



MODULE HANDBOOK

2023

Bachelor of Mathematics Education
Faculty of Tarbiyah & Education
UIN Sunan Ampel
Surabaya

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SEMESTER 1

A. Compulsory

1. Science

Course designation	Science
Semester(s) in which the Course is taught	1st (first)
Person responsible for the Course	Wahyuni Fajar Arum
Language	Indonesian Language, English
Relation to curriculum	Compulsory
Teaching methods	Lecture (L), Group Discussion (GD), Presentation (P), Laboratory Class (LC).
Workload (incl. contact hours, self-study hours)	Total workload: Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	NA
Course objectives/intended learning outcomes	The students demonstrate understanding on the theoretical concepts of science in mathematics. The students demonstrate the ability to to prove theorems in science and solve problems related to science in mathematics.
Content	In the Science course the students discuss and practice the application of: <ul style="list-style-type: none">• theorems units & quantities,• motion,• Newton's law,• work & energy,• wave & vibration,• optics & lens,• heat & temperature,• pressure,• Pascal & Bernoulli.
Examination forms	<ul style="list-style-type: none">• Final Examination (Paper based exam) (120 min),• Mid-examination (Paper based exam) (120 min),• Quiz (Paper based exam),• Report
Study and examination requirements	Requirements for successfully passing the Course: <ul style="list-style-type: none">• Attendance 10%• Assignments 30%• Mid-evaluation 20%

	<ul style="list-style-type: none"> Final-evaluation 40% <p>The minimum grade to pass the course is C (61).</p>
Reading list	<ol style="list-style-type: none"> Serway, R. A., & Jewett, J. W. 2014. <i>Physics for scientists and engineers with Modern Physics Sevent Edition</i>. USA: CThomson Learning Academic Resource Center.. Walker, J., Resnick, R., & Halliday, D. 2014. <i>Fundamentals of physics</i>. 10th Edition. New York: Wiley and Sons.

2. Qur'anic Studies

Course designation	Quranic Studies
Semester(s) in which the Course is taught	1st (first)
Person responsible for the Course	Ni'matus Sholihah, M.Ag M. Nur Huda, M.Pd.
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Lecture (L), Group Discussion (GD), Presentation (P).
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84 (Group Discussion & Presentation)
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	NA
Course objectives/intended learning outcomes	The students understand the basic concepts of Qur'anic studies and Qur'an as developing knowledge in life.
Content	<p>Quranic studies discusses:</p> <ul style="list-style-type: none"> surat (chapter) and ayat (verses), places of revelation (Makkiyah and Madaniyah), circumstances of revelation (Asbanun Nuzul), the inimitability (I'jaz), knowledge of credibility, knowledge of abrogating and abrogated, Muhkam (decisive) and Mutasyabih (allegorical)

	<ul style="list-style-type: none"> • knowledge, Aqsamul Quran (Swear and Oath in Quran), • Qashashul Quran (Qur'an stories), • exegesis and allegorical interpretation of Qur'an.
Examination forms	<ul style="list-style-type: none"> • Final Examination (Exam Paper) (120 min), • Mid-examination (Essay)(120 min), • Assignment (120 min), • Exercise (120 min)
Study and examination requirements	<ul style="list-style-type: none"> • Attendance 10% • Assignments and Exercise 30% • Mid-evaluation 20% • Final Evaluation 40% <p>The minimum grade to pass the course is C (61).</p>
Reading list	<ol style="list-style-type: none"> 1. Anwar, R. 2013. <i>Ulum Al Quran</i>. Bandung: Pustaka Setia. 2. As Shalih, S. 2001. <i>Mabahis Fi Ulum al Quran</i>. Beirut: Dar al ilmi li al Malayin. 3. Djalal, A. 2000. <i>Ulumul Quran</i>. Surabaya: Dunia Ilmu. Summa, M A. 2013, <i>Ulumul Qur'an</i>. Jakarta: Rajawali Press. 4. Sahil, A. 2007. <i>Indeks al Quran</i>. Bandung: Mizan. 5. Shihab, Q. 2001. <i>Membumikan al Quran</i>. Bandung: Mizan. 6. Shihab, Q. 2012. <i>Tafsir al Misbah</i>. Jakarta: Lentera Hati.

3. Differential Calculus

Course designation	Differential Calculus
Semester(s) in which the Course is taught	1st (first)
Person responsible for the Course	Ahmad Lubab
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Lecture (L), Group Discussion (GD), Presentations (P).
Workload (incl. contact hours, self-study hours)	<p>(Estimated) Total workload: Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84 (Group Discussion & Presentation)</p>

Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	NA
Course objectives/intended learning outcomes	The students understand the theoretical concepts of school mathematics and advanced mathematics which support the learning of mathematics in both Elementary and Secondary Education, as well as Advanced Studies. Students are able to apply differential calculus concepts. Students are able to analyze information from various sources. Students are able to apply logical, critical, systematic, and innovative thinking in the context of the development or implementation of Science and Technology in the field of Mathematics Education.
Content	Differential Calculus discusses: <ul style="list-style-type: none"> • real-valued function, • limits and continuity, • derivatives, • Taylor series.
Examination forms	<ul style="list-style-type: none"> • Final examination (120 min) • Mid-term examination (120 min) • Assignment (120 min) • Exercise (120 min)
Study and examination requirements	<ul style="list-style-type: none"> • Attendance 10% • Assignments 30% • Mid-evaluation 20% • Final Evaluation 40% <p>The minimum grade to pass the course is C (61).</p>
Reading list	<ol style="list-style-type: none"> 1. Anton, H. 2013. <i>Calculus A New Horizon, Combine. 6th Edition</i>. New Jersey: John Willey & Sons Inc. 2. Anton, H., Bivens, Irl C, Stephen, D. 2012. <i>Calculus 10th edition</i>, New Jersey: John Willey & Sons Inc. 3. Christine, T. 2008. <i>Calculus: How Calculus Works (Studymates in Focus)</i>. UK: Studymates Ltd; Illustrated edition. 4. Stewart, J. 2010. <i>Calculus, Concept, and Context</i>. Canada: Cengage Learning. 5. Verberg, D. Purcell, Edwin Rigdom, S. 2006. <i>Calculus</i> ninth edition. Prentice Hall.

4. Introduction to Islamic Studies

Course designation	Introduction to Islamic Studies
Semester(s) in which the Course is taught	1st (first)
Person responsible for the Course	Usman Yudi
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Lecture (L), Group Discussion (GD), Presentation (P).
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84 (Group Discussion & Presentation)
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	NA
Course objectives/intended learning outcomes	The students understand the sources, integrative methods and approaches of Islamic studies. The students are capable of finding solutions to problems in life using the knowledge in Islamic studies.
Content	Introduction to Islamic studies discusses: <ul style="list-style-type: none"> ● the basic concepts of Islamic studies, ● sources of Islamic teaching, history of Islam, ● epistemology of Islamic knowledge, religious trends in Indonesia.
Examination forms	<ul style="list-style-type: none"> ● Final Examination (Exam Paper) (120 min), ● Mid-examination (Essay)(120 min), ● Assignment (120 min), ● Exercise (120 min)
Study and examination requirements	<ul style="list-style-type: none"> ● Attendance 10% ● Assignments and Exercise 30% ● Mid-evaluation 20% ● Final Evaluation 40% <p>The minimum grade to pass the course is C (61).</p>

Reading list	<ol style="list-style-type: none"> 1. Al-Qattan, t.t., <i>Manna' Mabahits fi 'Ulum al-Qur'an, Mesir Manshurat al-'Asr al- Hadits</i>. Syafaq, H., Nahdhifah, N.A., Zamzami, M., Sanuri. 2022. <i>Pengantar Studi Islam</i>. Surabaya: UINSA Press. 2. Amin, A. 2007. <i>Islamic studies dalam Paradigma Integrasi-Interkoneksi</i>, Yogyakarta: Suka Press 3. Badri, Y. <i>Sejarah Peradaban Islam</i>. Depok : Rajawali Pers. 4. Harus, N. t.t. <i>Islam ditinjau dari berbagai aspeknya</i>, Jakarta: UI Press. 5. Hasbi, A. 2001. <i>Sejarah dan Pengantar Ulum al-Hadits</i>. Jakarta : Bulan Bintang, 6. Mufrodi, A. 2016. <i>Islam di Kawasan Kebudayaan Arab</i>, Jakarta: Logos. 7. Nata, A. 2003. <i>Metodologi Studi Islam</i>, Jakarta: Raja Grafindo Persada. 8. Syalabi, A. <i>Sejarah Kebudayaan Islam</i>. Jakarta : Al-Husna Zikra. 9. Zuhdi, M. 2011. <i>Pengantar Ulumul Qur'an</i>. Surabaya: P.T. Bina Ilmu.
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5. Introduction to the Basics of Mathematics

Course designation	Introduction to the Basics of Mathematics
Semester(s) in which the Course is taught	1st (first)
Person responsible for the Course	Agus Prasetyo Kurniawan
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Lecture, Group Discussion, Tutorials, Presentation
Workload (incl. contact hours, self-study hours)	Total workload: 119 Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	NA

Course objectives/intended learning outcomes	<p>The students demonstrate the attitudes of being honest, disciplined and responsible when attending the course of Introduction to the Basics of Mathematics. The students are innovative and able to critically, logically, systematically and analyze the basic concepts of mathematics and use various relevant resources including articles from reputable journals. The students are capable of showing their understanding of the logic in mathematics, sets, relation, and function as the basis for the teaching of mathematics in primary and secondary schools and as the prerequisite to take other relevant courses in the department. The students have the ability to analyze any misconception related to the materials of the basics of mathematics as their basis to bring innovation in the planning, teaching and evaluating mathematics learning that integrate Islamic values in schools and madrasahs.</p>
Content	<p>Introduction to the Basics of Mathematics discusses:</p> <ul style="list-style-type: none"> ● the basics of mathematics and mathematics education, ● mathematical structures, ● logic, ● sets, ● relation, ● function, ● cardinality of set and partially ordered set.
Examination forms	<ul style="list-style-type: none"> ● Final examination: Paper Based Exam (120 min) ● Mid-term examination:(Paper Based Exam (120 min) ● Presentations: Presentation materials ● Assignment : Paper Based Exam (1 week).
Study and examination requirements	<p>Requirements for successfully passing the Course:</p> <ul style="list-style-type: none"> ● Attendance 10% ● Assignments 30% ● Mid-evaluation 20% ● Final Evaluation 40% <p>The minimum grade to pass the course is C (61)</p>

Reading list	<ol style="list-style-type: none"> 1. Djoni, D. 2010. <i>Kalkulus Proposisional</i>. Yogyakarta: Graha Ilmu. 2. Djoni, D. 2010. <i>Kalkulus Predikat</i>. Yogyakarta: Graha Ilmu. 3. Djoko, F.W. 2011. <i>Logika</i>. Jakarta: Indeks. 4. Mahmud, Y. 2007. <i>Logika</i>. Yogyakarta: Graha Ilmu. 5. Masriyah. 2006. <i>Pengantar Dasar Matematika</i>. Surabaya: UNESA University Press 6. Seputro, T.M.H.T. 2010. <i>Pengantar Dasar Matematika (Logika dan Teori Himpunan)</i>. Jakarta: Penerbit Erlangga. 7. Soedjadi. 2001. <i>Pengantar logika Matematika (non-aksiomatik)</i>. Jakarta: Dirjen Dikti 8. Soedjadi. 2013. <i>Kiat Pendidikan Matematika di Indonesia Masa Kini</i>. Jakarta: Dirjen Dikti. 9. Sutojo, T. 2007. <i>Rangkaian Logika</i>. Yogyakarta: Ardana Media 10. Siang, J.J. 2014. <i>Logika Matematika: Soal dan Penyelesaian Logika, Himpunan, Relasi, Fungsi / Jong Jek Siang</i>. Yogyakarta: Andi.
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6. Philosophy of Mathematics Education

Course designation	Philosophy of Mathematics Education
Semester(s) in which the Course is taught	1sr (first)
Person responsible for the Course	Sutini
Language	Indonesian Language
Relation to curriculum	Compulsory Names of other study programmes with which the Course is shared : Mathematics Study Program, Faculty of Science and Technology, UIN Sunan Ampel Surabaya
Teaching methods	Lecture (L), Group Discussion (GD), Presentations (P)
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 119 Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84 (Group Discussion & Presentation)
Credit points	3 CP / 4.8ECTS
Required and recommended prerequisites for joining the Course	NA

Course objectives/intended learning outcomes	The students are able to demonstrate attitudes as individuals who uphold religious, humanist, moral, and ethical values in the field of Mathematics Education. They are able to apply information and data literacy to solve problems in Mathematics Education, explain the theoretical concepts of mathematics for school level or for their continuing study at graduate level that support the mathematics education in both levels, to modify learning tools, implement, and evaluate the application of mathematics learning tools in an innovative way and in accordance with Islamic values by applying mathematical and scientific pedagogic-didactic concepts, and utilizing various learning resources and science and technology that are oriented towards life skills.
Content	Philosophy of Mathematics Education discusses: <ul style="list-style-type: none"> ● the epistemology, axiology, and ontology of mathematics education, ● characteristics and objects of mathematics, ● philosophy of mathematics education, ● history and development of mathematics in pre-historic era, ● history and development of mathematics in Middle Ages, ● history, and development of mathematics from the Renaissance to the 18th century.
Examination forms	<ul style="list-style-type: none"> ● Final examination (120 min) ● Mid-term examination (120 min) ● Assignment (120 min) ● Exercise (120 min)
Study and examination requirements	<ul style="list-style-type: none"> ● Attendance 10% ● Assignments 30% ● Mid-evaluation 20% ● Final Evaluation 40% <p>The minimum grade to pass the course is C (61).</p>

Reading list	<ol style="list-style-type: none"> 1. Boyer, Carl B., 2010. <i>A History of Mathematics</i>. Rev. By Uta C. Merbach. New York: Wiley. 2. Burton, 2007. <i>The History of Mathematics: An Introduction</i>. The McGraw-Hill Companies. 3. Ernest, P., 2004. <i>The Philosophy of Mathematics Education</i>, USA: Taylor & Francis, Inc. 4. Eves, H and Newsom, C.V., 2004. <i>"An Introduction to the Foundation & Fundamental Concepts of Mathematics"</i>, New York: Holt, Rinehart and Winston, 5. Hers, R., 2016. <i>"What is Mathematics," Really?</i>, London: Jonathan Cape, pp.9, 6. Kusaeri, 2016. <i>Histriografi Matematika: Dinamika Perkembangan Matematika dari Zaman Babilonia Kuno hingga Abad ke-18</i>. Bandung: Refika Aditama. 7. Muhmidayeli, 2013. <i>Filsafat Pendidikan</i>. Bandung: Refika Aditama 8. Mrozek, J. 2004. <i>"Philosophy of Mathematics: The Problems of Understanding Mathematics."</i> Gdańsk: University of Gdańsk. 9. Posy, C., 2010. <i>Philosophy of Mathematics</i>, http://www.cs.washington.edu/homes/gjb.doc/philmath.htm 10. Ross, D.S., 2003, <i>"Philosophy of Mathematics", Foundations Study Guide: Philosophy of Mathematics</i>, ">http://wwwFOUNDATIONS_phil-of-mathematics.asp?>
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7. Pancasila

Course designation	Pancasila
Semester(s) in which the Course is taught	1st (first)
Person responsible for the Course	M. Nur Huda
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Lecture (L), Group Discussion (GD), Presentation (P)
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84 (Group Discussion & Presentation)
Credit points	2 CP / 3.2 ECTS

Required and recommended prerequisites for joining the Course	NA
Course objectives/intended learning outcomes	The students know the basic knowledge of the concepts of Pancasila (Five Principles) as ideology, philosophy, ethics and 1945 Constitution of the Republic of Indonesia, perspective and attitude of nationalism in daily lives, Pancasila across historical trajectory, the role of knowledge, information and technology in lives.
Content	Pancasila facilitates students': <ul style="list-style-type: none"> ● understanding theoretical understanding of Pancasila, ● ability to solve contextual problems through logical, critical, systematic, and innovative process in real life, ● behave as good citizens with nationalism, pride, and love of the country and to have a sense of responsibility to the state and nation while respecting the values of Indonesian local wisdom.
Examination forms	<ul style="list-style-type: none"> ● Midterm (Paper-Based Exam) (90 min) ● Final Exam (Paper -Based Exam) (90 min)
Study and examination requirements	<ul style="list-style-type: none"> ● Attendance 10% ● Assignments 30% ● Mid-evaluation 20% ● Final Evaluation 40% <p>The minimum grade to pass the course is C (61).</p>
Reading list	<ol style="list-style-type: none"> 1. Lemhannas. 2008. <i>Kewiraan untuk Mahasiswa</i>. Jakarta: Gramedia Pustaka Utama. 2. Nadj, E.S. & Marinah, N. 2000. <i>Diseminasi Hak Asasi Manusia (Perspektif dan Aksi)</i>. Jakarta: CESDA LP3ES. 3. Siregar, M. et.al. 2020. <i>Pendidikan Pancasila : Dalam Praktik Pengajaran</i>. Yogyakarta. 4. Sumarsono, dkk. 2001. <i>Pendidikan Kewarganegaraan</i>. Jakarta: Gramedia Pustaka Utama. 5. UU RI No. 2 dan 3 Tahun 2002 tentang <i>Kepolisian Negara RI dan Pertahanan Negara</i>.



SEMESTER 2

A. Compulsory

1. Principles of Islamic Education

Course designation	Principles of Islamic Education
Semester(s) in which the Course is taught	2nd (second)
Person responsible for the Course	Machfud Bachtiyar
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Lecture (L), Group Discussion (GD), Presentation (P)
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84 (Group Discussion & Presentation)
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	NA
Course objectives/intended learning outcomes	The students know the basic knowledge of the principles of Islamic education, the nature of human being in the perspective of Islamic education, the objectives of education in Islamic perspective, knowledge, skills and values in Islamic education, method and media in Islamic education, curriculum, roles of stakeholders and roles of the teacher in Islamic education as well as problems in Islamic education in Indonesia.
Content	Principles of Islamic studies discusses the concepts and aspects of Islamic education and provides students opportunities to use such knowledge to provide solutions to problems in Islamic education through logical, critical, systematic and contextual knowledge and procedures.
Examination forms	<ul style="list-style-type: none"> ● Final examination (Essay) (120 min) ● Mid - term examination (Paper - based Test) (120 min)
Study and examination requirements	<ul style="list-style-type: none"> ● Attendance 10% ● Assignments 30% ● Mid-evaluation 20% ● Final Evaluation 40% <p>The minimum grade to pass the course is C (61).</p>

Reading list

1. Abdullah, A.A. 2001. *Teori-Teori Pendidikan Berdasarkan al-Qur'an*, Jakarta: Reneka Cipta.
2. Abbas, R. 2001. *Tarikh al-Jamia'ah al-Qohiroh*, Kairo: Dar al-Qolam.
3. Ahqaad, A.M. 2015. *Abqariyah al-Islah Wa al-Ta'lim al-Imam Muhammad Abduh*, Beirut: Dar al-Kitab.
4. Al-Ainaini, A.A.K. 2018. *Falsafah al-Tarbiyah al-Islamiyah fi al-Qur'an al-Karim*, Mesir: Dar`al-Fikr.
5. Al-Abrasyi, M.A. 2008. *Pemikiran Pendidikan Islam*, Terj. Syamsudin Asrofi dkk, dari *Ruh al-Islam*, Yogyakarta: Titian Ilahi Press.
6. Al-Attas, Muhammad Naquib, (ed). 2009. *Aim and Objectives of Islamic Education*. Jeddah: King Abdul Aziz.
7. Al-Attas, MN. 2016. *Civil and Objective of Plan Education*: Jeddah: King Abdul Aziz.
8. Al-Attas, M.N. 2001. *Konsep Pendidikan Dalam Islam*, (Terj. Haidar Baqir, Bandung: Mizan.
9. Al-Faruqi, I.R. 2017. *Islamisasi Ilmu Pengetahuan, (ter) Anas Mahyudin*, Bandung: Pustaka.
10. Al-Gazali, A.H.M. 2016. *Ihya' Ulumuddin, Kairo Maktabah, Mishriyyah*.
11. Al-Zarnuji, B. 2016. *Ta'limul Muta'alim: Thariqah al-Ta'lim*, Semarang: Toha Putra.
12. Amin, A.. 2009. *Zuamaul Islah fi al-Ashr al-Hadits*, Kairo: al-Nahdlah al-Mishriyyah.
13. Arifin. 2010. *Filsafat Pendidikan Islam*, Jakarta: Bumi Aksara.
14. Ashraf, A., Sajjad, S. & Asyraf, A. 2016. *Krisis Pendidikan Islam*. Terj Ibrahim Hosen, Bandung: Risalah.
15. Asy'ary, S.H. 2010. *Adabul Alim wa al-Muta'alim*, Surabaya: al-Ikhlash.
16. Athiyah, M. 2018., *Ruh al-Islam, wa al-Ta'lim*, Cet. IV, Mesir: Dar al-Kutub al-Araby.
17. Arifin, M. 2001. *Filsafat Pendidikan Islam*, Jakarta: Bumi Aksara.
18. Asrohah, H.2016. *Sejarah Pendidikan Islam*, Ciputat: PT Logos Wacana Ilmu.
19. Asy'arie, M. 2010. *Manusia Pembentuk Kebudayaan dalam al-Qur'an*, Yogyakarta: LESFI.
20. At-Taoumy al-Syaibany, O. M. 2009. *Filsafat Pendidikan Islam*, Jakarta: Bulan Bintang.
21. Azra, A. 2001. *Pendidikan Islam: Tradisi & modernisasi menuju Milenium Baru*, Jakarta: Logos.
22. Baqi, M.A. 2011. *al-Mu'jan al-Mufahras li al-Fadz al-Qur'an al-Karim*. Beirut: Dar al-Fikr. Barizi, A. (ed). 2006.

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2. Hadits Studies

Course designation	Hadits Studies
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Semester(s) in which the Course is taught	2nd (second)
Person responsible for the Course	Usman Yudi
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Lecture (L), Group Discussion (GD), Presentation (P).
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84 (Group Discussion & Presentation)
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	NA
Course objectives/intended learning outcomes	The students have the ability to differentiate hadits, sunnah (tradition and practices of the prophet), khabar (information/news), atsar (the tradition and practices of the companion) and the structure of hadits, differentiate hadits based on the narrator chains. The students understand the position and function of hadits in relation to Qur'an, the development of the writing of hadits, vrances of hadits, understand hadits maudhu (false hadits), understand the position of reliable narrators, understand the extraction and authentication of hadits, short biography of hadits narrator. The students have the ability to evaluate the coherence of the chains of the hadith and analyze the hadits chains using hadits at-tabii and as-syahid.
Content	Theoretical understanding and practice of assessing the accuracy and authenticity of hadits.
Examination forms	<ul style="list-style-type: none"> ● Final examination (Paper-Based Exam) (120 min); ● Mid-term examination (Paper-Based Exam) (120 min) ● Assignment (120 min) ● Exercise (120 min)
Study and examination requirements	<ul style="list-style-type: none"> ● Attendance 10% ● Assignments 30% ● Mid-evaluation 20% ● Final Evaluation 40% <p>The minimum grade to pass the course is C (61).</p>

Reading list	<ol style="list-style-type: none"> 1. Al-Shalih, S. 2001. <i>Ulum al-hadis wa mustalahuhu</i>. Beirut: Dar al Kutub li al Malayin. 2. As-Siba'i, M. 2010. <i>as-Sunnah wa Makanatuha fi Tasyri' al-Islam</i>. Beirut: Dar al Salam. 3. At-Tahhan, M. 2020. <i>Taisir mustalah al-Hadis</i>. Surabaya: Syirkah Bungkul indah. Azami, M. M. 2001. <i>Hadits Nabawi dan Sejarah Kodifikasinya</i>. Jakarta : Pustaka Firdaus. 4. Idri., Malik, A. J., Nawawi., Syamsuddin. 2022. <i>Studi Hadits</i>. Surabaya: UINSA Press. 5. Ilyas, Y. 2008. <i>Pengembangan Pemikiran Terhadap Hadits</i>. Yogyakarta: Lembaga Pengkajian dan Pengamalan Islam, Universitas Muhammadiyah Yogyakarta. 6. Ismail, M. S. 2011. <i>Pengantar Ilmu Hadits</i>. Bandung: Angkasa. 7. Ismail, M. S. 2001. <i>Kaedah Kesahihan sanad Hadis, Telaah Kritik dengan Tinjauan Pendekatan Ilmu Sejarah</i>. Jakarta: Bulan Bintang. 8. Ismail, M. S. 2010. <i>Metodologi Penelitian Hadis Nabi</i>. Jakarta: Bulan Bintang. 9. Ismail, M. S. 2009. <i>Hadits Yang Tekstual Dan Kontekstual : Telaah Ma'ani Al-Hadits tentang Ajaran Islam yang Universal, Temporal dan Lokal</i>. Jakarta: Bulan Bintang. 10. Khon, A. M. 2015. <i>Ulumul Hadits</i>. Jakarta: Amzah. 11. Ranuwijaya, Utang. 2008. <i>Ilmu Hadis</i>. Jakarta : Gaya Media Pratama. 12. Zuhdi, M. 2010. <i>Pengantar Ilmu Hadis</i>. Surabaya: Bina Ilmu. 13. Zuhri, M. 2016. <i>Hadis Nabi: Telaah Historis dan Metodologis</i>. Yogyakarta: Tiara Wacana.
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3. Indonesian Language

Course designation	Indonesian Language
Semester(s) in which the Course is taught	2nd (second)
Person responsible for the Course	Rangga Saadillah S. A. P.
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Lecture (L), Group Discussion (GD), Presentation (P).
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84 (Group Discussion & Presentation)

Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	NA
Course objectives/intended learning outcomes	The students know the characteristics, processes and format of academic writing in Indonesian language. The students are able to write within the academic discourse of Bahasa Indonesia using the appropriate lexico-grammatical resources, rhetorical moves and formatting in Bahasa Indonesia.
Content	Indonesian Language introduces the theoretical understanding of the techniques in academic writing and facilitates practices of using techniques in academic writing both manually and using technology for their course-based assignments and for archiving and publication in the university library repository.
Examination forms	<ul style="list-style-type: none"> ● Final examination (Paper-Based Exam) (120 min). ● Mid-term examination (Paper-Based Exam) (120 min).
Study and examination requirements	<ul style="list-style-type: none"> ● Attendance 10% ● Assignments 30% ● Mid-evaluation 20% ● Final Evaluation 40% <p>The minimum grade to pass the course is C (61).</p>
Reading list	<ol style="list-style-type: none"> 1. Kusmana, S. 2010. <i>Merancang Karya Tulis Ilmiah</i>. Bandung: Rosdakarya. 2. Dalman. 2022. <i>Menulis Karya Ilmiah</i>. Depok: Rajawali Pers. 3. Suparno., M. Yunus. 2008. <i>Keterampilan Dasar Menulis</i>. Jakarta: Universitas Terbuka. 4. Sudjana, N. 2001. <i>Tuntunan Penyusunan Karya Ilmiah</i>. Bandung: Sinar Bru. 5. Tim Penyusun Prodi Pendidikan Matematika. <i>Pedoman Penulisan Skripsi</i>. Surabaya: UINSA Press. 6. Warsiman. 2007. <i>Kaidah Bahasa Indonesia yang Benar</i>. Bandung: Dewa Ruchi. 7. Sugiarto, E. 2013. <i>Master EYD Edisi Baru</i>. Yogyakarta: Suaka Media.

4. Geometry

Course designation	Geometry
Semester(s) in which the Course is taught	2nd (second)
Person responsible for the Course	Siti Lailiyah
Language	Indonesian Language

Relation to curriculum	Compulsory
Teaching methods	Lecture (L), Group Discussion (GD).
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84 (Group Discussion).
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	NA
Course objectives/intended learning outcomes	The students know the theoretical concepts of geometry of planes and spaces. The students can demonstrate the ability to prove theorems in geometry and solve problems related to geometry of planes and spaces.
Content	Geometry discusses: <ul style="list-style-type: none"> ● the elements of plane geometry, ● the congruence of two triangles, ● reasoning and proving, ● parallel lines, ● perpendicular lines, ● Pythagoras theorem and area of plane shapes, ● similar shapes of triangles, ● plane and space geometry, ● problems related to concepts in geometry.
Examination forms	<ul style="list-style-type: none"> ● Final Examination (Paper based exam) (120 min), ● Mid-examination (Paper based exam) (120 min) ● Assignment (Paper based exam) (120 min)
Study and examination requirements	Requirements for successfully passing the Course: <ul style="list-style-type: none"> ● Attendance 10% ● Assignments 30% ● Mid-evaluation 20% ● Final Evaluation 40% The minimum grade to pass the course is C (61)

Reading list	<ol style="list-style-type: none"> 1. Ahsanul, I. 2003, <i>Pengantar Geometri</i>, Malang: Banyumedia Publishing. 2. Fitriyani, H. Hendoanto, A. Anggoro, R. P. 2014. <i>Geometri Ruang</i>. Yogyakarta: Universitas Ahmad Dahlan Press. 3. Kusni., Sutarto, H. 2016. <i>Geometri Dasar untuk Perguruan Tinggi</i>, Yogyakarta: Magnum Pustaka Utama. 4. McGraw-Hill, E. 2019. <i>Geometry Review and Workbook 1st Edition</i>, Kindle Edition. McGraw Hill Book Co. 5. Rahmat, M. 2014, <i>Geometri</i>, Tangerang Selatan: Universitas Terbuka Press 6. Rif'at, M. 2020, <i>Geometri Tiga Dimensi</i>, Pontianak: Indonesia Imaji. 7. Susannah., 2008. <i>Geometri</i>, Surabaya: UNESAPress 8. Any articles in reputable journals related to Geometry.
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5. Integral Calculus

Course designation	Integral Calculus
Semester(s) in which the Course is taught	2nd (second)
Person responsible for the Course	Ahmad Lubab
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Lecture (L), Group Discussion (GD), Presentations (P).
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84 (Group Discussion & Presentation)
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	Differential Calculus

Course objectives/intended learning outcomes	The students understand the theoretical concepts of mathematics including mathematical logic, discrete mathematics, algebra, analysis, geometry, theory of probability and statistics, principles of mathematical modeling, linear programming, differential equations, and numerical methods that support the learning of mathematics in primary and secondary education as well as advanced study. The students are able to apply logical, critical, systematic, and innovative thinking in the context of developing or implementing science and technology by applying humanities values according to their area of expertise. The students are able to make the right decisions based on information and data analysis.
Content	Integral Calculus discusses: <ul style="list-style-type: none"> ● Riemann series ● Integral calculus in one variable ● Single Variable Integral ● Single Variable Integral Application
Examination forms	<ul style="list-style-type: none"> ● Final examination (120 min) ● Mid-term examination (120 min) ● Assignment (120 min) ● Exercise (120 min)
Study and examination requirements	<ul style="list-style-type: none"> ● Attendance 10% ● Assignments 30% ● Mid-evaluation 20% ● Final Evaluation 40% <p>The minimum grade to pass the course is C (61).</p>
Reading list	<ol style="list-style-type: none"> 1. Varberg, D., Purcell, E. J., & Ridgon, S. E. 2016. <i>Kalkulus: Jilid 1</i>. Alih Bahasa: I Nyoman Susila; Editor: Lemeda Simarmata. Jakarta: Erlangga. 2. Leithold, L. 2001. <i>Kalkulus dan ilmu ukur analitik. Jilid 1</i>. Alih bahasa: Hutahaean, E. Jakarta: Erlangga, 3. Purcell, E. J., & Varberg, D. 2010. <i>Kalkulus dan geometri analitis</i>. Alih bahasa I. Nyoman Susila, Bana Kartasasmita Rawuh. Jakarta : Erlangga. 4. Martono, K. 2016. <i>Kalkulus</i>. Jakarta : Erlangga.

6. Mathematics Curriculum Analysis

Course designation	Mathematics Curriculum Analysis
Semester(s) in which the Course is taught	2nd (Second)
Person responsible for the Course	Yuni Arrifadah
Language	Indonesian Language
Relation to curriculum	Compulsory

Teaching methods	Lecture (L), Group Discussion (GD), Presentation (P).
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84 (Group Discussion (GD), and Presentation (P)).
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	NA
Course objectives/intended learning outcomes	Students are able to know the concept of the mathematics curriculum to carry out learning in primary and secondary education that is oriented toward life skills. Students are able to analyze, arrange, develop, evaluate the mathematics curriculum in an innovative and Islamic way by applying the pedagogic-didactic concepts of mathematics and mathematical science, and utilizing various learning resources and technology that are oriented toward life skills.
Content	Mathematics Curriculum Analysis discusses: <ul style="list-style-type: none"> • The Concepts of Curriculum • The Development of Curriculum in Indonesia • Mathematics Curriculum Analysis • Models of Teaching and Learning Design • Need Analysis • Development of Learning Indicators, Objectives, and Material Analysis • Development of Teaching Instruments
Examination forms	<ul style="list-style-type: none"> ● Final Examination (Paper based exam) (120 min), ● Mid-examination (Paper based exam)(120 min), ● Presentation: Presentation Material ● Assignment: Paper Based Exam (1 Week)
Study and examination requirements	Requirements for successfully passing the Course: <ul style="list-style-type: none"> ● Attendance 10% ● Assignments 30% ● Mid-evaluation 20% ● Final Evaluation 40% The minimum grade to pass the course is C (61).

Reading list	<ol style="list-style-type: none"> 1. Chamisijatn, L., & Permana, F. H. 2019. <i>Telaah Kurikulum</i>. Malang: Universitas Muhammadiyah Malang Press. 2. Gravemeijer, K. 2020. <i>PISA 2021 Mathematics Framework</i>. Paris: OECD Publishing. 3. Li, Y., & Lappan, G. 2014. <i>Mathematics Curriculum in School Education</i>. New York: Spinger. https://www.google.co.id/books/edition/Mathematics_Curriculum_in_School_Educati/ufIVAgAAQBAJ?hl=en&gbpv=1&dq=curriculum+development+mathematics&printsec=frontcover 4. Lismina. 2017. <i>Pengembangan Kurikulum</i>. Ponorogo: Uwais Inspirasi Indonesia. 5. Supriyanto E. 2022. <i>Desain Kurikulum berbasis SKS dan Pembelajaran Untuk Sekolah Masa Depan</i>. Surakarta: Universitas Muhammadiyah Surakarta Press. 6. Trends in International Mathematics and Society Studies. 2017. <i>TIMMS. 2019 Assessment Frameworks</i>. United States: TIMSS & PIRLS International Study Center. 7. Vistro-Yu, C.P.. & Toh, T. L. 2019. <i>School Mathematics Curricula, Asian Perspectives and Glimpses of Reform</i>. Singapore: Springer. https://www.google.co.id/books/edition/School_Mathematics_Curricula/QWqVDwAAQBAJ?hl=en&gbpv=1&dq=curriculum+development+mathematics&printsec=frontcover
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7. Civics

Course designation	Civics
Semester(s) in which the Course is taught	2nd (Second)
Person responsible for the Course	M. Nur Huda
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Lecture (L), Group Discussion (GD), Presentation (P).
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: Hours in Class, specified in hours: 23 (Lecture) Private study including examination preparation, specified in hours: 56 (Group Discussion & Presentation)
Credit points	2 CP / 3.2 ECTS
Required and recommended prerequisites for joining the Course	NA

Course objectives/intended learning outcomes	The students are able to analyze the problems in the country, and demonstrate positive attitudes and spirits of nationalism, love for the country, civilized democracy and awareness of the law and diversity.
Content	Civics stimulates students' understanding and reinforcement of the Indonesian characters of Indonesian, national identities, constitution, government-citizen relationship, democracy in Indonesia, law and human rights, Indonesia's geopolitics and geostrategies, national integration, defense and anti-corruption education.
Examination forms	<ul style="list-style-type: none"> ● Final examination (Exam paper) (120 min); ● Mid-term examination (Essay) (120 min)
Study and examination requirements	<ul style="list-style-type: none"> ● Attendance 10% ● Assignments and Exercise 30% ● Mid-evaluation 20% ● Final Evaluation 40% <p>The minimum grade to pass the course is C (61).</p>
Reading list	<ol style="list-style-type: none"> 1. Adib, Mohammad. 2014. <i>Pendidikan Pancasila dan Kewarganegaraan: Sebuah Pengantar Membangun Karakter Bangsa</i>. Surabaya: Airlangga University Press. 2. Adib, Mohammad. 2016 (Cet. Kedua). <i>Bangunlah Jiwanya, Bangunlah Bangsaanya: Penguatan Karakter Bangsa dalam Pembelajaran Pendidikan Kewarganegaraan</i>. Surabaya: Saga dan Direktorat Pendidikan Universitas Airlangga. 3. Kemenristek Dikti, Ditjen Pembelajaran dan Kemahasiswaan. 2016. <i>Pendidikan Kewarganegaraan untuk Perguruan Tinggi</i>. (Cet. I). Dirjen Dikti. 4. Kemendikbud, Dirjen Dikti, 2010, <i>Pendidikan Anti-Korupsi untuk Perguruan Tinggi</i>, Jakarta: Kemendikbud. 5. Oommen, T. 2009, <i>Kewarganegaraan, Kebangsaan dan Etnisitas</i>, Yogyakarta: Kreasi Wacana. 6. Srijanti, dkk. 2009, <i>Pendidikan Kewarganegaraan untuk Mahasiswa</i>, Jakarta: Graha Ilmu. 7. Sutrisno, Slamet. 2006, <i>Filsafat dan Ideologi Pancasila</i>, Yogyakarta: Penerbit Andi. 8. Tim ICCE UIN Jakarta. 2003, <i>Demokrasi, HAM dan Masyarakat Madani</i>, Jakarta: Prenada Media. 9. <i>Undang-Undang Dasar Negara Republik Indonesia 1945 (the Amended)</i>

8. Psychology and Strategies in Mathematics Education

Course designation	Psychology and Strategies in Mathematics Teaching and Learning
Semester(s) in which the Course is taught	2nd (second)

Person responsible for the Course	Aning Wida Yanti
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Lecture (L), Group Discussion (GD), Presentations (P)
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84 (Group Discussion & Presentation)
Credit points	4 CP / 6.4 ECTS
Required and recommended prerequisites for joining the Course	NA
Course objectives/intended learning outcomes	<ul style="list-style-type: none"> ● Students are able to know the material of developmental psychology for junior high and high school students and implement it in mathematics learning. ● Students are able to know the theory of Behaviorism and apply it in mathematics learning. ● Students are able to know the Cognitive theory and implement it in mathematics learning. ● Students are able to know the Constructivism theory and implement it in learning mathematics. ● Students are able to know the Information Processing theory and implement it in learning mathematics. ● Students are able to know teaching models, teaching approaches, teaching strategies, and teaching methods and implement them in learning mathematics.
Content	Psychology and Strategies in Mathematics Education discusses: <ul style="list-style-type: none"> ● developmental psychology of secondary school students ● behaviorism theory ● cognitive theory ● constructivism theory ● information processing theory ● models, approaches, strategies, and methods of teaching and learning
Examination forms	<ul style="list-style-type: none"> ● Final examination (120 min) ● Mid-term examination (120 min) ● Assignment (120 min) ● Exercise (120 min)

Study and examination requirements	<ul style="list-style-type: none"> ● Attendance 10% ● Assignments 30% ● Mid-evaluation 20% ● Final Evaluation 40% <p>The minimum grade to pass the course is C+</p>
Reading list	<ul style="list-style-type: none"> ● Arends, R. I. 2012. <i>Learning to Teach</i>. New York: The McGraw-Hill Companies, Inc. ● Bell, F. H. 2019. <i>Teaching and Learning Mathematics in Secondary Schools</i>. New York: Wm. C. Brown Company Publisher. ● Davidson, N. 2010 <i>Cooperative learning in mathematics: A handbook for teachers</i>. Menlo Park, CA: Addison-Wesley Publishing. ● Gravemeijer. 2001. <i>Developing Realistic Mathematics Education</i>. Nederlands: Fruedental Institute. ● Gravemeijer, K. 2001. <i>Developing Realistic Mathematics Education</i>. Utrecht: Freudenthal Institute. ● Karso. 2009. <i>Pendidikan Matematika 1</i>. Jakarta: Universitas Terbuka. ● Nur, M., Prima W. dan Bambang S. 2016. <i>Teori Belajar</i>. Surabaya: UNESA University Press ● Nur, M. 2000. <i>Strategi-strategi Belajar</i>. Surabaya: Pusat Studi MIPA Sekolah. ● Polya, G. 2019. <i>How to Solve It: A New Aspect of Mathematical Method</i>. Second Edition. New Jersey: Princeton University Press. ● Santrock, J. W. 2011. <i>Educational Psychology</i>. Newyork: The McGraw-Hill Companies, Inc. ● Sharan, S. 2016. <i>Handbook of Cooperative Learning</i>. London: Praeger Westport. ● Silver, H.F., Strong, R. W., and Perini, M. J. 2007. <i>The Strategic Teacher: Selecting the Right Research-Based Strategy for Every Lesson</i>. Alexandria, Virginia: ASCD. ● Skemp, R. 2018. <i>The Psychology of Learning Mathematics</i>. New York: Penguin Books. ● Slavin, R. E. 2006. <i>Educational Psychology</i>. USA: Pearson Education, Inc. ● Soedjadi. 2013. <i>Kiat Pendidikan Matematika di Indonesia Masa Kini</i>. Jakarta: Dirjen Dikti. <p>Suherman, et al. 2001. <i>Strategi Pembelajaran Matematika Kontemporer</i>. Bandung: JICA UPI.</p>

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- Arends, R. I. 2012. *Learning to Teach*. New York: The McGraw-Hill Companies, Inc.
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- Davidson, N. 2010 *Cooperative learning in mathematics: A handbook for teachers*. Menlo Park, CA: Addison-Wesley Publishing.
- Gravemeijer. 2001. *Developing Realistic Mathematics Education*. Nederlands: Fruedental Institute.
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- Karso. 2009. *Pendidikan Matematika 1*. Jakarta: Universitas Terbuka.
- Nur, M., Prima W. dan Bambang S. 2016. *Teori Belajar*. Surabaya: UNESA University Press
- Nur, M. 2000. *Strategi-strategi Belajar*. Surabaya: Pusat Studi MIPA Sekolah.
- Polya, G. 2019. *How to Solve It: A New Aspect of Mathematical Method*. Second Edition. New Jersey: Princeton University Press.
- Santrock, J. W. 2011. *Educational Psychology*. Newyork: The McGraw-Hill Companies, Inc.
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- Skemp, R. 2018. *The Psychology of Learning Mathematics*. New York: Penguin Books.
- Slavin, R. E. 2006. *Educational Psychology*. USA: Pearson Education, Inc.
- Soedjadi. 2013. *Kiat Pendidikan Matematika di Indonesia Masa Kini*. Jakarta: Dirjen Dikti.
- Suherman, et al. 2001. *Strategi Pembelajaran Matematika Kontemporer*. Bandung: JICA UPI.



SEMESTER 3

A. Compulsory

1. Mathematical Statistics

Course designation	Mathematical Statistics
Semester(s) in which the Course is taught	3rd (third)
Person responsible for the Course	Maunah Setyawati
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Lecture (L), Group Discussion (GD), Presentations (P)
Workload (incl. contact hours, self-study hours)	Total workload: 119 Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84 (Group Discussion & Presentation)
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	NA
Course objectives/intended learning outcomes	The students have the capability to conduct appropriate mathematical statistical analysis, use statistics applications to solve mathematical statistics problems and write a book of mathematical statistics questions items.
Content	Mathematical Statistics discusses and facilitates students' learning of: <ul style="list-style-type: none">• sample points,• probability,• Bayes' theorem,• random variable and distribution,• mathematical expectation,• discrete and continuous random variable.
Examination forms	<ul style="list-style-type: none">• Final examination (120 min)• Mid-term examination (120 min)• Assignment (120 min)• Exercise (120 min)
Study and examination requirements	<ul style="list-style-type: none">• Attendance 10%• Assignments 30%• Mid-evaluation 20%• Final Evaluation 40% The minimum grade to pass the course is C (61).

Reading list	<ol style="list-style-type: none"> 1. Devore, J. L., & Berk, K. N. 2012. <i>Modern Mathematical Statistics with Applications</i> 2nd ed. Springer, Dordrecht. 2. Fitriani, R., Suci, M. 2020. <i>Statistika Matematika dengan Pendekatan Terapan</i>. Tim UB Press. 3. Ross, S. M. 2014. <i>Introduction to Probability Models</i>, Academic Press, San Diego. 4. Setyawati, M. 2014. <i>Statistika Matematika</i>. UIN Sunan Ampel Press. 5. Wackerly, D. D, W. Mendenhall III, R. L. Schaeffer. 2008. <i>Mathematical Statistics with Application</i>, Thomson Brooks/Cole, Duxbury. 6. Walpole, R. E., R. H. Meyers. 2022. <i>Probability and Statistics for Engineers and Scientists</i>, Pearson Education, London.
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2. Number Theory

Course designation	Number Theory
Semester(s) in which the Course is taught	3rd (third)
Person responsible for the Course	Aning Wida Yanti
Language	Indonesia Language
Relation to curriculum	Compulsory
Teaching methods	Lecture (L), Group Discussion (GD), Presentations (P)
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84 (Group Discussion & Presentation)
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	Introduction to the Basics of Mathematics
Course objectives/intended learning outcomes	Students are responsible to work independently in solving Number Theory problems. Students are able to apply logical, critical, systematic, and innovative thinking in the context of developing or implementing Number Theory material in solving everyday problems. Students demonstrate their ability to understand the theoretical concepts of Number Theory which support learning mathematics in Elementary and Secondary Education as well as for further studies. Students are able to plan, implement, and evaluate learning mathematics in an innovative and Islamic way by applying the concept of Number Theory. Students are able to utilize various learning resources and technology in Number Theory learning.

Content	Students can explain material about: <ul style="list-style-type: none"> ● mathematical induction, ● integer, ● division, ● prime numbers, ● congruence of integers.
Examination forms	<ul style="list-style-type: none"> ● Final examination (120 min) ● Mid-term examination (120 min) ● Assignment (120 min) ● Exercise (120 min)
Study and examination requirements	<ul style="list-style-type: none"> ● Attendance 10% ● Assignments 30% ● Mid-evaluation 20% ● Final Evaluation 40% <p>The minimum grade to pass the course is C (61)</p>
Reading list	<ol style="list-style-type: none"> 1. Apostol, T.M. (n.d.). 2016. <i>"An Introduction to the Theory of Numbers"</i>. (Review of Hardy & Wright.) Mathematical Reviews (MathSciNet). American Mathematical Society. MR 0568909. 2. Granville, A. 2008. <i>"Analytic Number Theory"</i>. In Gowers, Timothy; Barrow-Green, June; Leader, Imre. The Princeton Companion to Mathematics. Princeton University Press. ISBN 978-0-691-11880-2. 3. Long, C.T. 2010. <i>Elementary Introduction to Number Theory</i> (edisi ke-2nd). Lexington, VA: D.C. Heath and Company. LCCN 77171950. 4. Sukirman. 2016. <i>Ilmu Bilangan</i>. Edisi 1 / 2 SKS / Modul 1-6. 286 hal.: ill.; 21 cm. ISBN 9786023920471 Tangerang Selatan: Universitas Terbuka.

3. Analytic Geometry

Course designation	Analytic Geometry
Semester(s) in which the Course is taught	3rd (third)
Person responsible for the Course	Siti Lailiyah
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Lecture, Group Discussion, Tutorial, Presentation

Workload (incl. contact hours, self-study hours)	Total workload: 119 Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	Geometry
Course objectives/intended learning outcomes	The students know the theoretical concepts of analytical geometry. The students demonstrate the ability to prove theorems in analytical geometry and solve problems related to geometry of planes and spaces.
Content	Analytic Geometry discusses: <ul style="list-style-type: none"> ● Cartesian coordinates system, ● equations of lines, ● equations of circles, ● parabola, ● ellipse, ● hyperbola, ● plane and problems related to analytical geometry.
Examination forms	<ul style="list-style-type: none"> ● Final Examination (Paper based exam) (120 min), ● Mid-examination (Paper based exam)(120 min), ● Presentation Materials (120 min), ● Assignment (paper based exam) (120 min).
Study and examination requirements	Requirements for successfully passing the Course: <ul style="list-style-type: none"> ● Attendance 10% ● Assignments 30% ● Mid-evaluation 20% ● Final Evaluation 40% The minimum grade to pass the course is C (61).

Reading list	<ol style="list-style-type: none"> 1. Cahyono, H. 2019. <i>Geometri Analitik Bidang</i>. UMM Pres. 2. Jain, P.K. & Ahmad, K. 2005. <i>A textbook of Analytical Geometry of Two Dimensions</i>. New Delhi: New Age International. 3. Muladaniyati, R. & Widodo, S.A.. 2020, <i>Geometri Analitik Ruang</i>. Yogyakarta: Matematika. 4. Riddle, D.F. 2000. <i>Analytic Geometry</i>. Wadsworth Publishing Company. 5. Susannah, 2014, <i>Geometri Analitika (Revised Version)</i>, Surabaya: Unesa Press. 6. Wijayanti, P. et al. 2021. <i>Geometri Analitik dan Ruang (Edisi 2)</i>. Tangerang Selatan: Universitas Terbuka Pres. 7. Any articles in reputable journals related to Analytic Geometry.
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4. Multivariable Calculus

Course designation	Multivariable Calculus
Semester(s) in which the Course is taught	3rd (third)
Person responsible for the Course	Lisanul Uswah Sadieda
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Lecture (L), Group Discussion (GD), Tutorials (T)
Workload (incl. contact hours, self-study hours)	Total workload: 119 Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	<ol style="list-style-type: none"> 1. Differential Calculus 2. Integral Calculus
Course objectives/intended learning outcomes	The students demonstrate the ability to think logically, critically, systematically, be innovative in finding solutions related to multivariable functions, and be honest and responsible for problem solving. The students are able to independently reflect on their mastery of the basic concepts of multivariable functions and to use the concepts of function of two variables, vector function, fold integral and calculus vector to solve problems.

Content	Multivariable Calculus discusses and facilitates the development of students' knowledge and skills in using: <ul style="list-style-type: none"> ● multivariable functions: limit and continuity, partial derivatives, chain rule, directional derivatives, gradient vector, maximum and minimum values, ● vector function: vector function and space curves, integral of vector function, velocity and acceleration, ● fold integral: double integral, repeated integration, double integral in polar coordinate, three-fold integral with cylindrical and ball coordinate, ● vector calculus: vector field, line integral, Green, Curl, Stokes, and divergence theorems and surface integral.
Examination forms	<ul style="list-style-type: none"> ● Final examination: Paper Based Exam (120 min) ● Mid-term examination:(Paper Based Exam (120 min) ● Assignment : Paper Based Exam (1 week).
Study and examination requirements	<p>Requirements for successfully passing the Course:</p> <ul style="list-style-type: none"> ● Performance 10% ● Assignments 30% ● Mid-term examination 20% ● Final examination 40% <p>The minimum grade to pass the course is C (61).</p>
Reading list	<ol style="list-style-type: none"> 1. Budhi, W.S. 2001. <i>Kalkulus Peubah Banyak dan Penggunaannya</i>. Bandung: ITB. 2. Handali, D. & Pamuntjak, R.J. 2004. <i>Kalkulus Perubah Banyak</i>. Bandung: ITB. 3. Gunawan, G. & Fajar, M.Y. 2015. <i>Kalkulus Peubah Banyak</i>. Yogyakarta: Graha Ilmu. 4. Stewart, J. 2001. <i>Kalkulus</i>. Jilid 2. Jakarta: Erlangga.

5. Profession in Mathematics Education

Course designation	Profession in Mathematics Education
Semester(s) in which the Course is taught	3rd (rd)
Person responsible for the Course	Yuni Arrifadah
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Lecture (L), Project (P), Group Discussion (GD), Presentation(P)

Workload (incl. contact hours, self-study hours)	Total workload: Hours in Class, specified in hours: 35 (Lecture) (please specify whether lecture, exercise, laboratory session, etc.) A private study including examination preparation, specified in hours: 56
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	NA
Course objectives/intended learning outcomes	Students are able to master the concept of the profession of mathematics educators to carry out their rights and obligations as an educator, analyze teacher activity in various roles and solve the problems related to the teaching profession as a form of implementing the role of educators.
Content	Profession in Mathematics Education discusses: <ul style="list-style-type: none"> ● professional concepts and requirements, ● professional attitude, ● teacher professional competencies, ● teacher certification, ● the role of the professional teacher, ● educational supervision, ● teacher professional development.
Examination forms	<ul style="list-style-type: none"> ● Final Examination (Paper based exam) (120 min), ● Mid-examination (Paper based exam)(120 min), ● Presentation Materials (120 min). ● Exam paper (120 min)
Study and examination requirements	<ul style="list-style-type: none"> ● Requirements for successfully passing the Course: ● Attendance 10% ● Assignments 30% ● Mid-evaluation 20% ● Final Evaluation 40% ● The minimum grade to pass the course is C (61).
Reading list	Soeipto , R.K. 2009. <i>Profesi Keguruan</i> . Jakarta: Rineka Cipta. Karuru, P. & Kuddi, D. 2017. <i>Profesi Kependidikan</i> . Tana Toraja: Uki Toraja Press. Priansa, D.J. 2017. <i>Menjadi Kepala Sekolah dan Guru Profesional</i> . Bandung: Pustaka Setia. Yasaratoto, 2019. <i>Profesi Kependidikan</i> . Medan: Unimed Press. Prabowo, A.S. et al. 2020. Identifikasi Kemampuan Guru sebagai Guru Penggerak di Karesidenan Semarang. <i>Jurnal Profesi Keguruan UNNES</i> , Volume 6. (https://journal.unne.ac.id/nju/index.php/jpk)

6. Evaluation of Mathematics Learning

Course designation	Evaluation of Mathematics Learning
Semester(s) in which the Course is taught	3rd (third)
Person responsible for the Course	Kusaeri
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Lecture, Group Discussion, Tutorials, Presentation
Workload (incl. contact hours, self-study hours)	Total workload: 119 Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	Mathematics Curriculum Analysis
Course objectives/intended learning outcomes	The students are able to independently and responsibly make appropriate decisions as pre-service teachers through the process used in evaluating mathematics learning. The students demonstrate the ability to develop techniques, instruments, scoring criteria of process and outcome assessment of mathematics learning based on the dynamic of national assessment and analyze the results of mathematics assessment.
Content	Mathematics Learning Evaluation discusses: <ul style="list-style-type: none"> ● the dynamic of national assessment ● the taxonomy of learning objectives (cognitive dimension) ● assessment grid ● validity and reliability of assessment instruments ● techniques in national assessment ● written and verbal assessment techniques and tasks ● assessment techniques using portfolio, project, article writing and performance, ● quantitative analysis of question items.
Examination forms	<ul style="list-style-type: none"> ● Final examination: Project (2 week) ● Mid-term examination: Portfolio ● Presentations: Presentation materials ● Assignment : Paper Based Exam (120 min).

Study and examination requirements	<p>Requirements for successfully passing the Course:</p> <ul style="list-style-type: none"> ● Performance 10% ● Assignments 30% ● Mid-term examination 20% ● Final examination 40% <p>The minimum grade to pass the course is C (61)</p>
Reading list	<ol style="list-style-type: none"> 1. Anastasi, A. & Urbina, S. 2016. <i>Psychological testing</i> (7th ed). New Jersey: Prentice Hall, Inc. 2. Depdiknas. 2003. <i>Sistem penilaian kelas SD, SMP, SMA dan SMK</i>. Jakarta: Direktorat Jenderal Pendidikan Dasar dan Menengah. 3. Kusaeri. 2014. <i>Acuan dan teknik penilaian proses dan hasil belajar dalam kurikulum 2013</i>. Yogyakarta: Ar-ruzz Media. 4. Linn, R.L., & Gronlund, N.E. 1995. <i>Measurement and assessment in teaching</i> (7th ed). Ohio: Prentice Hall, 5. Nitko, A.J. & Brookhart, S.M. 2011. <i>Educational assessment of students</i>. Boston: Pearson Education. 6. Reynolds, C.R., Livingston, R.B., & Willson, V. 2010. <i>Measurement and assessment in education</i>. New Jersey: Pearson Education, Inc.

7. Al Arobiyat lil Riyadiyat (Arabic for Mathematics)

Course designation	<i>Al Arobiyat lil Riyadiyat</i> (Arabic for Mathematics)
Semester(s) in which the Course is taught	3rd (third)
Person responsible for the Course	Mujib Ridwan
Language	Indonesian Language and Arabic
Relation to curriculum	Compulsory
Teaching methods	Lecture (L), Group Discussion (GD), Presentations (P), Tutorials (T)
Workload (incl. contact hours, self-study hours)	<p>Total workload:</p> <p>Hours in Class, specified in hours: 35 (Lecture)</p> <p>Private study including examination preparation, specified in hours: 84 (Group Discussion & Presentation)</p>
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	NA

Course objectives/intended learning outcomes	The students understand the theoretical concepts of 'adad ma'dud and related nahwu rules, and are able to apply 'adad ma'dud rules in the basic concepts of mathematics.
Content	Arabic for Mathematics discusses: <ul style="list-style-type: none"> • isi'im, fi'il, and i'rob and their signs, • arabic rules, • adadut mufrad, adadut ma'thuf, adadut idhafah, adadut tartib in arabic texts, • assa'atu wal waqtu rule, al arqom fil hisab rule, nahwu rule in arabic text, • unit of measurement rules for length, weight, time, • theory of al asykal (two dimensional shapes and geometry).
Examination forms	<ul style="list-style-type: none"> • Final Examination (Paper based exam) (120 min) • Mid-examination (Paper based exam) (120 min) • Exercise (paper based exam) (120 min)
Study and examination requirements	<ul style="list-style-type: none"> • Attendance 10% • Assignments 30% • Mid-evaluation 20% • Final Evaluation 40% <p>The minimum grade to pass the course is C</p>
Reading list	Ghozali, M.K. 2012. <i>Ensi Mini Nahwu Sharf</i> . Malang: Citra Media

8. Computer Application

Course designation	Computer Applications
Semester(s) in which the Course is taught	3rd (third)
Person responsible for the Course	Subhan Nooriansyah
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Lecture (L), Group Discussion (GD), Presentations (P), Tutorials (T), Laboratory Class (LC)
Workload (incl. contact hours, self-study hours)	Total workload: Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84 (Group Discussion & Presentation)
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	NA

Course objectives/intended learning outcomes	The students are able to identify problems and solve these problems by selecting appropriate computer applications based on appropriate academic ethics. The students are able to analyze the needs of computer applications based on expertise related to conventional and modern mathematics. The students are able to use computer applications based on their knowledge of mathematics and education so that they can provide guidance to themselves. The students are able to improve themselves with the support of computer applications in order to work efficiently in learning and working.
Content	Computer Applications discusses: <ul style="list-style-type: none"> ● introduction to MATLAB (history, benefits, variable and constant declarations and operators), ● matrix / array / array operations in MATLAB, ● function declarations and their usage, ● flow control (If-Else, Switch Case), ● loops (For, While), ● applications of statistics, calculus, linear algebra, linear programming, discrete mathematics, numerical methods using MATLAB,
Examination forms	<ul style="list-style-type: none"> ● Final Examination (Paper based exam) (120 min) ● Mid-examination (Paper based exam) (120 min) ● Exercise (Paper based exam) (120 min)
Study and examination requirements	<ul style="list-style-type: none"> ● Attendance 10% ● Assignments 30% ● Mid-evaluation 20% ● Final Evaluation 40% <p>The minimum grade to pass the course is C (61).</p>

Reading list

1. Caesarendra, W., & Ariyanto, M. 2011. *Panduan Belajar Mandiri MATLAB*. Media Komputindo, Jakarta.
2. Jeperson, H. (2015). *Konsep Sistem Informasi*. Yogyakarta: Budi Utama.
3. Sahid. 2004. *Aplikasi Komputer dengan MATLAB: Petunjuk Praktekum MATLAB, Edisi Revisi*, Laboratorium Komputer Jurusan Pendidikan Matematika, UNY. <http://www.limitedbookstore.com/buku/pengantar-komputasi-numerik-dengan-matlab-drs-sahid-msc.htm>, diakses tanggal, 3 Juni 2013.
4. Sahid. 2007. *Pengantar Komputasi Numerik Dengan Matlab*. <http://www.belbuk.com/pengantar-komputasi-numerik-dengan-matlab-p-3486.html>
5. Yeni, I. 2022. *Buku Ajar pengantar Aplikasi Komputer*. Yogyakarta: Deepublish.



SEMESTER 4

A. Compulsory

1. Numerical Methods

Course designation	Numerical Methods
Semester(s) in which the Course is taught	4th (fourth)
Person responsible for the Course	Sutini
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Lecture (L), Group Discussion (GD), Presentations (P)
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 119 Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84 (Group Discussion & Presentation)
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	Integral Calculus
Course objectives/intended learning outcomes	The students are able to demonstrate attitudes as individuals who uphold religious, humanist, moral, and ethical values in the field of Mathematics Education. They are able to apply information and data literacy to solve problems in Mathematics Education, explain the theoretical concepts of mathematics for school level or for their continuing study at graduate level that support the mathematics education in both levels, to modify learning tools, implement, and evaluate the application of mathematics learning tools in an innovative way and in accordance with Islamic values by applying mathematical and scientific pedagogic-didactic concepts, and utilizing various learning resources and science and technology that are oriented towards life skills.
Content	Numerical Method discusses: <ul style="list-style-type: none">● non-linear root-finding method● interpolation● numerical derivatives● numerical integration
Examination forms	<ul style="list-style-type: none">● Final examination (120 min)● Mid-term examination (120 min)● Assignment (120 min)● Exercise (120 min)

Study and examination requirements	<ul style="list-style-type: none"> ● Attendance 10% ● Assignments 30% ● Mid-evaluation 20% ● Final Evaluation 40% <p>The minimum grade to pass the course is C (61).</p>
Reading list	<ol style="list-style-type: none"> 1. Atkinson, K., & Han, W. 2003. <i>Elementary Numerical Analysis</i>. Iowa City: University of Iowa Press. 2. Fuad, Y. 2014. <i>Metode Numerik</i>. Madura: UTM Press. 3. Munir, R. 2015. <i>Metode Numerik</i>. Bandung: Informatika. 4. Maharani, S., & Edy Suprpto, E. 2022. <i>Analisis Numerik</i>. AE. Media Grafika. 5. Suli, E., David, F., Mayers. 2003. <i>An Introduction to Numerical Analysis</i>. Cambridge: Cambridge University Press. 6. Salusu, A. 2008. <i>Metode Numerik</i>. Yogyakarta : Graha Ilmu.

2. Entrepreneurship

Course designation	Entrepreneurship
Semester(s) in which the Course is taught	4th (fourth)
Person responsible for the Course	Muhajir Al Mubarak
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Lecture (L), Group Discussion (GD), Presentation (P), Tutorial (T)
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84 (Group Discussion & Presentation)
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	NA
Course objectives/intended learning outcomes	Students have the ability to study entrepreneurship based on their skills and potential as a guideline for organizing entrepreneurial activities in the community, as well as presenting them in seminar forums confidently and responsibly. Students are able to be responsible for achieving organizational work results in the world of work.

Content	<p>Students are able to explain materials about:</p> <ul style="list-style-type: none"> ● The basics of entrepreneurship, including the definition of entrepreneurship, the character of an entrepreneur, the types of entrepreneurs, entrepreneur mindset, theory of financial intelligence, marketing concepts, marketing strategies and tactics, marketing concepts, Public relations management concepts, public relations management objectives, and public relations approaches. ● Leadership Profile, including Early leadership theory, Contemporary leadership theory, Creative group business field, consultative, service, analytical, and business idea from imitation.
Examination forms	<ul style="list-style-type: none"> ● Project Essay, Final examination (120 min) ● Mid-term examination (120 min) ● Assignment (150)
Study and examination requirements	<ul style="list-style-type: none"> ● Attendance 10% ● Assignments 30% ● Mid-evaluation 20% ● Final Evaluation, Project Essay 40% <p>The minimum grade to pass the course is C (61).</p>

Reading list	<ol style="list-style-type: none"> 1. Alma, Bukhori. 2008. <i>Kewirausahaan</i>. Bandung: Alfabeta. 2. Handoko, T. N. 2011. <i>Manajemen Personalia dan Manajemen Sumber Daya Manusia</i>. Yogyakarta: BPFE-UGM. 3. Kasmir. 2010. <i>Pengantar Manajemen Keuangan</i>. Jakarta: Kencana Prenada Media Group. 4. Machfoedz, Mas'ud, dan Machfoedz, M. 2004. <i>Kewirausahaan</i>. Yogyakarta: UPP AMP YKPN. 5. Nickels, William G., James M, & McHugh, S. 2009. <i>Pengantar Bisnis</i>. Jakarta: Buku 21 Salemba Empat. 6. Nickels, William G., James M. McHugh, Susan McHugh, 2010, <i>Pengantar Bisnis – Buku 2</i>, Salemba Empat, Jakarta. 7. Suryana. 2003. <i>Kewirausahaan</i>. Jakarta: Salemba Empat. 8. Suryana, Yuyus, dan Bayu, K. 2010. <i>Kewirausahaan</i>. Jakarta: Kencana. 9. Wiratmo, dan Masykur. 2001. <i>Pengantar Kewiraswastaan</i>, Yogyakarta: BPFE. 10. Sukirno, dan Sadono, et al. 2011. <i>Pengantar Bisnis</i>. Jakarta: Kencana Prenada Media Group. 11. Simamora, H. 2006. <i>Manajemen Sumberdaya Manusia</i>. Yogyakarta: STIE YKPN, Edisi Ketiga. 12. Sartono, dan Agus, R. 2001. <i>Manajemen Keuangan-Teori dan Aplikasi</i>. Yogyakarta: BPFE.
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3. Complex Functions

Course designation	Complex Function
Semester(s) in which the Course is taught	4th (fourth)
Person responsible for the Course	Ahmad Lubab
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Lecture (L), Group Discussion (GD), Presentations (P)
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84 (Group Discussion & Presentation)
Credit points	3 CP / 4.8 ECTS

Required and recommended prerequisites for joining the Course	Multivariable Calculus
Course objectives/intended learning outcomes	The students understand the mathematical theoretical concepts of geometry, theory of probability and statistics, principles of mathematical modeling, linear programming, differential equations, numerical methods, and others especially related to complex functions that support the learning of mathematics in primary and secondary education as well as for further studies. The students are able to apply logical, critical, systematic, and innovative thinking in the context of the development or implementation of science and technology that applies the values of the humanities in the field of Mathematics Education. The students are able to make appropriate decisions in the context of solving problems in their expertise based on the results of information and data analysis.
Content	Complex Function discusses: <ul style="list-style-type: none"> ● Complex Number System ● Analytic Functions ● Complex Functions/ Complex Transformations ● Complex Integration
Examination forms	<ul style="list-style-type: none"> ● Final examination (120 min) ● Mid-term examination (120 min) ● Assignment (120 min) ● Exercise (120 min)
Study and examination requirements	<ul style="list-style-type: none"> ● Attendance 10% ● Assignments 30% ● Mid-evaluation 20% ● Final Evaluation 40% <p>The minimum grade to pass the course is C (61).</p>
Reading list	<ol style="list-style-type: none"> 1. Agarwal, Ravi P et al. 2011. <i>An Introduction to Complex Analysis</i>. Springer. 2. Mathews, John H, Howell, Russel W. 2016. <i>Complex Analysis for Mathematics and Engineering</i>. Jones and Bartlett. 3. Paliouras, J.D. 2014. <i>Complex variables for Scientist and Engineers</i>. Macmillan. 4. Spiegel, Murray R. 2009. <i>Complex Variables With an Introduction to Conformal Mapping and its Applications</i>. The McGraw Hill Companies.

4. Mathematics Learning in Junior High School

Course designation	Mathematics Learning in Junior High School
Semester(s) in which the Course is taught	4st (fourth)
Person responsible for the Course	Yuni Arrifadah
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Lecture (L), Project (P), Group Discussion (GD), Presentation (P)
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: Hours in Class, specified in hours: 35 (Lecture) (please specify whether lecture, exercise, laboratory session, etc.) Private study including examination preparation, specified in hours: 84
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	<ul style="list-style-type: none"> ● Mathematics Curriculum Analysis ● Psychology and Strategies in Mathematics Teaching and Learning ● Evaluation of Mathematics Learning
Course objectives/intended learning outcomes	Students are able to master theoretical concepts and solve problems about numbers, algebra, measurement and geometry, data analysis, and probabilities in mathematics learning for middle school. Students are able to master pedagogic-didactic concepts to plan, implement, and evaluate mathematics learning for middle school that is critical, creative, communicative, and collaborative. Students are able to compile and implement limited learning tools and evaluation tools for middle school by utilizing various learning resources and technology that are oriented toward life skills. Students are able to develop media and mathematics learning resources for mathematics learning in Junior High School based on research results and are oriented towards Islam and East Javanese culture.
Content	<ul style="list-style-type: none"> ● Mathematics Teaching Materials for Junior High School ● Mathematics Learning Strategies and Methods for Junior High School ● Mathematics Learning Media for Senior High School ● Mathematics Learning Assessment for Junior High School ● Mathematics Learning Devices for Junior High School

Examination forms	<ul style="list-style-type: none"> ● Final Examination (Paper based exam) (120 min) ● Mid-examination (Paper based exam)(120 min) ● Presentation Materials (120 min) ● Exam paper (120 min)
Study and examination requirements	<p>Requirements for successfully passing the Course:</p> <ul style="list-style-type: none"> ● Attendance 10% ● Assignments 30% ● Mid-evaluation 20% ● Final Evaluation 40% <p>The minimum grade to pass the course is C (61).</p>
Reading list	<ol style="list-style-type: none"> 1. Capaian Pembelajaran Matematika Fase D. 2022. Link: https://guru.kemdikbud.go.id/kurikulum/referensi-penerapan/capaian-pembelajaran/sd-sma/matematika/fase-d 2. Foresman, G.A., Peter, S. F, Watson, J.C. 2016. The Critical Thinking Toolkit. 3. Modul Ajar Kurikulum Merdeka jenjang SMP. 2022. Link: https://www.amongguru.com/download-modul-ajar-kurikulum-merdeka-jenjang-sma-tahun-2022/ 4. Richard Li, Simon K. S. Cheung. 2021. <i>Blended learning Rethinking and re-defining the learning process</i>. Link: https://www.google.co.id/books/edition/Blended Learning Rethinking and Re defining/Vg7EAAAQBAJ?hl=en&gbpv=1&dq=blended+learning+and+experiential+learning&printsec=frontcover

5. Research Methods in Mathematics Education

Course designation	Research Methods in Mathematics Education
Semester(s) in which the Course is taught	4th (fourth)
Person responsible for the Course	A. Saepul Hamdani
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Lecturing (L), Tutorial (T), Group Discussion (GD), and Presentation (P).
Workload (incl. contact hours, self-study hours)	<p>(Estimated) Total workload: 119 Hours in Class, specified in hours: 35 (Lecturing, Group Discussion, Presentation)) Private study including examination preparation, specified in hours: 84 (Tutorial)</p>
Credit points	3 CP / 4.8 ECTS

Required and recommended prerequisites for joining the Course	Applied Statistics
Course objectives/intended learning outcomes	The students understand the basic concepts of research and scientific methods, and research designs in mathematics education. The students also have the ability to formulate research questions and titles in the area of mathematics education, develop instruments and research proposals in the field of mathematics education.
Content	<ul style="list-style-type: none"> ● The Research Methods in Mathematics Education discusses the basic concepts of research. ● Methods and designs in the area of mathematics education.
Examination forms	<ul style="list-style-type: none"> ● Project Essay (1 week) ● Research Paper (1 smt) ● Seminar Paper (60 min)
Study and examination requirements	<p>Requirements for successfully passing the Course:</p> <ol style="list-style-type: none"> 1. Attendance 10% 2. Assignments 30% 3. Mid-evaluation 20% 4. Final Evaluation 40% <p>The minimum grade to pass the course is C (61).</p>
Reading list	<ol style="list-style-type: none"> 1. Gall, Meredith, D., Borg, W.R., & Gall, J.P. 2003. <i>Educational Research: An Introduction, 7th Edition</i>. 2. Louis, C., Manion, L., & Morrison, K. 2011. <i>Research Methods in Education</i>. New York: Routledge Taylor & Francis Group. 3. Zainal A. 2008. <i>Metodologi Penelitian Pendidikan Filosofi, Teori dan Aplikasinya</i>. Surabaya: Lentera Cendikia; https://eric.ed.gov/?id=EJ1239297; https://journal.uinsgd.ac.id/index.php/psy/article/view/8474 http://www.e-journal.stkipsiliwangi.ac.id/index.php/infinity/article/view/1125

6. Applied Statistics

Course designation	Applied Statistics
Semester(s) in which the Course is taught	4th (fourth)
Person responsible for the Course	Maunah Setyawati
Language	Indonesian Language
Relation to curriculum	Compulsory

Teaching methods	Lecture (L), Group Discussion (GD), Presentations (P)
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 119 Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84 (Group Discussion & Presentation)
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	NA
Course objectives/intended learning outcomes	The students demonstrate the ability to use statistics application software to solve problems in mathematical statistics and assist society in solving statistics problems.
Content	Applied Statistics discusses types of data and variable, population, sample and sampling techniques and facilitates the practice of measuring the center and spread of data, formulating hypothesis, type I and type II errors, and error rate in hypothesis testing, testing the hypothesis, testing the comparative hypothesis of the k sample/group, evaluating correlation, measuring the linear regression and testing the validity and reliability.
Examination forms	<ul style="list-style-type: none"> • Final examination (120 min) • Mid-term examination (120 min) • Assignment (120 min) • Exercise (120 min)
Study and examination requirements	<ul style="list-style-type: none"> • Attendance 10% • Assignments 30% • Mid-evaluation 20% • Final Evaluation 40% <p>The minimum grade to pass the course is C (61).</p>
Reading list	<ul style="list-style-type: none"> • Emzir. 2017. <i>Metodologi Penelitian Pendidikan Kuantitatif dan kualitatif</i>. Rajawali Press. • Hamdani, A.S, Setyawati, M. 2014. <i>Statistika Terapan</i> Surabaya: UIN Sunan Ampel Press Surabaya. • Setyawati, M. 2011. <i>Statistika Nonparametrik</i>. Surabaya: IAIN PRESS Surabaya. • Sugiono. 2019. <i>Statistika untuk Penelitian</i>. Yogyakarta: Alfabeta. • Saifuddin, A. 2022. <i>Reliabilitas dan Validitas</i>. Yogyakarta: Pustaka Pelajar.

7. Abstract Algebra

Course designation	Abstract Algebra
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Semester(s) in which the Course is taught	4th (fourth)
Person responsible for the Course	Kusaeri Lisanul Uswah Sadieda
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Lecture (L), Group Discussion (GD), Presentations (P), Tutorials (T).
Workload (incl. contact hours, self-study hours)	Total workload: 119 Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	<ul style="list-style-type: none"> ● Introduction to the Basics of Mathematics ● Number Theory
Course objectives/intended learning outcomes	The students demonstrate good communication skills and the attitudes of appreciating others' arguments in finding solution to problems related to group and ring in algebra, honesty and responsibility for the solution formulated, the ability to think logically, critically, systematically and be innovative in finding solutions to problems in group and ring and prove statements related to group and ring.
Content	<ul style="list-style-type: none"> ● Abstract Algebra discusses theories of group (abelian group) ● Cyclic group ● Normal sub-group ● Factor group ● Permutation and homomorfism group ● Ring (types of ring, sub rings, ideals, homomorfism ring)
Examination forms	<ul style="list-style-type: none"> • Final examination: Paper Based Exam (120 min) • Mid-term examination:(Paper Based Exam (120 min) • Presentation: Presentation Material • Assignment : Paper Based Exam (1 week).
Study and examination requirements	Requirements for successfully passing the Course: <ul style="list-style-type: none"> ● Performance 10% ● Assignments 30% ● Mid-term examination 20% ● Final examination 40% The minimum grade to pass the course is C (61).

Reading list	<ol style="list-style-type: none"> 1. Joseph, G. A. 1990. <i>Contemporary Abstract Algebra</i>. Canada: D.C. Heath and Company. 2. Kusno, K. 2001. <i>Materi Pokok Struktur Aljabar</i>. Jakarta: Karunika Universitas Terbuka. 3. Raisinghania. 1980. <i>Modern Algebra</i>. New Delhi India: in S. Chand & Company LTD. 4. Suradi. 2016. <i>Teori Ring</i>. Ujung Pandang: IKIP Ujung Pandang. 5. Sadieda, L.S. 2022. <i>Kemampuan Argumentasi Mahasiswa Melalui Model Berpikir Induktif dengan metode Probing-Prompting Learning</i>, Phythagoras.
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B. Elective

1. Differential Equation

Course designation	Differential Equation
Semester(s) in which the Course is taught	4th (fourth)
Person responsible for the Course	Siti Lailiyah
Language	Indonesian Language
Relation to curriculum	Elective
Teaching methods	Lecture (L), Group Discussion (GD), Tutorial (T), Presentation (P)
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 119 Hours in Class, specified in hours: 35 (Lecture, Group Discussion, Presentation) Private study including examination preparation, specified in hours: 84 (Tutorial).
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	Integral Calculus
Course objectives/intended learning outcomes	The students understand the theoretical concepts of differential equation. The students demonstrate the ability to determine the general solutions and particular solutions of differential problems and differential application of the differential equation.
Content	<ul style="list-style-type: none"> ● Differential Equation discusses level one and two of differential equation ● general and particular solution of differential equation ● application of level one and two of differential equation ● Laplace transformation and level one differential equation system

Examination forms	<ul style="list-style-type: none"> ● Final Examination (Paper based exam) (120 min) ● Mid-examination (Paper based exam)(120 min) ● Presentation Materials (120 min) ● Assignment (paper based exam) (120 min)
Study and examination requirements	<p>Requirements for successfully passing the Course:</p> <ul style="list-style-type: none"> ● Attendance 10% ● Assignments 30% ● Mid-evaluation 20% ● Final Evaluation 40% <p>The minimum grade to pass the course is C (61).</p>
Reading list	<ol style="list-style-type: none"> 1. Any articles in reputable journals related to Geometry. 2. Boyce, W. E., DiPrima, R.C., & Meade, D.B.. 2017. <i>Elementary Differential Equations and Boundary Value Problems 11th Edition</i>. New York: John Wiley & Sons, Inc. 3. Campbell, S.L, & Haberman, R. 2008. <i>Introduction to Differential Equations with Dynamical Systems</i>. New Jersey: Princeton University Press. 4. Nugroho, & Budi, D. 2011. <i>Persamaan Diferensial Biasa dan Aplikasinya Penyelesaian Manual dan Menggunakan Maple</i>. Yogyakarta: Graha Ilmu. 5. Waluya, S.B. 2006. <i>Buku Ajar Persamaan Diferensial</i>. Semarang: Universitas Negeri Semarang.

2. Article Review

Course designation	Article Review
Semester(s) in which the Course is taught	4th (fourth)
Person responsible for the Course	Maunah Setyawati
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Lecture (L), Tutorial (T), Group Discussion (GD), Presentations (P).
Workload (incl. contact hours, self-study hours)	<p>(Estimated) Total workload: 119 Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84 (Group Discussion, Tutorial & Presentation)</p>
Credit points	3 CP / 4.8 ECTS

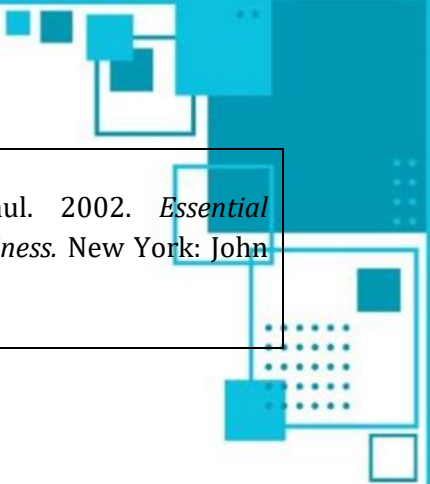
Required and recommended prerequisites for joining the Course	NA
Course objectives/intended learning outcomes	The students demonstrates the attitudes of respecting diversity in culture, religion, beliefs, perspectives and appreciate the opinion and original findings of others presented in journal article. The students shows understanding and ability to use facts, concepts, principles, rules, theories and procedures in scientific articles. The students are capable of doing self-evaluation toward the group work under their responsibility and independently organizing teaching and learning of article review.
Content	<ul style="list-style-type: none"> ● Article Reviews discusses definition ● Function and kinds of scientific articles and facilitates the development of skills in formulating the research topic ● Writing academic articles with appropriate formatting, referencing, tabling and graphing
Examination forms	<ul style="list-style-type: none"> • Final examination (360 min) • Assignment (120 min)
Study and examination requirements	<ul style="list-style-type: none"> • Attendance 10% • Assignments 30% • Final Evaluation (Membuat Artikel) 60% <p>The minimum grade to pass the course is C (61).</p>
Reading list	<ul style="list-style-type: none"> • Buku pedoman skripsi Prodi PMT FTK UIN Sunan Ampel Surabaya https://dx.doi.org/10.22219/jpbi.v3i1.3888 https://doi.org/10.36312/e-saintika.v4i2.224 https://doi.org/10.36312/e-saintika.v4i2.224

3. Economics and Financial Mathematics

Course designation	Economics and Financial Mathematics
Semester(s) in which the Course is taught	4th (fourth)
Person responsible for the Course	Aning Wida Yanti
Language	Indonesian Language
Relation to curriculum	Elective
Teaching methods	Lecture (L), Group Discussion (GD), Presentations (P)
Workload (incl. contact hours, self-study hours)	<p>(Estimated) Total workload: Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84 (Group Discussion & Presentation)</p>

Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	Introduction to the Basics of Mathematics
Course objectives/intended learning outcomes	Students are able to know the theoretical concepts of Economic Mathematics that support learning mathematics in Primary and Secondary Education as well as for further learning. Students are able to apply logical, critical, systematic, and innovative thinking in the context of developing or implementing Economic Mathematics material in solving everyday problems. Students are able to plan, implement, and assess mathematics learning in an innovative and Islamic way by applying the concept of Economic Mathematics. Students are able to utilize various learning resources and technology in learning Economic Mathematics.

Content	<p>Students are able to explain materials about:</p> <ul style="list-style-type: none"> ● Linear Equations and Quadratic Equations in Economics and Finance Mathematics ● Relations Between Variables in Mathematics for Economics and Finance ● Financial Mathematics I and II in Mathematics for Economics and Finance ● Deep Differentials and Integrals for Economic and Financial Mathematics ● Optimization, Maximum and Minimum in Mathematics for Economics and Finance ● Deep Partial Derivation for Mathematical Economics and Finance ● Linear Differential Equations and First Order Differential Equations for Mathematical Economics and Finance ● Application of Economic Mathematical Theory in Real-life Situations. ● Persamaan Linier dan Persamaan Kuadrat dalam untuk Matematika Ekonomi dan Keuangan ● Hubungan Antar Variabel dalam untuk Matematika Ekonomi dan Keuangan ● Matematika Keuangan I dan II dalam untuk Matematika Ekonomi dan Keuangan ● Diferensial dan Integral dalam untuk Matematika Ekonomi dan Keuangan ● Optimasi, Maksimum dan Minimum dalam untuk Matematika Ekonomi dan Keuangan ● Derivasi Parsial dalam untuk Matematika Ekonomi dan Keuangan ● Persamaan Diferensial Linier dan Persamaan Diferensial Orde Pertama untuk Matematika Ekonomi dan Keuangan ● Aplikasi Teori Matematika Ekonomi dalam Permasalahan Nyata di Kehidupan
Examination forms	<ul style="list-style-type: none"> ● Final examination (120 min) ● Mid-term examination (120 min) ● Assignment (120 min) ● Exercise (120 min)
Study and examination requirements	<ul style="list-style-type: none"> ● Attendance 10% ● Assignments 30% ● Mid-evaluation 20% ● Final Evaluation 40% <p>The minimum grade to pass the course is C+</p>



Reading list

- Bradley, Teresa dan Patton, Paul. 2002. *Essential Mathematics for Economics and Business*. New York: John Wiley & Sons, LTD.



SEMESTER 5

A. Compulsory

1. Mathematics Learning in Senior High School

Course designation	Mathematics Learning in Senior High School
Semester(s) in which the Course is taught	5th (fifth)
Person responsible for the Course	Yuni Arrifadah
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Lecture (L), Project (P), Group Discussion (GD), Presentation (P)
Workload (incl. contact hours, self-study hours)	Total workload: Hours in Class, specified in hours: 35 (Lecture) (please specify whether lecture, exercise, laboratory session, etc.) A private study including examination preparation, specified in hours: 56
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	Mathematics Learning in Junior High School
Course objectives/intended learning outcomes	Students are able to master theoretical concepts and solve problems about numbers, algebra, measurement and geometry, data analysis, and probabilities in mathematics learning for secondary education. Students are able to master pedagogic-didactic concepts to plan, implement, and evaluate mathematics learning for secondary education that is critical, creative, communicative, and collaborative. Students are able to arrange and implement limited learning tools and evaluation tools for secondary education by utilizing various learning resources and technology that are oriented toward life skills. Students are able to develop media and mathematics learning resources for mathematics learning in Senior High School based on research results and are oriented towards Islam and East Javanese culture.
Content	Mathematics Learning in Senior High School discusses and provides students experience to practice developing: <ul style="list-style-type: none">● mathematics teaching materials for senior high school,● mathematics learning strategies and methods for senior high school,● mathematics learning media for senior high school,● mathematics learning assessment for senior high school,● mathematics learning devices for senior high school.

Examination forms	<ul style="list-style-type: none"> ● Final Examination (Paper based exam) (120 min), ● Mid-examination (Paper based exam)(120 min), ● Assignments (Presentation Materials) (120 min). ● Exam paper (120 min)
Study and examination requirements	<p>Requirements for successfully passing the Course:</p> <ul style="list-style-type: none"> ● Attendance 10% ● Assignments 30% ● Mid-evaluation 20% ● Final Evaluation 40% <p>The minimum grade to pass the course is C (61).</p>
Reading list	<ol style="list-style-type: none"> 1. As'ari, A.R. 2019. <i>Mengembangkan Hots melalui Matematika</i>. Malang: Universitas Negeri Malang. 2. <i>Buku siswa dan Buku guru pelajaran Matematika kelas X, XI, XII kurikulum 2013 revisi</i>. 3. <i>Capaian Pembelajaran Matematika Fase E dan F</i> https://guru.kemdikbud.go.id/kurikulum/referensi-penerapan/capaian-pembelajaran/sd-sma/matematika/fase-e https://guru.kemdikbud.go.id/kurikulum/referensi-penerapan/capaian-pembelajaran/sd-sma/matematika/fase-f 4. <i>Modul Ajar Kurikulum Merdeka jenjang SMA</i> https://www.amongguru.com/download-modul-ajar-kurikulum-merdeka-jenjang-sma-tahun-2022/ 5. Sumarmo, U. 2019. <i>Tes dan skala matematika</i>. Cimahi: Refika. 6. Wahyu, I.G. 2020, The Assessment instrument of Mathematics Learning Outcomes Based on HOTS toward two-dimensional Geometry Topic. <i>Indonesian Journal of Education Research and Review</i>, Vol 3, no 2.

2. Mathematics Education Seminar

Course designation	Mathematics Education Seminar
Semester(s) in which the Course is taught	5th (fifth)
Person responsible for the Course	Saepul Hamdani
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Group Discussion (GD), Seminar (S)
Workload (incl. contact hours, self-study hours)	<p>Total workload: 119</p> <p>Hours in Class, specified in hours: 70 (Group Discussion and Seminar)</p> <p>Private study including examination preparation, specified in hours: 49</p>
Credit points	3 CP / 4.8 ECTS

Required and recommended prerequisites for joining the Course	Research Methods in Mathematics Education
Course objectives/intended learning outcomes	The students have the ability to develop scientific ideas related to problems in mathematics education, to write a research proposal and to present the proposal in academic forums.
Content	Mathematics Education Seminar facilitates: <ul style="list-style-type: none"> ● the students' skills development in formulating research title, research problems, research design, ● the students' skills development in writing a research proposal and presenting the proposal in academic forums.
Examination forms	<ul style="list-style-type: none"> ● Research proposal (1 smt) ● Paper Presentation(60 mnt)
Study and examination requirements	Requirements for successfully passing the Course: <ul style="list-style-type: none"> ● Attendance 10% ● Assignments 30% ● Mid-evaluation 20% ● Final Evaluation 40% The minimum grade to pass the course is C (61).
Reading list	<p>Arifin, Z. 2014. <i>Penelitian Pendidikan Metode dan Paradigma Baru</i>. Bandung: PT. Remaja Rosdakarya Offset.</p> <p>Creswell, J. W. 2012. <i>Research Design, Pendekatan Kualitatif, Kuantitatif dan Mixed</i>, Edisi Ketiga. Pustaka Pelajar.</p> <p>Indrawan, Y., & Poppy, Y.R. 2014. <i>Metodologi Penelitian Kuantitatif, Kualitatif, dan Campuran untuk Manajemen, Pembangunan dan Pendidikan</i>. Bandung: PT. Refika Aditama.</p> <p>Siregar, S. 2013. <i>Metode Penelitian Kuantitatif: Dilengkapi dengan Perbandingan Perhitungan Manual dan SPSS</i>. Jakarta: Kencana.</p> <p><i>Panduan Penulisan Skripsi Prodi Pendidikan Matematika UIN Sunan Ampel Surabaya.</i></p>

3. Real Analysis

Course designation	Real Analysis
Semester(s) in which the Course is taught	5th (fifth)
Person responsible for the Course	Ahmad Lubab
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Lecture (L), Group Discussion (GD), Presentations (P), Tutorials (T)

Workload (incl. contact hours, self-study hours)	Total workload: Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84 (Group Discussion & Presentation)
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	Differential Calculus and Integral Calculus
Course objectives/intended learning outcomes	The students understand the concepts and the theories about the deductive approach to the fundamental concepts of mathematics which include the real number system and its properties, limits, and continuity as well as function theories developed through the concept of limits. The students are able to communicate their results orally and in writing in scientific forums during the learning process.
Content	Real Analysis discusses: <ul style="list-style-type: none"> ● induction proof system, ● the real number system and its basic rules, ● completeness property of real numbers and the application to show the existence of irrational numbers and rational numbers, ● the concept of convergence of sequences of real numbers and their properties, and the application in problems containing sequence limits, ● the concept of function limits and the application to solve problems that contain function limits, ● The concept of continuous functions and their properties and the application to solve problems that contain continuous functions.
Examination forms	<ul style="list-style-type: none"> ● Final examination (120 min) ● Mid-term examination (120 min) ● Assignment (120 min) ● Exercise (120 min)
Study and examination requirements	<ul style="list-style-type: none"> ● Attendance 10% ● Assignments 30% ● Mid-evaluation 20% ● Final Evaluation 40% <p>The minimum grade to pass the course is C</p>
Reading list	<ol style="list-style-type: none"> 1. Bartle, R.G. 1985. <i>Introduction to Real Analysis</i>. New York: John Wiley & Sons. Inc. 2. Wade, W.R. 2000. <i>An Introduction to Analysis</i>. Bloomington: Prentice Hall.

4. Linear Algebra

Course designation	Linear Algebra
Semester(s) in which the Course is taught	5th (fifth)
Person responsible for the Course	Lisanul Uswah Sadieda
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Lecture (L), Group Discussion (GD), Presentations (P), Tutorials (T)
Workload (incl. contact hours, self-study hours)	Total workload: 119 Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	1. Abstract Algebra 2. Multivariable Calculus
Course objectives/intended learning outcomes	The students demonstrate the ability to think logically, critically, systematically, be innovative in finding solutions related to linear algebra, and be honest and responsible for problem solving. The students are able to explain and apply the concepts of linear equation system, matrix, vector space, linear transformation, Eigenvalue.

Content	<p>Linear Algebra discusses:</p> <ul style="list-style-type: none"> ● system of linear equation: equation system of $m \cdot n$, elementary row equation, Gaussian elimination dan Gauss-Jordan reduction ● matrices: matrices of algebra operation, inverse matrices, square matrices, transpose matrices, symmetric matrices, triangular matrices, elementary matrices, ● determinant: cofactor expansion, characteristics of determinant, adjoint, Cramer's rule, ● vector space: n-dimensional Euclidean space, Common Vector Spaces, sub spaces, spanning set, linear independence, basis, change of basis, dimension, row spaces, column spaces, null spaces, ● inner product spaces, inner product, orthogonal, orthonormal, and orthonormal basis, ● linear transformation: non-singular transformation, linear transformation from R^n to R^m, transformation matrices, ● Eigenvalue and Eigenvector, diagonalization of matrices.
Examination forms	<ul style="list-style-type: none"> ● Final examination: Paper Based Exam (120 min) ● Mid-term examination:(Paper Based Exam (120 min) ● Presentation: Presentation Material ● Assignment : Paper Based Exam (1 week).
Study and examination requirements	<p>Requirements for successfully passing the Course:</p> <ul style="list-style-type: none"> ● Performance 10% ● Assignments 30% ● Mid-term examination 20% ● Final examination 40% <p>The minimum grade to pass the course is C (61)</p>

Reading list	<ol style="list-style-type: none"> 1. Anton, H. & Rorres, C. 2004. <i>Aljabar Linier Elementer</i>. Surabaya: Erlangga. 2. Anstreicher, K.M and Rothblum, U.G. 2011. Using Gauss-Jordan Elimination to Compute the Index, Generalized Nullspaces and Drazin Inverse. <i>Linear Algebra and Its Applications</i>. Vol.85, 221 -239. 3. Leon, S.J. 2013. <i>Aljabar Linier dan Aplikasinya</i>. Surabaya: Erlangga. 4. Rosita, C. D.. 2015. Efektivitas Model Pembelajaran Grup Investigasi Terhadap Kemampuan Penalaran Matematis Mahasiswa Pada Materi Ruang Vektor. <i>AlphaMath:Journal of Mathematics Education</i>, 1(1). 5. Sadieda, L.U. 2012. <i>Aljabar Linear dan Aplikasinya</i>. Dwiputra Pustaka Jaya. 6. Stanimirovic, P.S and Petkovic, M.D. 2013. Gauss-Jordan Elimination Method for Computing Outer Inverses. <i>Applied Mathematics and Computation</i>, Vol. 219(9), 4667 – 4679.
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5. School Observation 1

Course designation	School Observation (Pengenalan Lapangan Persekolahan 1)
Semester(s) in which the Course is taught	5th (fifth)
Person responsible for the Course	Mentors
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Field Work, Internship
Workload (incl. contact hours, self-study hours)	Total workload: 79 Hours in Class, specified in hours: 23 (Lecture) Private study including examination preparation, specified in hours: 56
Credit points	2 CP / 3.2 ECTS
Required and recommended prerequisites for joining the Course	<ol style="list-style-type: none"> 1. Mathematics Learning in Junior High School 2. Evaluation of Mathematics Learning 3. Psychology and Strategies in Mathematics Teaching and Learning
Course objectives/intended learning outcomes	The students are able to describe the vision, mission and objectives, management, culture, facilities, students' activities, the counseling, habituation of the school. The students also demonstrate the ability to conduct a case study at school.

Content	School Observation allows students: <ul style="list-style-type: none"> ● to observe and analyze the school culture management, ● curriculum, ● teaching and learning system, ● facilities, ● characteristics and activities of the students.
Examination forms	Portfolio, Performance, Report
Study and examination requirements	Requirements for successfully passing the Course: <ul style="list-style-type: none"> ● Portfolio 20% ● Performances 20% ● Report 60% The minimum grade to pass the course is C (61).
Reading list	<ol style="list-style-type: none"> 1. Keputusan Bersama Menteri Pendidikan dan Kebudayaan, Menteri Agama, Menteri Kesehatan, dan Menteri Dalam Negeri Republik Indonesia Nomor 03/KB/2020; Nomor 612 Tahun 2020; Nomor HK.01.08/Menkes/502/2020; Nomor 119/4536/SJ Tentang <i>Perubahan Atas Keputusan Bersama Menteri Pendidikan dan Kebudayaan, Menteri Agama, Menteri Kesehatan, dan Menteri Dalam Negeri Republik Indonesia Nomor 01/KB/2020; Nomor 516 Tahun 2020; Nomor HK.03.01/Menkes/363/2020; Nomor 440-882 Tahun 2020 Tentang Panduan Penyelenggaraan Pembelajaran Pada Tahun Ajaran 2020/2021 Dan Tahun Akademik 2020/2021 Di Masa Pandemi CORONA VIRUS DISEASE 2019 (Covid-19).</i> 2. Mubarok, R. 2020. Model Pengelolaan Praktik Pengalaman Lapangan Pada Masa Pandemi. <i>KELOLA Journal of Islamic Education Management Vol 5, No 2.</i> 3. Rusydiyah, E. F. et al. 2017. <i>Pedoman Praktik Pengalaman Lapangan (PPL) I Dengan Enactment Model.</i> Fakultas Tarbiyah Dan Keguruan Uin Sunan Ampel Surabaya. 4. Surat Edaran Menteri Pendidikan dan Kebudayaan Republik Indonesia Nomor 14 tahun 2019 tentang <i>Penyederhanaan Rencana Pelaksanaan Pembelajaran.</i> 5. Taufik, Indarwati, D., Ahmad, M.S., Wulandari, R. 2022. <i>Pedoman Pengenalan Lapangan Persekolahan (PLP 1).</i> Laboratorium Fakultas Tarbiyah dan Keguruan UIN Sunan Ampel Surabaya.

6. Microteaching

Course designation	Microteaching
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Semester(s) in which the Course is taught	5th (Fifth)
Person responsible for the Course	Lisanul Uswah Sadieda Agus Prasetyo Kurniawan Yuni Arrifadah Maunah Setyawati
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Laboratory Class (LC)
Workload (incl. contact hours, self-study hours)	Total workload: 79 Hours in Class, specified in hours: 23 (Lecture) Private study including examination preparation, specified in hours: 56
Credit points	2 CP / 3.2 ECTS
Required and recommended prerequisites for joining the Course	1. Mathematics Learning in Junior High School 2. Evaluation of Mathematics Learning 3. Psychology and Strategies in Mathematics Teaching and Learning
Course objectives/intended learning outcomes	The students demonstrate the ability to think critically, creatively and be innovative in doing micro-teaching of mathematics that reinforce the profile of Pancasila student profiles. The students are capable of demonstrating maturity, honesty, discipline, stable character, responsibility, care, being assertive, and are able to provide solutions to problems in teaching and learning. The students are able to integrate the islamic values in planning lessons, teaching, and conducting learning evaluation and measurement of mathematics learning and develop teaching media and materials using ICT and based on the local wisdom at the school level.
Content	Microteaching allows practices of: <ul style="list-style-type: none"> ● applying the theories of teaching, analyzing the curriculum, ● developing the teaching instruments (module, lesson plan, worksheet, teaching media) and techniques of synchronous and asynchronous teaching.
Examination forms	Project
Study and examination requirements	Requirements for successfully passing the Course: <ul style="list-style-type: none"> ● Portfolio 20% ● Assignments 20% ● Praktik mengajar 60% The minimum grade to pass the course is C (61)

Reading list	<ol style="list-style-type: none"> 1. Anggraeni, H., Fauziah, Y. & Fariyatul, E.F. 2019. "Penguatan Blended Learning Berbasis Literasi Digital dalam Menghadapi Era Revolusi Industri 4.0", <i>Jurnal Kependidikan Islam</i>. Sidoarjo : Universitas Muhammadiyah Sidoarjo. 2. Hikmah, S. 2020. "Pemanfaatan E-Learning Madrasah dalam Pelaksanaan Pembelajaran Jarak Jauh Masa Pandemi di Min 1 Rembang". <i>Jurnal Pendidikan dan Pelatihan</i>. Rembang: MIN 1 REMBANG. 3. Merlina, E. 2020. "Pengembangan Model Pembelajaran Blended Learning Berbantuan Aplikasi Sevima Edlink", <i>Jurnal Padagogik</i>. Bandung: Universitas Bale Bandung. 4. Muliawati, S., & Kusuma, A.B. 2019. "Literasi Digital Matematika di Era Revolusi Industri 4.0", <i>Prosiding Sendika</i> Vol. 5 No.1. Purwokerto : Universitas Muhammadiyah Purwokerto. 5. Sutisna, M.R., Mulyadi, D., Alinawati, M. 2019. "Pengembangan Blended Learning dengan Model Flipped Classroom", <i>Pedagogia Jurnal Ilmu Pendidikan</i>. Bandung : Univerasitas Pendidikan Indonesia. 6. Taufik, Desy Indarwati, Muhammad Syahru Ahmad, Reni Wulandari. 2022. <i>Pedoman Microteaching</i>. Laboratorium Fakultas Tarbiyah dan Keguruan UIN Sunan Ampel Surabaya. 7. Walib, A. 2022. "Model Blended learning Dalam Meningkatkan Efektifitas Pembelajaran", <i>Jurnal Pendidikan dan Manajemen Islam</i> Volume 7, Nomor 1. Pamekasan : Institut Agama Islam Al-Khairat. 8. https://kurikulum.kemdikbud.go.id/
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7. Discrete Mathematics

Course designation	Discrete Mathematics
Semester(s) in which the Course is taught	5th (fifth)
Person responsible for the Course	Sutini
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Lecture (L), Group Discussion (GD), Presentations (P)

Workload (incl. contact hours, self-study hours)	Total workload: Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84 (Group Discussion & Presentation)
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	Introduction to Basics Mathematics
Course objectives/intended learning outcomes	The students demonstrate their understanding on the concepts of logic, discrete mathematics, algebra, analysis, geometry, odds and statistics, principles of modeling, linear program, differential equation, numerical methods for the teaching of mathematics in primary and secondary school and as the prerequisite to take other further courses. The students are able to select alternative solutions in groups.
Content	Discrete Mathematics discusses: <ul style="list-style-type: none"> ● basic principles of multiplication rules ● combination and permutation ● binomial coefficients and Pascal's triangle ● multinomial coefficients and power series ● generating function for combination and permutation ● relation and linear recursive system ● derangement (randomization) ● principles of inclusion-exclusion ● the number of objects with perfectly m properties and objects odd and even properties
Examination forms	<ul style="list-style-type: none"> ● Final examination (120 min) ● Mid-term examination (120 min) ● Assignment (120 min) ● Exercise (120 min)
Study and examination requirements	<ul style="list-style-type: none"> ● Attendance 10% ● Assignments 30% ● Mid-evaluation 20% ● Final Evaluation 40% <p>The minimum grade to pass the course is C</p>
Reading list	<ol style="list-style-type: none"> 1. Anderson, I. 2014. <i>A First Course in Combinatorial Mathematics</i>. Oxford: Clarendon Press. 2. Budayasa, I.K. 2008. <i>Matematika Diskrit</i>. Surabaya: Unesa University Press. 3. Grimaldi, A. 2016. <i>Discrete and Combinatorial Mathematics. An Applied Introduction</i>. Boston: Addison Wesley Publishing Company.

B. Elective

1. Collaborative Classroom Action Research

Course designation	Collaborative Classroom Action Research (CCAR)
Semester(s) in which the Course is taught	5th (fifth)
Person responsible for the Course	Kusaeri
Language	Indonesian Language
Relation to curriculum	Elective
Teaching methods	Lecture (L), Group Discussion (GD), Presentation (P)
Workload (incl. contact hours, self-study hours)	Total workload: 119 Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	1. Research Methods in Mathematics Education 2. Evaluation of Mathematics Learning 3. Psychology and Strategies in Mathematics Teaching and Learning
Course objectives/intended learning outcomes	The students are able to confidently develop and present a proposal of collaborative classroom action research aiming to provide solutions for any problems of learning mathematics at school level.
Content	CCAR discusses: <ul style="list-style-type: none">● the concepts of CCAR,● research problem and focus in CCAR,● the cyclus in CCAR,● methods of data collection and analysis,● review of related literature,● techniques of writing a CCAR proposal.
Examination forms	<ul style="list-style-type: none">● Final examination: Project (4 week), research paper● Mid-term examination: Seminar paper● Presentations: Presentation materials
Study and examination requirements	Requirements for successfully passing the Course: <ul style="list-style-type: none">● Performance 10%● Assignments 30%● Mid-term examination 20%● Final examination 40% The minimum grade to pass the course is C (61)

Reading list	<ol style="list-style-type: none"> 1. Fanani, B.L. 2013. <i>Penelitian Tindakan Kelas</i>, Yogyakarta; Araska. 2. Nana Syaodih Sukmadinata. 2006. <i>Pengendalian Mutu Pendidikan Sekolah Menengah: Konsep, Prinsip, dan Instrumen</i> 4. Rochiati, W. 2008. <i>Metode Penelitian Tindakan Kelas</i>, Bandung, Remaja Rosdakarya. 5. Syaodih, S.N. 2013. <i>Metode Penelitian Pendidikan</i>. Bandung: Remaja Rosdakarya.
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2. Teaching Mathematics in English

Course designation	Teaching Mathematics in English
Semester(s) in which the Course is taught	5th (fifth)
Person responsible for the Course	Millatul Islamiyah
Language	Indonesian Language and English
Relation to curriculum	Elective
Teaching methods	Lecture (L), Group Discussion (GD), Presentations (P), Tutorials (T), Laboratory Class (LC)
Workload (incl. contact hours, self-study hours)	<p>Total workload:</p> <p>Hours in Class, specified in hours: 35 (Lecture)</p> <p>Private study including examination preparation, specified in hours: 84 (Group Discussion & Presentation)</p>
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	NA
Course objectives/intended learning outcomes	Students are able to understand and use English orally and in writing in the practice of teaching and learning mathematics.

Content	<p>The students are able to recognize, understand, and explain English terms related to material about:</p> <ul style="list-style-type: none"> ● order of operations, ● 2D Shapes, ● 3D Shapes, ● area and perimeter formulas, circumference and area formulas, ● volume formulas, ● calculation of percentages, ● graphic on the coordinate plane, ● right angle, ● acute angle, ● obtuse angle, ● degree, ● mean formula, ● median and mode, ● sine formula, ● cosine, ● tangent, ● arithmetic sequence, ● geometric sequence, ● probability, ● solving systems of linear equations using substitution, ● elimination, ● matrices.
Examination forms	<ul style="list-style-type: none"> ● Final examination (120 min) ● Mid-term examination (120 min) ● Assignment (120 min) ● Exercise (120 min)
Study and examination requirements	<ul style="list-style-type: none"> ● Attendance 10% ● Assignments 30% ● Mid-evaluation 20% ● Final Evaluation 40% <p>The minimum grade to pass the course is C (61).</p>

Reading list	<ul style="list-style-type: none"> • Benjamin, A. 2019 (20 February). <i>TED Talk, The magic of Fibonacci numbers</i>. Retrieved from https://binged.it/2GmXHmC. • Goldie, S. 2012. <i>Pure Mathematics 1</i>. London: Hodder Education. • Kyaruzi, F., et al. 2022. Teacher AfL perceptions and feedback practices in mathematics education among secondary schools in Tanzania. <i>Studies in Educational Evaluation</i>. 59, 1-9 DOI: 10.1016/j.stueduc.2022.01.004. • Kyaruzi, F., et al. 2019. Students' formative assessment perceptions, feedback use and mathematics performance in secondary schools in Tanzania. <i>Assessment in Education: Principles, Policy & Practice</i>. DOI: 10.1080/0969594X.2019.1593103 • <i>Mathantics YouTube Channel</i>. 2019. (20 February). Retrieved from https://www.youtube.com/user/mathantics. • Papadakis, S., Kalogiannakis, M. & Zaranis, N. 2017. Improving Mathematics Teaching in Kindergarten with Realistic Mathematical Education. <i>Early Childhood Education Journal</i> 45: 369. https://doi.org/10.1007/s10643-015-0768-4.
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3. Fuzzy Theory

Course designation	Fuzzy Theory
Semester(s) in which the Course is taught	5th (fifth)
Person responsible for the Course	Aning Wida Yant
Language	Indonesian Language
Relation to curriculum	Elective
Teaching methods	Lecture (L), Group Discussion (GD), Presentations (P)
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84 (Group Discussion & Presentation)
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	NA

Course objectives/intended learning outcomes	<ul style="list-style-type: none"> ● The students are able to know the basic concepts of fuzzy theory, which consists of fuzzy set theory, fuzzy relations, and fuzzy logic, and can apply them in fuzzy logic-based systems. ● The students are able to apply logical, critical, systematic, and innovative thinking in the context of developing or implementing science and technology that pays attention to and applies humanities values according to expertise. ● The students are able to make appropriate decisions in the context of solving problems in their expertise based on the results of information and data analysis. ● The students are able to carry out the process of self-evaluation of work groups under their responsibility and to manage to learn independently.
Content	<p>Fuzzy Theory discusses:</p> <ul style="list-style-type: none"> ● Classical Set Theory ● The History of the Emergence of Fuzzy Theory ● Algebraic Operations on Fuzzy Sets. ● Theoretical Operations on Fuzzy Sets ● Fuzzy Relations ● Fuzzy Binary Relations ● Fuzzy equivalence relations and compatible relations ● Fuzzy Clustering ● Fuzzy Logic and Fuzzy Propositions ● Fuzzy Quantifiers ● Fuzzy Linguistic Hedges ● Fuzzy Inference Methods ● Fuzzification ● Defuzzification ● Scalar Defuzzification
Examination forms	<ul style="list-style-type: none"> ● Final examination (120 min) ● Mid-term examination (120 min) ● Assignment (120 min) ● Exercise (120 min)
Study and examination requirements	<ul style="list-style-type: none"> ● Attendance 10% ● Assignments 30% ● Mid-evaluation 20% ● Final Evaluation 40% <p>The minimum grade to pass the course is C+</p>

Reading list	<ul style="list-style-type: none"> • Zimmermann, H. J. 2008. <i>Fuzzy Set Theory and Its Applications</i>. Boston, MA: Kluwer Academic Publisher. • Klir, G.J., and Yuan, B. 2001. <i>Fuzzy Sets and Fuzzy Logic Theory and Applications</i>. Upper Saddle River, New Jersey: Prentice Hall PTR. • Timothy J. R. <i>Fuzzy Logic with Engineering Applications</i>. John Wiley and Sons. 2004
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4. Ethnomathematics

Course designation	Ethnomathematics
Semester(s) in which the Course is taught	5th (fifth)
Person responsible for the Course	Agus Prasetyo Kurniawan
Language	Indonesian Language
Relation to curriculum	Elective
Teaching methods	Lecture (L), Group Discussion (GD), Tutorials (T), Presentation (P)
Workload (incl. contact hours, self-study hours)	Total workload: 119 Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	<ol style="list-style-type: none"> 1. Psychology and Strategies in Mathematics Teaching and Learning 2. Philosophy of Mathematics Education
Course objectives/intended learning outcomes	The students demonstrate the attitudes of being honest, disciplined and responsible when attending and doing the assignments in the course of Ethnomathematics. The students are capable of analyzing the basic concepts of ethnomathematics and its studies from various academic sources and articles from reputable journals. The students are able to identify cultural aspects in society and relate them to mathematics education, to analyze various ways to integrate the cultural aspects with Islamic values and mathematics teaching and learning and to apply ethnomathematics in the teaching and learning in order to develop their professional competency as mathematics teacher.

Content	<p>Ethnomathematics discusses:</p> <ul style="list-style-type: none"> ● the nature, rationale and perspectives of ethnomathematics, ● context and integration of culture and Islamic values in ethnomathematics, ● theoretical review, review of previous studies, and research approaches in ethnomathematics, ● development of teaching instruments based on ethnomathematics.
Examination forms	<ul style="list-style-type: none"> ● Final examination: Case Based Study (1 Week) ● Mid-term examination: Exam Paper (1 Week) ● Presentation: Presentation Material
Study and examination requirements	<p>Requirements for successfully passing the Course:</p> <ul style="list-style-type: none"> ● Attendance 10% ● Assignments 30% ● Mid-evaluation 20% ● Final Evaluation 40% <p>The minimum grade to pass the course is C (61)</p>

Reading list

1. Abdullah, AS. 2017. Ethnomathematics In Perspective Of Sundanese Culture. *Journal on Mathematics Education*, 8(1), 1-16.
2. Aditya, Dedy Yusuf. 2017. Eksplorasi Unsur Matematika Dalam Kebudayaan Masyarakat Jawa. *Jurnal Formatif* 7(3): 253-261, 2017 ISSN: 2088-351X.
3. Agung Hartoyo. 2012. *Eksplorasi Etnomatematika pada Budaya Masyarakat Dayak Perbatasan Indonesia-Malaysia Kabupaten Sanggau Kalbar*. <http://jurnal.upi.edu/file/3-agung.pdf>.
4. Albanese, V. & Perales, F.J. 2015. Enculturation with ethnomathematical projects: from culture to mathematics. *Journal of Mathematics and Culture*, 9 (1), February.
5. Almuna Salgado, F. 2017. The Role Of Context And Context Familiarity On Mathematics Problems. *Revista Latino americana de Investigación en Matemática Educativa*. 20 (3): 265-292.
6. Astri Wahyuni. 2013. *Peran Etnomatematika dalam Membangun Karakter Bangsa*. Yogyakarta. <http://eprints.uny.ac.id/10738/1/P%20-%202015.pdf>.
7. D'Ambrosio, U. 1991. Ethnomathematics and its place in the history and pedagogy of mathematics, in M. Harris (ed.). *Schools, Mathematics and Work*. The Falmer Press. London. pp. 15-25
8. D'Ambrosio, U. 2001. Cultural framing of mathematics teaching and learning, in R. Biehler, R.W. Scholz, R. Sträßer and B. Winkelmann (eds.). *Didactics of Mathematics as a Scientific Discipline*. Kluwer Academic Publishers. Dordrecht. pp. 443-455
9. Favilli, F. 2011. Ethnomathematics And Mathematics Education. *Proceedings of the 10th International Congress of Mathematics Education Copenhagen*. Copenhagen: PISA.
10. Francois, K. & van Kerkhove, Bart. 2010. Ethnomathematics and the philosophy of mathematics (education). In B. Lowe & T. Muller (Eds.), *Philosophy of Mathematics : Sociological Aspects and Mathematical Practice* (pp 121-154). London : College Publications.
11. Heron, J. & Bart, J. 2009. Culturally relevant word problems in second grade : what are the effects ? *Journal of Mathematics and Culture*, 4 (1), October.
12. Holt, Rinehart, Winston. 2006. *Mathematics in Context*. Chicago: Encyclopædia Britannica, Inc.
13. Iluno, C. and Taylor, J.I. 2013. Ethnomathematics: The Key to Optimizing Learning and Teaching of

	<p>Mathematics. Lagos: <i>IOSR Journal of Research & Method in Education</i> (IOSR-JRME).</p> <p>13. Irawan, A, Lestari, M. Rahayu, W. & Wulan R. 2019. Ethnomathematics Batik Design for the Island of Bali. <i>Journal of Physics. Conference Series</i>, 1338(1), 012045.</p> <p>14. Lestari, M, Irawan, A, Rahayu, W, & Parwati, NW. 201). Elements of Ethnomathematics in Balinese Batik Using the Backpropagation Method. <i>Journal of Physics: Conference Series</i>, 1022 (1), 012012.</p> <p>15. Nunes, T. 2010. Ethnomathematics and everyday cognition. Dalam D.A. Grouws (Ed.), <i>Handbook of Research on Mathematics Teaching and Learning</i> (pp. 557-574). New York : Macmillan.</p> <p>16. Nur, AS., Kartono, K., Zaenuri, Z., Waluya, SB., & Rochmad, R. 2020. Ethnomathematics Thought And Its Influence In Mathematical Learning. <i>MaPan</i>. 8(2), 205-223</p> <p>17. Nur, AS., Waluya, SB., Rochmad, R., Wardono, W. 2020. Contextual Learning with Ethnomathematics in Enhancing the Problem-Solving based on Thinking Levels. <i>Journal of Research and Advances in Mathematics Education</i>, 5(3), 331-344.</p> <p>18. Orey, D. C & Rosa, M. 2008. Ethnomathematics and cultural representations: Teaching in highly diverse contexts. <i>Acta Scientiae</i>, v.10, n.1, jan/jun. 2008.</p> <p>19. Prahmana, RCI, Yuniyanto, W., Rosa, M., & Orey, DC 2021. Ethnomathematics: Pranatamangsa System And The Birth-Death Ceremonial In Yogyakarta. <i>Journal on Mathematics Education</i> Volume 12, No. 1, January 2021, pp. 93-112.</p> <p>20. Risdiyanti, I., Prahmana, RCI, & Shahrill, M. 2019. Social Arithmetic Learning Trajectory Using Traditional Indonesian Games. <i>Online Basic Education</i>, 18 (4), 2094-2108.</p> <p>21. Rosa, M. & Orey, D. C., 2011. Ethnomathematics: the cultural aspects of mathematics. <i>Revista Latinoamericana de Etnomatemática</i>, 4(2). 32-54</p> <p>22. Rosa, M., & Orey, DC. 2016. Ethnomodelling as a Theoretical Framework for Research on Ethnomathematics and Mathematical Modelling. <i>Journal of Urban Mathematics Education</i>. 6(2), 62-80</p> <p>23. Robiyanto, dan Puryandani, Siti. 2015. The Javanese Lunar Calendar's Effect on Indonesian Stock Return. <i>Gajahmada International Journal of Business</i>. Vol 17, No.2, 125-137.</p> <p>24. Stigler, J. W. & Baranes, R. 2016. Culture and Mathematics Learning. <i>Review of Research in Education</i>, Vol. 15 (2001 - 2014), pp. 253-306</p>
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	<p>Published by: American Educational Research Association.</p> <p>25. Sutarto, A. 2006. Becoming a True Javanese: Javanese Views on Javanization Efforts. <i>Indonesia and the Malay World</i>. Volume 34, Issue 98.</p> <p>26. Suwarsono, St. 2003. <i>Kebudayaan, kecenderungan kognitif, dan pendidikan matematika</i>. Widya Dharma, 13(2), April.</p> <p>27. Suwarsono, St. 2009. <i>Guru sebagai Agen Transformasi Budaya, dengan Tinjauan Khusus tentang Peranan Pendidikan Matematika dalam Transformasi tersebut</i>. Yogyakarta : Penerbit Universitas Sanata Dharma.</p> <p>28. Turmudi. 2022. Kajian Etnomatematika: Belajar Matematika Dengan Melibatkan Unsur Budaya. <i>Prosiding Seminar Nasional Etnomatnesia 38</i> ISBN: 978-602-6258-07-6.</p>
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5. Linear Program

Course designation	Linear Program
Semester(s) in which the Course is taught	5th (fifth)
Person responsible for the Course	Lisanul Uswah Sadieda
Language	Indonesian Language
Relation to curriculum	Elective
Teaching methods	Lecture (L), Group Discussion (GD), Tutorials (T), Presentation (P)
Workload (incl. contact hours, self-study hours)	Total workload: 119 Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	Linear Algebra
Course objectives/intended learning outcomes	The students demonstrate the ability to think logically, critically, systematically, be innovative in using mathematical models to find solutions related to linear programs, and be honest and responsible for problem solving. The students are able to apply transportation models to determine optimal solutions to problems in transportation problems, to conduct sensitivity analysis of optimal solutions, and to use relevant software to solve problems in linear programs.

Content	<p>Linear Algebra discusses:</p> <ul style="list-style-type: none"> ● problems in linear program, ● methods of solution for problems in linear program: graphical method, generalized simplex method, two-phase simplex method, Big M simplex method, revised simplex method and dual simplex method, ● sensitivity analysis, ● transportation problem: NWCR method (<i>North West Corner Rule</i>), VAM (<i>Vogel Approximation Method</i>), <i>Stepping Stone Method</i>, MODI Method (<i>Modified Distribution Method</i>).
Examination forms	<ul style="list-style-type: none"> ● Final examination: Paper Based Exam (120 min) ● Mid-term examination:(Paper Based Exam (120 min) ● Presentations: Presentation materials ● Assignment : Paper Based Exam (1 week).
Study and examination requirements	<p>Requirements for successfully passing the Course:</p> <ul style="list-style-type: none"> ● Performance 10% ● Assignments 30% ● Mid-term examination 20% ● Final examination 40% <p>The minimum grade to pass the course is C (61).</p>
Reading list	<ol style="list-style-type: none"> 1. Darta & Kandaga. T. 2019. <i>Program Linier dan Aplikasinya</i>. Bandung: PT. Refika Aditama. 2. Hillier, F.S. & Lieberman, G.J. <i>Pengantar Riset Operasi</i>. (Ellen Gunawan S & Ardi Wirda Mulia, Penerjemah). Jakarta: Erlangga. 3. Ravindran, A., Phillips, D.T., and Solberg, J.J. 2000. <i>Second Edition Operations Research Principles and Practice</i>. Canada: John Wiley & Sons Inc. 4. Siregar, B.H. & Mansyur, A. 2020. <i>Program Linier dan Aplikasinya Pada Berbagai Software</i>. Jakarta: PT. Bumi Aksara. 5. Supranto, J. 2013. <i>Riset Operasi (untuk pengambilan keputusan)</i>. Jakarta: Rajagrafindo Persada. 6. Supranto, J. 1980. <i>Linear Programming</i>. Jakarta: Fakultas Ekonomi Universitas Indonesia. 7. Susanta. 2001. <i>Program Linear</i>. Bandung: ITB. 8. Wijaya, A. 2013. <i>Pengantar Riset Operasi</i>. Jakarta : Mitra Wacana Media.

6. Recreational Mathematics

Course designation	Recreational Mathematics
Semester(s) in which the Course is taught	5th
Person responsible for the Course	Aning Wida Yanti

Language	Indonesian Language
Relation to curriculum	Elective
Teaching methods	Lecture (L), Group Discussion (GD), Presentations (P)
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84 (Group Discussion & Presentation)
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	Introduction to the Basics of Mathematics
Course objectives/intended learning outcomes	<ul style="list-style-type: none"> ● Students are able to know the theoretical concepts of Recreational Mathematics that support learning mathematics in Primary and Secondary Education as well as for further studies. ● Students are able to apply logical, critical, systematic, and innovative thinking in the context of developing or implementing Recreational Mathematics material in solving everyday problems. ● Students are able to plan, implement, and evaluate learning mathematics in an innovative and Islamic way by applying the concept of Recreational Mathematics. ● Students are able to utilize various learning resources and technology in learning Recreational Mathematics.
Content	<p>Recreational Mathematics discusses:</p> <ul style="list-style-type: none"> ● Algebra Recreation, Arithmetic Recreation, Geometry Recreation, Statistics Recreation ● Algebra Olympiad Questions, Mathematics Olympiad Questions, Geometry Olympiad Questions, and Statistics Olympiad Questions for Middle School. ● Mathematical Paradoxes ● Mathematical Potpourri ● Mathematical Puzzles ● Math Games ● Mathmagic
Examination forms	Final examination, Mid-term examination, Assignment, Exercise
Study and examination requirements	<ul style="list-style-type: none"> ● Attendance 10% ● Assignments 30% ● Mid-evaluation 20% ● Final Evaluation 40% <p>The minimum grade to pass the course is C+</p>

Reading list

- Posamentier, A. S. 2003. *Math Wonders to Inspire Teachers and Students*. Alexandria, Virginia USA: Association for Supervision and Curriculum Development.
- Beineke, J., and Rosenhouse, J. 2016. *The Mathematics of Entertaining Subjects*. New York: Princeton University Press.
- Sumilih, G. 2000. *Matematika Rekreasi*. Mojokerto: Galang Sarana Pustaka.



SEMESTER 6

A. Compulsory

1. School Management

Course designation	School Management
Semester(s) in which the Course is taught	6th (sixth)
Person responsible for the Course	Mentors
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Field work (F), Internship (I).
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: Hours for field work and internship = 79
Credit points	2 CP / 3.2 ECTS
Required and recommended prerequisites for joining the Course	School Observation 1 (Pengenalan Lapangan Persekolahan 1)
Course objectives/intended learning outcomes	Students demonstrate the ability to analyze problems in school management and have innovative solutions to the problems found in the field.
Content	School Managements allows students to experience the practice of planning, organizing, and evaluating an education institution.
Examination forms	Portfolio (1smt) , Project (1smt), Performance (1smt)
Study and examination requirements	<ul style="list-style-type: none">• Attendance 10%• Weekly Report (20%)• Final Score 70% (Mentor Teacher 50%, Mentor Lecturer 50%) The minimum grade to pass the course is C (61).

Reading list	<ol style="list-style-type: none"> 1. Caldwell, B. J. 2005. <i>School-Based Management. Education Policy Series 3</i>. France: International Institute for Educational Planning (IIEP) - Belgium: International Academy of Education (IAE). 2. <i>Instrumen Akreditasi Sekolah Menengah Pertama (SMP) dan Sekolah Menengah Atas (SMA)</i>. 3. Irawan, Ade, dkk. 2004. <i>Mendagangkan Sekolah</i>. Jakarta: Indonesia Corruption Watch 4. Mulyasa, E. 2009. <i>Manajemen Berbasis Sekolah</i>. Bandung: Rosda Karya 5. Nurkolis. 2003. <i>Manajemen Berbasis Sekolah: Teori, Model, dan Aplikasi</i>. Jakarta: Grasindo 6. Oswald, Lori Jo. 1995. "School-Based Management". ERIC Digest 99 July 1995 7. Peraturan Pemerintah No. 19 Tahun 2005 tentang Standar Nasional Pendidikan. 8. Permendiknas yang berkaitan dengan 8 Standar Nasional Pendidikan (SNP). 9. UNESCO (e-book), <i>Handout: Manajemen Sekolah dan MBS</i>
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2. School Programs Development

Course designation	School Programs Development
Semester(s) in which the Course is taught	6th (sixth)
Person responsible for the Course	Mentors
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Field Work , Internship
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: Duration of field work and internship: 79
Credit points	2 CP / 3.2 ECTS
Required and recommended prerequisites for joining the Course	School Observation 1 (Pengenalan Lapangan Persekolahan 1)
Course objectives/intended learning outcomes	The students are able to conduct SWOT analysis in the school or madrasah, analyse the priority programs of the school and design activities supporting the program.
Content	The School Programs Development provides students opportunities to conduct SWOT analysis, feasibility study, education planning, and design education programs.
Examination forms	<ul style="list-style-type: none"> ● Portfolio (1 smt), ● Project (1 smt), ● Performance (1 smt)

Study and examination requirements	<ul style="list-style-type: none"> • Attendance 10% • Weekly Report (20%) • Final Score 70% (Mentor Teacher 50%, Mentor Lecturer 50%)
Reading list	<ol style="list-style-type: none"> 1. David, Fred. R., David, Forest R. 2015. <i>Strategic Management, Concepts and Cases</i> (15th ed.). England: Pearson Education Limited. 2. Ramadhani, Y. R., dkk, 2021. <i>Dasar-dasar Perencanaan Pendidikan</i>. Bandung: Yayasan Kita Menulis. 3. Sarsby, A. 2016. <i>SWOT Analysis</i>. United Kingdom: Spectaris Ltd.

3. Curriculum Analysis

Course designation	Curriculum Analysis
Semester(s) in which the Course is taught	6th (sixth)
Person responsible for the Course	Mentors
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Field Work, Internship
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 79 hours of fieldwork and internship
Credit points	2 CP / 3,2 ECTS
Required and recommended prerequisites for joining the Course	Microteaching
Course objectives/intended learning outcomes	The students demonstrate the ability to analyze school-based curriculum, observe the implementation of the curriculum and the skills in designing lesson plan and innovative module, implementing and evaluating the relevance of the school based curriculum to the profile of Pancasila and <i>rohmatan lil alamiin</i> (good of all human beings, nature and environment).
Content	Curriculum Analysis provides opportunity for the students to experience and practice curriculum design based on the curriculum components, the resources at the school and the profiles of Pancasila and <i>rohmatan lil alamiin</i> students.
Examination forms	<ul style="list-style-type: none"> ● Portfolio (1 smt), ● Project (1 smt), ● Performance (1 smt)

Study and examination requirements	<ul style="list-style-type: none"> • Attendance 10% • Weekly Report (20%) • Final Score 70% (Mentor Teacher 50%, Mentor Lecturer 50%) <p>The minimum grade to pass the course is C (61).</p>
Reading list	<ol style="list-style-type: none"> 1. Borden, M. E. 2001. <i>Smart Start; Panduan Lengkap Memilih Pendidikan Prasekolah Balita Anda</i>. Bandung: Kaifa. 2. Gestwicki, C. 2007. <i>Developmentally Appropriate Practice; Curriculum and Development In Early Education 5th Edition</i>. Canada: Cengage Learning. 3. Ornstein, A. C. & Hunkins, F. P. 2009. <i>Curriculum; Foundations, Principles and Issues, (5th Edition)</i>. San Francisco: Pearson International Edition. 4. Samples, B. 2002, <i>Revolusi Belajar Untuk Anak; Panduan Belajar Sambil Bermain untuk Membuka Pikiran Anak Anda</i>, Bandung: Kaifa. 5. Saylor, J. G. Alexander, W. M. & Lewis, A. J. 1981. <i>Curriculum Planning For Better Teaching and Learning, (4th edition)</i>,. Tokyo: Holt-Saunders. 6. Wortham, S. C. 2006. <i>Early Childhood Curriculum; Developmental Bases for Teaching and Learning</i>. Ohio: Pearson Merrill Prentice Hall.

4. Mathematics Lesson Planning

Course designation	Mathematics Lesson Planning
Semester(s) in which the Course is taught	6th (sixth)
Person responsible for the Course	Mentors
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Field work, internship
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: Private study including examination preparation, specified in hours: 119
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	Microteaching
Course objectives/intended learning outcomes	The students have the skills in observing the practiced lesson plan and to develop the skills in designing lesson plans in every skills

Content	Analysis of SKL, KI & KD, Formulating Indicators and Learning Objectives, Learning models (discovery, problem-based learning, and project based learning), Lesson planning for each model, Lesson planning for each level (middle school, high school, vocational high school),
Examination forms	<ul style="list-style-type: none"> ● Portfolio (1 semester), ● Project (1 semester), ● Performance (1 semester).
Study and examination requirements	<ul style="list-style-type: none"> ● Attendance 10% ● Mid-evaluation 20% ● Discussion Facilitation 30% ● Final Evaluation 40% <p>The minimum grade to pass the course is C</p>
Reading list	<ol style="list-style-type: none"> 1. Graves, K. 2000. <i>Designing Language Courses: A Guide For Teachers</i>. Canada: Heinle & Heinle Publisher A Division of Thomson Learning. 2. Heinle & Heinle. Harmer, J. 2014. <i>The Practice Of English Language Teaching. 4th Ed</i>. Pearson. Cambridge: Longman 3. Kementerian Pendidikan dan Kebudayaan. 2022. <i>Buku Pegangan Pembelajaran Berorientasi Pada Keterampilan Berpikir Tingkat Tinggi</i>. Direktorat Jenderal Guru dan Tenaga Kependidikan Kementerian Pendidikan dan Kebudayaan. 4. Marzano, R. J., Gaddy, B. B., Foseid, M.C., Marzano, J. S. 2005. <i>A Handbook For Classroom Management That Works</i>. Alexandria: Pearson. 5. Woodward, T. 2001. <i>Planning Lessons And Courses</i>. Cambridge: Cambridge University Press.

5. Mathematics Teaching Materials Development

Course designation	Mathematics Teaching Material Development
Semester(s) in which the Course is taught	6th (sixth)
Person responsible for the Course	Mentors
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Field Work, Internship
Workload (incl. contact hours, self-study hours)	Total workload: 119 hours (in field work and internship)
Credit points	3 CP / 4.8 ECTS

Required and recommended prerequisites for joining the Course	Microteaching
Course objectives/intended learning outcomes	The students demonstrate the ability to analyze the existing learning materials used in school and to develop innovative learning materials.
Content	Material Development provides students with the experience to apply the concepts of instructional materials, selection and procedures of instructional material development in order to design handout, modules, textbook, model (maquette), worksheet, audio-video materials.
Examination forms	<ul style="list-style-type: none"> ● Portfolio (1 smt), ● Project (1 smt), ● Performance (1 smt)
Study and examination requirements	<ul style="list-style-type: none"> ● Attendance 10% ● Performance 20% ● Product 70%
Reading list	<ol style="list-style-type: none"> 1. Kosasih, E. 2021. <i>Pengembangan bahan ajar</i>. Jakarta: Bumi Aksara. 2. Prastowo, A. 2015. <i>Panduan kreatif membuat Bahan Ajar Inovatif (menciptakan metode pembelajaran yang menarik dan menyenangkan)</i>. Yogyakarta: DIVA Press

6. Mathematics Learning Media Development

Course designation	Mathematics Learning Media Development
Semester(s) in which the Course is taught	6th (sixth)
Person responsible for the Course	Mentors
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Field Work, Internship
Workload (incl. contact hours, self-study hours)	Total workload: 79 hours
Credit points	2 CP / 3,2 ECTS
Required and recommended prerequisites for joining the Course	Microteaching
Course objectives/intended learning outcomes	The students are able to observe the use of media at school, analyze the relevance of the media used to the learning material, needs of the students and are able to design both manual and digital interactive, innovative and interesting media.

Content	Learning Media Development provides students opportunities to practice developing learning media and learning platforms.
Examination forms	<ul style="list-style-type: none"> ● Portfolio (1 smt), ● Project (1 smt), ● Performance (1 smt).
Study and examination requirements	<ul style="list-style-type: none"> ● Attendance 10% ● Performance 20% ● Product 70%
Reading list	<ol style="list-style-type: none"> 1. Arsyad A. 2003. <i>Media Pembelajaran</i>. Jakarta: Raja Grafindo Persada. 2. Bloom, Benyamin. S., et.al. 1961. <i>Evaluation to Improve Learning</i>. New York: Graw-Hill Book Company. 3. Brown, J. W., Lewis, R. B., Harclerod, F. E. 1959. <i>A-V Instruction: Materials and Methods</i>. New York: McGraw-Hill Book Company, Inc. 4. Cole P. G. & Chan L. K. S. 2001. <i>Teaching Principle and Practice</i>. New Jersey: Prentice Hall. 5. Kemp, J.E. & Dauton, D. K. 1985. <i>Planning and Producing Instructional Media (Fifth Edition)</i>. New York: Happer & Row, Publishers. 6. Sadiman, A. S., Rahardjo, R., et. al. 2016. <i>Media Pendidikan: Pengertian, Pengembangan, dan Pemanfaatannya</i>. Jakarta: Raja Grafindo Persada. 7. Smaldino, S. E. et.al. 2005. <i>Instructional Technology and Media for Learning (Eight Edition)</i>. New Jersey, Ohio: Pearson Prentice-Hall, Inc.

7. Mathematics Learning Assessment

Course designation	Mathematics Learning Assessment
Semester(s) in which the Course is taught	6th (sixth)
Person responsible for the Course	Mentors
Language	Indonesian Language
Relation to curriculum	Compulsory (specialization in mathematics)
Teaching methods	Field work, internship
Workload (incl. contact hours, self-study hours)	Total workload: Private study including examination preparation, specified in hours:79
Credit points	2 CP / 3.2 ECTS

Required and recommended prerequisites for joining the Course	Microteaching
Course objectives/intended learning outcomes	The students are capable of designing instruments to assess the cognitive, psychomotor and behavioral aspects of mathematics learning and of administering assessment of cognitive, psychomotor and behavioral aspects of mathematics learning.
Content	Mathematics Learning Assessment provides students opportunities to experience developing Multiple choice test items, Components in designing options in multiple choice test, HOTS assessment, Scoring system, Guideline for selecting grading criteria, Feedback in assessment based on minimum completion criteria and to conduct assessment of mathematics learning.
Examination forms	<ul style="list-style-type: none"> ● Portfolio (1smt), ● Project (1smt), ● Performance(1smt)
Study and examination requirements	<ul style="list-style-type: none"> ● Attendance 10% ● Performance 20% ● Product 70% <p>The minimum grade to pass the course is C (61).</p>
Reading list	<ol style="list-style-type: none"> 1. Arikunto, Suharsimi. 2008. <i>Evaluasi Program Pendidikan</i>. Jakarta: Bumi Aksara 2. Arends, Richard. 2004. <i>Learning to Teach</i>. New York: McGraw-Hill Book Company. 3. Masriyah. 2022. <i>Asesmen: Proses dan Hasil Belajar</i>. Surabaya: UNESA Press.

8. Teaching Practice

Course designation	Teaching Practice
Semester(s) in which the Course is taught	6th (sixth)
Person responsible for the Course	Mentors
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Field Work, Internship
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 159 hours
Credit points	4 CP / 6,4 ECTS

Required and recommended prerequisites for joining the Course	Microteaching
Course objectives/intended learning outcomes	The students demonstrate the ability to observe the teaching and learning process at school, conduct need analysis of the class and teaching and learning, do supervised team-teaching in three schemes of (1) 25% student 75% mentor teacher, (2) 50% student 50% mentor teacher, (3) 75% student 25% mentor teacher and independent teaching. The students are also able to conduct learning evaluation and reflection on the overall practices.
Content	Teaching Practice provides students the opportunities to practice designing learning programs, applying classroom management, developing lesson plans and modules, and applying the concepts of learning psychology in their teaching practice.
Examination forms	<ul style="list-style-type: none"> ● Portfolio (1 smt), ● Project (1 smt), ● Performance (1 smt)
Study and examination requirements	<ul style="list-style-type: none"> ● Attendance 10% ● Performance 20% ● Report (35%) ● Product (Video, draft Artikel) (35%) <p>The minimum grade to pass the course is C (61).</p>
Reading list	<ol style="list-style-type: none"> 1. <i>Buku Induk Pendidikan Hidayatullah (Edisi Revisi)</i>, Departemen DIKDASMEN DPP Hidayatullah. 2. Timothy D. Walker, 2019. <i>Teach Like Finland (Mengajar Seperti Finlandia)</i>. Jakarta: PT. Gramedia Widiasarana Indonesia.



SEMESTER 7



A. Compulsory

1. Community Development Program

Course designation	Community Development Program
Semester(s) in which the Course is taught	7 th (seventh)
Person responsible for the Course	Mentors
Language	Indonesian Language
Relation to curriculum	Compulsory
Teaching methods	Field Work
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: Private study including examination preparation, specified in hours: 159
Credit points	4 CP / 6,4 ECTS
Required and recommended prerequisites for joining the Course	Completing at least 100 CP (16 ECTS)
Course objectives/intended learning outcomes	The students are able to identify the social issues, formulate and implement the solution within an interdisciplinary team work with ABCD, PAR, or CBR methods.
Content	Community Development Program provides students opportunities to experience the process of identification of social/community issues, have social interaction within the community, work collaboratively in the formulation of solutions and implementation of the solution.
Examination forms	Final Exam: Project-based Exam (1 week)
Study and examination requirements	Report (40%) Article (60%)
Reading list	<i>Panduan Kuliah Kerja Nyata Tematik Pengurangan Resiko Bencana</i> <i>Buku Pedoman Pengabdian Kepada Masyarakat UIN Sunan Ampel Surabaya</i>

2. Academic Publication

Course designation	Academic Publication
Semester(s) in which the Course is taught	7 th (seventh)
Person responsible for the Course	Mentors

Language	Indonesian Language and English
Relation to curriculum	Compulsory
Teaching methods	Group Discussion/Tutorials
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 120 hours Work in class 26 hours Private study including examination preparation, specified in hours: 94 hours
Credit points	3 CP / 4,8 ECTS
Required and recommended prerequisites for joining the Course	Research Methods in Mathematics Education Mathematics Education Seminar
Course objectives/intended learning outcomes	The students are able to develop academic articles based on research results and communicate research results in written and or oral form.
Content	Academic Publication trains students to identify national and international academic publications regulation and procedures; write for academic publications and submit the research report in seminar/journal.
Examination forms	Academic Article (submitted in 1 smt), Project(1 smt),Performance(1 smt)
Study and examination requirements	Submission to journal Scopus - Sinta index 2 = A Sinta index 3 - 4 = A- Sinta 5 - 6 = B Not accredited = B- Submitted = C
Reading list	Paul, J. and Criado, A.R., 2020. The art of writing literature review: What do we know and what do we need to know? <i>International Business Review</i> , 29(4), p.101717



SEMESTER 8

A. Compulsory

1. Undergraduate Thesis

Course designation	Undergraduate Thesis
Semester(s) in which the Course is taught	8 th (eighth)
Person responsible for the Course	Supervisors
Language	Indonesian Language, English
Relation to curriculum	Compulsory
Teaching methods	Seminar/Presentation
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: Private study including examination preparation, specified in hours: 238
Credit points	6 CP / 9,6 ECTS
Required and recommended prerequisites for joining the Course	<ul style="list-style-type: none"> • Mathematics Education Seminar • Completing at least 100 CP (16 ECTS)
Course objectives/intended learning outcomes	The student are able to write research proposal, conduct research and write research report.
Content	Topic is appointed by supervisor(s) or student.
Examination forms	Report (2 smt), Seminar (60 mnt), Presentation (60mnt)
Study and examination requirements	The final mark will be decided by considering some criteria, involving: <ul style="list-style-type: none"> · Ability and self-independency, · Effort and perseverance · Content mastery, including the logic, · Content substance (accuracy and clearness) · Language and systematics · Communication skill, self-confidency, and ethics. The minimal grade for the SKRIPSI is C (61).
Reading list	Books or journals related to the topics.