

Staff Handbook

Please fill out and submit one table per person.

Name	Prof. Dr. Agus Maman Abadi, S.Si., M.Si.		
Post	Teaching Area and Designation <i>Fuzzy Logic and Its Applications</i>		
Academic career	Initial Academic Appointment <i>Doctorate (Mathematics)</i>	Institution <i>Universitas Gadjah Mada</i>	Year <i>2010</i>
	<i>Master (Mathematics)</i>	<i>Universitas Gadjah Mada</i>	<i>1998</i>
	<i>Undergraduate Degree (Mathematics)</i>	<i>Universitas Gadjah Mada</i>	<i>1994</i>
Employment	Position <i>Professor/Head of The Master's Program in Mathematics Education</i>	Employer <i>Universitas Negeri Yogyakarta</i>	Period <i>1995–now</i>
Research and development projects over the last 5 years	Title, Period, Amount of Financing - Perbandingan Kinerja Model Recurrent Neural Network (RNN) dan Long Short Term Memory (LSTM) dalam Prediksi Flow Rate Minyak Bumi Berdasarkan Data Historis [<i>Comparison of Recurrent Neural Network (RNN) and Long Short-Term Memory (LSTM) Performance in Predicting Crude Oil Flow Rate Based on Historical Data</i>], 2025, IDR 55,000,000. - Faktor-Faktor yang Mendukung dan Menghambat Dosen dan Tenaga Kependidikan Universitas Negeri Yogyakarta dalam Menyelesaikan Studi Lanjut [<i>Supporting and Inhibiting Factors for Lecturers and Educational Staff of Universitas Negeri Yogyakarta in Completing Their Advanced Studies</i>], 2025, IDR 75,000,000. - Penerapan Teknik Penggabungan Sikel dari Algoritma Prefer Complement pada Graf de Bruijn Termodifikasi [<i>The Application of Cycle Merging Techniques from the Prefer Complement Algorithm on the Modified de Bruijn Graph</i>], 2025, IDR 18,000,000. - Penentuan Kualitas Air Sungai di Daerah Istimewa Yogyakarta dengan Menggunakan K-means dan Fuzzy C-means Clustering [<i>Determining River Water Quality in the Special Region of Yogyakarta Using K-Means and Fuzzy C-Means Clustering</i>], 2024, IDR 45,000,000. - Model Pembelajaran Matematika mobile Problem Based Learning Flipped Classroom (mPBLFC) untuk Meningkatkan Kemampuan Berpikir Komputasi Siswa SMA [<i>The Mobile Problem Based Learning Flipped Classroom (mPBLFC) Mathematics Learning Model to Enhance Computational Thinking Skills of Senior High School Students</i>], 2024, IDR 56,300,000. - Pengembangan Computeraize Adaptive Test Berbasis Adaptive Neuro-Fuzzy Inference System untuk Mengukur Kemampuan Literasi Matematika Siswa [<i>Development of Computerized Adaptive Test Based on Adaptive Neuro-Fuzzy Inference System to Measure Students' Mathematical Literacy Skills</i>], 2024, IDR 55,330,000.		

	▪ Indeks Kebugaran Fisik dan Kesehatan Mental Dosen dan Tendik Universitas Negeri Yogyakarta [<i>Physical Fitness and Mental Health Index of Lecturers and Educational Staff of Universitas Negeri Yogyakarta</i>], 2024, IDR 75,000,000. ▪ Pemetaan Kontraksi Titik demi Titik di Ruang Metrik Modular Teritlak [<i>Pointwise Contraction Mapping in Generalized Modular Metric Space</i>], 2024, IDR 18,000,000. ▪ Model Pembelajaran Matematika Mobile Problem Based Learning Flipped Classroom (mPBLFC) untuk Meningkatkan Kemampuan Berpikir Komputasi Siswa SMA [<i>The Mobile Problem Based Learning Flipped Classroom (mPBLFC) Mathematics Learning Model to Enhance Computational Thinking Skills of Senior High School Students</i>], 2023, IDR 50,900,000. ▪ Prediksi Indeks Harga Saham Gabungan dengan Algoritma LSTM Berbasis Data Historis dan Analisis Teknikal [<i>The IDX Composite Prediction Using LSTM Algorithm Based on Historical Data and Technical Analysis</i>], 2023, IDR 36,000,000. ▪ Redesain Model Kerjasama Universitas Negeri Yogyakarta [<i>Redesign of Universitas Negeri Yogyakarta Collaboration Model</i>], 2023, IDR 70,000,000. ▪ Solusi Optimal Masalah Pemrograman Linear Bilangan Fuzzy Trapezium tergeneralisir Simetris [<i>Optimal Solution of Fuzzy Linear Programming Problem with Generalized Symmetry Trapezoidal Fuzzy Number</i>], 2023, IDR 12,000,000. ▪ Deteksi Kelelahan Mata berbasis Computer Vision untuk Mencegah Human Error dan Kecelakaan Kerja [<i>Eye Fatigue Detection Based on Computer Vision to Prevent Human Error and Workplace Accidents</i>], 2022, IDR 74,500,000. ▪ Pengembangan Model Matematis Obligasi Bencana Alam sebagai Mekanisme Transfer Risiko Gempa Bumi [<i>Mathematical Modelling of Catastrophe Bonds as a Risk Transfer Mechanism for Earthquakes</i>], 2022, IDR 54,900,000. ▪ Analisis Kemampuan Berpikir Reflektif dan Self-Efficacy Mahasiswa dalam Memecahkan Masalah Aljabar Berdasarkan Taksonomi Structure of The Observed Learning Outcomes (SOLO) [<i>Analysis of College Students' Reflective Thinking Ability and Self-Efficacy in Solving Algebra Problems Based on the Structure of the Observed Learning Outcomes (SOLO) Taxonomy</i>], 2022, IDR 27,100,000. ▪ Pemodelan Matematis Asuransi dengan Risiko Bencana Gempa Bumi di Indonesia [<i>Mathematical Modeling of Insurance for Earthquake Risk in Indonesia</i>], 2021, IDR 90,100,000. ▪ Model Pembelajaran Berbasis Masalah Terintegrasi TPACK dan Ajaran Taman Siswa untuk Mengembangkan Kemampuan Computational Thinking Siswa [<i>Problem-Based Learning Model Integrated with TPACK and Education Principle of Tamansiswa to Develop Students' Computational Thinking Skills</i>], 2021, IDR 57,100,000.
Industry collaborations over the last 5 years	Title, Partner, Year ▪ Construction of Fuzzy Systems Based on Fuzzy C-Means Clustering and Singular Value Decomposition for Predicting Rate of Penetration in Geothermal Drilling, PT. Geotama Energi Yogyakarta and Universitas Pembangunan Nasional Veteran Yogyakarta, 2024. ▪ Pendampingan Penerapan Teknologi Audio Organic Growth System (AOGS) di Lahan Pertanian untuk Meningkatkan Produktivitas Tanaman Pertanian [<i>Assistance in the Application of Audio Organic Growth System (AOGS) Technology on Agricultural Land to Enhance Crop Productivity</i>], Kelompok Tani [<i>Farmers' Group</i>] Ngudi Makmur Sokoliman I, 2025.

	▪ Pelatihan Penggunaan Nearpod sebagai Media Pembelajaran Matematika Interaktif untuk Guru Matematika SMP [<i>Training on the Use of Nearpod as an Interactive Mathematics Learning Medium for Junior High School Mathematics Teachers</i>], MGMP Matematika SMP [<i>Junior High School Mathematics Teachers' Group</i>] Kawedanan Gondang Winangun Kabupaten Klaten, 2025. ▪ Workshop Eksplorasi dan Optimalisasi Teknologi Digital dalam Pembelajaran Matematika Sekolah [<i>Workshop on Exploration and Optimization of Digital Technology in School Mathematics Learning</i>], Universitas Siliwangi, 2025. ▪ Workshop Pembuatan Media Pembelajaran Matematika SMP Berbasis Canva [<i>Workshop on Developing Junior High School Mathematics Learning Media Using Canva</i>], MGMP Matematika SMP [<i>Junior High School Mathematics Teachers' Group</i>] Kawedanan Gondang Winangun Kabupaten Klaten, 2024. ▪ Pelatihan dan Pendampingan Penggunaan Teknologi Audio Organic Growth System (AOGS) untuk Meningkatkan Kualitas dan Produktivitas Tanaman Pertanian [<i>Training and Assistance on the Use of Audio Organic Growth System (AOGS) Technology to Improve the Quality and Productivity of Agricultural Crops</i>], Kelompok Tani [<i>Farmers' Group</i>] Ngudi Makmur Sokoliman I, 2024. ▪ Pelatihan Pembuatan Bahan Ajar Berbantuan GeoGebra untuk Pembelajaran Berbasis Online [<i>Training on Developing GeoGebra-Assisted Teaching Materials for Online-Based Learning</i>], MGMP Matematika SMP [<i>Junior High School Mathematics Teachers' Group</i>] Kawedanan Gondang Winangun Kabupaten Klaten, 2023. ▪ Pelatihan Pembuatan Video Pembelajaran Interaktif dengan Menggunakan Powerpoint dan Camtasia untuk Guru SMP [<i>Training on Creating Interactive Learning Videos Using PowerPoint and Camtasia for Junior High School Teachers</i>], MGMP Matematika SMP [<i>Junior High School Mathematics Teachers' Group</i>] Kawedanan Gondang Winangun Kabupaten Klaten, 2022. ▪ Pengembangan Kerjasama Universitas Negeri Yogyakarta Bidang Pendidikan, Seni dan Budaya [<i>Development of Universitas Negeri Yogyakarta Collaboration in Education, Arts, and Culture</i>], Kabupaten Kulonprogo, 2022. ▪ Pelatihan Optimalisasi Strategi Pemasaran Produk Unggulan Melalui Media Online [<i>Training on Optimizing Marketing Strategies for Flagship Products Through Online Media</i>], UMKM [<i>MSMEs</i>] Desa Srumbung Kabupaten Magelang, 2021. ▪ Pelatihan Pembuatan Materi Pembelajaran yang Terintegrasikan pada Learning Management System (LMS) [<i>Training on Developing Learning Materials Integrated into a Learning Management System (LMS)</i>], MGMP Matematika SMP [<i>Junior High School Mathematics Teachers' Group</i>] Kawedanan Gondang Winangun Kabupaten Klaten, 2022. ▪ Pemanfaatan Media Sosial untuk Mendukung Pemasaran di Masa Pandemi Covid-19 [<i>Utilization of Social Media to Support Marketing During the Covid-19 Pandemic</i>], UMKM [<i>MSMEs</i>] Tenun Cagag, 2021. ▪ Pemanfaatan Tanaman Sekitar dalam Pembuatan Hand Sanitizer Alami [<i>Utilization of Local Plants in the Production of Natural Hand Sanitizer</i>], Dusun Margomulyo, 2021.				
Patents and proprietary rights	<table border="0"> <tr> <td>Title</td><td>Year</td></tr> <tr> <td>Bahan Ajar Elektronik-Matematika Kelas VIII (Materi Fungsi Linier) Berbasis Problem-based Learning Berbantuan GeoGebra [<i>Problem-Based Learning Electronic Mathematics Teaching</i>]</td><td>2024</td></tr> </table>	Title	Year	Bahan Ajar Elektronik-Matematika Kelas VIII (Materi Fungsi Linier) Berbasis Problem-based Learning Berbantuan GeoGebra [<i>Problem-Based Learning Electronic Mathematics Teaching</i>]	2024
Title	Year				
Bahan Ajar Elektronik-Matematika Kelas VIII (Materi Fungsi Linier) Berbasis Problem-based Learning Berbantuan GeoGebra [<i>Problem-Based Learning Electronic Mathematics Teaching</i>]	2024				

	<i>Resource for Grade VIII Junior High School (Linear Function Topic) Assisted by GeoGebra]</i>	
	Bahan Ajar Elektronik Materi Bangun Ruang Sisi Datar Berbasis Etnomatematika Rumah Adat Kalimantan Barat dengan Pendekatan Problem-Based Learning <i>[Electronic Teaching Material on Polyhedron Topics Based on Ethnomathematics of West Kalimantan Traditional Houses Using a Problem-Based Learning Approach]</i>	2024
	Instrumen Self-Efficacy Mahasiswa dalam Proses Pemecahan Masalah Aljabar Linier <i>[College Students' Self-Efficacy Instrument in the Process of Solving Linear Algebra Problems]</i>	2024
	Instrumen Penelitian: Tes Pemahaman Konsep, Angket Disposisi Matematis, dan Lembar Observasi Pembelajaran Materi Lingkaran Kelas XI SMA <i>[Research Instrument: Conceptual Understanding Test, Mathematical Disposition Questionnaire, and Learning Observation Sheet on Circle Material for Grade XI Senior High School Students]</i>	2024
	LKPD Pembelajaran Kontekstual dengan Strategi REACT pada Materi Statistika Memuat Kemampuan Koneksi Matematis dan Self-Efficacy Siswa SMP <i>[Student Worksheet on Contextual Learning with REACT Strategy in Statistics Material Incorporating Mathematical Connection Ability and Self-Efficacy of Junior High School Students]</i>	2024
	E-LKPD Interaktif Liveworksheets Berbasis Contextual Teaching and Learning (CTL) untuk Meningkatkan Kemampuan Pemahaman Konsep Matematika, Numerasi, dan Motivasi Belajar Siswa SMP <i>[Interactive E-Student Worksheet Using Liveworksheets Based on Contextual Teaching and Learning (CTL) to Improve Mathematical Conceptual Understanding, Numeracy, and Learning Motivation of Junior High School Students]</i>	2024
	LKPD Fungsi Linear Berdasarkan Pembelajaran dengan Teori APOS <i>[Linear Functions Student Worksheet Based on Learning Using APOS Theory]</i>	2024
	Instrumen Penelitian Model Pembelajaran Problem-based Learning dan Project Based Learning Ditinjau dari Kemampuan Pemecahan Masalah dan Kecemasan Matematika Siswa SMP <i>[Research Instrument on Problem-Based Learning and Project-Based Learning Models in Terms of Problem-Solving Ability and Mathematics Anxiety of Junior High School Students]</i>	2024
	Instrumen Penelitian Pembelajaran Menggunakan Pendekatan Pemecahan Masalah Terhadap Kemampuan Berpikir Logis, Literasi Matematis, dan Self-Efficacy Siswa Kelas VIII Materi	2024

	Sistem Persamaan Linear Dua Variabel <i>[Research Instrument on Problem-Solving Approach in Learning on Logical Thinking, Mathematical Literacy, and Self-Efficacy of Grade VIII Junior High School Students in Two-Variable Linear Equation Material]</i>	
	LKPD Statistika (Analisis Data) Project-Based Learning <i>[Project-Based Learning Statistics (Data Analysis) Student Worksheet]</i>	2024
	Item Response Theory Analysis with Steps and Interpretation <i>(irtawsi) 0.4.1 for Scoring</i>	2024
	Modul Ajar Statistika Model Pembelajaran Project-Based Learning untuk Meningkatkan Kemampuan Pemecahan Masalah dan Menurunkan Kecemasan Matematika Siswa SMP <i>[Project-Based Learning Statistics Teaching Module to Improve Problem-Solving Skills and Reduce Mathematics Anxiety of Junior High School Students]</i>	2024
	Instrumen Penelitian Materi Perbandingan Kelas VII untuk Pembelajaran Menggunakan Pendekatan Open-Ended Terhadap Kemampuan Pemecahan Masalah Matematis dan Kepercayaan Diri Siswa <i>[Research Instrument on Ratio Material for Grade VII Junior High School in Learning Using an Open-Ended Approach on Students' Mathematical Problem-Solving Ability and Self-Confidence]</i>	2024
	Instrumen Penelitian Etnomatematika Budaya Banyumas Materi Geometri Kelas VIII untuk Pembelajaran Matematika Terhadap Kemampuan Pemecahan Masalah Matematis dan Self Regulated Learning Siswa SMP <i>[Research Instrument on Banyumas Cultural Ethnomathematics in Grade VIII Junior High School Geometry Material for Mathematics Learning on Students' Mathematical Problem-Solving Ability and Self-Regulated Learning]</i>	2024
	Modul Ajar Pembelajaran Problem Posing dalam Student Query Directed Learning Materi Barisan dan Deret <i>[Teaching Module on Problem-Posing Learning in Student Query Directed Learning for Sequences and Series Material]</i>	2024
	Perangkat Pembelajaran Materi Sistem Persamaan Linear Dua Variabel Kelas VIII untuk Pembelajaran Menggunakan Pendekatan Pemecahan Masalah Terhadap Kemampuan Berpikir Logis, Literasi Matematis, dan Self-Efficacy Siswa <i>[Learning Tools for Two-Variable Linear Equation Material for Grade VIII Junior High School Using a Problem-Solving Approach on Students' Logical Thinking, Mathematical Literacy, and Self-Efficacy]</i>	2024
	LKPD Peluang Berdasarkan Pembelajaran dengan Teori APOS <i>[Probability Student Worksheet Based on Learning Using APOS Theory]</i>	2024

	Modul Ajar Statistika Model Pembelajaran Problem-Based Learning untuk Meningkatkan Kemampuan Pemecahan Masalah dan Menurunkan Kecemasan Matematika Siswa SMP <i>[Problem-Based Learning Statistics Teaching Module to Improve Problem-Solving Skills and Reduce Mathematics Anxiety of Junior High School Students]</i> 2024 Modul Ajar Berbasis Contextual Teaching And Learning (CTL) untuk Meningkatkan Kemampuan Pemahaman Konsep Matematika, Numerasi, dan Motivasi Belajar Siswa SMP <i>[Teaching Module Based on Contextual Teaching and Learning (CTL) to Improve Mathematical Conceptual Understanding, Numeracy, and Learning Motivation of Junior High School Students]</i> 2024 Instrumen Tes Kemampuan Pemecahan Masalah Matematis Materi Bangun Ruang Sisi Datar <i>[Mathematical Problem-Solving Ability Test Instrument on Polyhedron Topics]</i> 2024 Modul Pembelajaran Matematika Materi Data dan Diagram Berorientasi pada Kemampuan Pemahaman Konsep dan Self-Efficacy <i>[Mathematics Learning Module on Data and Diagrams Oriented Toward Conceptual Understanding Ability and Self-Efficacy]</i> 2024	
Important publications over the last 5 years	Title Name, Year, Volume, Issue, P-ISSN/E-ISSN <i>Determining River Water Quality in the Special Region of Yogyakarta Using K-Means and Fuzzy C-Means Clustering</i> <i>TEM Journal</i>, 2025, 14, 2, pp. 1695–1706 <i>Development of irtawsi: A User-Friendly R Package for IRT Analysis</i> <i>Jurnal Pengukuran Psikologi Dan Pendidikan Indonesia</i>, 2025, 14, 1, pp. 1–23 <i>Mathematical Insights into Aboge Calendar: Ethnomathematics Study of Javanese Cultural Heritage in Cikakak Villaget</i> <i>Mathematics Education Journal</i>, 2025, 19, 3, pp. 567–584 <i>High School Students' Computational Thinking Process to Solve Derivative Calculus Problems</i> <i>Perspektivy Nauki I Obrazovania</i>, 2025, 73, 1, pp. 483–495 <i>Application of Mamdani Fuzzy Logic in Refrigerator Selection</i> <i>Barekeng</i>, 2025, 19, 3, pp. 1681–1698 <i>Construction of Fuzzy Systems Based on Fuzzy C-Means Clustering and Singular Value Decomposition for Predicting Rate of Penetration in Geothermal Drilling</i> <i>International Journal of Power Electronics and Drive Systems (IJPEDS)</i>, 2024, 15, 4, ISSN: 2088-8694 <i>Exploration Of Ethnomathematics Research In Indonesia 2010–2023</i> <i>Infinity Journal</i>, 2024, 13, 2, e-ISSN: 2460–9285	

	<i>Characteristics of The Mobile Problem Based Learning Flipped Classroom (mPBLFC) Mathematics Learning Model: A Systematic Literature Review</i>			<i>Perspektiv i Nauki i Obrazovania</i> , 2024, 68, 2, e-ISSN: 2307–2334
	<i>Mathematics Teachers' TPACK in Online Learning During The COVID-19 Pandemic Based on Demographic Factors</i>			<i>Perspektiv i Nauki i Obrazovania</i> , 2023, 63, 3, 2023, 637–650, ISSN: 23072334
	<i>Determination of Copper Losses for Substation Transformers in Special Region of Yogyakarta using the Fuzzy System</i>			<i>International Energy Journal</i> , 2022, 22, 3, 269–280; ISSN: 1513–718X
	<i>Breast Cancer Classification using a Hybrid Model of Fuzzy and Neural Network</i>			<i>IAENG International Journal of Computer Science</i> , 2022, 49, 2, ISSN/ISBN: 1819–9224
	<i>Construct Validity and Reliability of the Learning Motivation Questionnaire</i>			<i>TEM Journal</i> , 2022, 11, 4, 1494-1499; ISSN: 2217–8309, E-ISSN: 2217–8333
	<i>Classification of Heart Disease Based on PCG Signal Using CNN</i>			<i>TELKOMNIKA Telecommunication, Computing, Electronics and Control</i> , 2021, 19, 5, 1693–6930
	<i>Construction of Fuzzy Radial Basis Function Neural Network Model for Diagnosing Prostate Cancer</i>			<i>TELKOMNIKA Telecommunication, Computing, Electronics and Control</i> , 2021, 19, 4, 1693–6930
Activities in specialist bodies over the last 5 years	<i>Dominant Factors that Cause Students' Difficulties in Learning Abstract Algebra: A Case Study at a University in Indonesia</i>			<i>International Journal of Instruction</i> , 2021, 14, 1, 1308–1470
	<i>Organisation</i> <i>Faculty of Mathematics and Natural Sciences, Universitas Negeri Yogyakarta</i>	<i>Role</i> <i>Head of The Master's Program in Mathematics Education</i>	<i>Period</i> <i>2024–now</i>	
	<i>Ministry of Finance of Republic of Indonesia</i>	<i>LPDP Scholarship Interviewer</i>	<i>2016–now</i>	
	<i>Universitas Negeri Yogyakarta</i>	<i>Internal Research Reviewer</i>	<i>2015–now</i>	
	<i>Universitas Negeri Yogyakarta</i>	<i>Commission Secretary, Academic Senate</i>	<i>2024–2025</i>	
	<i>Faculty of Mathematics and</i>	<i>Chairman of Commission C,</i>	<i>2021–2025</i>	

	<i>Natural Sciences, Universitas Negeri Yogyakarta</i>	<i>Faculty Senate</i>	
	<i>Universitas Gadjah Mada</i>	<i>Chairman of Family of Doctoral Mathematics Alumni</i>	<i>2019–2024</i>
	<i>Universitas Gadjah Mada</i>	<i>Member of External Team for Self-Evaluation Report (LED) Preparation of The Mathematics Doctoral Study Program</i>	<i>2024</i>
	<i>Indonesian Mathematics Society (IndoMS)</i>	<i>Member</i>	<i>2024</i>
	<i>Algebra Joint Seminar (AJS) DIY-Jateng</i>	<i>Member</i>	<i>2021–now</i>
	<i>Indonesian Postgraduate Mathematics Education Association (PPPMI)</i>	<i>Member</i>	<i>2024–2027</i>
	<i>The 14th International Conference on Applied Physics and Mathematics (ICAPM)</i>	<i>Technical Committee</i>	<i>2023–2025</i>