#### **ELEMANTARY MATHEMATIC EDUCATION PROGRAMMERS**

	FİRST YEAR										
	I. SEMESTER						II. SEMESTER				
Code	Course Name	Т	U	K	ECTS	Code	Course Name	Т	U	K	ECTS
MAT143	Introduction to Educational Science	3	0	3	5	MAT136	History of Turkish Revolution & Principles of M.Kemal Atatürk I I	2	0	2	3
MAT133	General Mathematics I	4	2	5	8	MAT130	Discrete Mathematics	3	0	3	3
MAT137	History of Turkish Revolution & Principles of M.Kemal Atatürk I	2	0	2	3	MAT138	Foreign Language II	3	0	3	5
MAT141	Foreign Language I	3	0	3	5	MAT134	Turkish II : Oral Expression	2	0	2	3
MAT135	Turkish I : Written Expression	2	0	2	3	MAT132	Geometry	3	0	3	4
MAT139	Computer Studies I	2	2	3	6	MAT140	Computer II	2	2	3	5
						MAT142	Educational Psychology	3	0	3	6
	Total Credit	16	4	18	30		Total Credit	18	2	19	30

	SECOND YEAR										
	III. SEMESTER						IV. SEMESTER				
Code	Course Name	Т	U	K	ECTS	Code	Course Name	Т	U	K	ECTS
MAT229	Physics I	4	0	4	6	MAT232	Instructional Technology and Material Development	2	2	3	6
MAT225	Calculus I	4	2	5	7	MAT228	Physics II	4	0	4	6
MAT227	Linear Algebra I	3	0	3	6	MAT224	Calculus II	4	2	5	7
MAT231	Elective I (Constructivism in Mathematics Teaching)	2	0	2	4	MAT226	Linear Algebra II	3	0	3	6
MAT233	Scientific Research Methods	2	0	2	2	FEN230	Elective II (Fine Writing Drawing And Design Information)	3	0	3	5
MAT235	Principles and Methods of Teaching	3	0	3	5						
Total Credit 18			2	19	30		Total Credit	16	4	18	30

	THİRD YEAR										
	V. SEMESTER						VI. SEMESTER				
Code	Course Name	Т	U	К	ECTS	Code	Course Name	Т	U	K	ECTS
MAT337	Methods of Mathematic Teaching I	2	2	3	4	MAT332	Methods of Mathematic Teaching II	2	2	3	4
MAT327	Analytical Geometry I	3	0	3	4	MAT330	Statistics and Probability-II	2	2	3	4
MAT331	Introduction to Algebra	3	0	3	5	MAT328	Analytical Geometry II	3	0	3	5
MAT329	Statistics and Probability-I	2	2	3	4	MAT338	Measurement and Evaluation	3	0	3	5
MAT333	History of Science	2	0	2	2	MAT334	History of Turkish Education	2	0	2	4
MAT325	Calculus III	3	0	3	8	MAT326	Diferential Equations	4	0	4	4
MAT335	Elective I (Technology Based Teaching Mathematics)	2	0	2	3	MAT336	Community Service Applications	1	2	2	4
Total Credit			4	19	30		Total Credit	17	6	20	30

	FOURTH YEAR										
	VII. SEMESTER						VIII. SEMSTER				
Code	Course Name	Т	U	K	ECTS	Code	Course Name	Т	U	K	ECTS
MAT435	Classroom Management	2	0	2	4	MAT428	Teaching Practice	2	6	5	10
MAT433	School Experience	1	4	3	6	MAT426	Turkish Educational System and School Management	2	0	2	4
MAT431	Guidance	3	0	3	5	MAT422	Philosophy of Mathematics	2	0	2	7
MAT425	Elementary Number Theory	3	0	3	4	MAT430	Elective V (Business English)	3	0	3	4
MAT437	Special Education	2	0	2	5	MAT424	Elective VI Project Development And Methods In Mathematics)	3	0	3	5
MAT429	History of Mathematics	2	0	2	2						
MAT427	Elective II (Mathematics Education Seminar)	3	0	3	4						
Total Credit			4	18	30		Total Credit	12	6	15	30

### **I.SEMESTER**

#### TAR 101 HISTORY OF TURKISH REVOLUTION& PRINCIPLES OF M.KEMAL ATATÜRK I

Course Code	TAR 101
Course Title	History of Turkish Revolution & Principles of M.Kemal Atatürk I
Academic Cycle	Bachelor
Year of Study	(1) First
Prerequisites	None
Local Credits	2
ECTS Credits	2
Weekly (Lectures- Practice- Credit)	2-0-2
Duration	1 Semester
Semester	1. Semester
Examination	Mid-term exam, final exam
Assessment	Mid-term exam-30%, final exam-70%
Description	The aim of the course is to ebcourage the students to adopt the democrtic values as the only way of a modern life and to incite them to defend these values. This course allows the students to be sensitive to the revolutioonary principles of Atatürk and to induce them to protect the contemporary, secular and democratic values.
Course Content	Definition of Revolution, First World War until the Ottoman Empire Developments in the First World War, Armistice Armistice, Mustafa Kemal Pasha, The Lives of the Overview, Society And Activities, Mustafa Kemal Pasha, the release of Samsun, Conventions, the Assembly of Deputies and Collection of the National Pact, Opening of Parliament, Much of Sakarya Victory National Mücadele,Sakarya, National Defense's Financial Resources, The Great Raid, Mudanya Mütakeresi, Abolition of the Sultanate, the Lausanne Peace Conference.
Learning Outcomes	<ul> <li>By the end of this module students will be able to:</li> <li>1.Utilize their knowledge of social sciences,</li> <li>2. Analyze, evaluate and interpret historical data.</li> <li>3. Arrange group Works .</li> <li>4. Get the comsciences of Professional and ethical reponsibility.</li> <li>5. Establish an effective oral and inscriptive comunication.</li> <li>6. Understand the national and universal impacts of the historical data</li> <li>7. Recognize the need for life-long learning and application</li> <li>8. Remain up-to-date with Professional and contemporary issues</li> <li>9. Make scientific researches separately or under the guidance of an advisor.</li> </ul>

Read List	1. 2. 3. 4. 5. 6. 7. 8.	Mustafa Kemal Atatürk Nutuk (Söylev), C.1-2, T.T.K, Ankara, 1986. Atatürkün söylev ve demeçleri, C.1-5, Ankara, 1983-1987. Niyazi Berkez, Türkiyede çağdaşlaşma, İstanbul, 1978. Afet A.İNAN, Medeni bilgiler, Ankara, 1987 Enver Ziya KARAL, Atatürk ve devrim(Komferanslar ve Makaleler), T.T.K, Ankara, 1980 Enver Ziya KARAL, Atatürkten düşünceler, Meb.Yay. Ankara, 1981 Bernard Lewis, Modern Türkiyenin doğuşu, Çev. M. Kıratlı, T.T.K, Ankara, 1970. Ahmet MUMCU, Tarih açısından türk devriminin temelleri ve
	8.	Ahmet MUMCU, Tarih açısından türk devriminin temelleri ve gelişimi, Ankara, 1976

#### YDI 151 Foreign Language I

Course Code	YDI 151
Course Title	Foreign Language I
Instructor's Name	Instructor A.Vahap BOZ
Academic Cycle	Bachelor
Year of Study	(1) First
Prerequisites	None
Local Credits	3
ECTS Credits	5
Weekly (Lectures- Practice- Laboratory)	3-0-0
Duration	1 Semester
Semester	1. Semester
Examination	Mid-term exam and final exam, written form
Assessment	Mid-term exam-30%, final exam-70 %
Description	The aim of the course is to enable students to teach basic grammar, speaking, writing, reading and listening knowledge of English.
Course Content	Nouns, adjectives, adverbs and prepositions, basic tenses, active and passive voice, conditionals, modals, gerunds and infinitives, direct and indirect speech forms, sentence structure, vocabulary of English.

Learning Objectives	<ul> <li>At the end of the course, the students will be able to</li> <li>1. use the basic grammar of English,</li> <li>2. use the target language in classroom,</li> <li>3. understand and respond dialogues,</li> <li>4. comprehend reading passages in English,</li> <li>5. communicate with native speakers,</li> <li>6. express themselves in written forms.</li> </ul>
Resources	<ol> <li>Byrage J. Total English for Starter Students –Pearson Longman : England</li> <li>Foley M &amp; Hall D. Total English for starter Students –Workbook Pearson Longman : England</li> <li>Murphy, R. (1998). English Grammar in Use. Cambridge</li> </ol>

#### EGB151Introduction to Science of Education

<b>Course Code</b>	EGB151
Course Title	Introduction to Science of Education
Academic Cycle	Bachelor
Year of Study	1 First
Prerequisites	None
Local Credits	3
ECTS Credits	5
Weekly (Lectures- Practice- Laboratory)	3-0-0
Duration	1 Semester
Semester	1. Semester
Examination	Mid-term exam and final exam
Assessment	Mid-term exam 30%, final exam 70%
Description	Basic concepts related to education, instructional process, the foundations of education and understanding the nature of the teaching profession
Course Content	Principles and characteristics of the teaching profession; Entering the teaching profession; Becoming a teacher; Social foundations of education; Psychological foundations of education; Philosophical foundations of education; Historical foundations of education; School and classroom as a social system; School environment; Turkish Educational System, Alternative perspectives in education studies.

Learning Objectives	By the end of the course students should be able to: 1. understand the basic principles and characteristics of the teaching profession 2. understand the process of on becoming a teacher 3. analyze the teaching profession 4. understand classroom and school environments 5. analyze the social foundations of education 6. analyze the psychological foundations of education 7. analyze the political foundations of education 8. analyze the economical foundations of education 9. analyze the historical foundations of education 10. analyze the Turkish educational system 11. analyze alternative perspectives in education.
Read List	<ol> <li>Karip, E. (2007). Eğitim Bilimlerine Giriş. Ankara: PegemA Yayıncılık.</li> <li>Şişman, M.(2008). Eğitim Bilimlerine Giriş. Ankara: PegemAkademi Yayınları.</li> <li>Demirel, Ö &amp; Z. Kaya. (2008). Eğitim Bilimlerine Giriş. Ankara: Pegem Akademi Yayınları.</li> <li>Sönmez, V. (2006). Eğitim Bilimlerine Giriş. Ankara: Anı Yayıncılık.</li> <li>Oktay, A. (2007) Eğitim Bilimlerine Giriş. Ankara: PegemA Yayıncılık.</li> </ol>

## **BİL151** Computer studies I

Course Code	BİL 151
Course Title	Computer studies I
Academic Cycle	Bachelor
Year of Study	First
Prerequisites	None
Local Credits	3
ECTS Credits	6
Weekly (Lectures- Practice- Credit)	2-2-0
Duration	1 Semester
Semester	1.Semester
Examination	Mid-term exam, final exam
Assessment	Mid-term exam-30%, final exam-70%
Description	The main aim of the course is to introduce basic information Technologies and systems and their usage in education to the students.
Course Content	Information Technologies, basic concepts of software and hardware, operating systems, word processors, electronic table programs, data presentation, using internet in education, effect on social structure and place in education of information Technologies, security and ethic concepts of information systems.
Learning Outcomes	<ul> <li>By the end of this module students will be able to</li> <li>1. Learn information Technologies.</li> <li>2. Understand the role of computers information technologies.</li> <li>3. Learn the computer components.</li> <li>4. Understand the working principle of computer hardware.</li> <li>5. Understand how operation system works.</li> </ul>

	<ol> <li>Learn how to use operating system.</li> <li>Understand working principles of applications.</li> <li>Use Microsoft Word application.</li> <li>Use Microsoft Powerpoint application.</li> <li>Know internet resources and services.</li> <li>Understand the working principles of web pages.</li> <li>Attain to find the knowledge with keyword in internet.</li> </ol>
	1.Güneş, A., Çelik,H.C. ve ark.(2007). Bilgisayar I-II Temel Bilgisayar Becerileri, Pegem A Yayıncılık, Ankara.
Read List	2. Uşun, S. (2004). Bilgisayar Destekli Öğretimin Temelleri. Ankara: Nobel Yayıncılık.
	3. Akpınar, Y. (2005). Bilgisayar Destekli Eğitimde Uygulamalar. Ankara: Anı Yayıncılık.

#### **MAT151 General Mathematics**

Course Code	MAT151
Course Title	General Mathematics
Academic Cycle	Bachelor
Year of Study	(1) First
Prerequisites	None
Local Credits	5
ECTS Credits	8
Weekly (Lectures- Practice- Laboratory)	4-2-0
Duration	1 Semester
Semester	1. Semester
Examination	Mid-term exam and final exam, written form
Assessment	Mid-term exam-30 %, final exam-70 %
Description	To give fundamentals of mathematics knowledge, to be able to analyse the problem which are met in the fields of mathematics and to gain the ability of problem solving, to gain analytical thinking, discussion and evaluation.

Course Content	Numbers: number systems and their properties, mathematical induction, interval, absolute value. Relation: ordered pairs, Cartesian product, Definiton of relation, properties of relation, inverse relation, equivalence relation, ordered relation. Function: Definiton of function and its properties, Function types, inverse function, resultant of function, trigonometric functions, exponential functions, logarithmic functions, inverse trigonometric functions, special described functions. Limit: Limit of one variable, limit of a function, limit of trigonometric functions. Continuity: Definiton of continuity, Continuity from right and left, properties of continuous functions, types of continuity, Derivative: Definiton of derivatives, geometric interpretation of derivative, rules of differentiation, higher derivatives
Learning Objectives	<ul> <li>By the end of this module students will be able to:</li> <li>1. have the fundamentals of mathematical knowledge and culture.</li> <li>2. have analytical thinking and evaluation</li> <li>3. have the skill of evaluation and studying the problems which occur in other disciplines</li> </ul>
Read List	<ol> <li>Görgülü, A. Genel Matematik I</li> <li>Balcı M., analiz I</li> <li>Karadeniz A. Yüksek Matematik Problemleri</li> <li>Tayfur C. Çözümlü Diferensiyel ve İntegral Hesap Problemleri</li> <li>Boyse D. Calculus</li> </ol>

## **II. SEMESTER**

## TAR 102 History of Turkish Revolution & Principles of M.Kemal Atatürk II

Course Code	TAR 102
<b>Course Title</b>	History of Turkish Revolution & Principles of M.Kemal Atatürk I I
Academic Cycle	Bachelor
Year of Study	(1) First
Prerequisites	None
Local Credits	2
<b>ECTS Credits</b>	2
Weekly (Lectures- Practice- Laboratory)	2-0-0
Duration	1 Semester
Semester	2. Semester
Examination	One mid-term exam and final exam, multiple choice
Assessment	Mid-term exam % 40, final exam % 60

Description	The main aim of the course is to encourage the students to adopt the democratic values as the only way of a modern life and to incite them to defend these values. This course allows the students to be sensitive to the revolutionary principles of Atatürk and to induce them to protect the contemprary, secular and democratic values.
Course Content	Political reforms, Political party and trial period into the multi party politics, legal reforms, social reforms, economic reforms, Foreign policy of Turkish republic during 1923-1938 period, , Foreign policy of Turkish republic after Atatürk's death, Principles of Turkish Revolution: (Republicanism, Nationalism, Populism, Etatism, Reformism, Secularism). Supplementary Principles.
Learning Objectives	<ul> <li>By the end of this module students will be able to:</li> <li>1. Utilize their knowledge of social sciences</li> <li>2. Analyze, evaluate and interpret historical data</li> <li>3. Arrange group works</li> <li>4. Get the consciences of professional and ethical responsibility</li> <li>5. Establish an effective oral and inscriptive communication</li> <li>6. Understand the national and universal impacts of the historical data</li> <li>7. Recognize the need for life-long learning and application</li> <li>8. Remain up-to-date with professional and contemporary issues</li> <li>9. Make scientific researches separately or under the guidance of an advisor</li> </ul>
Read List	<ol> <li>Mustafa Kemal Atatürk, Nutuk (Söylev), C.I-II, T.T.K., Ankara, 1986.</li> <li>Atatürk'ün Söylev ve Demeçleri, C.I-V, Ankara, 1983-1987.</li> <li>Niyazi Berkes, Türkiye'de Çağdaşlaşma, İstanb. ul, 1978.</li> <li>Afet A. İnan, Medeni Bilgiler, Ankara, 1987.</li> <li>Enver Ziya Karal, Atatürk ve Devrim (Konferanslar ve Makaleler), T.T.K., Ankara, 1980.</li> <li>Enver Ziya Karal, Atatürk'ten Düşünceler, M.E.B. Yay., Ankara, 1981.</li> <li>Bernard Lewis, Modern Türkiye'nin Doğuşu, Çev.M.Kıratlı, T.T.K., Ankara, 1970.</li> </ol>

# TUR 152 Turkish II: Oral Expression

Course Code	TUR 152
Course Title	Turkish II : Oral Expression
Academic Cycle	Bachelor
Year of Study	(1) First
Prerequisites	None
Local Credits	2
ECTS Credits	3
Weekly (Lectures- Practice- Laboratory)	2-0-0
Duration	1 Semester
Semester	2. Semester
Examination	Mid-term exam and final exam, written form
Assessment	Mid-term exam-30%, project-20%, final exam-50 %
Description	The main object of the course is to develop the students listening, reading, thinking, understanding and written expression skills

Course Content	Speaking language and its characteristics. Oral expression; basic properties of oral skills (using of language and body language); basic principles of good conversation; basic properties of speaker (emphasis, toning, discontinuance; diction etc.). Prepared speaking (conference), unprepared speaking (conversation and telephone); levels of prepared speaking (theme, border of theme, aim, point of view, determination of major and minor thinking; planning, writing of text, oral presentation). Speech types: (mutual speech, conversation, introduce yourself, reply, congratulation of important days like new year's day, birth, etc., Definiton of way, phone call, apply for work, interview, radio and television speech, participation to cultural and arts program as a speaker etc.). Unprepared speech on different fields, speaking practice; correction studies of language and expression mistakes in speaking.
Learning Objectives	<ol> <li>To read and comprehend a passage</li> <li>To criticize a passage</li> <li>To listen, to read, to develop the comprehension</li> <li>To win skills and habits on effective and accurate, well arranged, writing and speaking</li> </ol>
Read List	<ol> <li>Prof. Dr. Enise Kantemir, Yazılı ve Sözlü Anlatım</li> <li>Prof. Dr. Cavit Kavcar, Dr. Ferhan Oğuzkan, Özlem Aksoy, Yazılı ve Sözlü Anlatım</li> <li>Prof. Dr. Zeynep Korkmaz, Prof. Dr. Ahmet B. Ercilasun, Prof. Dr. Hazma Zülfikar,</li> <li>Prof. Dr. İsmail Parlatır, Prof. Dr. Mehmet Akalın, Prof. Dr Tuncer Gülensoy,</li> <li>Prof. Dr Necat Birinci, Türk Dili ve Kompozisyon Bilgileri</li> </ol>

# YDI 152 Foreign Language II

Course Code	YDI 152
Course Title	Foreign Language II
Academic Cycle	Bachelor
Year of Study	(1) First
Prerequisites	None
Local Credits	3

ECTS Credits	5
Weekly (Lectures- Practice- Laboratory)	3-0-0
Duration	1 Semester
Semester	2. Semester
Examination	Mid-term exam and final exam, written form
Assessment	Mid-term exam-40%, final exam-60 %
Description	The aim of the course is to enable students to teach basic grammar, speaking, writing, reading and listening knowledge of English.
Course Content	This course has been designed to improve the reading, speaking, writing and listening skill of students in their academic activities. In this course, the aim should be improve the knowledge and skills of student gained in foreign language I course. For this purpose, interesting context should be created, to improve the using of foreign language the practices should be given, the use of language in real communication skills should be showed and the oral and communicational skills of student and the proficiency of foreign language are improved.
Learning Objectives	<ol> <li>At the end of the course, the students will be able to</li> <li>use the basic grammar of English,</li> <li>use the target language in classroom,</li> <li>understand and respond dialogues,</li> <li>comprehend reading passages in English,</li> <li>communicate with native speakers,</li> <li>express themselves in written forms.</li> </ol>
Read List	<ol> <li>Walker,E. &amp; Elsworth, S. (2000). New Grammar Practice for Elementary Students –Longman : England</li> <li>Walker,E. &amp; Elsworth, S. (2000). New Grammar Practice for Pre- Intermediate Students –Longman : England 2.</li> <li>Murphy, R. (1998). English Grammar in Use. Cambridge.</li> <li>Dictionary of Contemporary English, Longman</li> </ol>

# EGB 152 Educational Psychology

Course Code	EGB 152
Course Title	Educational Psychology
Academic Cycle	Bachelor
Year of Study	First
Prerequisites	None
Local Credits	3
ECTS Credits	6

Weekly (Lectures- Practice- Laboratory)	3-0-0
Duration	1 semester
Semester	2. Semester
Examination	Mid-term exam and project, final exam
Assessment	Mid-term exam 35%, project 15%, final exam 50%
Description	The main object of the course is to know the concepts that related with education and psychology. To know development in preschool, primary school and high school level. Learning and teaching process,
Course Content	Education-Psychology relation, definition of Educational Psychology and it's functions, basic concepts related to psychology learning and development, developmental properties (physical, cognitive, emotional, social and ethical development), theory of learning, reflection of theory of learning to teaching process, effective learning, factors that effect learning, (motivation, individual factors, group dynamics and the effect of these factors on classroom teaching process.
Learning Objectives	<ul> <li>By the end of the course students should be able to:</li> <li>1. To know the concepts that related with education and psychology.</li> <li>2. To know cognitive, social, physical, moral development</li> <li>3. To differantiate the personal differences in learning and how learning is seen.</li> <li>4. To know learning theories, learning process, personal differences in learning.</li> </ul>
Read List	<ol> <li>Yeşilyaprak B. (2002)Educational Psychology. Ankara: Nobel Yayın.</li> <li>Erden,M. ve Akman,Y.(1997) Educational Psychology. Ankara: Arkadaş Yayınevi.</li> <li>Aydın, A. (2000) Developmantal Psychology and Learning. İstanbul: Alfa Yayıncılık.</li> <li>Bacanlı, H. (2003) Developmantal Psychology and Learning. Ankara: Nobel Yayıncılık.</li> <li>Senemoğlu, Nuray (1997). Developmantal Psychologyand Learning Burdur: Ertem Matbaacılık.</li> <li>Yavuzer, H. (2000). Child Psychology. İstanbul: Remzi Kitabevi.</li> </ol>

## **BİL 152 Computer II**

Course Code	BİL 152
Course Title	Computer II
Academic Cycle	Bachelor
Year of Study	First
Prerequisites	None
Local Credits	3
ECTS Credits	б

Weekly (Lectures- Practice- Laboratory)	2-2-0
Duration	1 semester
Semester	2. Semester
Examination	One mid-term exam and final exam.
Assessment	Mid-term exam-40%, final exam-60%
Description	The main object of the course is to teach the using computer and its related technology in Science education.
Course Content	Basic concepts related to computer aided education, components, theoretical principles, benefits and limits, application methods, common formats used in computer aided education, the selection and evaluation of course software, distance learning applications, data base applications, the negative effect of computers and internet on children/teenagers and prevent from it.
Learning Objectives	<ul> <li>By the end of this module students will be able to:</li> <li>1. improve their computer skills and information technology.</li> <li>2. learn internet using in science education</li> <li>3. manage numerical calculations using the computer software.</li> <li>4. manage data analysis and simulation using the computer software.</li> </ul>
Read List	<ol> <li>İhsan Karagülle (2001) Ofis 2003</li> <li>Akkoyunlu, B. (2002). Öğretmenler ve Öğretmen adayları için Eğitimde İnternet kullanımı. İstanbul: BİTAV</li> <li>Courter, G., &amp; Marquis, A.(1998). Bilgisayar Öğrenim Kılavuzu. İstanbul: Alfa</li> <li>Hasan Ç. (Bal. 2005).Bilgisayar ve İnternet</li> </ol>

## MAT 152 Discrete Mathematics

Course Code	MAT 152
Course Title	Discrete Mathematics
Academic Cycle	Bachelor
Year of Study	First
Prerequisites	None
Local Credits	3

ECTS Credits	3
Weekly (Lectures- Practice- Laboratory)	3-0-0
Duration	1 Semester
Semester	2. Semester
Examination	Mid-term exam and final exam, written form
Assessment	Mid-term exam-30%, project-30%, final exam-40 %
Description	
Course Content	This course consists of sets and operations with sets, families of sets, products of sets, sequences of sets, Direct products, projections, relations, kinds of relations, composite relations, equivalence relations, order relations, functions, composite functions, inverse functions.
Learning Objectives	To have equipment with content the course
Read List	<ol> <li>Soyut Matematik H.Hılmi Hacısalihoğlu</li> <li>Soyut Matematik Ders Notları – Prof. Dr. Zekeriya Arvasi</li> <li>Soyut Matematik – Prof. Dr. Şükrü Olgun</li> <li>Örneklerle Soyut Matematik – Prof. Dr. Fathi Callyala</li> </ol>
	4. Omekiene Soyut Matematik- Plot.DI. Felm Çamaip

# MAT 154 Geometry

Course Code	MAT 154
Course Title	Geometry
Academic Cycle	Bachelor
Year of Study	(1) First
Prerequisites	None
Local Credits	3

ECTS Credits	4
Weekly (Lectures- Practice- Laboratory)	3-0-0
Duration	1 Semester
Semester	2. Semester
Examination	Mid-term exam and final exam, written form
Assessment	Mid-term exam-30%, project-30%, final exam-40 %
Description	Axiomatic system and foundation of geometry; Euclidean and non-Euclidean geometries. Congruent, similarity, right triangles, correlations of right triangles, geometric shape and area of plane, basic theorems of plane, circle, point, line and plane of space, projection concept, solids of space and their area and volume, geometric place and basic drawing, transformation geometry.
<b>Course Content</b>	
Learning Objectives	1. Recognizing and constructing different models of a geometry, realizing the geometry which a specific shape or a property belongs to; especially distinguishing the equivalent forms of axioms and making logical deduction.
Read List	1. Roads to Geometry by Edward C. Wallance and Stephen F. West Prentice Hall, Upper Saddle River, NJ 07458.

# **III. SEMESTER**

## EGB255 Principles and Methods of Teaching

Course Code	EGB255
Course Title	Principles and Methods of Teaching
Academic Cycle	Bachelor
Year of Study	Second
Prerequisites	None
Local Credits	3
ECTS Credits	5
Weekly (Lectures- Practice- Laboratory)	3-0-0
Duration	1 semester
Semester	3. Semester
Examination	One mid-term exam, final exam
Assessment	Mid-term exam-30%, final exam-70%

Description	To supply a strong background in teaching learning process to candidate students, to give basic information related to techniques and methods used in teaching learning process.
Course Content	Basic concepts related to teaching, principles of learning and teaching, importance and benefits of planned study in teaching, planning of teaching (unit annual plan, daily plan and samples of activity), strategies of learning and teaching, teaching techniques and methods and their relation with practice, teaching tools and materials, duty and responsibility of teacher to improve the quality of teaching training, proficiency of teacher.
Learning Objectives	To provide sufficcieny in Planiningng, application, evaluation and feedback of teaching,
Read List	Doğanay, Ahmet. (2007). Öğretim ilke ve yöntemleri, Ankara: PegemA
	Ocak, Gürbüz. (2007). Öğretim ilke ve yöntemleri, Ankara: PegemA
	Demirel, Özcan.(1997). Eğitimde Program Geliştirme, Ankara: Usem Yay.

# FİZ257 Physics I

Course Code	FİZ257
Course Title	Physics I
Academic Cycle	Bachelor
Year of Study	(2) Second
Prerequisites	None
Local Credits	4
ECTS Credits	6
Weekly (Lectures- Practice- Laboratory)	4-0-0
Duration	1 Semester
Semester	3. Semester
Examination	One mid-term exams, final exam.
Assessment	Mid-term exam-40%, final exam-60 %
Description	Definition of Physics, Fields and Importance of physics, The effect of physics to our life, A short glance to the historical development of physics Standards and Units, the SI system, Dimensional analysis, Vectors. Motion (Kinematics): Description of motion and its variables, Motion samples in one and two dimension, Relative velocity. Force (Dynamics): Newton's Laws and their applications, Gravitation, Friction Force. Energy: Work, Power, The types of Mechanical Energy, The energy in conservative and neoconservative force system. Impulse, Linear Momentum: Center of mass, Interaction in one and two dimensional systems. Rotational motion: Equilibrium in rigid bodies, Kinematics, Dynamics and energy of rotational and rolling motion, Angular momentum. Mechanical Properties of matter: Structure and phase of matter, elastic, shear and bulk modulus, Pressure, Buoyant Force, Viscosity and Fluids, Bernoulli Principle. Harmonic motion: Kinematics, dynamics and energy of simple harmonic motion, damped and forced harmonic motion, resonance.

<b>Course Content</b>	
Learning Objectives	<ul> <li>By the end of this module students will be able to:</li> <li>1. Understand vector and scalar quantities.</li> <li>2. Identify, formulate, and solve problems analytically that appear in physical systems.</li> <li>3. Analyze and resolve natural phenomenon.</li> <li>4. Associate the gained knowledge, analyze and interpret data.</li> <li>5. Apply and link the gained knowledge of natural sciences to interdisciplinary fields.</li> <li>6. Correlate and apply gained knowledge directly with technology and industry.</li> </ul>
Read List	<ol> <li>Halliday, D., Resnick, R., &amp; Walker, J. (2006) 6th ed. Fundamentals of Physics. New York: John Wiley &amp; Sons, Inc.</li> <li>Serway, R.A. (1990). Physics for Scientists and Engineers. Philadelphia: Saunders College Publishing.</li> </ol>

#### MAT251 Calculus I

Course Code	MAT 251	
<b>Course Title</b>	Calculus I	
Academic Cycle	Bachelor	
Year of Study	(2) Second	
Prerequisites	General Mathematics	
Local Credits	5	
<b>ECTS Credits</b>	7	
Weekly (Lectures- Practice- Laboratory)	4-2-0	
Duration	1 Semester	
Semester	3. Semester	
Examination	Mid-term exam and final exam, written form	
Assessment	Mid-term exam-40%, final exam-60 %	
Description		
Course Content	Functions, limits, continuity and derivatives. Applications. Extreme values, the Mean value Theorem and its aplications. Graphing. The definite integral. Area and volume as integrals. The indefinite integral. Transedental functions and their derivatives. L'Hopital's rule. Techniques of integration. Improper integrals. Applications.	
Learning Objectives	<ol> <li>Learning limits and continuity of one variables functions,</li> <li>Learning derivatives of one variable functions and their applications,</li> <li>Learning multiple integrals and their applications,</li> </ol>	
Read List	<ol> <li>Görgülü, A. Genel Matematik I</li> <li>Balcı M., analiz I</li> <li>Karadeniz A. Yüksek Matematik Problemleri</li> <li>Tayfur C. Çözümlü Diferensiyel ve İntegral Hesap Problemleri</li> <li>Boyse D. Calculus</li> </ol>	

## MAT 253 Linear Algebra I

Course Code	MAT253
Course Title	Linear Algebra I
Academic Cycle	Bachelor
Year of Study	2. Second
Prerequisities	None
Туре	Obligatory
Local Credits	3
ECTS Credits	
Weekly (Lectures- Practice-Credit)	3-0-3
Duration	1 Semester
Semester	3. Semester
Examination	Mid-term exam, final exam and project, written form.
Assessment	Mid-term exam-30%, final exam-70%
Description	Comprehension of matrices, elemanter operations, determinants and permanents.
Course Content	Definitions and preliminaries; Vectors; Matrix addition; Multiplication of a matrix by a scalar; Matrix multiplication; Applications of matrix multiplication; Transpose; Special matrices; Inverses of matrices; Elementary row and column operations; Determinants; Calculations of determinants; Permanents and its properties.
Learning	1. To learn vector concept and to applied some areas.
Outcomes	<ol> <li>To learn definition of matrix.</li> <li>To learn operations over matrices and to apply them</li> </ol>
	4. To compute determinant of a square matrix.
Read List	<ol> <li>Bozkurt D, Türen B, Solak S, Lineer Cebir, Dizgi Ofset, Konya, 2005</li> <li>Hacısalihoğlu H H, Lineer Cebir, Gazi Üniversitesi Yayınları, 1985</li> <li>Sabuncuoğlu A, Lineer Cebir, Nobel Yayınları, Ankara, 2004</li> <li>Sabuncuoğlu A, Çözümlü Lineer Cebir Alıştırmaları, Nobel Yayıncılık, 2008</li> <li>Taşçı D, Lineer Cebir, Gazi Kitabevi, 2006</li> <li>Lipschutz S, Lineer Cebir:Schaum's Outlines, Nobel Yayıncılık, 2005</li> <li>Beezer R A, A First Course in Linear Algebra, 2006</li> <li>Anton H, Elementary Linear Algebra, Wiley, 2004</li> </ol>

#### MAT 255 Scientific Research Methods

Course Code	MAT255
Course Title	SCIENTIFIC RESEARCH METHODS
Academic Cycle	Bachelor
Year of Study	Second
Prerequisites	None
Local Credits	2
ECTS Credits	2
Weekly (Lectures-Practice- Credit)	2-0-0
Duration	1 Semester
Semester	3. Semester
Examination	One mid-term exam. Project. Final exam
Assessment	Mid-term exam-30%, final exam-70%
Description	
Course Content	Science and basic concepts (fact, knowledge, absolute, right, wrong, universal knowledge, etc.), the history of science basics, the structure of scientific research, scientific methods and techniques relating to these different ideas, problem, research model, and sampling, data collection and data collection methods (quantitative and qualitative data collection techniques, data recording, analysis, interpretation and reporting.
Learning Outcomes	<ol> <li>Basic concepts related to science and scientific research to know</li> <li>Different opinions regarding the scientific method of learning</li> <li>To understand methods of scientific research</li> <li>The skill of Scientific Understanding ararştırma</li> </ol>
Read List	<ol> <li>Karasar, N.(2003) Bilimsel Araştırma Yöntemleri (12.Basım), Ankara;Nobel Yayıncılık.</li> <li>Yıldırım A. Ve Şimşek H.(2005) Sosyal Bilimlerde Nitel araştırma Yöntemleri, Ankara Seçkin yayıncılık.</li> <li>Lodico, M.G.Spaulding.D.T ve Voegtle, K.H(2006) Methods in Educational Research from Theory to Practice, san Francisco, CA; Wiley İmprint.</li> <li>Büyük öztürk, Ş.(Edit), (2009) Bilimsel Araştırma Yöntemleri, Ankara:Pagem Akedemi.</li> </ol>

### MAT259 Elective I (Constructivism in Mathematics Education)

<b>Course Code</b>	MAT259
<b>Course Title</b>	Constructivism in Mathematics Education
Academic Cycle	Bachelor
Year of Study	(2) Third
Prerequisites	None
Local Credits	2
ECTS Credits	4
Weekly (Lectures- Practice- Laboratory)	2-0-0
Duration	1 Semester
Semester	3. Semester
Examination	Mid-term exam, final exam, written form.
Assessment	Mid-term exam-30% and final exam-70%
Description	Used in the field of mathematics education in a wide range of constructivist approaches to introduce
Course Content	Mathematics teaching Constructivism, constructivist learning approaches according to the mathematics curriculum, mathematics teaching constructivist learning-teaching environment, mathematics teaching constructivist learning environment appropriate methods and techniques of the application forms, cooperative learning, problem-based learning, mathematics teaching constructivist learning appropriate measurement and evaluation.
Learning Objectives	<ul> <li>By the end of the course students should be able to:</li> <li>1. Understand the importance of teaching mathematics,</li> <li>2. Be conversant with teaching strategies in mathematics education,</li> <li>3. Have knowledge about the primary mathematics education program,</li> <li>4. Be conversant with both teaching methods and mathematics education,</li> <li>5. Gain techniques and skills to measure and evaluate in mathematics education,</li> <li>6. Design suitable lectures for primary mathematics education program</li> <li>7. Have knowledge about problem solving,</li> <li>8. Be conversant with teaching numbers.</li> </ul>
Read List	<ol> <li>1-Pesen, C.(2008), Matematik Öğretimi (1-5.sınıflar). Pegem A Yayıncılık.</li> <li>2-Altun, M.(2005). Matematik Öğretimi (1-5. sınıflar). Aktüel Yayıncılık.</li> <li>3-Baykul, Y.(2005). Matematik Öğretimi (1-5. sınıflar). Pegem A Yayıncılık.</li> </ol>

### **IV.SEMESTER**

# FİZ 258 Physics II

<b>Course Code</b>	FİZ 258
<b>Course Title</b>	Physics II
Academic Cycle	Bachelor
Year of Study	(2) Second
Prerequisites	None
Local Credits	4
<b>ECTS Credits</b>	6
Weekly (Lectures- Practice- Laboratory)	4-0-0
Duration	1 Semester
Semester	4. Semester
Examination	Mid-term exam and final exam,
Assessment	Mid-term exam-40%, final exam-60 %
Description	To learn electricity and magnetism Law's and to use in our life.
Course Content	Electric force and fields: Electric charge and its conservation, charged by induction and conduction, Insulators and conductors, Coulomb Law, electric field by point and distributed charged, Gauss Law. Potential energy of stable charge: the potential of point and distributed charged, potential difference, dielectrics, connection of capacitors and Energy. Direct Current: Current, power supply, Electromotor force, Resistors, energy and power, DC circuits, structure of measurement equipment, the use of electricity and safety. Magnetic force and field: Electric current in a conductor and interaction between magnetic field and moving charges, Biot-Savart Law, magnetic field produced by electric current in different type conductors, Hall Effect, magnetic properties of matter. Electromagnetic induction: Faraday's Law, Lenz's Law, Self induction, magnetic field energy, alternative current (AC) generators, electric motors, transformers.
Learning Objectives	<ul> <li>By the end of this module students will be able to:</li> <li>1. Know fundamental concepts and principles related to the electricity and magnetism.</li> <li>2. Identify, formulate, and solve problems analytically that appear in physical systems.</li> <li>3. Analyze and resolve natural phenomenon.</li> <li>4. Associate the gained knowledge, analyze and interpret data.</li> <li>5. Apply and link the gained knowledge of natural sciences to interdisciplinary fields.</li> <li>6. Correlate and apply gained knowledge directly with technology and industry.</li> </ul>
Read List	<ul> <li>Halliday, D., Resnick, R., &amp; <u>Walker</u>, J. (2006) 6th ed. Fundamentals of Physics. New York: John Wiley &amp; Sons, Inc.</li> <li>Serway, R.A. (1990). Physics for Scientists and Engineers. Philadelphia: Saunders College Publishing.</li> <li>Fishbane, P.M., Gasiorowicz, S., &amp; Thornton, S.T. (1996). Physics for Scientists and</li> </ul>

Engineers. Prentice Hall, Inc. Any equivalent book.

### MAT 252 Calculus II

Course Code	MAT 252
<b>Course Title</b>	Calculus II
Academic Cycle	Bachelor
Year of Study	(2) Second
Prerequisites	General Mathematics
Local Credits	5
<b>ECTS Credits</b>	7
Weekly (Lectures- Practice- Laboratory)	4-2-0
Duration	1 Semester
Semester	4. Semester
Examination	Mid-term exam and final exam, written form
Assessment	Mid-term exam-40%, final exam-60 %
Description	Definition, domains and graphs of several variables functions, limits and continuity, Partial derivatives, some applications of partial derivatives, total derivatives, multiple integrals and their applications.
<b>Course Content</b>	
Learning Objectives	<ol> <li>Understanding the definition, domains and graphs of several variables functions,</li> <li>Learning limits and continuity of several variables functions,</li> <li>Learning partial derivatives and their applications,</li> <li>Understanding total derivatives</li> <li>Learning multiple integrals and their applications,</li> </ol>
Read List	<ol> <li>M. Balcı, Matematik Analiz II, Balcı Yayınları, Ankara, 2004.</li> <li>A. Görgülü, Genel Matematik II, OGÜ yayınları, No:042, Eskişehir, 2000.</li> <li>Bradley, G.L. and Smith,K.J. Calculus, Prentice Hall Int. Inc.,</li> </ol>

NewYork,1995.

- E. Kreyszig, Advanced Engineering Mathematics, 7th edition, John Wiley&Sons,INC. NewYork, 1993.
   W.Kaplan, Advanced Calculus, 3rd edition, Addition-Wesley Publ.Comp.Tokyo,1984.

### MAT 254 Linear Algebra II

Course Code	MAT 254
Course Title	Linear Algebra II
Academic Cycle	Bachelor
Year of Study	(2) Second
Prerequisites	None
Local Credits	3
<b>ECTS Credits</b>	6
Weekly (Lectures- Practice- Laboratory)	3-0-0
Duration	1 Semester
Semester	4. Semester

Examination	Mid-term exam and, final exam , written form.
Assessment	Mid-term exam -50%, final exam-50%
Description	Concept of orthogonality and distance in, operation of Gram-Schmidt; system of linear equations, eigen values and Eigen vectors, Determinations and their applications, Diagonalizability and matrix operations.
<b>Course Content</b>	
Learning Objectives	<ol> <li>Learning orthogonality and distance in</li> <li>Learnin operations of Gram-Schmidt</li> <li>Learning eigen values and Eigen vectors,</li> <li>Learning determinations and their applications,</li> <li>Learning diagonalizability and matrix operations.</li> </ol>
Read List	<ol> <li>Linear Algebra (Lary Smith)</li> <li>Linear Algebra (Bernard Kolman)</li> </ol>

## MAT 256 Instructional Technology and Material Development

Course Code	MAT 256
Course Title	Instructional Technology and Material Development
Academic Cycle	Bachelor
Year of Study	(2) Second
Prerequisites	None
Local Credits	3
ECTS Credits	6
Weekly (Lectures- Practice- Laboratory)	2-2-0
Duration	1 Semester
Semester	4. Semester
Examination	Mid-term exam and final exam, written form

Assessment	Mid-term exam-30%, project-30%, final exam-40 %
Description	Some concepts related to instructional technology; properties of different instructional technology, place and using of instructional technology in teaching process, the determination of technological needs of school or classrooms, making of suitable technology plan and its practice, material development via instructional technology, the development of teaching tools (work sheets, activity design, overhead transparent, slides, visual aids (VCD, DVD, computer based tools), examination of educational software, evaluation of teaching tool with different quality, Internet and distance learning, principle of visual design, the investigation of activities of teaching materials, the using of teaching materials in Turkiye and on the world.
Course Content	Basic concepts of the teaching technology and improve of material, basic necesity for the teaching technology and improve of material, new forms of teaching technology, basic principle of new forms, importance and to exercise to new forms. Theoretical principles of the learning and teaching process, Teaching exercise based on theories, The conditions of learning and teaching, Principles, To prepare of learning and teaching situation in primary education. Evaluating of material and technology.
Learning Objectives	<ul> <li>By the end of this module students will be able to:</li> <li>1. Basic concepts of the teaching technology and improve of material</li> <li>2. Basic necessity for the teaching technology and improve of material</li> <li>3. Dimension of teaching technology</li> <li>4. New forms of teaching technology</li> <li>5. Basic principle and philosophy of education technology</li> <li>6. Basic principle and philosophy of new technology</li> <li>7. Theoretical principles of the learning and teaching process</li> <li>8. Teaching exercise based on technology</li> <li>9. To improve material</li> <li>10. To use material</li> <li>11. To prepare of learning and teaching situation in primary education</li> <li>12. Quality of teacher in use of technology</li> <li>13. To prepare of learning and teaching situation in primary education</li> <li>14. Evaluating of material and tecnologys.</li> </ul>
Read List	<ol> <li>Demirel, Ö. Ve diğerleri (1998) Öğretim Teknolojileri ve Materyal Geliştirme, Ankara: Pegem.</li> <li>Alkan, Cevat (1998) Eğitim Teknolojileri. Ankara: Pegem.</li> <li>Yanpar Şahin, T.; Yıldırım, S. (2000) Öğretim Teknolojileri ve Materyal Geliştirme. Ankara: Pegem.</li> <li>Tekin, H. (2000). Eğitimde Ölçme ve Değerlendirme. Ankara: Nobel.</li> </ol>

GSA 256 Seçmeli II (Güzel Yazı Teknikleri)

### **V. SEMESTER**

## TAR 351 The history of science

Course Code	TAR351
Course Title	The history of science
Academic Cycle	bachelor
Year of Study	(1) First
Prerequisites	None
Local Credits	2
ECTS Credits	2
Weekly (Lectures- Practice- Credit)	2-0-2
Duration	1 Semester
Semester	1. Semester
Examination	Mid-term exam, final exam and project, written form.
Assessment	Mid-term exam-%30, final exam-%70
Description	What is science? Scientific concepts, scientificness and histroical development of sudies of science
Course Content	
Learning Outcomes	<ol> <li>roots of science</li> <li>qualities of scientific knowledge</li> <li>value of science</li> <li>quality of scientific development</li> <li>World of science in ancient ages</li> <li>science in Mezopotamia, Egypt, Ancient Greeks and Rome</li> <li>Indian and Chinese Scientific thouhgts</li> <li>science in medieval ages and intorduction of islamic science</li> <li>science in modern ages</li> </ol>
Read List	1. TEKELİ,S,Bilim tarihi,Nobel Publ.ank.2001

### MAT 351 Analysis III

Course Code	MAT 351
Course Title	Analysis III
Academic Cycle	Bachelor
Year of Study	2. Second
Prerequisities	None
Туре	Zorunlu
Local Credits	5
ECTS Credits	8,5
Weekly (Lectures- Practice-Credit)	4-2-5
Duration	1 Semester
Semester	3. Semester
Examination	Mid-term exam, final exam and project, written form.
Assessment	Mid-term exam-30%, final exam-70%
Description	Analysis of multi variable and vector valued functions.

Course Content	Multi variable functions; Definitions; Partial derivatives; Tam differential; Derivatives of Birleşik functions; Homogen functions; Bir denklem ile kapalı olarak tanımlanan fonksiyonlar; Ekstremum problems; Derivative of Doğrultu; Vector valued functions.
Read List	<ol> <li>Balcı M, Genel Matematik 2, 2. Baskı, Balcı Yayınları, Ankara, 2003</li> <li>Kolektif, Genel Matematik 2, Pegema Yayıncılık, Ankara, 2006</li> <li>Balcı M, Çözümlü Genel Matematik Problemleri 2, Balcı Yayınları, Ankara, 2003</li> <li>Gözükızıl Ö F, Arıkan H, Özgür İ, Genel Matematik II, Değişim Yayınları, 2002</li> <li>Adams R A, Calculus: A Complete Course, Pearson Addison-Wesley, 2006</li> <li>Thomas G B, Ross R F, Calculus and Analytic Geometry, Beta Basım Yayın, 2009</li> </ol>

v	e/
Course Code	MAT 353
Course Title	Analytic Geometry I
Academic Cycle	Bachelor
Year of Study	1. First
Prerequisities	None
Туре	Zorunlu
Local Credits	3
ECTS Credits	4,5
Weekly (Lectures- Practice-Credit)	2-2-3
Duration	1 Semester
Semester	1. Semester
Examination	Mid-term exam, final exam and project, written form.
Assessment	Mid-term exam-30%, final exam-70%
Description	To give fundamentals of analytic geometry with linear algebra
Course Content	Vectors in the plane and space, Lines and Planes in space, Conics
Read List	<ol> <li>Kaya R, Analitik Geometri, Bilim Teknik Yayınevi, 1996</li> <li>Hacısalihoğlu H H, Analitik Geometri, Ankara Üniversitesi, Fen Fakültesi Yayınları, 1998</li> <li>Sabuncuoğlu A, Analitik Geometri, Nobel Yayıncılık, 2009</li> <li>Balcı M, Analitik Geometri, Balcı Yayıncılık, 2007</li> <li>Fuller G B, Tarwater D J, Analytic Geometry, Addison-Wesley, 1991</li> <li>Riddle D R, Analytic Geometry, Cengage Learning, 1995</li> </ol>

#### MAT 353 Analytic Geometry I

## MAT 355 Statistics and Probability I

Course Code	MAT 355
Course Title	Statistics and Probability I
Academic Cycle	Bachelor
Year of Study	(3) Third
Prerequisites	None
Local Credits	3
ECTS Credits	4
Weekly (Lectures- Practice- Laboratory)	2-2-0
Duration	1 Semester
Semester	5. Semester
Examination	Mid-term exam, final exam, written form.
Assessment	Mid-term exam 30%, final exam 70%
Description	The main of the course is to introduce students to a range of basic statistic and probability knowledge and research methods employed by both researchers and practitioners in the field of statistics and explores the principles of scientific methods and how to evaluate the strengths and weaknesses of different research methods.
Course Content	Collecting data, sample spaces and events, permutation and combination, probability of an event, coincidence variables and expectation value, sectional distributions.
Learning Objectives	<ul> <li>By the end of the course students should be able to:</li> <li>1. Understand the importance of collecting data as it is applied in the theory and practice of statistics,</li> <li>2. Have acquired the necessary skills to collecting data for a research,</li> <li>3. Be conversant with both quantitative and qualitative research methods,</li> <li>4. Evaluate the strengths and weaknesses of different research methods</li> <li>5. Have basic statistical knowledge and gain using skills to solve real life problems.</li> </ul>
Read List	<ol> <li>Aytaç, M. (1999). Matematiksel İstatistik, Ezgi Kitapevi, Bursa.</li> <li>Bülbül, S.E. (2001). Çözümsel İstatistik, Alfa Yayınları, Ankara.</li> <li>Akdeniz, F. (1996). Olasılık ve İstatistik, Ç.Ü.Basımevi, Adana.</li> <li>Atlas, M. (2001). İstatistik I, Birlik Ofset, Eskişehir.</li> <li>Çelik,C.(2006). İstatistik ve Olasılık, Basılmamış Ders Notları, Siirt</li> </ol>

Course Code	MAT357
Course Title	Introduction to Algebra
Academic Cycle	Bachelor
Year of Study	3. Third
Prerequisities	None
Туре	Obligatory
Local Credits	3
ECTS Credits	
Weekly (Lectures- Practice-Credit)	3-0-3
Duration	1 Semester
Semester	5. Semester
Examination	Mid-term exam, final exam and project, written form.
Assessment	Mid-term exam-30%, final exam-70%
Description	Aim of the course is to comprehend set theory, relations, groups, homomorphism and isomorphism.
Course Content	Set theory; Functions; Permutations; Integers; Basic properties of algebraic structures; Groups; Subgroups; Normal subgroups and division groups; Direct products; Rings; Fields.
Learning Outcomes	<ol> <li>To learn functions and types of functions.</li> <li>To algebraically investigate operations over the functions.</li> <li>To learn structure of a group and a subgroup.</li> <li>To learn structure of a ring.</li> <li>To learn structure of a field.</li> </ol>
Read List	<ol> <li>Bozkurt D, Türen B, Türkmen R, Soyut Cebire Giriş, Dizgi Ofset, Konya, 2006</li> <li>Bayraktar M, Soyut Cebir ve Sayılar Teorisi, Gazi Kitabevi, Ankara, 2006</li> <li>Taşçı D, Soyut Cebir, Alp Yayınevi, 2008</li> <li>Çallıalp F, Çözümlü Soyut Cebir Problemleri, İstanbul, 1998</li> <li>Grillet P A, Abstract Algebra, Wiley, 1999</li> <li>Lidl R, Pilz G, Applied Abstract Algebra, Springer, 1998</li> </ol>

### MAT 357 Introduction to Algebra

## MAT 359 Special Teaching Methods I

Course Code	MAT359
Course Title	Special Teaching Methods I
Academic Cycle	Bachelor
Year of Study	(3)Third
Prerequisites	None
Local Credits	3
ECTS Credits	4
Weekly (Lectures- Practice- Laboratory)	2-2-0
Duration	1 semester
Semester	5. Semester
Examination	One mid-term exam, final exam
Assessment	Mid-term exam-30%, final exam-70%
Description	Issues in the field of learning-teaching process, teaching methods and topics of general teaching methods to be applied to the teaching, the subject of textbooks in the field of critical studies at an angle and special teaching methods and strategies to be associated with. Micro teaching practices, teaching evaluation
Course Content	Area-specific basic concepts and the concepts associated with the domain of education, especially the constitution and the recipient of the National Education Basic Law as the legal basis for the field of teaching the general aims, methods, techniques, equipment and materials. The investigation of Interest Education Program (objectives, achievements, theme units, activities, etc.) Lessons, teacher and student work samples of the book review and evaluation of
Learning Objectives	In this course,To 1.Analiz, research and prevention can do, learn to be able to offer.The aims and principles in teaching 2.Matematik teaching methods used, tools and materials to learn and be able to use them effectively.
Read List	<ol> <li>1.Baykul, Y.,Matematik Öğretimi (6-8.sınıflar), Pagem A Yayıncılık</li> <li>2. Altun, M., Matematik Öğretimi (6-8.sınıflar), Aktüel yayıncılık</li> </ol>

#### MAT 361 Elective III (Technology Aided Mathematics Education)

Course Code	MAT 361
Course Title	Elective III (Technology Aided Mathematics Education)
Academic Cycle	Bachelor
Year of Study	Third
Prerequisites	None
Local Credits	2
ECTS Credits	4
Weekly (Lectures- Practice- Laboratory)	2-0-0
Duration	1 semester
Semester	5. Semester
Examination	Mid-term exam, final exam, written form.
Assessment	Mid-term exam 30%, final exam 70%
Description	The aim of the course is to teach using computers in mathematics education. Content of the course is as follows: Computer aided education, Computer and Mathematics, Computer aided modeling in Mathematics education, applications and computer programms which were used in computer aided mathematics education (Basic, Logo, Maple, Mathematica, Derive, Geometers' Sketcpath, Elit, Bilden, Akademedia).
<b>Course Content</b>	
Learning Objectives	<ul> <li>By the end of the course students should be able to:</li> <li>1. Use computers effectively in mathematics education,</li> <li>2. Identify, formulate and solve mathematical problems with suitable computer programmes,</li> <li>3. Make teamwork,</li> <li>4. Gain a knowledge of contemporary issues,</li> <li>5. Use modern methods, techniques, devices such as computer and computer softwares for solving in real life problems.</li> </ul>
Read List	<ol> <li>Güneş, A., Çelik,H.C. ve ark.(2007). Bilgisayar I-II Temel Bilgisayar Becerileri, Pegem A Yayıncılık, Ankara.</li> <li>Altun, M. (2001). Matematik Öğretimi. İstanbul: Alfa Basım Yayım Dağıtım.</li> <li>Uşun, S. (2004). Bilgisayar Destekli Öğretimin Temelleri. Ankara: Nobel Yayıncılık.</li> <li>Akpınar, Y. (2005). Bilgisayar Destekli Eğitimde Uygulamalar. Ankara: Anı Yayıncılık.</li> </ol>

#### **VI. SEMESTER**

### EGB 356 Measurement and Evaluation

Course Code	EGB 356
Course Title	Measurement and Evaluation
Academic Cycle	Bachelor
Year of Study	Third
Prerequisites	None
Local Credits	3
ECTS Credits	5
Weekly (Lectures- Practice- Laboratory)	3-0-0
Duration	1 semester
Semester	5. Semester
Examination	One mid-term exam, final exam
Assessment	Mid-term exam-30%, final exam-70%
Description	The locations of measurement and evaluation in education and the importance basic concepts related to measurement and evaluation measurement tools and features used in training to understand
Course Content	Place and importance of measurement and evaluation in education, basic concepts related to measurement and evaluation, quality of measurement equipment (safety, validity, usefulness), measurement equipment used in education and their properties, equipment based on traditional approaches (written exam, quiz, right –wrong testing, multiple choice testing , oral exam, home works), the techniques to know the students profile (observation, conversation, performance evaluation, student product file, research papers, research projects, coequal evaluation, self evaluation, attitude scales), basic statistical calculation on measurement results, evaluation of learning output, grade, development of measurement tools related to his/her field.
Learning Objectives	Measurement tools used in education of students with the knowledge to recognize and evaluate different aspects.

#### **Read List**

1. TEKİN, Halil. Eğitimde Ölçme ve Değerlendirme. Ankara: Yargı Y.

- 2. ATILGAN, Hakan ve diğ. Eğitimde Ölçme ve Değerlendirme. Ankara: Anı Y.
- 3. TAN, Şeref ve diğ. Eğitimde Ölçme ve Değerlendirme. Ankara: Pegem Y.

## EGB 358 History of Turkish Education

<b>Course Code</b>	EGB 358
<b>Course Title</b>	History of Turkish Education
Academic Cycle	Bachelor
Year of Study	Third and Fourth
Local Credits	2
<b>ECTS Credits</b>	4
Weekly (Lectures- Practice- Laboratory)	2-0-0
Duration	1 semester
Semester	5. Semester
Examination	Mid-term exam and final exam,
Assessment	Mid-term exam-30%, %, final exam-70 %
Description	
Course Content	Importance of Turkish History of education in point of education fact. Educational situation before Republic of Turkiye and institutes for teacher education. Turkish educational revolution I: Historical development of revolution, philosophical, and political base. Turkish educational revolution II: Unification of education (Tevhid-i Tedrisat Law): historical base, scope, application and importance; Secularism in Turkish education system. Turkish educational revolution III: Mixed education (coed) and education of girls, Letters revolution, public schools, public homes. Basic principles of education system of Turkish Republic, Village Institutes, Institute of Education, Teacher High Schools. University and teacher education the development of Turkish education in near period.
	<ol> <li>Özkan, S. (2008). Türk Eğitim Tarihi. Ankara:Nobel Yayın Dağıtım.</li> <li>Akyüz, Y. (2008). Türk Eğitim Tarihi. Ankara:PegemAkademi Yayınları.</li> <li>Adem, M. (2005). Ulusal Eğitim Politikamız ve Finansmanı. Ankara:</li> </ol>

Ankara Üniversitesi Yayınları.

- 4. Ergün, M. (1997). Atatürk Devri Türk Eğitimi. Ankara: Ocak Yayınları.
- 5. Kaya, Y., K. (1984). İnsan Yetiştirme Düzenimiz. Ankara: Hacettepe Üniversitesi Yayınları.

### **MAT 352 Diferential Equations**

Course Code	MAT 352
Course Title	Diferential Equations
Academic Cycle	Bachelor
Year of Study	Third
Prerequisites	Calculus I-II
Local Credits	4
ECTS Credits	4
Weekly (Lectures- Practice- Laboratory)	4-0-0
Duration	1 semester
Semester	6. Semester
Examination	Mid-term exam and final exam, written form
Assessment	Mid-term exam-40%, final exam-60 %
Description	Definition, classification and solutions of Ordinary diferential equations (ODEs) and initial-value problems for ODEs, first order ODEs and their applications, Higher order ODEs, linear systems of first order ODEs.
<b>Course Content</b>	
Learning Objectives	<ol> <li>Understanding the definition, classification and solutions of ODEs,</li> <li>Solving initial and boundary-value problems for ODEs,</li> <li>Learning how to solve first order ODEs.</li> <li>Learning how to solve higher order ODEs.</li> <li>Understanding first and higher order ODEs ,</li> <li>Learning methods to obtain solutions of fist and higher order ODEs.</li> </ol>

	7. Learning how to solve linear systems of first order ODEs.
	<ol> <li>M.N. Özer (2005), Matematik Analiz IV, Nobel Yay., Ankara.</li> <li>M.N.Özer, D.Eser (2002), Diferensiyel Denklemler(Teori ve Uygulamaları) Birlik offset, Eskişehir.</li> </ol>
Read List	<ol> <li>D.G. Zill (1992) Diff. Equations with Boundary-value. Problems, PWS, Kent.</li> <li>E.D. Rainville, P.E. Bedient(1989), Elem. Diff. Eqs. MPC, New York.</li> <li>S.L.Ross (1989) Introduction To ODEs, MPC, New York.</li> <li>M. Balcı Matematik Analiz II. Balcı Yavınları Ankara 2004</li> </ol>

## MAT 354 Analytical Geometry II

Course Code	ΜΔΤ 35/
Course Coue	MA1 554
Course Title	Analytical Geometry II
Academic Cycle	Bachelor
Year of Study	Third
Prerequisites	None
Local Credits	3
ECTS Credits	5
Weekly (Lectures- Practice- Laboratory)	3-0-0
Duration	1 semester
Semester	6. Semester
Examination	Mid-term exam and, final exam, written form.
Assessment	Mid-term exam -40%, final exam-60%

Description	
Course Content	Vectors in space. Lines and planes in 3-space. Basics about conics. Basic surfaces in space, cylinders, surface of revolutions, quadric surfaces. Cylindrical and spherical coordinates
Learning Objectives	<ol> <li>Learning connection between lines and planes in 3-space.</li> <li>Learning vectors in 3-space</li> <li>Learning basic conics in 3-space.</li> </ol>
Read List	<ol> <li>Analitik Geometri (Rüstem Kaya)</li> <li>Cözümlü Analitik Geometri Problemleri (Rüstem Kaya)</li> </ol>

# MAT 356 Statistics and Probability-II

Course Code	MAT 356
Course Title	Statistics and Probability-II
Academic Cycle	Bachelor
Year of Study	(3) Third
Prerequisites	None
Local Credits	3
ECTS Credits	4

Weekly (Lectures- Practice- Laboratory)	2-2-0
Duration	1 Semester
Semester	6. Semester
Examination	Mid-term exam, final exam, written form.
Assessment	Mid-term exam -40%, final exam -60%
Description	to provide students with an understanding of statistics and statistical terminology through a series of practical applications.
Course Content	Random variable, continuous and discrete variable, probability distributions for continuous random variables, bivariate probability distributions. Normal Distribution: Areas of normal distributions, standard normal distribution. Introduction to statistics: Statistics and importance of statistics, basic concepts in statistics, descriptive and inferential statistics. Organizing and summarizing data: Frequency distributions and graphical display, measures of central tendency; arithmetic, geometric, harmonic and quadratic mean, median and mode. Measures of dispersion: Range, variance and standard deviation. Sampling distributions. Estimation: Point estimation, confidence intervals. Hypothesis testing. Student's t distribution.
Learning Objectives	<ul> <li>By the end of the course students should be able to:</li> <li>Be familiar with continuous probability distributions,</li> <li>Understand fundamental ideas in statistics,</li> <li>Be familiar with statistical concepts,</li> <li>Summarize data in a clear and understandable way,</li> <li>Estimate parameter,</li> <li>Test hypotheses regarding proportions and means,</li> <li>Gain experience in interpreting the results of a statistical analysis.</li> </ul>
Read List	<ol> <li>Aytaç, M. (1999). Matematiksel İstatistik, Ezgi Kitapevi, Bursa.</li> <li>Bülbül, S.E. (2001). Çözümsel İstatistik, Alfa Yayınları, Ankara.</li> <li>Akdeniz, F. (1996). Olasılık ve İstatistik, Ç.Ü.Basımevi, Adana.</li> <li>Atlas, M. (2001). İstatistik I, Birlik Ofset, Eskişehir.</li> <li>Çelik,C.(2005). İstatistik ve Olasılık, Basılmamış Ders Notları, Siirt</li> </ol>

## MAT 358 Social Maintenance Practice

Course Code	MAT 358
<b>Course Title</b>	Social Maintenance Practice
Academic Cycle	Bachelor
Year of Study	Third
Prerequisites	None
Local Credits	2
<b>ECTS Credits</b>	4
Weekly (Lectures- Practice- Laboratory)	1-2-0
Duration	1 semester
Semester	6. Semester
Examination	One mid-term exam, final exam
Assessment	Mid-term exam-40%, final exam-60%
Description	
Course Content	Importance of social maintenance, to determine the daily problems of society and to prepare the project to solve them, to attend scientific activities like panel, conference, symposium as audience, speaker or organizer, to be voluntary in the different projects in the frame of social responsibility, to gain basic knowledge and skills to be able to apply the social maintenance in the schools.
Learning Objectives	
Read List	

### **VII. SEMESTER**

#### EGB455 Guidance

Course Code	EGB455
Course Title	Guidance
Academic Cycle	Bachelor
Year of Study	(4) Fourth
Prerequisites	None
Local Credits	3
ECTS Credits	5
Weekly (Lectures- Practice- Laboratory)	3-0-0
Duration	1 Semester
Semester	7. Semester
Examination	Mid-term exam and final exam, written form
Assessment	Mid-term exam-35%, project-15%, final exam 50%
Description	Purpose of student personal services and the place in education, definition of guidance services, purposes and principles of guidance and counseling, description of students, to guide students, counseling, social relations, vocational guidance, special education and to define the students who have special needs.
Course Content	Teaching purposes of student personal services and the place in education, definition of guidance services, purposes and principles of guidance and counseling, description of students, to guide students, counseling, social relations, vocational guidance, special education and to define the students who have special needs.

Learning Objectives	At the end of the course, students will be able to: 1.Skills on applying basic guidance knowledge 2.Skills on describing and applying guidance 3.Skills on coordination with guidance service 4.Skills on discrimating the students who need special education 5.Skills on discriminating the students with special problems 6.Skills on deciding the guidance activities 7.Skills on deciding the guidance activities among students' developmental needs
Read List	<ol> <li>Can, G. (2002). Guidance and Counselling. Ankara: Pegema Press.</li> <li>Yeşilyaprak, B. (2000). Guidance and ounselling in Education Ankara: Nobel Press.</li> <li>Kuzgun,Y. (2000). İlköğretimde Guidance in Elementary School .Ankara: Nobel Press.</li> <li>Kuzgun, Y (1992). Guidance and Counselling. Ankara: ÖSYM .</li> <li>Tan, H.(1992) Guidance and Counselling. M.E.B. Öğretmen Kitapları Dizisi, İstanbul: Milli Eğitim Basımevi.</li> </ol>

## EGB457 Special Education

Course Code	EGB457
Course Title	Special Education
Academic Cycle	Bachelor
Year of Study	Fourth
Prerequisites	None
Local Credits	2
ECTS Credits	5
Weekly (Lectures- Practice- Credit)	2-0-0
Duration	1 Semester
Semester	7.Semester
Examination	Semester exam, final exam, written
Assessment	Semester exam-30%, yaryıl final exam-70%
Description	The special education teacher candidates to gain information about

Course Content	The definition of special education, special education-related principles, the creator of the disability causes, early diagnosis and treatment of the importance, in view of disability-related approach to history, mentally handicapped, hearing impaired, visually impaired, physically handicapped, language and communication disorders with an ongoing disease, specific learning showing the difficulties, attention deficit hyperactivity disorder with autistic and gifted children and education facilities, different developing games for children through education, special education status, for this purpose was established institutions and organizations.
Learning Outcomes	<ol> <li>Disabled children know.</li> <li>Tries to understand the causes of disability.</li> <li>Tries to understand the peculiarities of disability.</li> <li>Tries to understand the separation of different disability groups.</li> <li>Tries to educate students with disabilities</li> </ol>
Read List	<ol> <li>Özsoy, Y., Özyürek, M., Eripek, S. (2002) Özel Eğitime Giriş : Özel Eğitime Muhtaç Çocuklar. Ankara: Karatepe Yayınları.</li> <li>Ersoy, Ö., Avcı, N. (2000). Özel Gereksinimi Olan Çocuklar ve Eğitimleri. Özel Eğitim. İstanbul: Ya-Pa Yayınları.</li> <li>Ersoy, Ö. (2003). "Erken Çocukluk Döneminde Kaynaştırma ". Erken Çocuklukta Gelişim ve Eğitimde Yeni Yaklaşımlar. İstanbul : Morpa Kültür Yayınları.</li> </ol>

## EGB 459 Classroom Managament

Course Code	EGB459
Course Title	Classroom Managament
Academic Cycle	Bachelor
Year of Study	(3)Third
Prerequisites	None
Local Credits	2
ECTS Credits	4
Weekly (Lectures- Practice- Credit)	2-0-0
Duration	1 Semester
Semester	5.Semester
Examination	Semester exam, final exam, written

Assessment	Semester exam-30%, Projects 30% Final Exam-40% semester
Description	Contemporary classroom management methods and approaches to learning, as well as educational leadership and classroom management skills and in this context in Turkey and abroad to assess practices in classroom management
Course Content	Classroom management and basic concepts, classroom communication and interaction, classroom management, the definition of classroom management concept in the classroom discipline without providing different aspects and features of the classroom environment that affect the classroom and outside the classroom of the factors that classroom management models, class rules, development and implementation of the class physically editing, management of unwanted behavior in the classroom, sunfat time management, classroom organization, eligible to learn to create a positive classroom environment (examples and suggestions).
Learning Outcomes	<ul> <li>1.New approaches to classroom management</li> <li>2.The basic concepts of classroom management</li> <li>3.Basic dimensions of classroom management</li> <li>4.Basic characteristics of educational environment</li> <li>5.Teaching methods and techniques</li> <li>6.Planning and managing education</li> <li>7.Time management</li> <li>8.Behavior Management</li> <li>9.Basic dimensions of personality</li> <li>10.In general, the communication</li> <li>11.Communicate with students</li> <li>12.Communication with families</li> <li>13.Case studies in communication</li> <li>14Motivation</li> <li>15.Basic qualities of beinga model teacher</li> <li>16. Leadership in the classroom</li> </ul>
Read List	<ol> <li>Kaya, Z. (2008). Sınıf Yönetimi. Ankara: PegemA yayıncılık</li> <li>Aydın, A. (2005). Sınıf Yönetimi. Ankara: Eylül yayınevi</li> <li>Başar, H. (2005). Sınıf Yönetimi. Ankara: Anı yayıncılık</li> <li>Küçükahmet, L. (2009). Sınıf Yönetimi. Ankara:Pegem Akademi Yayınları.</li> <li>Toprakçı, E. (2008). Sınıfa dayalı Yönetim. Ankara: Pegem Akademi Yayınları.</li> </ol>

# MAT 451 Elementary Number Theory

Course Code	MAT 451
<b>Course Title</b>	Elementary Number Theory
Academic Cycle	Bachelor
Year of Study	(4) Fourth

Prerequisites	None
Local Credits	3
<b>ECTS Credits</b>	3
Weekly (Lectures- Practice- Laboratory)	3-0-0
Duration	1 Semester
Semester	7. Semester
Examination	Mid-term exam and final exam, written form
Assessment	Mid-term exam-30%, project-30%, final exam-40 %
Description	
Course Content	Divisibility and primality, definitions and basic properties of congruences, solving linear congruences, Residue classes, Euler's phi function, Format's little theorem, Euclid Algorithm, Computing modular inverse and Chinese remaindering.
Learning Objectives	1. To give fundamental number theory
Read List	<ol> <li>Sayılar Teorisi- Prof.Dr. Fethi Çallıalp</li> <li>Soyut Matematik-Prof. Dr. Hülya Şenkon</li> </ol>

# MAT 453 History of Mathematics

Course Code	MAT 453
Course Title	History of Mathematics
Academic Cycle	Bachelor
Year of Study	Fourth
Prerequisites	None
Local Credits	2
<b>ECTS Credits</b>	2
Weekly (Lectures- Practice- Laboratory)	2-0-0
Duration	1 semester
Semester	7. Semester
Examination	Mid-term exam and final exam, written form
Assessment	Mid-term exam-30%, project-30%, final exam-40 %
Description	Development of operations and algebra, Development of geometry, Different studies in the mathematics and mathematicians studied in these areas.
<b>Course Content</b>	
Learning Objectives	1. Learning history of mathematics
Read List	

## MAT 455 School Experience

Course Code	MAT 455
Course Title	School Experience
Academic Cycle	Bachelor
Year of Study	Fourth
Prerequisites	None
Local Credits	3
ECTS Credits	5
Weekly (Lectures- Practice- Credit)	1-4-0
Duration	1 Semester
Semester	7. Semester
Examination	One mid-trm exam, final exam
Assessment	Mid-term exam-30%, final exam-70%
Description	The main purpose of the course is to show the school, students and teacher vacation toteacher candidates with the help of a teacher and To know teacher characteristics and to know the skills with teaching.
Course Content	School organization and management, school-day work, group activities, a student's daily life in school, a teacher at the school, school-family cooperation, the main and side branches related to observation of courses, schools and challenges, tools and written sources and the teaching profession in various aspects of are intended to recognize activities
Learning Outcomes	<ol> <li>Term Plan to prepare</li> <li>The general characteristics of the teacher a day in school recognition</li> <li>How a day spent in school that the student's knowledge of</li> <li>A teacher uses a teaching methods course recognition</li> <li>Any course in how to work a flow information.</li> <li>Course management and control of the class understanding how to do</li> <li>Asking questions of the teacher in the classroom grip technique.</li> <li>School materials and written sources in the recognition</li> <li>School administrators and school recognition rules</li> <li>School and community relations to understand</li> <li>Using micro-teaching techniques.</li> </ol>
Read List	The Book of School-Faculty Cooperation (1998). YÖK

#### MAT 459 SEÇMELİ IV (Matematikte Ölçme ve Değerlendirme)

### **VIII. SEMESTER**

## EGB 460 Turkish Educational System and School Management

Course Code	EGB 460
Course Title	Turkish Educational System and School Management
Academic Cycle	Bachelor
Year of Study	Fourth class
Local Credits	2
<b>ECTS Credits</b>	2
Weekly (Lectures- Practice)	2-0-0
Duration	1 semester
Semester	8. Semester
Examination	Mid-term exam and final exam
Assessment	Mid-term exam-30%, end of term exam-70%
Description	
Course Content	The aims and basic principles of Turkish Education System, legal laws and arrangements related to education, structure of Turkish education system, Management theory and process, organization and management of school, works related to personnel, students, teaching and administration in school management, social attending to school
	By the end of this module students will be able to:
Learning Objectives	<ol> <li>understand basic issues in educational systems in Turkey and around the world</li> <li>understand historical and legal foundations of Turkish educational system</li> <li>Understand the structure of Turkish educational system</li> <li>know subsystems of Turkish educational system</li> <li>Identify educational issues and provide alternative solutions to them</li> <li>provide and develop projects related to issues in education.</li> </ol>
Read List	1. Özdemir, S. (2009). Türk Eğitim Sistemi ve Okul Yönetimi. Ankara:Nobel

Yayınları.

- 2. Özden, Y. (2004). **Eğitim ve Okul Yöneticiliği El Kitabı**. Ankara:PegemA Yayıncılık.
- 3. Memduhoğlu, H.B. & Yılmaz, K. (2008). Türk Eğitim Sistemi ve Okul Yönetimi. Ankara:PegemAkademi Yayınları.
- **3.** Adem, M. (2005). **Ulusal Eğitim Politikamız ve Finansmanı**. Ankara: Ankara Üniversitesi Yayınları.
- **5.** Kaya, Y. K. (1984). **İnsan Yetiştirme Düzenimiz**. Ankara: Hacettepe Üniversitesi Yayınları.

#### MAT 452 Philosophy of Mathematics

Course Code	MAT 452
Course Title	Philosophy of Mathematics
Academic Cycle	Bachelor
Year of Study	Fourth
Prerequisites	None
Local Credits	2
<b>ECTS Credits</b>	6
Weekly (Lectures- Practice- Laboratory)	2-0-0
Duration	1 semester
Semester	8. Semester
Examination	Mid-term exam and final exam, written form
Assessment	Mid-term exam-30%, project-30%, final exam-40 %
Description	Definition of mathematics, Postulates of Mathematics, Concepts of different mathematics subjects, basic theories of philosophy mathematics such as Logisicm, Formalism, Structuralism and

	Intuitionism.
<b>Course Content</b>	
Learning Objectives	1. Learning mathematics philosophy
Read List	

# MAT 454 Practice Teaching In Elementary Education

Course Code	MAT 454
Course Title	Practice Teaching In Elementary Education
Academic Cycle	Bachelor
Year of Study	(4) Fourth
Prerequisites	None
Local Credits	5
<b>ECTS Credits</b>	12
Weekly (Lectures- Practice- Laboratory)	2-6-0
Duration	1 Semester
Semester	8. Semester
Examination	Mid-term exam, final exam

Assessment	Mid-term exam-40%, final exam-60%
Description	The main purpose of the course is to prepare of teacher candidates to teaching with teaching practices and adequecy for teaching with a plan and to know rules and notes.
Course Content	Preparing of daily plan in every week, application of prepared plan, examination and evaluation of application by teacher and student, corrections and reapplications, preparing of portfolio.
Learning Objectives	<ol> <li>By the end of the course students should be able to:</li> <li>Preparation of Semmester Plan</li> <li>To learn principals for educational setting preparation</li> <li>To prepare and apply the educational setting</li> <li>To know Preparation of course material</li> <li>To Prepare of course material and apllicate of it.</li> <li>To prepare of evalution materials</li> <li>To Prepare and applicate of evaluation materials.</li> <li>To learn the school administration principal practices.</li> </ol>
Read List	1. The Book of School- Faculty Cooperation (1998) , YOK

IMO 417 Elective VI (Project Desing and Report Preparation In Mathematics)

Course Code IMO 417

Course Title Elective VI (Project Desing and Report Preparation In Mathematics)

Academic Cycle	Bachelor
Year of Study	(4)Third
Prerequisites	None
Local Credits	3
ECTS Credits	4
Weekly (Lectures- Practice- Credit)	3-0-0
Duration	1 Semester
Semester	7. Semester
Examination	mid-term exam, final exam.written from
Assessment	Mid-term exam-30%, final exam-70%
Description	Project preparation in mathematics, writing and presentation skills to win.
Course Content	Projects in the importance of mathematics education, mathematics studies at the project objectives, project specifications of the project management features and benefits of the project to prepare before and after need to be considered factors, the project management process, project preparation phase, project evaluation process, the sample project applications.
Learning Outcomes	<ol> <li>Understanding the importance of Project preparation in mathematics,</li> <li>In mathematiccs, the ağabeylity to Project,</li> <li>Ability to prepare Project reports,</li> <li>Project presentation skils.</li> </ol>
Read List	<ol> <li>1.Çepni,S.,(2005),Araştırma ve Proje Çalışmalarına Giriş, Trabzon.</li> <li>2.Tübitak, (2009) Ortaöğretim Öğrencileri Arası Araştırma Projeleri Yarışması Rehberi</li> <li>3.Http://www.projeokulu.net/modules.php?name=Content&amp;pa=showpage&amp;pid=32</li> </ol>