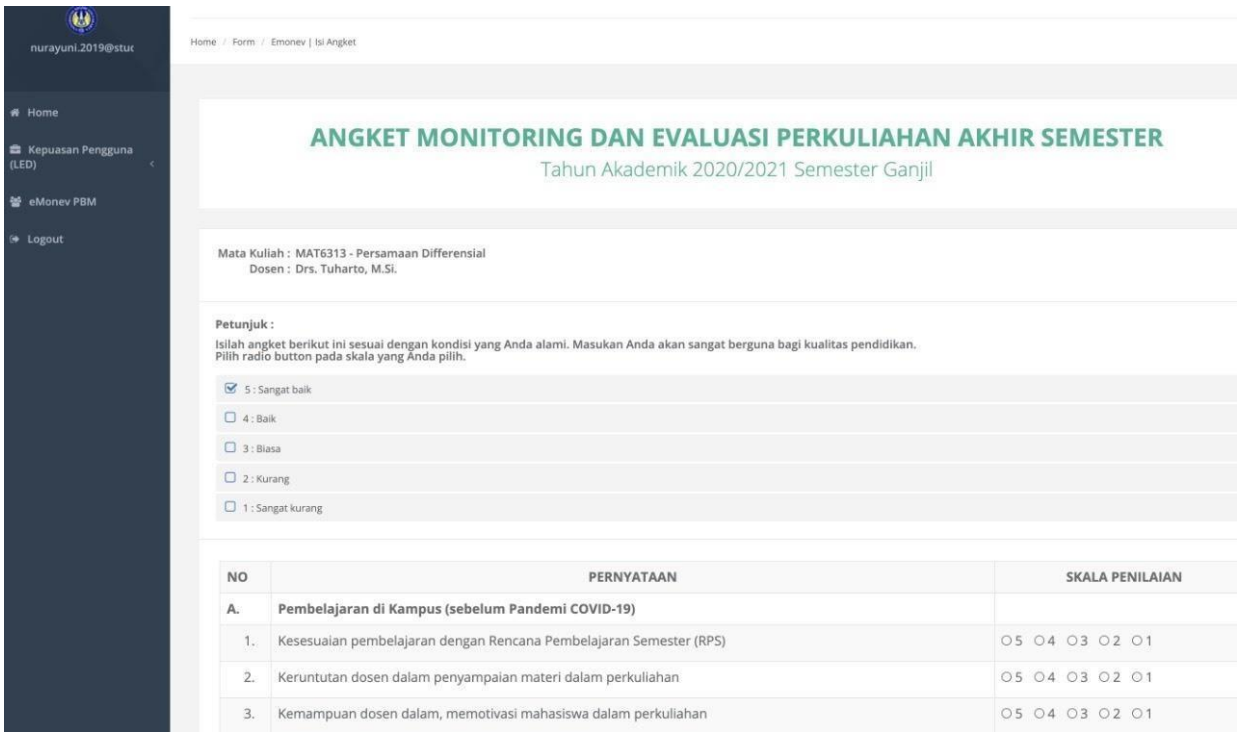
Students' Workload Survey MEEE

A. Mechanism

With respect to measuring students' workload, in December 2020 UNY has improved the regular students' monitoring and evaluating system by integrating new items to measure students' actual workload. The new system is aimed to measure students' workload for every course at the end of every semester. This monitoring and evaluating system is available online on (http://survey.uny.ac.id/emonev-pbm/take-survey-akhir)

The new system has been implemented since the end of the first semester of the academic year 2020/2021 (i.e. December 2020). The system is managed by the university and each study program has a team who responsible for monitoring and evaluating. The team holds an admin account to retrieve and analyze the survey data. The appearance of the system is shown in the following figure.



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ANGKET MONITORING DAN EVALUASI PERKULIAHAN AKHIR SEMESTER

Tahun Akademik 2020/2021 Semester Ganjil

Mata Kuliah : MAT6313 - Persamaan Differensial
Dosen : Drs. Tuharto, M.Si.

Petunjuk :

Isilah angket berikut ini sesuai dengan kondisi yang Anda alami. Masukan Anda akan sangat berguna bagi kualitas pendidikan.
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- ☐ 4 : Baik
- ☐ 3 : Biasa
- ☐ 2 : Kurang
- ☐ 1 : Sangat kurang

NO	PERNYATAAN	SKALA PENILAIAN
A.	**Pembelajaran di Kampus (sebelum Pandemi COVID-19)**	
1.	Kesesuaian pembelajaran dengan Rencana Pembelajaran Semester (RPS)	○5 ○4 ○3 ○2 ○1
2.	Keruntutan dosen dalam penyampaian materi dalam perkuliahan	○5 ○4 ○3 ○2 ○1
3.	Kemampuan dosen dalam, memotivasi mahasiswa dalam perkuliahan	○5 ○4 ○3 ○2 ○1

14.	Kesesuaian ujian dengan materi yang disampaikan Dosen	○5 ○4 ○3 ○2 ○1
15.	Kepedulian Dosen terhadap kesulitan mahasiswa	○5 ○4 ○3 ○2 ○1
16.	Kesesuaian beban pekerjaan dengan kompetensi yang akan dicapai	○5 ○4 ○3 ○2 ○1
17.	Kemudahan mendapatkan akses tentang penilaian dan tugas-tugas matakuliah	○5 ○4 ○3 ○2 ○1
18.	Kejelasan informasi tentang penilaian	○5 ○4 ○3 ○2 ○1
19.	Dibandingkan dengan mata kuliah yang lainnya, jumlah waktu yang anda habiskan khusus untuk mata kuliah ini	○ Lebih Sedikit ○ Sama ○ Lebih Banyak
20.	Waktu efektif yang and habiskan dalam seminggu (di luar jam perkuliahan) untuk belajar mata kuliah ini (dalam satuan menit)	
B.	**Pembelajaran Masa Pandemi COVID-19 (Pembelajaran di Rumah/Kost/Luar Kampus)**	
1.	Kesesuaian durasi waktu pembelajaran daring dengan jadwal kuliah	○5 ○4 ○3 ○2 ○1
2.	Ketercapaian tujuan perkuliahan melalui pembelajran daring	○5 ○4 ○3 ○2 ○1
3.	Ketepatan metode perkuliahan yang diterapkan dalam pembelajaran daring	○5 ○4 ○3 ○2 ○1
4.	Ketepatan umpan balik yang diberikan dosen dalam pembelajaran daring	○5 ○4 ○3 ○2 ○1
5.	Kemudahan materi daring dipahami	○5 ○4 ○3 ○2 ○1
6.	Kesesuaian tugas yang diberikan dengan Capaian Pembelajaran	○5 ○4 ○3 ○2 ○1
7.	Kesesuaian media pembelajaran yang digunakan dengan karakteristik materi dalam pembelajaran daring	○5 ○4 ○3 ○2 ○1
8.	Kesesuaian teknik penilaian yang digunakan dosen	○5 ○4 ○3 ○2 ○1
9.	Kualitas secara umum perkuliahan ini melalui daring	○5 ○4 ○3 ○2 ○1

In general, the questionnaire in the system is aimed to retrieve data about teaching and learning activities for one semester. Specifically, items related to students' workload are items in section A number 16, 19, and 20.

Table 1. Students' workload questionnaire

Item no.	Statements	Answer Choices
16	Kesesuaian beban pekerjaan dengan kompetensi yang akan dicapai *The suitability of workload with the competencies to be achieved*	○ 5 ○ 4 ○ 3 ○ 2 ○ 1
19	Dibandingkan dengan matakuliah yang lainnya, jumlah waktu yang Anda habiskan khusus untuk mata kuliah *Compared to other courses, the amount of time you spend specifically on this course is*	○ sama ○ lebih sedikit ○ lebih banyak ○ *equal* ○ *less than* ○ *more than*
20	Waktu efektif yang Anda habiskan dalam seminggu (di luar jam perkuliahan) untuk belajar mata kuliah ini (dalam menit) *The effective time you spend in a week (outside class hours) to study in this course (in minutes)*	… menit *… minutes*

B. The result

The result of the students' workload survey, for item number 16 was described and converted into categories according to Table 2.

Table 2 Students' Workload Categorization

Score Interval	Score	Category
$X > X_i + 1{,}5\ SB_i$	$X > 4{,}00$	Very Suitable
$X_i + SB_i < X \leq X_i + 1{,}5\ SB_i$	$3{,}67 < X \leq 4{,}00$	Suitable
$X_i - 0{,}5\ SB_i < X \leq X_i + SB_i$	$2{,}67 < X \leq 3{,}67$	Fair
$X_i - 1{,}5\ SB_i < X \leq X_i - 0{,}5\ SB_i$	$2 < X \leq 2{,}67$	Less Suitable
$X \leq X_i - 1{,}5\ SB_i$	$X \leq 2$	Not Suitable

The result was presented in Figure 1.

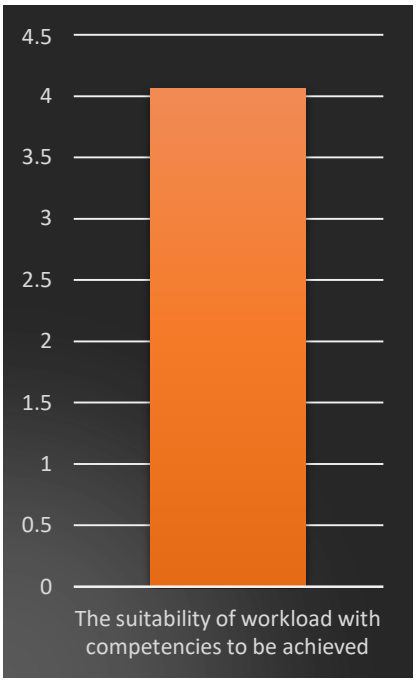

Figure 1. Student Responses Related to Workload Suitability

Based on the result represented in Figure 1, the workload suitability was in the very suitable category with an average of 4.06. This is in accordance with the standard workload of the university.

The result of the students' workload survey item number 19 was depicted in Table 3 and Figure 2. The subject of Penulisan Karya Ilmiah (Scientific Writing) and Proyek Pendidikan dan Pelatihan Teknik Elektro (Electrical Engineering Education and Training Project) had percentage of students answered "more than" as much as 40%. Meanwhile, for other courses, students generally answered that the time they spent in other courses was equal to that course.

Table 3. Percentage of Student Responses to Item 19

Courses	Less Than	Equal	More Than
Renewable Energy	40%	60%	0%
E-Instructional of Vocational Education	14%	86%	0%
Philosophy of Science	21%	79%	0%
Internet of Things	21%	79%	0%
Methodology of Educational Research	7%	71%	21%
Vocational Education	29%	50%	21%
Academic Writing	0%	60%	40%
Electrical Learning Project of Vocational Education and Training	0%	60%	40%
Optimization Techniques	14%	79%	7%
Educational Sciences	0%	100%	0%
Vocational Curriculum and Learning	0%	100%	0%
Educational Psychology	50%	50%	0%

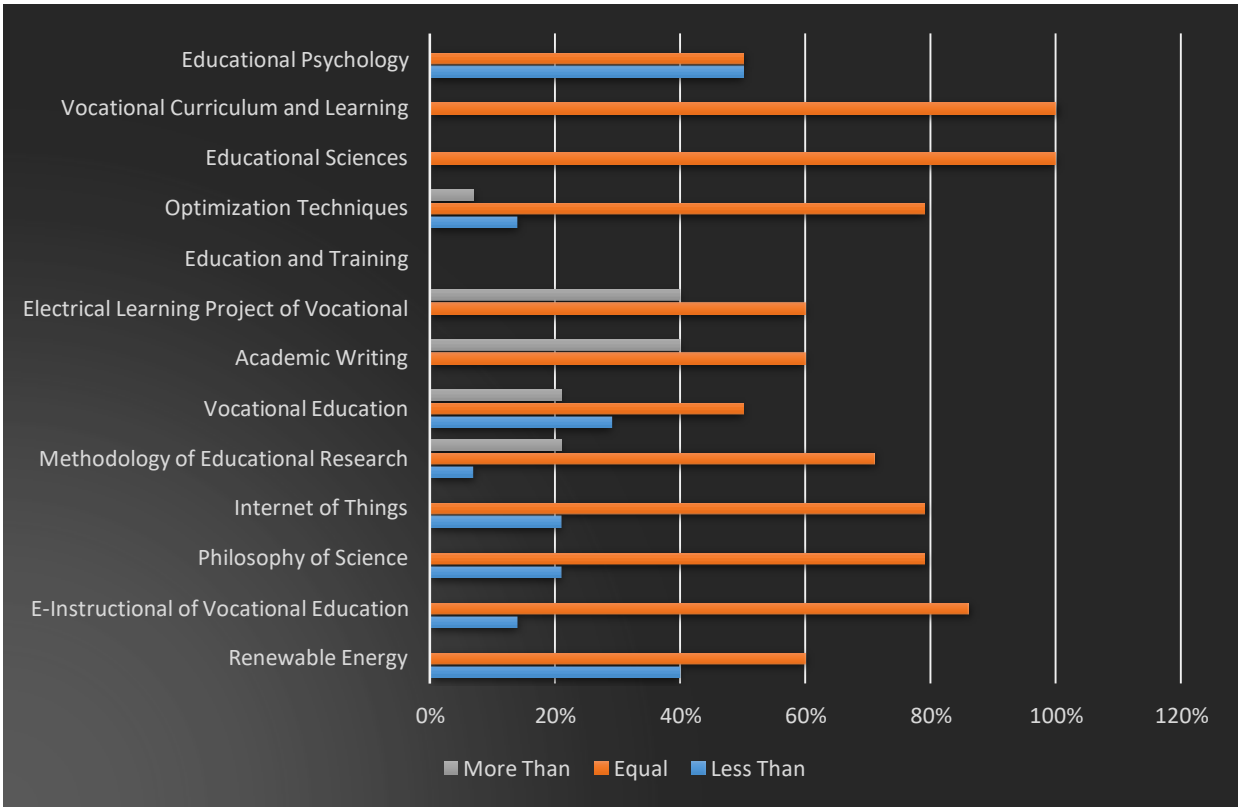

Figure 2. Percentage of Student Responses to Item 19

Based on the results of a survey related to item number 20 *"The effective time you spend in a week (outside class hours) to study this course (in minutes)"*, there were three courses that get a dominant time spend of more than 180 minutes/week, namely Energi Terbarukan (Renewable Energy), Penulisan Karya Ilmiah (Scientific Writing) with, and Proyek Pendidikan dan Pelatihan Teknik Elektro (Electrical Engineering Education and Training Project) with 80%. Most of the courses that need to be studied outside of the classroom are related to independent project and analysis of electrical and vocational courses.

The results also showed that there were nine courses which study time spend were less than or equal to 60 minutes/week, namely Kurikulum dan Pembelajaran Kejuruan (Vocational Curriculum and Learning) with 100% and Psikologi Pendidikan (Educational Psychology) with 50%. Courses that required less than 60 minutes of time were dominated by education and vocational courses. In general, the average percentage of students' time spend to study was 60-120 minutes and more than 180 minutes, because the master degree requires a lot of analysis. Table 4 and Figure 3 depict the more details.

Table 4. Percentage of Study Time Outside Class Hours

Courses	0-60 Minutes	61-120 Minutes	121-180 Minutes	> 180 Minutes
Renewable Energy	**20%**	**0%**	**0%**	**80%**
E-Instructional of Vocational Education	**29%**	**50%**	**0%**	**21%**

Philosophy of Science	**36%**	**29%**	**7%**	**29%**
Internet of Things	**29%**	**36%**	**7%**	**29%**
Methodology of Educational Research	**29%**	**36%**	**7%**	**29%**
Vocational Education	**29%**	**29%**	**14%**	**29%**
Academic Writing	**20%**	**0%**	**0%**	**80%**
Electrical Learning Project of Vocational Education and Training	**20%**	**0%**	**0%**	**80%**
Optimization Techniques	**21%**	**36%**	**14%**	**29%**
Educational Sciences	**0%**	**50%**	**0%**	**50%**
Vocational Curriculum and Learning	**100%**	**0%**	**0%**	**0%**
Educational Psychology	**50%**	**0%**	**0%**	**50%**

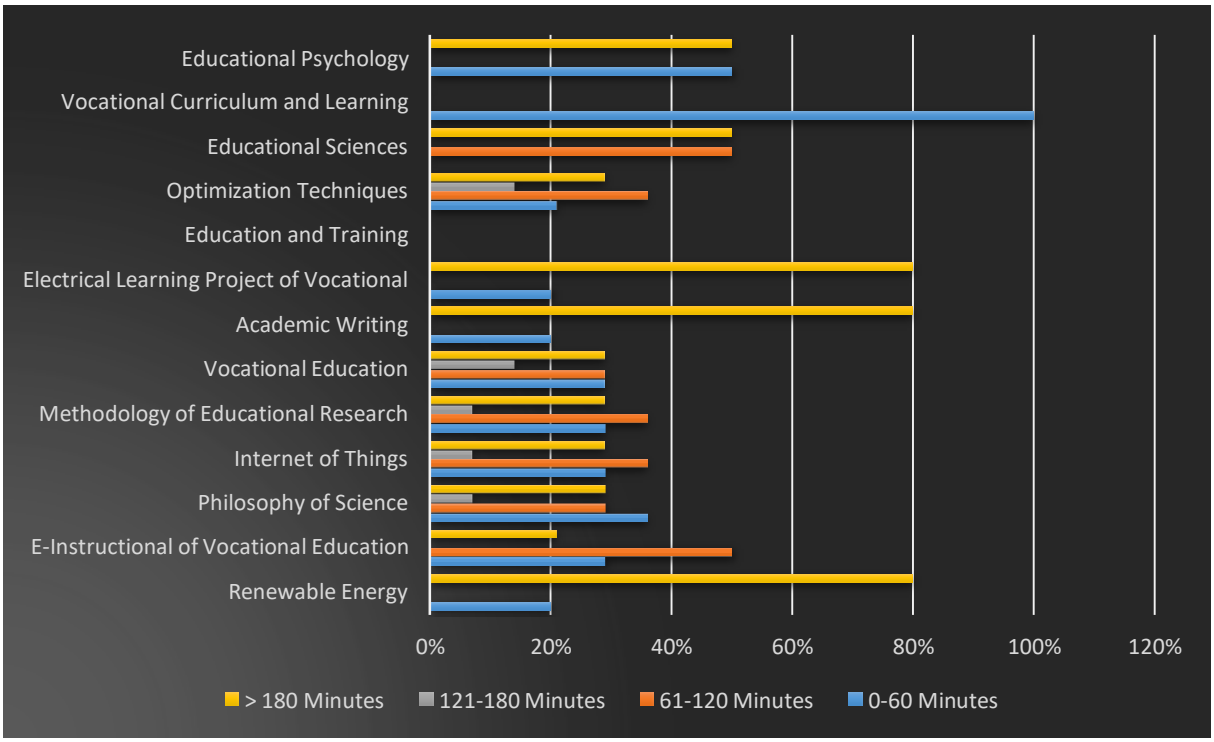

Figure 3. Percentage of Study Time Outside Class Hours

Overall, the result of this survey shows that in general students' factual workload was in accordance with the standard workload as mentioned in the Academic Regulation. The survey revealed that on average students spend almost as much time self-study as the standard workload for University General Courses.

C. Suggestions

Here are some suggestions which are obtained from the survey.

In relation to *The suitability of workload with the competencies to be achieved*

Student responses related to the suitability of workloads with the competencies to be achieved have been very good. This needs to be maintained. For some courses that have not suitable, the suitability needs to be improved so that students get a satisfactory quality of service.

In relation to *Compared to other courses, the amount of time you spend specifically on this course is*

In general, the amount of time students spend on basic courses as well as technical and vocational courses is more than or equal to the others. This needs to be maintained. One and another courses support each other to produce students who have good Program Objectives.

In relation to *The effective time you spend in a week (outside class hours) to study in this course (in minutes*)

The effective self-study time spent by students in a week were 61-120 minutes at most for 5 courses, 5 courses were more than 180 minutes, while 3 courses were less than 180 minutes. This needs to be a concern, especially for subjects that have different independent learning gaps, such as Educational Science and Educational Psychology. Students have different awareness to study independently. To increase students' motivation to spend more time, lecturers should implement innovative learning, structured assignments accompanied by feedback.

D. Action plans

With these suggestions, the study program plans to take the following action.

No	Category	Action Plan
1	Increase student' motivation to spend more time on self-study	Carrying out routine evaluation through conducting discussion and sharing information between lecturers, especially between lecturers whose students are less active on self-study
2	Less self-study time than standard workload for the University Common Courses	Emphasizing the importance of University Common Courses through academic activities carried out by each course and lecturer. It is used to increase students' awareness of self-study.
3	Maintaining positive responses from students on the suitability of workloads with competencies	Updating the learning process in accordance with technological advances, especially in the field of electrical engineering. For example, using various technologies and simulators for distance learning during the COVID-19 pandemic. This will have implications for student responses because what will be learned is in accordance with the expected competencies.

Students' Workload Survey MEIEE

A. Mechanism

With respect to measuring students' workload, in December 2020 UNY has improved the regular students' monitoring and evaluating system by integrating new items to measure students' actual workload. The new system is aimed to measure students' workload for every course at the end of every semester. This monitoring and evaluating system is available online on (http://survey.uny.ac.id/emonev-pbm/take-survey-akhir)

The new system has been implemented since the end of the first semester of the academic year 2020/2021 (i.e. December 2020). The system is managed by the university and each study program has a team who responsible for monitoring and evaluating. The team holds an admin account to retrieve and analyze the survey data. The appearance of the system is shown in the following figure.

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Tahun Akademik 2020/2021 Semester Ganjil

Mata Kuliah : MAT6313 - Persamaan Differensial
Dosen : Drs. Tuharto, M.Si.

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- ☐ 1 : Sangat kurang

NO	PERNYATAAN	SKALA PENILAIAN
A.	**Pembelajaran di Kampus (sebelum Pandemi COVID-19)**	
1.	Kesesuaian pembelajaran dengan Rencana Pembelajaran Semester (RPS)	○5 ○4 ○3 ○2 ○1
2.	Keruntutan dosen dalam penyampaian materi dalam perkuliahan	○5 ○4 ○3 ○2 ○1
3.	Kemampuan dosen dalam, memotivasi mahasiswa dalam perkuliahan	○5 ○4 ○3 ○2 ○1
14.	Kesesuaian ujian dengan materi yang disampaikan Dosen	○5 ○4 ○3 ○2 ○1
15.	Kepedulian Dosen terhadap kesulitan mahasiswa	○5 ○4 ○3 ○2 ○1
16.	Kesesuaian beban pekerjaan dengan kompetensi yang akan dicapai	○5 ○4 ○3 ○2 ○1
17.	Kemudahan mendapatkan akses tentang penilaian dan tugas-tugas matakuliah	○5 ○4 ○3 ○2 ○1
18.	Kejelasan informasi tentang penilaian	○5 ○4 ○3 ○2 ○1
19.	Dibandingkan dengan mata kuliah yang lainnya, jumlah waktu yang anda habiskan khusus untuk mata kuliah ini	○ Lebih Sedikit ○ Sama ○ Lebih Banyak
20.	Waktu efektif yang and habiskan dalam seminggu (di luar jam perkuliahan) untuk belajar mata kuliah ini (dalam satuan menit)	
B.	**Pembelajaran Masa Pandemi COVID-19 (Pembelajaran di Rumah/Kost/Luar Kampus)**	
1.	Kesesuaian durasi waktu pembelajaran daring dengan jadwal kuliah	○5 ○4 ○3 ○2 ○1
2.	Ketercapaian tujuan perkuliahan melalui pembelajran daring	○5 ○4 ○3 ○2 ○1
3.	Ketepatan metode perkuliahan yang diterapkan dalam pembelajaran daring	○5 ○4 ○3 ○2 ○1
4.	Ketepatan umpan balik yang diberikan dosen dalam pembelajaran daring	○5 ○4 ○3 ○2 ○1
5.	Kemudahan materi daring dipahami	○5 ○4 ○3 ○2 ○1
6.	Kesesuaian tugas yang diberikan dengan Capaian Pembelajaran	○5 ○4 ○3 ○2 ○1
7.	Kesesuaian media pembelajaran yang digunakan dengan karakteristik materi dalam pembelajaran daring	○5 ○4 ○3 ○2 ○1
8.	Kesesuaian teknik penilaian yang digunakan dosen	○5 ○4 ○3 ○2 ○1
9.	Kualitas secara umum perkuliahan ini melalui daring	○5 ○4 ○3 ○2 ○1

In general, the questionnaire in the system is aimed to retrieve data about teaching and learning activities for one semester. Specifically, items related to students' workload are items in section A number 16, 19, and 20.

Table 1. Students' workload questionnaire

Item no.	Statements	Answer Choices
16	Kesesuaian beban pekerjaan dengan kompetensi yang akan dicapai *The suitability of workload with the competencies to be achieved*	○ 5 ○ 4 ○ 3 ○ 2 ○ 1
19	Dibandingkan dengan matakuliah yang lainnya, jumlah waktu yang Anda habiskan khusus untuk mata kuliah *Compared to other courses, the amount of time you spend specifically on this course is*	○ sama ○ lebih sedikit ○ lebih banyak ○ *equal* ○ *less than* ○ *more than*
20	Waktu efektif yang Anda habiskan dalam seminggu (di luar jam perkuliahan) untuk belajar mata kuliah ini (dalam menit) *The effective time you spend in a week (outside class hours) to study in this course (in minutes*)	… menit … *minutes*

B. The result

The result of the students' workload survey, for item number 16 was described and converted into categories according to Table 2.

Table 2 Students' Workload Categorization

Score Interval	Score	Category
$X > X_i + 1{,}5\ SB_i$	$X > 4{,}00$	Very Suitable
$X_i + SB_i < X \leq X_i + 1{,}5\ SB_i$	$3{,}67 < X \leq 4{,}00$	Suitable
$X_i - 0{,}5\ SB_i < X \leq X_i + SB_i$	$2{,}67 < X \leq 3{,}67$	Fair
$X_i - 1{,}5\ SB_i < X \leq X_i - 0{,}5\ SB_i$	$2 < X \leq 2{,}67$	Less Suitable
$X \leq X_i - 1{,}5\ SB_i$	$X \leq 2$	Not Suitable

The result was presented in Figure 1.

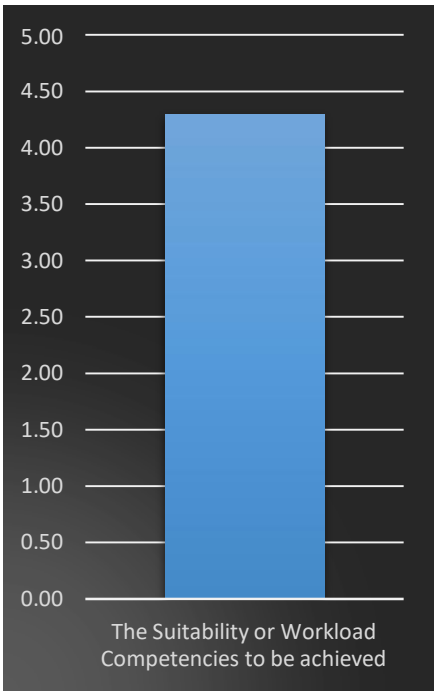


Figure 1. Student Responses Related to Workload Suitability

Based on the result represented in Figure 1, the workload suitability was in the very suitable category with an average of 4.29. This is in accordance with the standard workload of the university.

The result of the students' workload survey item number 19 was depicted in Table 3 and Figure 2. Only Artificial Intelligence subject had percentage of students answered "more than" less than 50%. Most of the subject had percentage of students answered "more than" more than 50%. Generally, students need more time in each course.

Table 3. Percentage of Student Responses to Item 19

Courses	Less Than	Equal	More Than
Technology Enhanced Learning (TEL)	5%	14%	81%
Vocational Education and Training	10%	14%	76%
Information Systems Management	24%	0%	76%
Intelligent Control Systems	30%	0%	70%
Computer Network Management	45%	0%	55%
Philosophy of Science	10%	5%	86%
Artificial Intelligence	71%	10%	19%
Writing Scientific Paper	29%	6%	65%
Project Management Software	50%	0%	50%
Educational Research Methodology	52%	0%	48%
Educational Sciences	0%	33%	67%
Educational Psychology	0%	29%	71%
Electronic System Design	0%	0%	100%

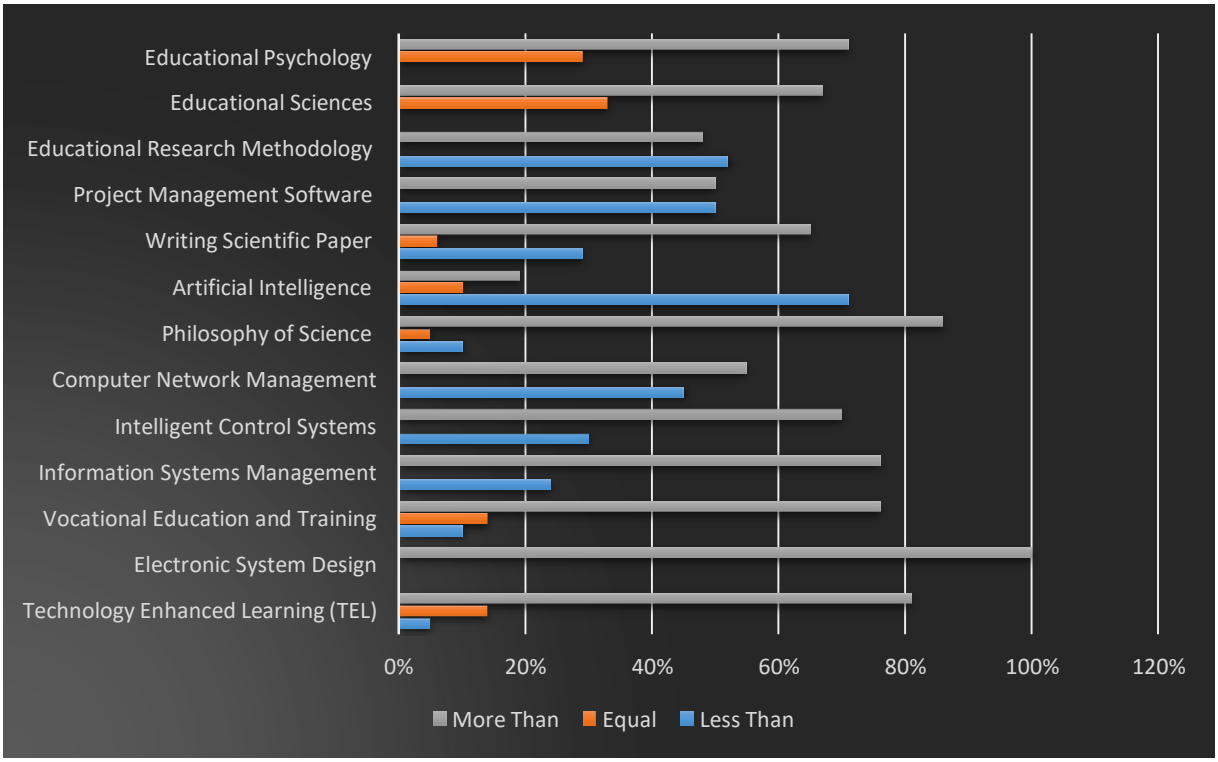


Figure 2. Percentage of Student Responses to Item 19

Based on the results of a survey related to item number 20 *"The effective time you spend in a week (outside class hours) to study this course (in minutes)"*, Project Management Software, Artificial Intelligence, and Electronic System Design get a dominant time spend of more than 180 minutes/week. The percentages are above 40%. The Compulsory Elective Courses for Concentration courses need to be studied outside of the classroom more than the others.

The results also showed that most of the subjects had less than 60 minutes of study time/week and between 61-120 minutes/week. Technology Enhanced Learning (TEL) courses have a study time of less than 60 minutes/week with a percentage of 57%. The Educational Sciences and Educational Psychology courses have more than 50% outside study time between 61-120 minutes/week.

Table 2. Percentage of Study Time Outside Class Hours

Courses	0-60 Minutes	61-120 Minutes	121-180 Minutes	> 180 Minutes
Writing Scientific Paper	11%	39%	11%	39%
Project Management Software	18%	27%	9%	45%
Intelligent Control Systems	30%	40%	0%	30%
Technology Enhanced Learning (TEL)	57%	33%	0%	10%
Vocational Education and Training	43%	33%	5%	19%
Information Systems Management	33%	43%	5%	19%
Computer Network Management	40%	20%	10%	30%
Philosophy of Science	38%	24%	5%	33%
Artificial Intelligence	19%	24%	5%	52%
Educational Research Methodology	24%	33%	14%	29%

Courses	0-60 Minutes	61-120 Minutes	121-180 Minutes	> 180 Minutes
Educational Sciences	33%	67%	0%	0%
Educational Psychology	43%	57%	0%	0%
Electronic System Design	0%	0%	20%	80%

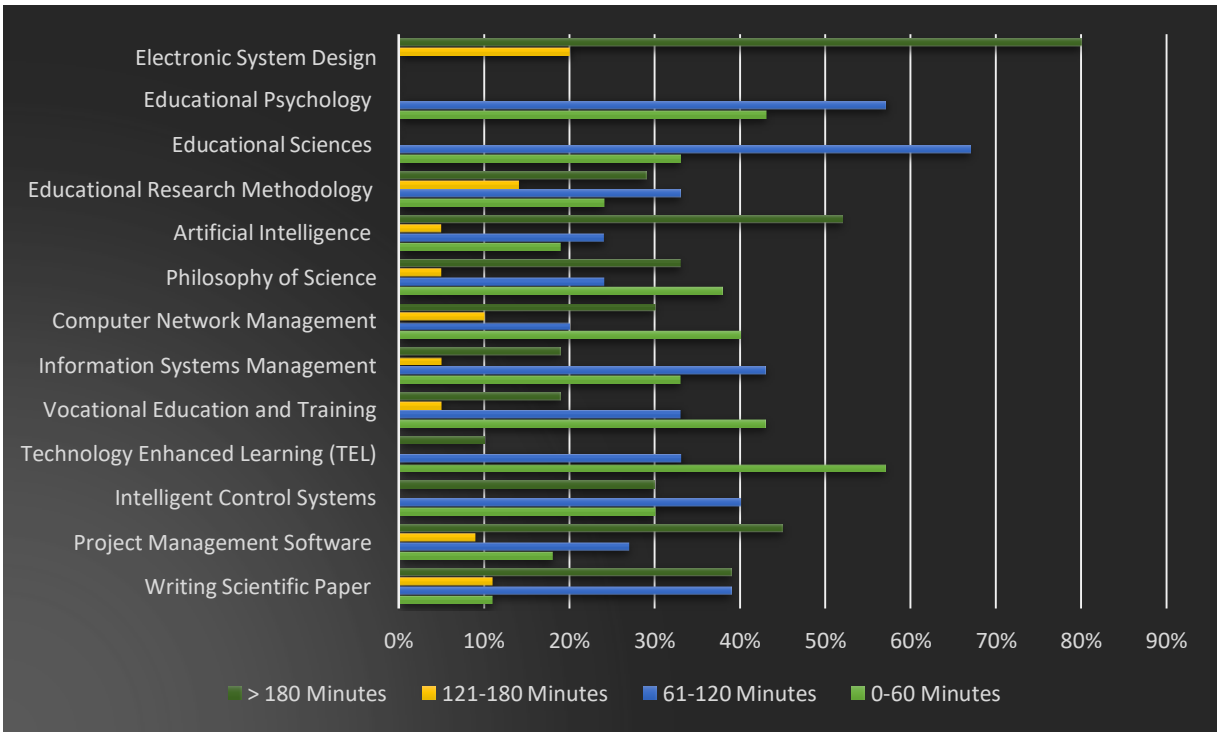


Figure 3. Percentage of Study Time Outside Class Hours

Overall, the result of this survey shows that in general students' factual workload was in accordance with the standard workload as mentioned in the Academic Regulation. The survey revealed that on average students spend almost as much time self-study as the standard workload for University General Courses.

C. Suggestions

Here are some suggestions which are obtained from the survey.

In relation to *The suitability of workload with the competencies to be achieved*

Student responses related to the suitability of workloads with the competencies to be achieved have been very good. This needs to be maintained. For some courses that have not suitable, the suitability needs to be improved so that students get a satisfactory quality of service.

In relation to *Compared to other courses, the amount of time you spend specifically on this course is*

In general, the amount of time students spend on educational courses as well as technical and vocational courses is less balanced. This needs to be fixed. The amount of time students spend on each course is expected to be balanced. Each course supports each other to produce students who have good Program Objectives.

In relation to *The effective time you spend in a week (outside class hours) to study in this course (in minutes*)

Effective self-study time for all courses is almost the same. Students use effective self-study time in a week of more than 180 minutes. The gap in independent study time for students is quite small. Students have different awareness to study independently. To increase students' motivation to spend more time, lecturers should implement innovative learning, structured assignments accompanied by feedback.

D. Action plans

With these suggestions, the study program plans to take the following action.

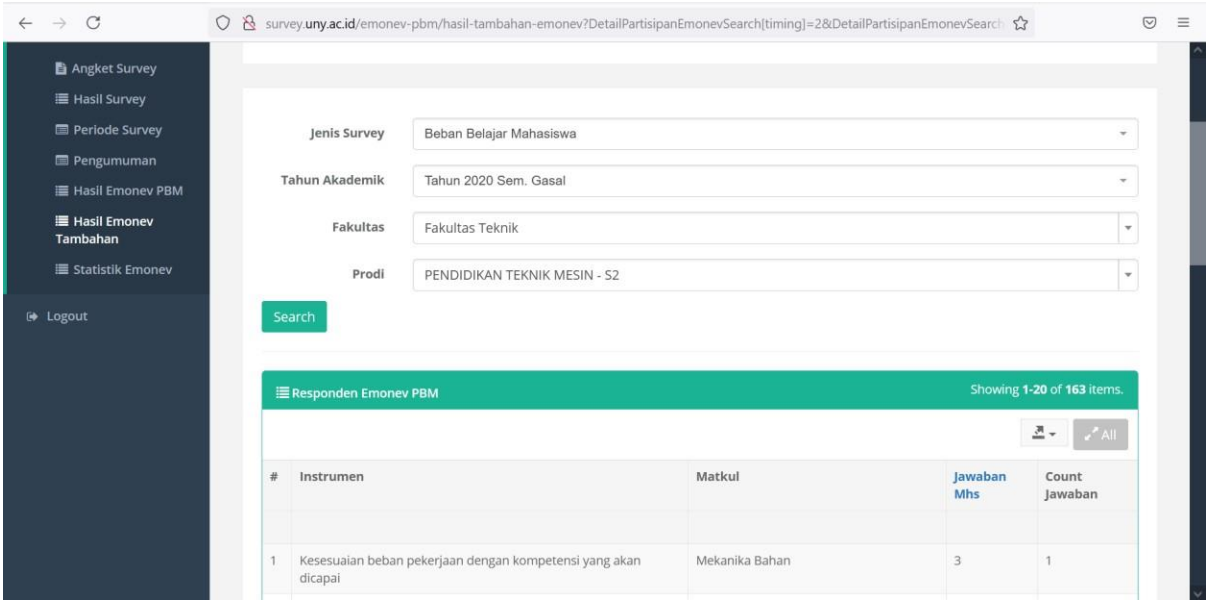
No.	Category	Action Plan
1	Increase student' motivation to spend more time on self-study	Carrying out routine evaluation through conducting discussion and sharing information between lecturers, especially between lecturers whose students are less active on self-study
2	Less self-study time than standard workload for the University Common Courses	Emphasizing the importance of University Common Courses through academic activities carried out by each course and lecturer. It is used to increase students' awareness of self-study.
3	Maintaining positive responses from students on the suitability of workloads with competencies	Updating the learning process in accordance with technological advances, especially in the field of electronics and informatics engineering. For example, using various technologies and simulators for distance learning during the COVID-19 pandemic. This will have implications for student responses because what will be learned is in accordance with the expected competencies.

Students' Workload Survey MMEE

A. Mechanism

With respect to measuring students' workload, in December 2020 UNY has improved the regular students' monitoring and evaluating system by integrating new items to measure students' actual workload. The new system is aimed to measure students' workload for every course at the end of every semester. This monitoring and evaluating system is available online on (http://survey.uny.ac.id/emonev-pbm/take-survey-akhir)

The new system has been implemented since the end of the first semester of the academic year 2020/2021 (i.e. December 2020). The system is managed by the university and each study program has a team who responsible for monitoring and evaluating. The team holds an admin account to retrieve and analyze the survey data. The appearance of the system is shown in the following figure.



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ANGKET MONITORING DAN EVALUASI PERKULIAHAN AKHIR SEMESTER

Tahun Akademik 2020/2021 Semester Ganjil

Mata Kuliah : MAT6313 - Persamaan Differensial
Dosen : Drs. Tuharto, M.Si.

Petunjuk :

Isilah angket berikut ini sesuai dengan kondisi yang Anda alami. Masukan Anda akan sangat berguna bagi kualitas pendidikan.
Pilih radio button pada skala yang Anda pilih.

- ☑ 5 : Sangat baik
- ☐ 4 : Baik
- ☐ 3 : Biasa
- ☐ 2 : Kurang
- ☐ 1 : Sangat kurang

NO	PERNYATAAN	SKALA PENILAIAN
A.	**Pembelajaran di Kampus (sebelum Pandemi COVID-19)**	
1.	Kesesuaian pembelajaran dengan Rencana Pembelajaran Semester (RPS)	○5 ○4 ○3 ○2 ○1
2.	Keruntutan dosen dalam penyampaian materi dalam perkuliahan	○5 ○4 ○3 ○2 ○1
3.	Kemampuan dosen dalam, memotivasi mahasiswa dalam perkuliahan	○5 ○4 ○3 ○2 ○1
14.	Kesesuaian ujian dengan materi yang disampaikan Dosen	○5 ○4 ○3 ○2 ○1
15.	Kepedulian Dosen terhadap kesulitan mahasiswa	○5 ○4 ○3 ○2 ○1
16.	Kesesuaian beban pekerjaan dengan kompetensi yang akan dicapai	○5 ○4 ○3 ○2 ○1
17.	Kemudahan mendapatkan akses tentang penilaian dan tugas-tugas matakuliah	○5 ○4 ○3 ○2 ○1
18.	Kejelasan informasi tentang penilaian	○5 ○4 ○3 ○2 ○1
19.	Dibandingkan dengan mata kuliah yang lainnya, jumlah waktu yang anda habiskan khusus untuk mata kuliah ini	○ Lebih Sedikit ○ Sama ○ Lebih Banyak
20.	Waktu efektif yang and habiskan dalam seminggu (di luar jam perkuliahan) untuk belajar mata kuliah ini (dalam satuan menit)	
B.	**Pembelajaran Masa Pandemi COVID-19 (Pembelajaran di Rumah/Kost/Luar Kampus)**	
1.	Kesesuaian durasi waktu pembelajaran daring dengan jadwal kuliah	○5 ○4 ○3 ○2 ○1
2.	Ketercapaian tujuan perkuliahan melalui pembelajran daring	○5 ○4 ○3 ○2 ○1
3.	Ketepatan metode perkuliahan yang diterapkan dalam pembelajaran daring	○5 ○4 ○3 ○2 ○1
4.	Ketepatan umpan balik yang diberikan dosen dalam pembelajaran daring	○5 ○4 ○3 ○2 ○1
5.	Kemudahan materi daring dipahami	○5 ○4 ○3 ○2 ○1
6.	Kesesuaian tugas yang diberikan dengan Capaian Pembelajaran	○5 ○4 ○3 ○2 ○1
7.	Kesesuaian media pembelajaran yang digunakan dengan karakteristik materi dalam pembelajaran daring	○5 ○4 ○3 ○2 ○1
8.	Kesesuaian teknik penilaian yang digunakan dosen	○5 ○4 ○3 ○2 ○1
9.	Kualitas secara umum perkuliahan ini melalui daring	○5 ○4 ○3 ○2 ○1

In general, the questionnaire in the system is aimed to retrieve data about teaching and learning activities for one semester. Specifically, items related to students' workload are items in section A number 16, 19, and 20.

Table 1. Students' workload questionnaire

Item no.	Statements	Answer Choices
16	Kesesuaian beban pekerjaan dengan kompetensi yang akan dicapai *The suitability of workload with the competencies to be achieved*	○ 5 ○ 4 ○ 3 ○ 2 ○ 1
19	Dibandingkan dengan matakuliah yang lainnya, jumlah waktu yang Anda habiskan khusus untuk mata kuliah *Compared to other courses, the amount of time you spend specifically on this course is*	○ sama ○ lebih sedikit ○ lebih banyak ○ *equal* ○ *less than* ○ *more than*
20	Waktu efektif yang Anda habiskan dalam seminggu (di luar jam perkuliahan) untuk belajar mata kuliah ini (dalam menit) *The effective time you spend in a week (outside class hours) to study in this course (in minutes*)	… menit … *minutes*

B. The result

The result of the students' workload survey, for item number 16 was described and converted into categories according to Table 2.

Table 2 Students' Workload Categorization

Score Interval	Score	Category
$X > X_i + 1{,}5\ SB_i$	$X > 4{,}00$	Very Suitable
$X_i + SB_i < X \leq X_i + 1{,}5\ SB_i$	$3{,}67 < X \leq 4{,}00$	Suitable
$X_i - 0{,}5\ SB_i < X \leq X_i + SB_i$	$2{,}67 < X \leq 3{,}67$	Fair
$X_i - 1{,}5\ SB_i < X \leq X_i - 0{,}5\ SB_i$	$2 < X \leq 2{,}67$	Less Suitable
$X \leq X_i - 1{,}5\ SB_i$	$X \leq 2$	Not Suitable

The result was presented in Figure 1.

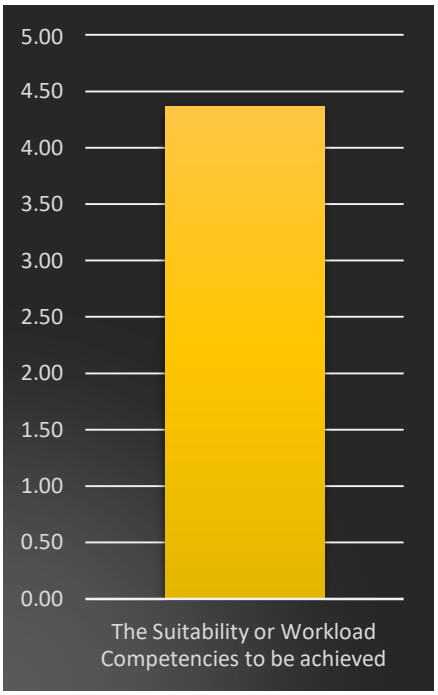


Figure 1. Student Responses Related to Workload Suitability

Based on the result represented in Figure 1, the workload suitability was in the very suitable category with an average of 4.36. This is in accordance with the standard workload of the university.

The result of the students' workload survey item number 19 was depicted in Table 3 and Figure 2. The subject of Metodologi Penelitian (Research Methodology) and Otomasi Produksi (Production Automation), and Proposal Tesis (Thesis Proposal) had percentage of students answered "more than" as much as 40%. Meanwhile, for other courses, students generally answered that the time they spent in other courses was equal to that course.

Table 3. Percentage of Student Responses to Item 19

Courses	Less Than	Equal	More Than
Philosophy of Science	11%	78%	11%
Vocational Education and Training Management	0%	67%	33%
Material Mechanics	11%	56%	33%
Research Methodology	0%	44%	56%
Production Automation	0%	56%	44%
Academic Writing	9%	64%	27%
Thesis Proposal	0%	55%	45%
Technology CNC Machining and CAM	0%	67%	33%
Conventional Machining Technology	22%	78%	0%

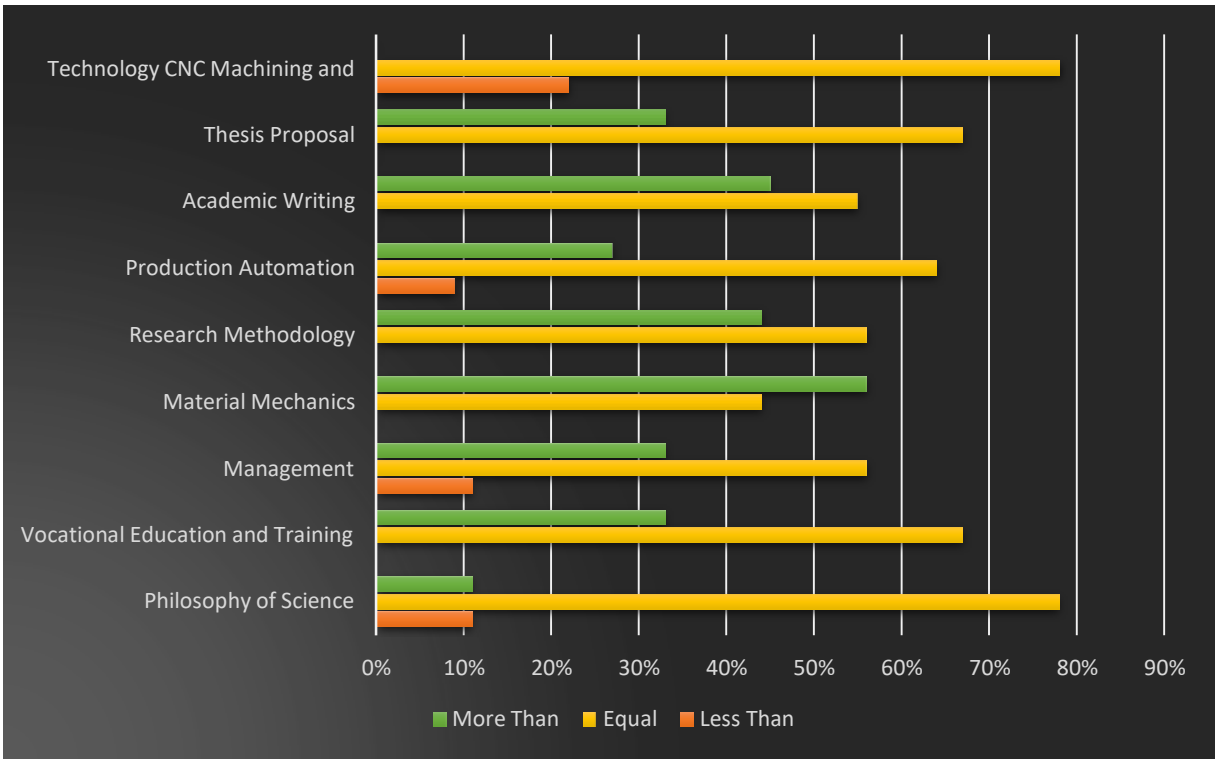


Figure 2. Percentage of Student Responses to Item 19

Based on the results of a survey related to item number 20 *"The effective time you spend in a week (outside class hours) to study this course (in minutes)"*, most of the courses get a dominant time spend of more than 180 minutes/week. The percentages are above 50%. The courses need to be studied outside of the classroom both education and mechanical courses.

The results also showed that all subjects with less than or equal to 60 minutes/week of study time were less than 20%. Courses that have study time outside between 61-120 minutes/week are around 11-33%. There is no course that has a study time between 121-180 minutes/week. Most courses have a study time of more than 180 minutes/week.

Table 2. Percentage of Study Time Outside Class Hours (in minutes)

Courses	0-60 Minutes	61-120 Minutes	121-180 Minutes	> 180 Minutes
Philosophy of Science	11%	22%	0%	67%
Vocational Education and Training Management	11%	22%	0%	67%
Material Mechanics	11%	22%	0%	67%
Research Methodology	11%	11%	0%	78%
Production Automation	11%	33%	0%	56%
Academic Writing	18%	0%	0%	82%
Thesis Proposal	18%	0%	0%	82%
Technology CNC Machining and CAM	11%	11%	0%	78%
Conventional Machining Technology	11%	22%	0%	67%

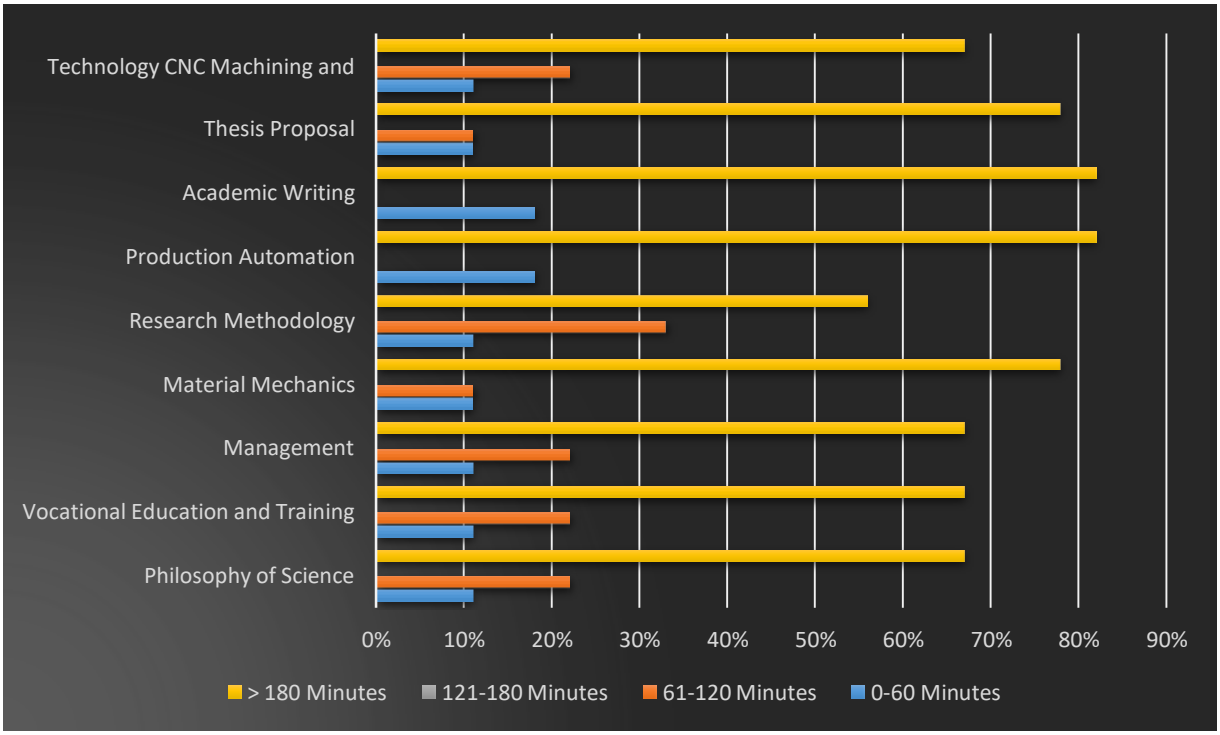


Figure 3. Percentage of Study Time Outside Class Hours

Overall, the result of this survey shows that in general students' factual workload was in accordance with the standard workload as mentioned in the Academic Regulation. The survey reveals that students spend more time self-study than the standard workload for University General Courses.

C. Suggestions

Here are some suggestions which are obtained from the survey.

In relation to *The suitability of workload with the competencies to be achieved*

Student responses related to the suitability of workloads with the competencies to be achieved have been very good. This needs to be maintained. For some courses that have not suitable, the suitability needs to be improved so that students get a satisfactory quality of service.

In relation to *Compared to other courses, the amount of time you spend specifically on this course is*

In general, the amount of time students spend on education courses as well as technical and vocational of mecahnical courses is more than or equal to the others. This needs to be maintained. One and another courses support each other to produce students who have good Program Objectives.

In relation to *The effective time you spend in a week (outside class hours) to study in this course (in minutes*)

Effective self-study time for all courses is almost the same. Students use effective self-study time in a week of more than 180 minutes. The gap in independent study time for students is quite small. Students have enough awareness to learn independently. This needs to be maintained.

D. Action plans

With these suggestions, the study program plans to take the following action.

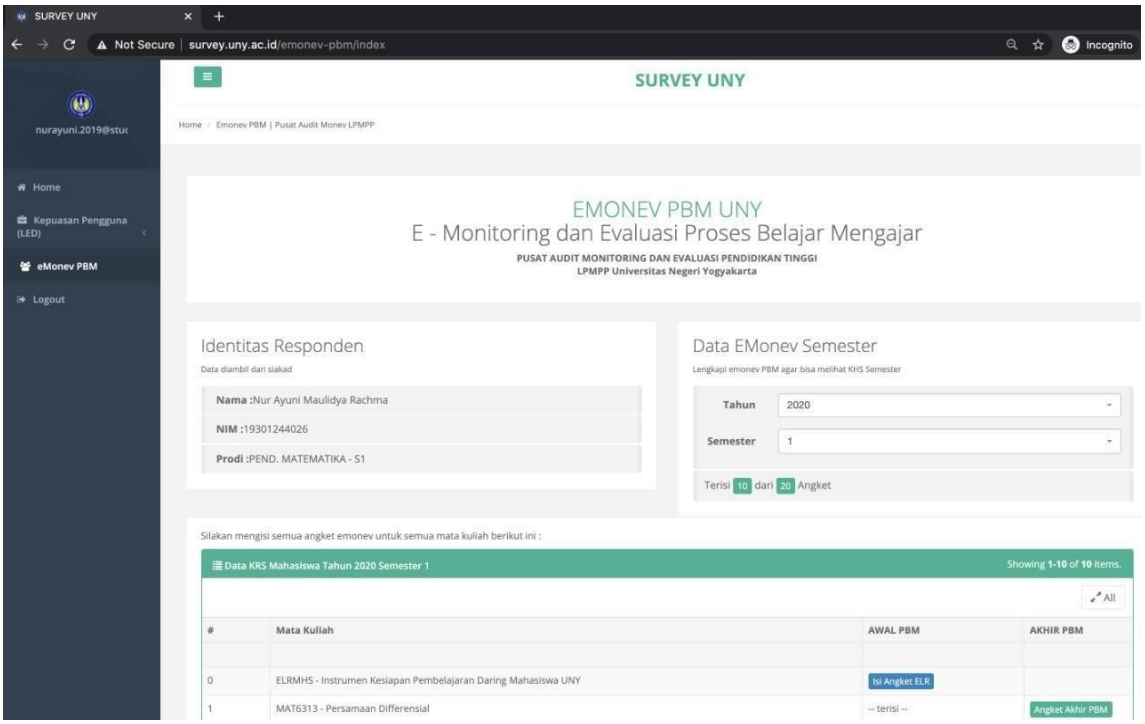
No.	Category	Action Plan
1	Increase student' motivation to spend more time on self-study	Carrying out routine evaluation through conducting discussion and sharing information between lecturers, especially between lecturers whose students are less active on self-study
2	Less self-study time than standard workload for the University Common Courses	Emphasizing the importance of University Common Courses through academic activities carried out by each course and lecturer. It is used to increase students' awareness of self-study.
3	Maintaining positive responses from students on the suitability of workloads with competencies	Updating the learning process in accordance with technological advances, especially in the field of mechanicall engineering during the COVID-19 pandemic. This will have implications for student responses because what will be learned is in accordance with the expected competencies.

Students' Workload Survey BIEE

A. Mechanism

Regarding estimating understudies' responsibility, in December 2020, UNY has improved the customary understudies' checking and assessing framework by incorporating new things to gauge understudies' real responsibility. This new system is designed to measure student workload for each course. Data collection is carried out at the end of each semester. This monitoring and evaluating system is available online on (http://survey.uny.ac.id/emonev-pbm/take-survey-akhir)

The new system has been implemented since the end of the second semester of 2019/2020 (i.e. August 2020). The university manages the system, and each study program has a team responsible for monitoring and evaluating. The team holds an admin account to retrieve and analyze the survey data. The appearance of the system is shown in the following figure.



14.	Kesesuaian ujian dengan materi yang disampaikan Dosen	5 4 3 2 1
15.	Kepedulian Dosen terhadap kesulitan mahasiswa	5 4 3 2 1
16.	Kesesuaian beban pekerjaan dengan kompetensi yang akan dicapai	5 4 3 2 1
17.	Kemudahan mendapatkan akses tentang penilaian dan tugas-tugas matakuliah	5 4 3 2 1
18.	Kejelasan informasi tentang penilaian	5 4 3 2 1
19.	Dibandingkan dengan mata kuliah yang lainnya, jumlah waktu yang anda habiskan khusus untuk mata kuliah ini	Lebih Sedikit Sama Lebih Banyak
20.	Waktu efektif yang and habiskan dalam seminggu (di luar jam perkuliahan) untuk belajar mata kuliah ini (dalam satuan menit)	
B.	**Pembelajaran Masa Pandemi COVID-19 (Pembelajaran di Rumah/Kost/Luar Kampus)**	
1.	Kesesuaian durasi waktu pembelajaran daring dengan jadwal kuliah	5 4 3 2 1
2.	Ketercapaian tujuan perkuliahan melalui pembelajran daring	5 4 3 2 1
3.	Ketepatan metode perkuliahan yang diterapkan dalam pembelajaran daring	5 4 3 2 1
4.	Ketepatan umpan balik yang diberikan dosen dalam pembelajaran daring	5 4 3 2 1
5.	Kemudahan materi daring dipahami	5 4 3 2 1
6.	Kesesuaian tugas yang diberikan dengan Capaian Pembelajaran	5 4 3 2 1
7.	Kesesuaian media pembelajaran yang digunakan dengan karakteristik materi dalam pembelajaran daring	5 4 3 2 1
8.	Kesesuaian teknik penilaian yang digunakan dosen	5 4 3 2 1
9.	Kualitas secara umum perkuliahan ini melalui daring	5 4 3 2 1

In general, the questionnaire in the system is aimed to retrieve data about teaching and learning activities before and after Covid-19 pandemic. Specifically, items related to students' workload are items in section A number 16, 19, and 20.

Table 1. Students' workload questionnaire

Item no.	Statements	Answer Choices
16	Kesesuaian beban pekerjaan dengan kompetensi yang akan dicapai *The suitability of workload with the competencies to be achieved*	o 5 o 4 o 3 o 2 o 1
19	Dibandingkan dengan matakuliah yang lainnya, jumlah waktu yang Anda habiskan khusus untuk mata kuliah *Compared to other courses, the amount of time you spend specifically on this course is*	o sama o lebih sedikit o lebih banyak o *equal* o *less than* o *more than*
20	Waktu efektif yang Anda habiskan dalam seminggu (di luar jam perkuliahan) untuk belajar mata kuliah ini (dalam menit) *The effective time you spend in a week (outside class hours) to study in this course (in minutes)*	….

B. The result

The result of the students' workload survey, for item number 16 was described and converted into categories according to Table 1.

Table 2. Students' Workload Categorization

Score Interval	Score	Category
$X > X_i + 1{,}5\ SB_i$	$X > 4{,}00$	Very Suitable
$X_i + SB_i < X \leq X_i + 1{,}5\ SB_i$	$3{,}67 < X \leq 4{,}00$	Suitable
$X_i - 0{,}5\ SB_i < X \leq X_i + SB_i$	$2{,}67 < X \leq 3{,}67$	Fair
$X_i - 1{,}5\ SB_i < X \leq X_i - 0{,}5\ SB_i$	$2 < X \leq 2{,}67$	Less Suitable
$X \leq X_i - 1{,}5\ SB_i$	$X \leq 2$	Not Suitable

The result was presented in Figure 1.

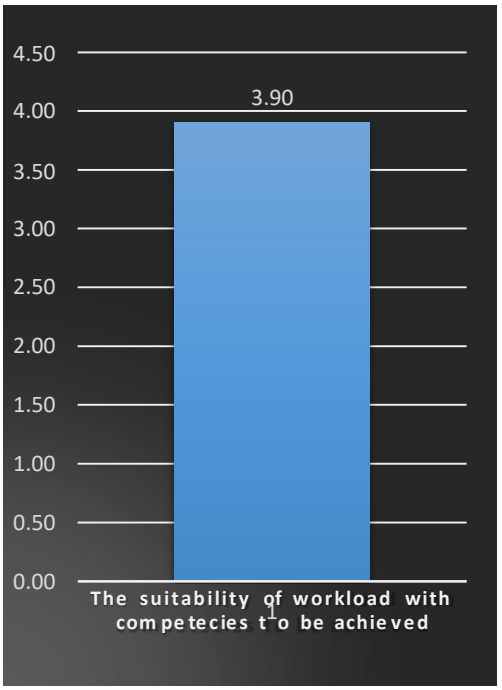


Figure 1. The BIEE Students Workload

Based on the result represented in Figure 1, the workload suitability was in the suitable category with an average of 3.90. This workload is following the standard workload of the university.

Table 2 and Figure 2 describe the students' workload survey item number 19. The Industrial Internship course had a percentage of students who answered "more than" above 50%. Students have to face many challenges when they enter into industrial internship. They have to adjust themselves according to the professional environment by implementing their conceptual knowledge in the new world of work. So, they spent more time in this course than others. Community Service course also had a percentage of students who answered "more than" above 50%. For Community Service, students spent more time directly at the KKN location to complete all their assignments. Moreover, Web Design Laboratory Work and Interactive Multimedia Laboratory Work had many students answered "more than" above 50%. The dominating subjects are laboratory work courses that require repeated practise to achieve the desired competencies. Meanwhile, for other courses, students generally answered that the time they spent in other courses was equal to that course.

Table 2. Percentage of BIEE Student Responses to Item 19

Courses	More Than	Less Than	Equal
Industrial Internship	66.67	0	33,33
Community Services	60.00	8.00	32.00
Web Design Laboratory Work***3)	55.56	11.11	33.33
Interactive Multimedia Laboratory Work***3)	55.56	11.11	33.33
Programming 1 Laboratory Work	48.89	0	51.11
Mobile Application Development Laboratory Work*)	46.67	0	53.33
Web Design***3)	46.15	0	53.85
Scripting Language Laboratory Work***1)	44.44	0	55.56
Interactive Multimedia*****	44.44	11.11	44.44
Visual Programming 1	40.48	2.38	57.14
Programing 1	40	2.22	57.78
Management Information System Laboratory Work ***1)	33.33	0	66.67
Scripting Language*** 1)	33.33	0	66.67
Digital Electronics Laboratory Work	31.11	0	68.89
Modelling and Simulation	30.56	16.67	52.78
Database Laboratory Work	27.27	6.82	65.91
Mobile Application Development*1)	26.67	0	73.33
Human Computer Interaction	25.00	8.33	66.67
Data Communication	21.95	7.32	70.73
Digital Image Processing Laboratory Work*3)	21.05	10.53	68.42
Data Communication Laboratory Work	19.05	9.52	71.43
Data Structures Laboratory Work	17.50	7.50	75.00
Multimedia Based Instruction	15.91	11.36	72.73
Data Structures	12.2	17.07	70.73
Digital Image Processing *3)	10.53	21.05	68.42
Logics	8.89	13.33	77.78
Vocational Curriculum Development	7.89	31.58	60.53
Introduction to Information Technology	6.67	4.44	88.89
English for Engineering	5.56	16.67	77.78
Educational Psychology	5.13	25.64	69.23
Database	5.00	5.00	90.00
Digital Electronics	4.44	4.44	91.11
Science of Education	2.44	26.83	70.73
Engineering Mathematics	2.22	8.89	88.89
Digital Transformation	2.22	8.89	88.89
Hinduism Education*	0	0	100
Computer System Organization	0	6.67	93.33
Management Information System***	0	11.11	88.89
Educational Sociology and Anthropology	0	21.62	78.38
Technology and Vocational Education	0	25.64	74.36
Islam Education*	0	30.95	69.05
Educational Management***	0	33.33	66.67
Civic Education*	0	37.84	62.16
Catholic Education*	0	50.00	50.00

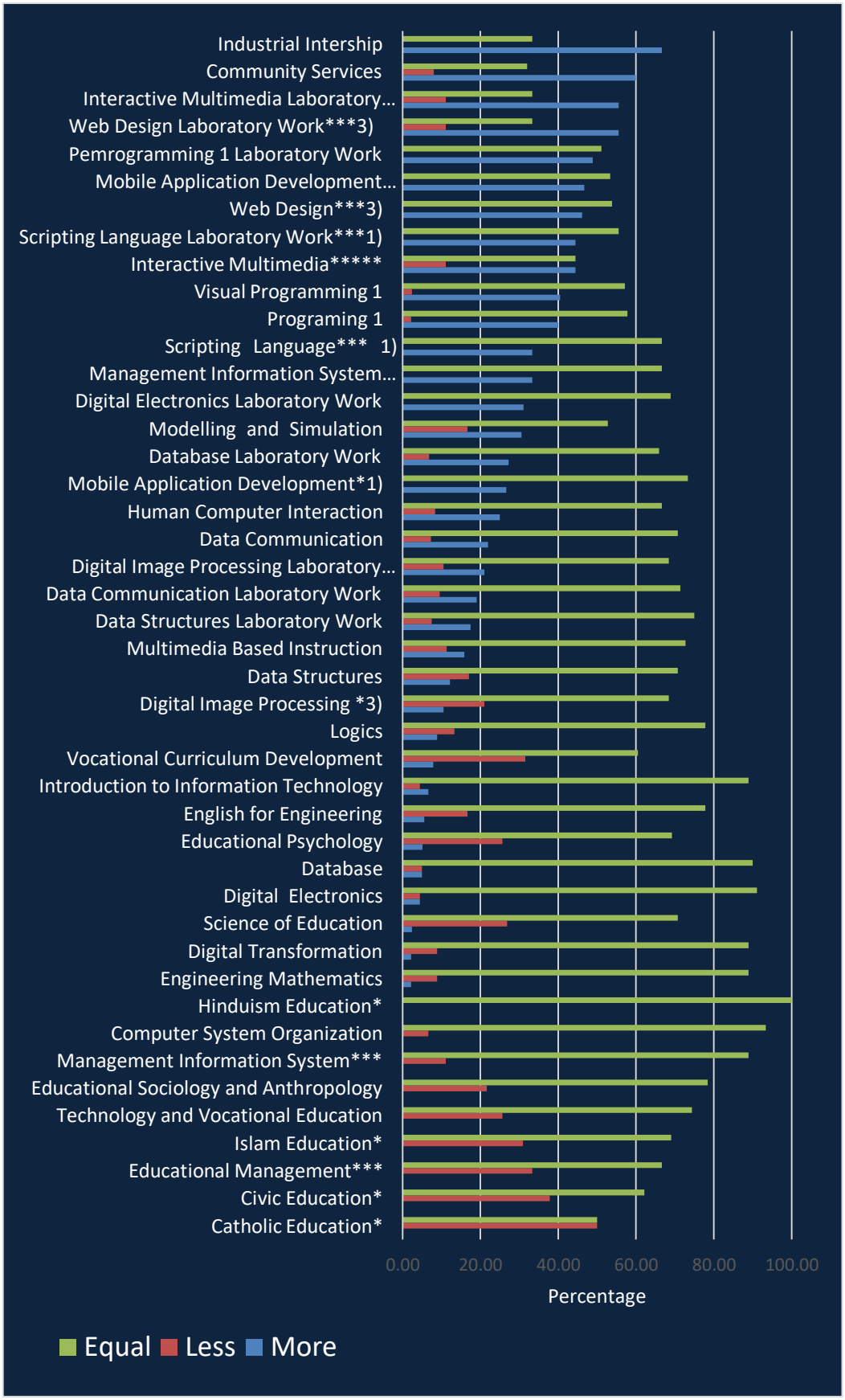


Figure 2. Percentage of Student Responses to Item 19

Based on the results of a survey related to item number 20, *"The effective time you spend in a week (outside class hours) to study this course (in minutes)"*, there were five courses that get a dominant time spend of more than 180 minutes/week. Namely Industrial Internship (83,33%), Community Services (60%), Mobile Application Development Laboratory Work (53,33%), Management Information System Laboratory Work (44,44%), and Interactive Multimedia Laboratory Work (40%). The most widely studied courses outside class hours were courses related to intern activity and informatics engineering courses. These courses are concentration courses, elective courses, and laboratory works elective courses. These courses are also intended for students from the second year onwards. So they need more time to learn to get a comprehensive understanding.

The results also showed that there were nine courses which study time spend were less than or equal to 1 hour/week, namely Educational Sociology and Anthropology (67,57%), Civic Education (67,57%), Educational Management (66,67%), Technology and Vocational Education (66,67%), Vocational Curriculum Development (65,79%), Educational Psychology (64,1%), Islam Education (61,9%), and Science of Education (60,98%). Courses that required less than 60 minutes were dominated by university courses and a small portion of specific study program courses. In general, the average percentage of students' time spent studying was 60-120 minutes. Table 3 and Figure 3 depict more details.

Table 3. Percentage of Study Time Outside Class Hours (in minutes)

Courses	0-60	61-120	121-180	>180
Industrial Intership	0.00	0.00	16.67	83.33
Community Services	28.00	0.00	12.00	60.00
Mobile Application Development Laboratory Work*)	0.00	33.33	13.33	53.33
Management Information System Laboratory Work ***1)	11.11	33.33	11.11	44.44
Interactive Multimedia Laboratory Work***3)	0.00	26.67	33.33	40.00
Web Design Laboratory Work***3)	0.00	50.00	11.11	38.89
Web Design***3)	0.00	53.85	7.69	38.46
Mobile Application Development*1)	0.00	40.00	33.33	26.67
Management Information System***	0.00	55.56	22.22	22.22
Visual Programming 1	11.90	38.10	28.57	21.43
Digital Electronics Laboratory Work	17.78	42.22	22.22	17.78
Programming 1	11.11	40.00	33.33	15.56
Pemrogramming 1 Laboratory Work	13.33	40.00	31.11	15.56
Multimedia Based Instruction	13.64	36.36	36.36	13.64
Database Laboratory Work	13.64	36.36	36.36	13.64
Human Computer Interaction	2.78	47.22	38.89	11.11
Scripting Language Laboratory Work***1)	22.22	44.44	22.22	11.11
Scripting Language*** 1)	22.22	44.44	22.22	11.11
Digital Image Processing Laboratory Work*3)	0.00	57.89	31.58	10.53
Database	12.50	55.00	22.5	10.00
Introduction to Information Technology	4.44	53.33	33.33	8.89
Modelling and Simulation	13.89	47.22	30.56	8.33
Data Structures Laboratory Work	15.00	45.00	32.50	7.50
Data Structures	7.32	46.34	39.02	7.32
Data Communication Laboratory Work	11.90	40.48	40.48	7.14
Digital Electronics	6.67	57.78	28.89	6.67
Computer System Organization	4.44	53.33	35.56	6.67
Digital Transformation	4.44	53.33	35.56	6.67
Data Communication	14.63	41.46	41.46	2.44
Digital Image Processing *3)	0.00	63.16	36.84	0.00
Interactive Multimedia*****	22.22	44.44	33.33	0.00
Engineering Mathematics	6.67	51.11	35.56	6.67
Logics	8.89	51.11	35.56	4.44
English for Engineering	0.00	55.56	36.11	8.33
Educational Sociology and Anthropology	67.57	0.00	29.73	2.70
Civic Education*	67.57	0.00	32.43	0.00
Technology and Vocational Education	66.67	5.13	28.21	0.00
Educational Management***	66.67	7.14	26.19	0.00
Vocational Curriculum Development	65.79	0.00	31.58	2.63
Educational Psychology	64.10	7.69	25.64	2.56
Islam Education*	61.90	4.76	30.95	2.38
Science of Education	60.98	7.32	29.27	2.44
Catholic Education*	50.00	50.00	0.00	0.00
Hinduism Education*	0.00	100	0.00	0.00

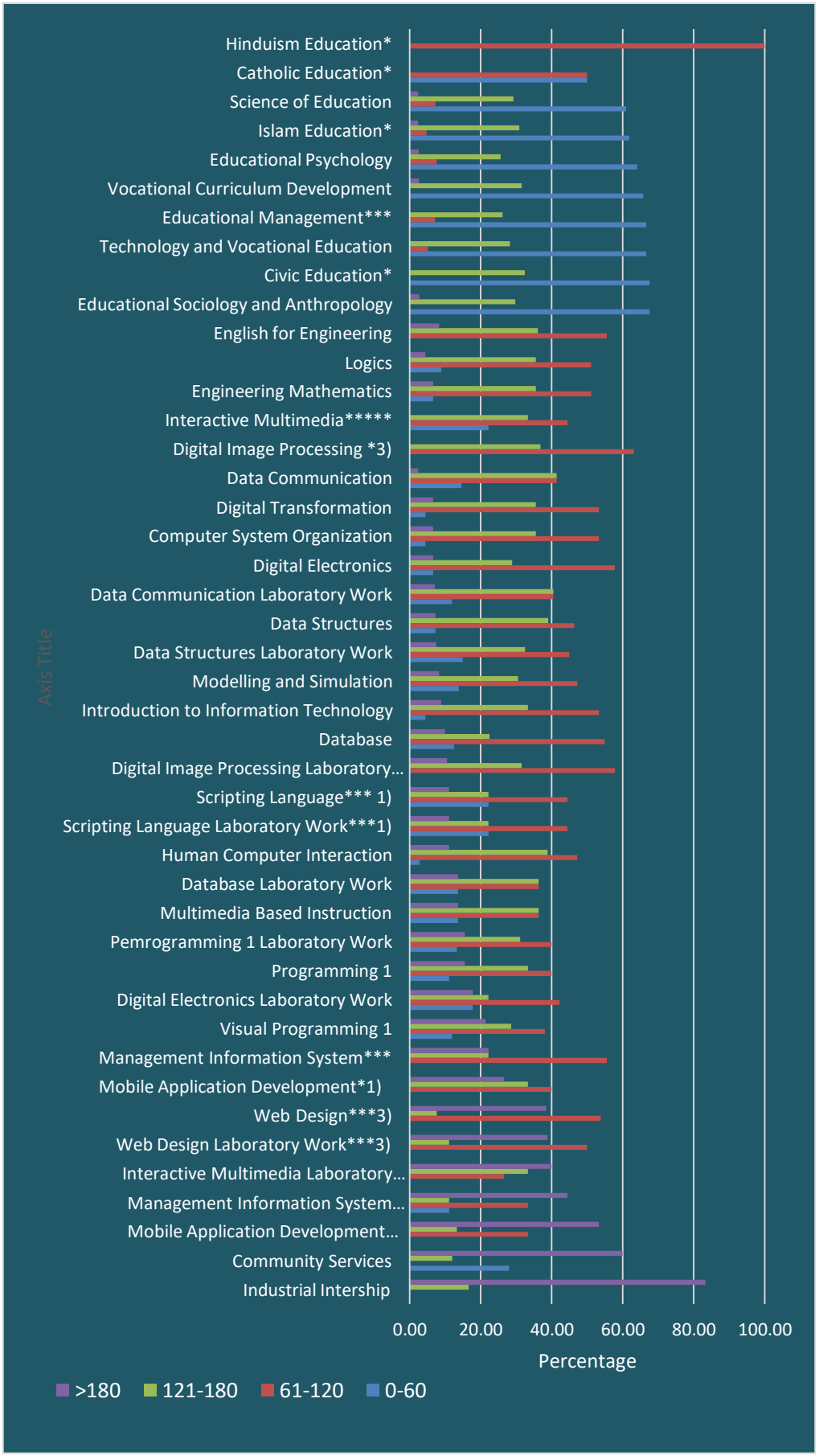


Figure 3. Percentage of Study Time Outside Class Hours

The survey results that have been carried out show that the student workload has demonstrated the standard workload following the Academic Regulations. Specifically for general university courses, the survey revealed that students spent time for independent study is less than studying concentration courses from the study program.

C. Suggestions

Here are some suggestions which are obtained from the survey.

In relation to *The suitability of workload with the competencies to be achieved*

The suitability of the workload with competence has been responded to by students and produced good results, but efforts are needed to improve to become excellent. For courses whose response results are still lacking, efforts are needed to improve the suitability of student workloads for the quality of service to become better.

In relation to *Compared to other courses, the amount of time you spend specifically on this course is*

Overall, the amount of time required to study Concentration Courses (according to the study program) is more than General Courses from universities, especially for laboratory work courses with confident choices/concentrations. This result is following the number of credits per course taken by students. General courses and introductory education courses provide essential competencies for prospective informatics teachers to use good teaching strategies and methods. Meanwhile, special courses (concentration/electives) provide students with the information skills needed to work in the future.

In relation to *The effective time you spend in a week (outside class hours) to study in this course (in minutes*)

Students' adequate independent study time in a week is at most 61-120 minutes for one course, four courses are 180 minutes, while other courses are less than 1 hour. Courses that require 180 minutes or more of independent study are laboratory works. In comparison, theoretical subjects dominate the courses with the 1-hour study category. Students only need 1 hour of independent study time because the lecturers during class can explain well and are structured.

D. Action plans

With these suggestions, the study program plans to take the following action.

No.	Category	Action Plan
1	Increase student' motivation to spend more time on self-study	They conducted a routine evaluation by conducting discussion and sharing information between lecturers, especially lecturers whose students are less active in self-study.
2	Less self-study time than standard workload for the University Common Courses	Emphasize the importance of University Common Courses through such an academic activity conducted by the study program and with the help of students' academic supervisor
3	Maintaining positive responses from students on the suitability of workloads with competencies	It updates the curriculum according to the latest global trends. For example, era 4.0 demands 4C, digital literacy, data literacy, and human literacy. Updating the curriculum will have implications for student responses because it is following the expected competencies.

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