COURSE DISCIPLINE :   DANCE

COURSE NUMBER :   118

COURSE TITLE (FULL) :   Modern Dance Performance Skills

COURSE TITLE (SHORT) :   Modern Dance Performance Skills

CATALOG DESCRIPTION

DANCE 118 provides the student with practical experience in modern dance performance skills and technical development. This class emphasizes specific training methods and performance styles of modern dance.

Note: An audition may be required.

Total Lecture Units:1.00

Total Laboratory Units: 0.50

Total Course Units: 1.50

Total Lecture Hours:18.00

Total Laboratory Hours: 27.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 45.00

Prerequisite: Dance 116 or equivalent by audition.

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1	DANCE	116	Modern Dance Technique II	apply intermediate modern terminology in isolations, leg swings and contract and release sequences;	Yes

2	DANCE	116	Modern Dance Technique II	review and distinguish the use of correct dynamic alignment when demonstrating fall and recover techniques;	Yes
3	DANCE	116	Modern Dance Technique II	develop, practice, and explain intermediate modern center, and diagonal progressions;	Yes
4	DANCE	116	Modern Dance Technique II	investigate the use of focus, dynamics, rhythm, and style development in live, video, and in class performances;	Yes
5	DANCE	116	Modern Dance Technique II	analyze the development of modern technique from Second Generation to Post modern dance	Yes

EXIT STANDARDS

1   Define advanced modern dance styles in relation to historical and specialized techniques that have evolved modern dance;

2   demonstrate and explain the performance style of Isadora Duncan, Martha Graham, Jose Limon and Paul Taylor as a basis for the development of performance skills;

3   analyze a modern dance performance in terms of the choreographic process, elements of dance, interpretation, and style;

4   create a modern dance movement sequence that emphasizes turns, jumps, contractions and falls;

5   perform in a modern dance piece that utilizes dynamics, space, duet and group work.

STUDENT LEARNING OUTCOMES

1   identify and define advanced modern techniques and styles in relation to modern dance performances;
2   demonstrate and explain performance styles of modern dance;
3   analyze a modern dance performance;

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
1	Historical overview of style, technique, and terminology • Isadora Duncan • Denishawn • Martha Graham • Doris Humphrey/Jose Limon • Paul Taylor	8	0	8
2	Specialized techniques • Contractions • Fall and recovery • Use of parallel and turn-out • Turns and jumps	3	5	8
3	Duet • Support turns • Lifts • Coordination and timing	3	6	9
4	Performance skills • Focus • Rhythm • Dynamic • Space • Interpretation • Style • Presentation	4	6	10
5	Rehearsal • Variations • Duets • Group pieces	0	10	10
				45

OUT OF CLASS ASSIGNMENTS

1   attendance at GCC Dance Department performances;

2   on-line research of the dance genre;

3   written evaluation of the performances attended.

METHODS OF EVALUATION

1   movement exams;
2   class participation in critiques, analysis, and evaluation of dance performance;
3   written exams;
4   written essays;
5   final exam;
6   performance.

METHODS OF INSTRUCTION

☑ Lecture

☑ Laboratory

☐ Studio

☐ Discussion

☑ Multimedia

☐ Tutorial

☐ Independent Study

☑ Collaboratory Learning

☑ Demonstration

☐ Field Activities (Trips)

☐ Guest Speakers

☑ Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	IBSN	Date
Starting Your Career as a Dancer		Skyhorse Publishing Company	1	Print	Dagenais, Mande	978-1581159066	2012

Dance Production and Management		Princeton Book Company		Print	Trommer-Beardslee, Heather	978-0871273840	2014
The Oxford Dictionary of Dance		Oxford UP	2	electronic	Craine, Debra	978-0191727658	2010

COURSE DISCIPLINE :   ATHPE

COURSE NUMBER :   153

COURSE TITLE (FULL) :   Cross-Country Conditioning

COURSE TITLE (SHORT) :   Cross-Country Conditioning

CATALOG DESCRIPTION

ATHPE 153 is designed for the student-athlete and is intended to provide focused strength and conditioning exercises with an emphasis on safety, injury prevention, rules, and strategies for cross-country.

Note: ATHPE 153 is designed for the cross-country team. May be taken 4 times for credit.

Total Lecture Units:0.00

Total Laboratory Units: 1.50

Total Course Units: 1.50

Total Lecture Hours:0.00

Total Laboratory Hours: 81.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 81.00

Recommended Preparation: No prerequisites or recommended preparation

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1				Explain intermediate knowledge of running biomechanics;	Yes
2				demonstrate intermediate techniques of running biomechanics such as control of stride rate, appropriate stride length and ability to vary and maintain pace;	Yes
3				engage in cardiovascular and mental training at moderate to vigorous levels;	Yes
4				integrate intermediate running knowledge to strength training movements;	Yes

5				apply strength training exercises to running-specific movements.	Yes

EXIT STANDARDS

1   Perform an advanced level of physical skills relative to participation in intercollegiate competition;

2   demonstrate appropriate running mechanics for cross-country competition at intermediate to advanced levels;

3   demonstrate sport-specific strength and conditioning techniques;

4   increase physical fitness, strength, cardiorespiratory endurance and biomechanics for running long distance.

STUDENT LEARNING OUTCOMES

1   develop and apply a strength training program as it applies to cross-country

2   develop and apply a cardiovascular training program as it applies to cross-country

3   develop physical skills in cross-country for increased success at the intercollegiate level

4   demonstrate and apply safety rules and procedures to effectively participate in a physical movement environment

COURSE CONTENT WITH INSTRUCTIONAL HOURS (next page)

	Description	Lecture	Lab	Total Hours
1	Strength Training for Cross-Country • Core • Upper Body • Lower body • Strength training for injury prevention • Hip, knee and foot care	0	24	24
2	Reactive Training for Cross-Country • Bounding • Arm drive • Hip drive • Lower extremity reactivity	0	12	12
3	Situational Training in Cross Country • Race courses • Surface • Strategies for competition • Pacing	0	12	12
4	Cardiovascular Training in Cross-Country • Base training • Interval training • Tempo runs • High intensity repeats • Hill running • Altitude training	0	28	28
5	Application of Rules and Strategies in Cross-Country • Race rules and interpretation • Preventing dehydration and hyponatremia • Proper nutrition for training and competition • Recovery strategies	0	5	5
				81

OUT OF CLASS ASSIGNMENTS

1 fitness analysis (e.g. body weight, body composition, recognized perceived exertion);

2 field activities (e.g. physical exercise to enhance in-class activity)

METHODS OF EVALUATION

1   group participation
2   muscular strength and endurance tests
3   cardiovascular endurance tests

METHODS OF INSTRUCTION

☐ Lecture
☑ Laboratory
☐ Studio
☑ Discussion
☑ Multimedia
☑ Tutorial
☐ Independent Study
☑ Collaboratory Learning
☑ Demonstration
☑ Field Activities (Trips)
☑ Guest Speakers
☐ Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	IBSN	Date
2017-2018 Cross Country and Track and Field Rules		NCAA			National Collegiate Athletic Association		2016

COURSE DISCIPLINE :   ATHPE

COURSE NUMBER :   155

COURSE TITLE (FULL) :   Football Conditioning

COURSE TITLE (SHORT) :   Football Conditioning

CATALOG DESCRIPTION

ATHPE 155 is designed for the student-athlete interested in conditioning for intercollegiate football. The course is intended to provide strength and conditioning exercises with an emphasis on safety, injury prevention, rules, and game plays for football.

Note: ATHPE 155 is designed for the intercollegiate football team.

A combination of ATHPE 150 and/or ATHPE 102 can be taken for up to 4 times for credit.

Total Lecture Units:0.00

Total Laboratory Units: 1.50

Total Course Units: 1.50

Total Lecture Hours:0.00

Total Laboratory Hours: 81.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 81.00

Recommended Preparation: No prerequisites or recommended preparation

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1				Explain intermediate knowledge of football biomechanics such as blocking, tackling, throwing, catching, and quick movements;	Yes

2				demonstrate intermediate techniques of football biomechanics such as blocking, tackling, throwing, catching, and quick movements;	Yes
3				engage in cardiovascular and mental training at moderate to vigorous levels;	Yes
4				integrate intermediate football knowledge to strength training movements;	Yes
5				apply strength training exercises to football-specific movements.	Yes

EXIT STANDARDS

1   Perform an advanced level of physical skills relative to participation in intercollegiate competition;

2   execute offensive and defensive strategies used at the collegiate competitive level;

3   demonstrate football-specific movements at moderate to advanced levels;

4   demonstrate football-specific strength and conditioning techniques;

5   increase physical fitness, strength and football-specific techniques.

STUDENT LEARNING OUTCOMES

1   develop and apply a strength training program as it applies to intercollegiate football

2   develop and apply a cardiovascular training program as it applies to intercollegiate football

3   develop physical skills in football for increased success at the intercollegiate level

4   demonstrate and apply safety rules and procedures to effectively participate in a physical movement

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
1	Strength Training for Football • Core • Upper body • Lower body • Knee care	0	28	28

2	Plyometric Training for Football • Bounding and leaping drills • Battling ropes • Sparq ladder • Agility drills	0	12	12
3	Situational Training in Football • Defensive and offensive training strategies • Team work between defensive positions • Team work between offensive positions	0	12	12
4	Cardiovascular Training in Football • Sprinting endurance • Dynamic explosive movements	0	24	24
5	Application of Rules in Football • Defensive rule interpretation and strategies • Offensive rule interpretation and strategies	0	5	5
				81

OUT OF CLASS ASSIGNMENTS

1   fitness analysis (e.g. body weight, body composition, recognized perceived exertion)
2   field activities (e.g. physical exercise to enhance in-class activity)

METHODS OF EVALUATION

1   demonstration
2   group participation
3   one repetition strength tests (e.g. one repetition of maximum weight for squats)
4   timed sprints
5   multiple repetition strength testes (e.g. timed push-ups)
6   static strength tests

METHODS OF INSTRUCTION

☐ Lecture

☑ Laboratory

☐ Studio

☑ Discussion

☑ Multimedia

☑ Tutorial

☐ Independent Study

☑ Collaboratory Learning

☑ Demonstration

☑ Field Activities (Trips)

☑ Guest Speakers

☑ Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	IBSN	Date
Football 2018 Rules and Interpretations		NCAA			National Collegiate Athletic Association		2018

COURSE DISCIPLINE :   ATHPE

COURSE NUMBER :   158

COURSE TITLE (FULL) :   Women's Soccer Conditioning

COURSE TITLE (SHORT) :   Women's Soccer Conditioning

CATALOG DESCRIPTION

ATHPE 158 is designed for the student-athlete and is intended to provide focused strength and conditioning exercises with an emphasis on safety, injury prevention, rules, and game plays for soccer.

Note: ATHPE 158 is designed for the intercollegiate women's soccer team. May be taken 4 times for credit.

Total Lecture Units:0.00

Total Laboratory Units: 1.50

Total Course Units: 1.50

Total Lecture Hours:0.00

Total Laboratory Hours: 81.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 81.00

Recommended Preparation: No prerequisites or recommended preparation

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1				Explain intermediate knowledge of soccer biomechanics;	Yes
2				demonstrate intermediate techniques of soccer biomechanics;	Yes
3				engage in cardiovascular and mental training at moderate to vigorous levels;	Yes
4				integrate intermediate soccer knowledge to strength training movements;	Yes
5				apply strength training exercises to soccer specific movements.	Yes

EXIT STANDARDS

1   Perform an advanced level of physical skills relative to participation in intercollegiate competition;

2   execute offensive and defensive strategies used at the collegiate competitive level;

3   demonstrate soccer-specific movements at moderate to advanced levels.

STUDENT LEARNING OUTCOMES

1   develop and apply a strength training program as it applies to intercollegiate soccer

2   develop and apply a cardiovascular training program as it applies to intercollegiate soccer

3   develop physical skills in soccer for increased success at the intercollegiate level

4   demonstrate and apply safety rules and procedures to effectively participate in a physical movement environment

COURSE CONTENT WITH INSTRUCTIONAL HOURS (next page)

	Description	Lecture	Lab	Total Hours
1	Strength Training for Soccer • Core • Upper Body • Lower body • Pre-habilitation and injury prevention • Hip, knee and foot care	0	28	28
2	Plyometric Training for Soccer • Acceleration and deceleration • Footwork • Agility drills	0	12	12
3	Situational Training in Soccer • Defensive strategies • Teamwork between defensive positions • Offensive strategies • Advancing and goal scoring	0	12	12
4	Cardiovascular Training in Soccer • Sprinting endurance • Long distance running endurance • Dynamic explosive movements	0	24	24
5	Application of Rules in Soccer • Defensive rule interpretation and strategies • Offensive rule interpretation and strategies	0	5	5
				81

OUT OF CLASS ASSIGNMENTS

1   fitness analysis (e.g. body weight, body composition, recognized perceived exertion)

2   field activities (e.g. physical exercise to enhance in-class activity)

METHODS OF EVALUATION

1   demonstration

2   group participation

3   muscular fitness tests (e.g. timed pushups)

4   timed sprints and long-distance runs

METHODS OF INSTRUCTION

☐ Lecture

☑ Laboratory

☐ Studio

☑ Discussion

☑ Multimedia

☑ Tutorial

☐ Independent Study

☑ Collaboratory Learning

☑ Demonstration

☑ Field Activities (Trips)

☑ Guest Speakers

☐ Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	IBSN	Date
Soccer Rules 2018-2019		National Collegiate Athletic Association.			National Collegiate Athletic Association.		2018

COURSE DISCIPLINE :   ATHPE

COURSE NUMBER :   159

COURSE TITLE (FULL) :   Men's Soccer Conditioning

COURSE TITLE (SHORT) :   Men's Soccer Conditioning

CATALOG DESCRIPTION

ATHPE 159 is designed for the student-athlete and is intended to provide focused strength and conditioning exercises with an emphasis on safety, injury prevention, rules, and game plays for soccer.

Note: ATHPE 159 is designed for the intercollegiate men's soccer team. May be taken 4 times for credit.

Total Lecture Units:0.00

Total Laboratory Units: 1.50

Total Course Units: 1.50

Total Lecture Hours:0.00

Total Laboratory Hours: 81.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 81.00

Recommended Preparation: No prerequisites or recommended preparation

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1				Explain intermediate knowledge of soccer biomechanics;	Yes
2				demonstrate intermediate techniques of soccer biomechanics;	Yes
3				engage in cardiovascular and mental training at moderate to vigorous levels;	Yes
4				integrate intermediate soccer knowledge to strength training movements;	Yes
5				apply strength training exercises to soccerspecific movements.	Yes

EXIT STANDARDS

1   Perform an advanced level of physical skills relative to participation in intercollegiate competition;

2   execute offensive and defensive strategies used at the collegiate competitive level;

3   demonstrate soccer-specific movements at moderate to advanced levels;

4   demonstrate soccer-specific strength and conditioning techniques;

5   increase physical fitness, strength and soccer-specific techniques.

STUDENT LEARNING OUTCOMES

1   develop and apply a strength training program as it applies to intercollegiate soccer

2   develop and apply a cardiovascular training program as it applies to intercollegiate soccer

3   develop physical skills in soccer for increased success at the intercollegiate level

4   demonstrate and apply safety rules and procedures to effectively participate in a physical movement environment

COURSE CONTENT WITH INSTRUCTIONAL HOURS (next page)

	Description	Lecture	Lab	Total Hours
1	Strength Training for Soccer • Core • Upper Body • Lower body • Pre-habilitation and injury prevention • Hip, knee and foot care	0	28	28
2	Plyometric Training for Soccer • Acceleration and deceleration • Footwork • Agility drills	0	12	12
3	Situational Training in Soccer • Defensive strategies • Teamwork between defensive positions • Offensive strategies • Advancing and goal scoring	0	12	12
4	Cardiovascular Training in Soccer • Sprinting endurance • Long distance running endurance • Dynamic explosive movements	0	24	24
5	Application of Rules in Soccer • Defensive rule interpretation and strategies • Offensive rule interpretation and strategies	0	5	5
				81

OUT OF CLASS ASSIGNMENTS

1   fitness analysis (e.g. body weight, body composition, recognized perceived exertion)

2   field activities (e.g. physical exercise to enhance in-class activity)

METHODS OF EVALUATION

1   demonstration

2   group participation

3   muscular fitness tests (e.g. timed push-ups)

4   timed sprints and long-distance runs

METHODS OF INSTRUCTION

☐ Lecture

☑ Laboratory

☐ Studio

☑ Discussion

☑ Multimedia

☑ Tutorial

☐ Independent Study

☑ Collaboratory Learning

☑ Demonstration

☑ Field Activities (Trips)

☑ Guest Speakers

☐ Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	IBSN	Date
Soccer 2018 and 2019 Rules		National Collegiate Athletic Association			National Collegiate Athletic Association		2018

GLENDALE COMMUNITY COLLEGE

COURSE DISCIPLINE : ATHPE

COURSE NUMBER : 160

COURSE TITLE (FULL) : Softball Conditioning

COURSE TITLE (SHORT) : Softball Conditioning

CATALOG DESCRIPTION

ATHPE 160 is designed for the student-athlete and is intended to provide focused strength and conditioning exercises with an emphasis on safety, injury prevention, rules, and game plays for softball.

Note: ATHPE 160 is designed for the intercollegiate softball team. May be taken 4 times for credit.

Total Lecture Units:0.00

Total Laboratory Units: 1.50

Total Course Units: 1.50

Total Lecture Hours:0.00

Total Laboratory Hours: 81.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 81.00

Recommended Preparation: No prerequisites or recommended preparation

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1				Explain intermediate knowledge of softball biomechanics;	Yes
2				demonstrate intermediate techniques of softball biomechanics;	Yes
3				engage in cardiovascular and mental training at moderate to vigorous levels;	Yes
4				integrate intermediate softball knowledge to strength training movements;	Yes
5				apply strength training exercises to softballspecific movements.	Yes

EXIT STANDARDS

1 Perform an advanced level of physical skills relative to participation in intercollegiate competition;

2 execute offensive and defensive strategies used at the collegiate competitive level;

3 demonstrate softball-specific movements at moderate to advanced levels;

4 demonstrate softball-specific strength and conditioning techniques;

5 increase physical fitness, strength and softball-specific techniques.

STUDENT LEARNING OUTCOMES

1 develop and apply a strength training program as it applies to intercollegiate softball

2 develop and apply a cardiovascular training program as it applies to intercollegiate softball

3 develop physical skills in softball for increased success at the intercollegiate level

4 demonstrate and apply safety rules and procedures to effectively participate in a physical movement

COURSE CONTENT WITH INSTRUCTIONAL HOURS (next page)

	Description	Lecture	Lab	Total Hours
1	Strength Training for Softball • Core • Upper body • Lower body • Injury prevention • Arm care	0	28	28
2	Plyometric Training for Softball • Acceleration and deceleration • Footwork • Agility drills	0	12	12
3	Situational Training in Softball • Offensive strategies • Defensive strategies • Teamwork between positions • Executing strategic plays	0	12	12
4	Cardiovascular Training in Softball • Sprinting endurance • Dynamic explosive movements	0	24	24
5	Application of Rules in Softball • Defensive rule interpretation and strategies • Offensive rule interpretation and strategies	0	5	5
				81

OUT OF CLASS ASSIGNMENTS

1   fitness analysis (e.g. body weight, body composition, recognized perceived exertion)
2   field activities (e.g. physical exercise to enhance in-class activity)

METHODS OF EVALUATION

1   demonstration
2   group participation
3   one repetition strength tests (e.g. one repetition of maximum weight for squats)
4   timed sprints and long distance runs

5   multiple repetition strength tests (e.g. timed push-ups)

6   static strength tests

METHODS OF INSTRUCTION

☐ Lecture

☑ Laboratory

☐ Studio

☑ Discussion

☑ Multimedia

☑ Tutorial

☐ Independent Study

☑ Collaboratory Learning

☑ Demonstration

☑ Field Activities (Trips)

☑ Guest Speakers

☐ Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	IBSN	Date
Softball 2018 and 2019 Rules		NCAA			NCAA		2017

COURSE DISCIPLINE :   ATHPE

COURSE NUMBER :   161

COURSE TITLE (FULL) :   Women's Tennis Conditioning

COURSE TITLE (SHORT) :   Women's Tennis Conditioning

CATALOG DESCRIPTION

ATHPE 161 is designed for the student-athlete and is intended to provide focused strength and conditioning exercises with an emphasis on safety, injury prevention, rules, and game plays for women's tennis.

Note: ATHPE 161 is designed for the intercollegiate women's tennis team. May be taken 4 times for credit.

Total Lecture Units:0.00

Total Laboratory Units: 1.50

Total Course Units: 1.50

Total Lecture Hours:0.00

Total Laboratory Hours: 81.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 81.00

Recommended Preparation: No prerequisites or recommended preparation

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1				Explain intermediate knowledge of tennis biomechanics;	Yes
2				demonstrate intermediate techniques of tennis biomechanics;	Yes
3				engage in cardiovascular and mental training at moderate to vigorous levels;	Yes
4				integrate intermediate tennis knowledge to strength training movements;	Yes

5				apply strength training exercises to tennis-specific movements.	Yes

EXIT STANDARDS

1   Perform an advanced level of physical skills relative to participation in intercollegiate competition;

2   execute offensive and defensive strategies used at the collegiate competitive level;

3   demonstrate tennis-specific movements at moderate to advanced levels;

4   demonstrate tennis-specific strength and conditioning techniques;

5   increase physical fitness, strength and tennis-specific techniques.

STUDENT LEARNING OUTCOMES

1   develop and apply a strength training program as it applies to intercollegiate tennis

2   develop and apply a cardiovascular training program as it applies to intercollegiate tennis

3   develop physical skills in tennis for increased success at the intercollegiate level

4   demonstrate and apply safety rules and procedures to effectively participate in a physical movement

COURSE CONTENT WITH INSTRUCTIONAL HOURS (next page)

	Description	Lecture	Lab	Total Hours
1	Strength Training for Tennis • Core • Upper body • Lower body • Pre-habilitation and injury prevention • Shoulder and elbow care	0	28	28
2	Plyometric Training for Tennis • Acceleration and deceleration • Footwork • Agility drills	0	12	12
3	Situational Training in Tennis • Defensive strategies • Teamwork in doubles • Offensive strategies	0	12	12
4	Cardiovascular Training in Tennis • Sprinting speed • Repeated sprint endurance • Dynamic explosive movements	0	24	24
5	Application of Rules in Tennis • Defensive rule interpretation and strategies • Offensive rule interpretation and strategies	0	5	5
				81

OUT OF CLASS ASSIGNMENTS

1   fitness analysis (e.g. body weight, body composition, recognized perceived exertion)
2   field activities (e.g. physical exercise to enhance in-class activity)

METHODS OF EVALUATION

1   demonstration
2   group participation
3   one repetition strength tests (e.g. one repetition of maximum weight for squats)

4   timed sprints and long distance runs

5   multiple repetition strength tests (e.g. timed push-ups)

METHODS OF INSTRUCTION

☐ Lecture

☑ Laboratory

☐ Studio

☑ Discussion

☑ Multimedia

☐ Tutorial

☑ Independent Study

☑ Collaboratory Learning

☑ Demonstration

☑ Field Activities (Trips)

☑ Guest Speakers

☑ Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	IBSN	Date
Women's Tennis Rules and Interpretations		NCAA			National Collegiate Athletic Association		2015

GLENDALE COMMUNITY COLLEGE

COURSE DISCIPLINE :   ATHPE

COURSE NUMBER :   162

COURSE TITLE (FULL) :   Men's Tennis Conditioning

COURSE TITLE (SHORT) :   Men's Tennis Conditioning

CATALOG DESCRIPTION

ATHPE 162 is designed for the student-athlete and is intended to provide focused strength and conditioning exercises with an emphasis on safety, injury prevention, rules, and game plays for men's tennis.

Note: 162 is designed for the intercollegiate men's tennis team. May be taken 4 times for credit.

Total Lecture Units:0.00

Total Laboratory Units: 1.50

Total Course Units: 1.50

Total Lecture Hours:0.00

Total Laboratory Hours: 81.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 81.00

Recommended Preparation: No prerequisites or recommended preparation

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1				Explain intermediate knowledge of tennis biomechanics;	Yes
2				demonstrate intermediate techniques of tennis biomechanics;	Yes
3				engage in cardiovascular and mental training at moderate to vigorous levels;	Yes
4				integrate intermediate tennis knowledge to strength training movements;	Yes
5				apply strength training exercises to tennis-specific movements.	Yes

EXIT STANDARDS

1   Perform an advanced level of physical skills relative to participation in intercollegiate competition;

2   execute offensive and defensive strategies used at the collegiate competitive level;

3   demonstrate tennis-specific movements at moderate to advanced levels;

4   demonstrate tennis-specific strength and conditioning techniques; 5   increase physical fitness, strength and tennis-specific techniques.

STUDENT LEARNING OUTCOMES

1   develop and apply a strength training program as it applies to intercollegiate tennis

2   develop and apply a cardiovascular training program as it applies to intercollegiate tennis

3   develop physical skills in tennis for increased success at the intercollegiate level

4   demonstrate and apply safety rules and procedures to effectively participate in a physical movement environment

COURSE CONTENT WITH INSTRUCTIONAL HOURS (next page)

	Description	Lecture	Lab	Total Hours
1	Strength Training for Tennis • Core • Upper body • Lower body • Pre-habilitation and injury prevention • Shoulder and elbow care	0	28	28
2	Plyometric Training for Tennis • Acceleration and deceleration • Footwork • Agility drills	0	12	12
3	Situational Training in Tennis • Defensive strategies • Teamwork in doubles • Offensive strategies	0	12	12
4	Cardiovascular Training for Tennis • Sprinting speed • Repeated sprint endurance • Dynamic explosive movements	0	24	24
5	Application of Rules in Tennis • Defensive rule interpretation and strategies • Offensive rule interpretation and strategies	0	5	5
				81

OUT OF CLASS ASSIGNMENTS

1   fitness analysis (e.g. body weight, body composition, recognized perceived exertion)
2   field activities (e.g. physical exercise to enhance in-class activity)

METHODS OF EVALUATION

1   demonstration
2   group participation
3   one repetition strength tests (e.g. one repetition of maximum weight for squats)
4   timed sprints and long distance runs

5 multiple repetition strength tests (e.g. timed push-ups)

6 static strength tests

METHODS OF INSTRUCTION

☐ Lecture

☑ Laboratory

☐ Studio

☑ Discussion

☑ Multimedia

☐ Tutorial

☑ Independent Study

☑ Collaboratory Learning

☑ Demonstration

☑ Field Activities (Trips)

☑ Guest Speakers

☑ Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	IBSN	Date
Men's Tennis Rules and Interpretations		NCAA			National Collegiate Athletics Association		2015

COURSE DISCIPLINE : ATHPE

COURSE NUMBER : 163

COURSE TITLE (FULL) : Track and Field Conditioning

COURSE TITLE (SHORT) : Track and Field Conditioning

CATALOG DESCRIPTION

ATHPE 163 is designed for the student-athlete and is intended to provide focused strength and conditioning exercises with an emphasis on safety, injury prevention, rules, and strategies for track and field.

Note: ATHPE 163 is designed for the intercollegiate track and field team. May be taken 4 times for credit.

Total Lecture Units:0.00

Total Laboratory Units: 1.50

Total Course Units: 1.50

Total Lecture Hours:0.00

Total Laboratory Hours: 81.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 81.00

Recommended Preparation: No prerequisites or recommended preparation

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1				Explain intermediate knowledge of track and field biomechanics;	Yes
2				demonstrate intermediate techniques of track and field biomechanics;	Yes
3				engage in cardiovascular and mental training at moderate to vigorous levels;	Yes
4				integrate intermediate track and field knowledge to strength training movements;	Yes
5				apply strength training exercises to track and field specific movements.	Yes

EXIT STANDARDS

1   Perform an advanced level of physical skills relative to participation in intercollegiate competition;

2   execute competitive strategies used at the collegiate competitive level;

3   demonstrate track and field specific movements at moderate to advanced levels;

4   demonstrate track and field specific strength and conditioning techniques; 5 increase physical fitness, strength and track and field specific techniques.

STUDENT LEARNING OUTCOMES

1   develop and apply a strength training program as it applies to intercollegiate track and field

2   develop and apply a cardiovascular training program as it applies to intercollegiate track and field

3   develop physical skills in track and field for increased success at the intercollegiate level

4   demonstrate and apply safety rules and procedures to effectively participate in a physical movement environment

COURSE CONTENT WITH INSTRUCTIONAL HOURS (next page)

	Description	Lecture	Lab	Total Hours
1	Strength Training for Track and Field • Core • Upper body • Lower body • Rehabilitation and injury prevention • Care of upper and lower extremities	0	28	28
2	Plyometric Training for Track and Field • Acceleration and deceleration • Footwork, stride length and stride rate • Event-specific power and reactive drills	0	12	12
3	Situational Training in Track and Field • Competition in single and multiple track and field events • Managing recovery and fueling during meets	0	12	12
4	Cardiovascular Training for Track and Field • Sprinting • Long distance running endurance • Dynamic explosive movements	0	24	24
5	Application of Rules in Track and Field • Rule interpretation and strategies for track and field events	0	5	5
				81

OUT OF CLASS ASSIGNMENTS

1   fitness analysis (e.g. body weight, body composition, recognized perceived exertion)
2   field activities (e.g. physical exercise to enhance in-class activity)

METHODS OF EVALUATION

1   demonstration
2   group participation
3   one repetition strength tests (e.g. one repetition of maximum weight for squats)
4   timed sprints and long distance runs

5   multiple repetition strength tests (e.g. timed push-ups)

6   static strength tests

METHODS OF INSTRUCTION

☐ Lecture

☑ Laboratory ☐
Studio

☑ Discussion ☑
Multimedia

☑ Tutorial

☑ Independent Study

☑ Collaboratory Learning

☑ Demonstration

☑ Field Activities (Trips)

☑ Guest Speakers

☑ Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	IBSN	Date
Cross Country/Track and Field 2017-2018 Rules		NCAA			National Collegiate Athletics Association		2016

COURSE DISCIPLINE :   MATH

COURSE NUMBER :   15

COURSE TITLE (FULL) :   Foundations of Algebra

COURSE TITLE (SHORT) :   Foundations of Algebra

CATALOG DESCRIPTION

MATH 15 is a one-semester course leading to Intermediate Algebra for BSTEM (MATH 90) or Intermediate Algebra and Pre-Statistics (MATH 30). MATH 15 includes the fundamental processes of arithmetic, pre-algebra, and selected topics from algebra. It is designed to develop skills in computation using signed numbers, fractions, decimals, and percents. Rules of exponents, firstdegree equations, fundamental facts about geometry, solutions to linear equations, algebraic manipulations, exponents, polynomials, graphing linear equations, solving linear systems, and factoring are also included. Total Lecture Units:3.50

Note: This course may not be taken for credit by students who have completed MATH 144, 145, 245A or 245B. A maximum of 7 units will be granted for MATH 15 and any of the following courses: MATH 155, 255A, 255B, 255C, or 255D.

Total Laboratory Units: 0.50

Total Course Units: 4.00

Total Lecture Hours:63.00

Total Laboratory Hours: 45.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 108.00

Prerequisite: A composite of test scores and/or academic background

This course is a prerequisite for MATH 30, 30+, 90, and 90+. These are all new courses going through the approval process with MATH 15.

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1				Read, write, and converse in English;	Yes
2				use effective speaking and listening skills;	Yes
3				read and write at a level of 10th grade or above;	Yes
4				perform basic arithmetic operations of addition, subtraction, multiplication, and division of whole numbers;	Yes
5				perform basic computer operations.	Yes

EXIT STANDARDS

1   Add, subtract, multiply, and divide real numbers;
2   convert between percent, decimals and fractions;
3   solve introductory linear equations and inequalities;
4   simplify introductory exponential expressions;
5   add, subtract, multiply and divide polynomials;
6   graph introductory linear equations and inequalities;
7   find the equation of a line;
8   solve linear systems using graphing, substitution and elimination methods;
9   use algebra to solve applied problems;
10   factor polynomials;
11   demonstrate knowledge of test-taking strategies and study skills.

STUDENT LEARNING OUTCOMES

1   apply critical thinking and quantitative reasoning in using signed numbers, fractions, percent, and decimals;
2   interpret linear equations numerically, graphically, and symbolically and be able to transition between them;
3   analyze and evaluate information given in application problems to arrive at accurate solutions and communicate the solutions clearly;
4   select and execute the appropriate strategy for solving equations, solving inequalities, solving systems, simplifying polynomials, and factoring polynomials;
5   incorporate academic strategies and mindset in planning and self-assessment of mathematical success.

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
1	Whole Numbers • Factors and prime factorization • Exponents and order of operations	2	0	2
2	Signed Numbers • Greater than and less than • Absolute value • Addition of signed numbers • Subtraction of signed numbers • Multiplication of signed numbers • Division of signed numbers • Order of operations	6	0	6
3	Fractions • Reducing to lowest terms • Changing improper fractions to mixed numbers • Changing mixed numbers to improper fractions • Finding common denominators and least common denominators • Addition and subtraction of fractions • Multiplication of fractions • Division of fractions • Exponents and order of operations	6	0	6
4	Decimals • Rounding decimals • Comparing decimals and fractions • Multiplying and dividing by powers of ten • Changing fractions to decimals • Changing decimals to fractions • Order of operations	4	0	4

5	Percent • Meaning of percent • Changing percent to decimals • Changing decimals to percent • Changing percent to fractions • Changing fractions to percent • Solving percent problems • Applications of percent	4	0	4

6	Linear Equations and Inequalities • Simplifying expressions • Addition property of equality • Multiplication property of equality • Solving linear equations • Formulas • Applications • Linear and compound inequalities	6	0	6
7	Ratio and Proportions • Perimeter of plane geometric figures • Ratio and ratio applications • Solving proportions • Applications of proportions • Similar triangles	3	0	3
8	Linear Equations and Inequalities in Two Variables • Graphing ordered pairs • Solutions to linear equations in two variables • Graphing linear equations in two variables • Graphing using intercepts • The slope of a line • Finding the equation of a line • Linear inequalities in two variables • Area of geometric figures	8	0	8

9	Systems of Linear Equations • Solving systems of equations by graphing • Solving systems of equations by elimination • Solving systems of equations by substitution • Applications of systems of equations	6	0	6
10	Exponents and Polynomials • Multiplication with exponents • Division with exponents • Operations with monomials • Addition and subtractions of polynomials • Multiplication with polynomials • Binomial squares and other special products • Dividing polynomials	9	0	9
11	Factoring • The greatest common factor • Factoring by grouping • The difference of two squares • Solving equations by factoring • Applications	9	0	9

12	Laboratory Content • Calculate area and perimeter • Calculate sales tax and total price • Graph lines using slope and intercepts • Apply mathematical models • Perform operations with fractions, decimals, and percent • Apply ratios and proportions to solve application problems • Solving equations, inequalities, and systems • Simplifying expressions with exponents • Dividing polynomials using long division • Factoring of polynomials • Information vs knowledge (concept maps) • Study plans • Mindset (growth, resilience, hardiness, and grit) • Recognizing and combating negative thoughts • Reading and cognitive techniques • Studying and problem solving techniques • Learning styles and thought processes • Test preparation • Test taking skills	0	45	45
				108

OUT OF CLASS ASSIGNMENTS

1   homework (e.g. problems sets related to course content);
2   lab assignments and projects (e.g. Design a matte frame for a photo using mixed numbers).

METHODS OF EVALUATION

1   group work (e.g. Find areas and volumes of shapes involving objects that can be brought into the classroom such as cans and boxes);
2   quizzes;
3   four to seven regularly scheduled examinations required; 4 a comprehensive final
     examination is required.

METHODS OF INSTRUCTION

☑ Lecture

☐ Laboratory

☐ Studio

☑ Discussion

☑ Multimedia

☐ Tutorial

☐ Independent Study

☑ Collaboratory Learning

☐ Demonstration

☐ Field Activities (Trips)

☑ Guest Speakers

☑ Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	IBSN	Date
Prealgebra	Required	Cengage	5	Print	Tussy, Alan	1-285-73725-3	2015
.Elementary Algebra	Required	Cengage	5	Print	Tussy, Alan	1-111-56766-8	2013

GLENDALE COMMUNITY COLLEGE

COURSE DISCIPLINE :   MATH

COURSE NUMBER :   30

COURSE TITLE (FULL) :   Intermediate Algebra and Pre-Statistics

COURSE TITLE (SHORT) :   Inter Alg & Pre-Stats

CATALOG DESCRIPTION

MATH 30 is a one-semester course leading to transfer-level Statistics (MATH 136), Finite Mathematics (MATH 133), Liberal Arts Mathematics (MATH 135), and Math for Elementary Teachers I (MATH 138). Topics include curve plotting, linear equations and inequalities, radicals, functions, exponential and logarithmic functions, descriptive statistics, graphical and numerical statistics for quantitative and categorical data, modeling bivariate data with linear, exponential, and logarithmic functions, introductory set theory, and introductory probability.

Note: This course may not be taken for credit by students who have completed MATH 130 or 131. A maximum of 6 units will be granted for MATH 30 and any of the following courses: MATH 146, 246A, or 246B, OR a maximum of 7 units will be granted for MATH 30 and any of the following courses: MATH 101, 120, 220A or 220B, OR a maximum of 5 units will be granted for MATH 30 and any of the following courses: MATH 119, 219A, 219B or 219C.

Total Lecture Units:5.00

Total Laboratory Units: 0.00

Total Course Units: 5.00

Total Lecture Hours:90.00

Total Laboratory Hours: 0.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 90.00

Prerequisite: Prerequisite: Math 15.

This course is a prerequisite for MATH 136, 133, 135, and 13

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1	MATH	15	Foundations of Algebra	Add, subtract, multiply, and divide real numbers;	Yes
2	MATH	15	Foundations of Algebra	convert between percent, decimals and fractions;	Yes
3	MATH	15	Foundations of Algebra	solve introductory linear equations and inequalities;	Yes
4	MATH	15	Foundations of Algebra	simplify introductory exponential expressions;	Yes
5	MATH	15	Foundations of Algebra	add, subtract, multiply and divide polynomials;	Yes
6	MATH	15	Foundations of Algebra	graph introductory linear equations and inequalities;	Yes
7	MATH	15	Foundations of Algebra	find the equation of a line;	Yes
8	MATH	15	Foundations of Algebra	solve linear systems using graphing, substitution and elimination methods;	Yes
9	MATH	15	Foundations of Algebra	use algebra to solve applied problems;	Yes
10	MATH	15	Foundations of Algebra	factor polynomials;	Yes
11	MATH	15	Foundations of Algebra	demonstrate knowledge of test-taking strategies and study skills.	Yes

EXIT STANDARDS

1   Solve equations with one radical;

2   solve absolute value equations and inequalities;

3   solve linear equations and inequalities;

4   find the equation of a line and interpret the slope and intercept;

5   solve applied problems;

6   solve equations with one logarithmic or exponential expression;

7   graph functions (linear, exponential, logarithmic);

8   compute basic statistics for a variable, including mean, median, mode, quartiles, range,

variance and standard deviation;

9   describe the distribution of a quantitative variable in terms of its shape, center and spread, using graphical techniques;

10 apply addition and multiplication rules of probability in problem solving including computing expected value;

11   identify probability models and compute their areas;

12   graph and interpret bivariate data through the use of scatterplots, regression, and correlation.

STUDENT LEARNING OUTCOMES

1   identify different types of equations and inequalities, select the appropriate strategy to solve the equation or inequality, and check the reasonableness of the solution;

2   graph various sets of data, functions, and relations;

3   collect data from a population and represent it in an organized and visual manner;

4   formulate and analyze mathematical models for a variety of real-world phenomenon and use mathematical and technological tools to determine the veracity of the model.

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
1	Descriptive Statistics Basic Statistics • Simple random samples and sampling bias • Measures of center: mean, median, and mode • Measures of spread: standard deviation, variance, interquartile range, and range • Summation notation Graphs of one variable • Histograms • Stem plots • Box plots • Bar chart • Pie chart Graphs of two variables • Linear equations and inequalities with one and two variables, including absolute values • The rectangular coordinate system • Scatterplots • The slope of a line • Equations of lines • Regression lines • Applications using systems of equations • Correlation	24	0	24

2	Exponents and radical equations • Exponents and scientific notation • Solving equations with one radical	6	0	6

3	Exponential and logarithmic functions
	
	Exponential functions
	
	Logarithmic functions
	
	Common and natural logarithms
	
	Applications of exponential and logarithmic functions
	
	  • Simple vs. compound interest
	  • Annuities
	  • Applications (Investing: long term vs short term,
	    Borrowing: short vs long term; cost and benefits,
	    Credit cards, Loans: payoff and monthly
	    payments,
	    Student loans, Mortgages, Richter Scale)
	
	Curved quantitative relationships
	
	  • Exponential relationships with technology
	  • Logarithmic relationships with technology
		20	0	20

4	Basic set theory and probability Set theory • The real number system • Subsets • Complements • Unions and intersections • Counting techniques, permutations, and combinations Probability rules • Addition and multiplication rules • Conditional probability, dependent and independent events • 2-way tables • Expected Value • Applications (cards, dice, lottery, odds) Probability models • General discrete probability models • Normal and uniform distributions	24	0	24
5	Affective Domain and Metacognition • Information vs knowledge (concept maps) • Study plans • Mindset (growth, resilience, hardiness, and grit) • Reading and cognitive techniques • Study and test taking skills	16	0	16
				90

OUT OF CLASS ASSIGNMENTS

1   homework (e.g. problems sets related to course content);

2   project(s) using datasets and technology culminating in a written report (e.g. analyze data provided involving price and quantity of soda and construct a scatter plot and linear regression model using Excel).

METHODS OF EVALUATION

1   quizzes;
2   five to eight examinations are required;
3   a comprehensive final examination is required.

METHODS OF INSTRUCTION

☑ Lecture

☐ Laboratory ☐
Studio

☑ Discussion

☑ Multimedia

☐ Tutorial

☐ Independent Study

☑ Collaboratory Learning

☐ Demonstration

☐ Field Activities (Trips)

☑ Guest Speakers

☑ Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	IBSN	Date
Intermediate Algebra	Required	Cengage	5	Print	Tussy, Alan	1-111-56767-0	2013
Collaborative Statistics	Required	OpenStax College	1	Print	Illowsky, Barbara	978-1938168-208	2016

COURSE DISCIPLINE :   MATH

COURSE NUMBER :   30+

COURSE TITLE (FULL) :   Intermediate Algebra and Pre-Statistics with Support

COURSE TITLE (SHORT) :   Inter Alg & Pre-Stats with Support

CATALOG DESCRIPTION

MATH 30+ is a one-semester course with a built-in support lab component leading to transfer-level Statistics (MATH 136), Finite Mathematics (MATH 133), Liberal Arts Mathematics (MATH 135), and Math for Elementary Teachers I (MATH 138). Topics include curve plotting, linear equations and inequalities, radicals, functions, exponential and logarithmic functions, descriptive statistics, graphical and numerical statistics for quantitative and categorical data, modeling bivariate data with linear, exponential, and logarithmic functions, introductory set theory, and introductory probability. Total Lecture Units:5.00

Note: This course may not be taken for credit by students who have completed MATH 30, 130 or 131. A maximum of 6 units will be granted for MATH 30+ and any of the following courses: MATH 146, 246A, or 246B, OR a maximum of 7 units will be granted for MATH 30+ and any of the following courses: MATH 101, 120, 220A or 220B, OR a maximum of 5.5 units will be granted for MATH 30+ and any of the following courses: MATH 119, 219A, 219B or 219C.

Total Laboratory Units: 0.50

Total Course Units: 5.50

Total Lecture Hours:90.00

Total Laboratory Hours: 45.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 135.00

Prerequisite: Math 15.

This course is a prerequisite for Math 136, 133, 135, and 138

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1	MATH	15	Foundations of Algebra	Add, subtract, multiply, and divide real numbers;	Yes
2	MATH	15	Foundations of Algebra	convert between percent, decimals and fractions;	Yes
3	MATH	15	Foundations of Algebra	solve introductory linear equations and inequalities;	Yes
4	MATH	15	Foundations of Algebra	simplify introductory exponential expressions;	Yes
5	MATH	15	Foundations of Algebra	add, subtract, multiply and divide polynomials;	Yes
6	MATH	15	Foundations of Algebra	graph introductory linear equations and inequalities;	Yes
7	MATH	15	Foundations of Algebra	find the equation of a line;	Yes
8	MATH	15	Foundations of Algebra	solve linear systems using graphing, substitution and elimination methods;	Yes
9	MATH	15	Foundations of Algebra	use algebra to solve applied problems;	Yes
10	MATH	15	Foundations of Algebra	factor polynomials;	Yes
11	MATH	15	Foundations of Algebra	demonstrate knowledge of test-taking strategies and study skills.	Yes

EXIT STANDARDS

1 Solve equations with one radical;
2 solve absolute value equations and inequalities;
3 solve linear equations and inequalities;
4 find the equation of a line and interpret the slope and intercept;
5 solve applied problems;
6 solve equations with one logarithmic or exponential expression;
7 graph functions (linear, exponential, logarithmic);
8 compute basic statistics for a variable, including mean, median, mode, quartiles, range, variance and standard deviation;
9 describe the distribution of a quantitative variable in terms of its shape, center and spread using graphical techniques;

10 apply addition and multiplication rules of probability in problem solving including computing expected value;

11 identify probability models and compute their areas;

12 graph and interpret bivariate data through the use of scatterplots, regression, and correlation.

STUDENT LEARNING OUTCOMES

1   identify different types of equations and inequalities, select the appropriate strategy to solve the equation or inequality, and check the reasonableness of the solution;

2   graph various sets of data, functions, and relations;

3   collect data from a population and represent it in an organized and visual manner;

4   formulate and analyze mathematical models for a variety of real-world phenomenon and use mathematical and technological tools to determine the veracity of the model;

5   incorporate academic strategies and mindset in planning and self-assessment of mathematical success.

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours

1	Descriptive Statistics
	
	Basic Statistics
	
	   • Simple random samples and sampling bias
	   • Measures of center: mean, median, and mode
	   • Measures of spread: standard deviation, variance, interquartile range, and range
	   • Summation notation
	
	Graphs of one variable
	
	   • Histograms
	   • Stem plots
	   • Box plots
	   • Bar chart
	   • Pie chart
	
	Graphs of two variables
	
	   • Linear equations and inequalities with one and two variables, including absolute values
	   • The rectangular coordinate system
	   • Scatterplots
	   • The slope of a line
	   • Equations of lines
	   • Regression lines
	   • Applications using systems of equations
	   • Correlation
		24	0	24

2	Exponents and radical equations • Exponents and scientific notation • Solving equations with one radical	6	0	6
3	Exponential and logarithmic functions Exponential functions Logarithmic functions Common and natural logarithms Applications of exponential and logarithmic functions • Simple vs. compound interest • Annuities • Applications (Investing: long term vs short term, Borrowing: short vs long term; cost and benefits, credit cards, loans: payoff and monthly payments, student loans, mortgages, Richter Scale) Curved quantitative relationships • Exponential relationships with technology • Logarithmic relationships with technology	20	0	20

4	Basic set theory and probability
	
	Set theory
	
	  • The real number system
	  • Subsets
	  • Complements
	  • Unions and intersections
	  • Counting techniques, permutations, and combinations
	
	Probability rules
	
	  • Addition and multiplication rules
	  • Conditional probability, dependent and independent events
	  • 2-way tables
	  • Expected Value
	  • Applications (cards, dice, lottery, odds)
	
	Probability models
	
	  • General discrete probability models
	  • Normal and uniform distributions
		24	0	24

5	Affective Domain and Metacognition
	
	  • Information vs knowledge (concept maps)
	  • Study plans
	  • Mindset (growth, resilience, hardiness, and grit)
	  • Reading and cognitive techniques
	  • Study and test taking skills
		16	0	16

6	Arithmetic of real numbers • Fractions • Decimals • Percent Linear equations and inequalities • Applications • Formulas and literal equations • Absolute values Cartesian plane • Scaling • Equations of lines Introduction to functions Systems of equations • Applications Exponents and scientific notation Affective domain and metacognition • Metacognition and the brain • Skills for success in a math class • Productive persistence and struggle • Time Management	0	45	45
				135

OUT OF CLASS ASSIGNMENTS

1 homework (e.g. problems sets related to course content);

2 project(s) using datasets and technology culminating in a written report (e.g. analyze data provided involving price and quantity of soda and construct a scatter plot and linear regression model using Excel).

METHODS OF EVALUATION

1   quizzes;

2   five to eight examinations are required;

3   a comprehensive final examination is required.

METHODS OF INSTRUCTION

☑ Lecture

☑ Laboratory

☐ Studio

☑ Discussion

☑ Multimedia

☐ Tutorial

☐ Independent Study

☑ Collaboratory Learning

☐ Demonstration

☐ Field Activities (Trips)

☑ Guest Speakers

☑ Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	IBSN	Date
Intermediate Algebra	Required	Cengage	5	Print	Tussy, Alan	1-111-56767-0	2013
Collaborative Statistics	Required	OpenStax College	1	Print	Illowsky, Barbara	978-1938168-208	2016
Division generated materials							

COURSE DISCIPLINE :   MATH

COURSE NUMBER :   90

COURSE TITLE (FULL) :   Intermediate Algebra for BSTEM

COURSE TITLE (SHORT) :   Inter Alg for STEM

CATALOG DESCRIPTION

MATH 90 is a one-semester Intermediate Algebra course intended to prepare students for algebra-intensive transfer courses (i.e. Pre-calculus, Business Calculus, or College Algebra). Topics include fundamental laws, curve plotting, linear equations, fractional exponents, quadratic equations and inequalities, radical and rational expressions and equations, factoring, functions and inverse functions, algebra of functions, graphs of functions, systems of linear and nonlinear equations and inequalities, and exponential and logarithmic functions. MATH 90 is intended for students who plan to major in BSTEM (business, science, technology, engineering, and math).

Note: This course may not be taken for credit by students who have completed MATH 101, 118, 120, 220A, 220B or 220S. A maximum of 6 units will be granted for MATH 90 and any of the following courses: MATH 119, 219A, 219B, 219C, 146, 246A, or 246B. A maximum of 8 units will be granted for MATH 90 and either of the following: MATH 130 or 131.

Total Lecture Units:6.00

Total Laboratory Units: 0.00

Total Course Units: 6.00

Total Lecture Hours:108.00

Total Laboratory Hours: 0.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 108.00

Prerequisite: MATH 15

This course is a prerequisite of MATH 100, 112, 110A, 110, 136, 135, 138, and 133

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1	MATH	15	Foundations of Algebra	Add, subtract, multiply, and divide real numbers;	Yes
2	MATH	15	Foundations of Algebra	convert between percent, decimals and fractions;	Yes
3	MATH	15	Foundations of Algebra	solve introductory linear equations and inequalities;	Yes
4	MATH	15	Foundations of Algebra	simplify introductory exponential expressions;	Yes
5	MATH	15	Foundations of Algebra	add, subtract, multiply and divide polynomials;	Yes
6	MATH	15	Foundations of Algebra	graph introductory linear equations and inequalities;	Yes
7	MATH	15	Foundations of Algebra	find the equation of a line;	Yes
8	MATH	15	Foundations of Algebra	solve linear systems using graphing, substitution and elimination methods;	Yes
9	MATH	15	Foundations of Algebra	use algebra to solve applied problems;	Yes
10	MATH	15	Foundations of Algebra	factor polynomials;	Yes
11	MATH	15	Foundations of Algebra	demonstrate knowledge of test-taking strategies and study skills.	Yes

EXIT STANDARDS

1   Solve absolute value equations and inequalities;

2   solve linear equations and compound inequalities;

3   perform operations with polynomials;

4   simplify complex fractions;

5   perform operations with radical expressions;

6   simplify expressions with rational exponents;

7   solve rational equations;

8   solve equations with radicals;

9   find the equation of a line parallel or perpendicular to a given line;

10   solve a system of linear equations using elimination substitution;

11   solve systems of linear inequalities;

12   find the composition of two functions;

13   solve applied problems;

14   solve quadratic equations with real and complex solutions;

15   find the inverse of a function;

16   use the properties of logarithms to simplify and expand expressions;

17   solve logarithmic and exponential equations;

18   graph functions (linear, quadratic, exponential, logarithmic);

19   graph parabolas and circles centered at any point.

STUDENT LEARNING OUTCOMES

1   simplify linear, polynomial, rational, and radical expressions;

2   identify different types of equations and inequalities, select the appropriate strategy and solve the equation or inequality, and check the reasonableness of the solution;

3   identify, formulate, and analyze mathematical functions numerically, graphically, and symbolically at the intermediate algebra level and have the ability to transition between these representations;

4   formulate mathematical models for a variety of real-world phenomena and communicate mathematical solutions clearly and effectively.

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
1	The Real Number System • Sets and the real number system • Equality and properties of real numbers • Inequalities and graphs of sets of real numbers • Arithmetic of real numbers	3	0	3

2	Equations and Inequalities • Linear equations and their solutions • Applications • Formulas and literal equations • Absolute value equations • Linear inequalities • Inequalities with absolute values	10	0	10
3	Graphs of Lines, Equations of Lines, and Variation • The rectangular coordinate system • The slope of a line • Equations of lines • Graphs of linear inequalities in two variables • Introduction to functions • The algebra of functions, composition of functions • Translations and reflections of functions • Proportion and variation	10	0	10
4	Systems of Equations and Inequalities • Solution by graphing • Solution by substitution • Solution by elimination • Solution of three equations in three variables • Applications • Systems of linear inequalities	8	0	8

5	Exponents, Polynomials, and Factoring • Exponents and scientific notation • Adding and subtracting polynomials • Multiplying polynomials and dividing polynomials • The greatest common factor and factoring by grouping • The difference of two squares; the sum and difference of two cubes • Factoring trinomials • Solving equations by factoring • Applications	13	0	13

6	Rational Expressions • Simplifying rational expressions • Multiplying and dividing rational expressions • Adding and subtracting rational expressions • Complex fractions • Equations containing rational expressions • Applications • Graph rational functions	13	0	13
7	Rational Exponents and Radicals • Rational exponents • Radical expressions • Adding and subtracting radical expressions • Multiplying and dividing radical expressions • Solving equations with radicals • Applications of radicals • Complex numbers	11	0	11
8	Quadratic Equations • Completing the square • Quadratic formula • The discriminant and its applications • Equations quadratic in form • Non-linear inequalities of one variable	9	0	9
9	Exponential and Logarithmic Functions • One-to-one functions • Inverse functions • Exponential functions • Logarithmic functions • Properties of logarithms • Common and natural logarithms • Exponential equations and change of base • Solving logarithmic equations • Applications	11	0	11

10	The Conic Sections • Parabolas • Circles	4	0	4
11	Metacognition and Affective Domain • Study plans • Mindset (growth, resilience, hardiness and grit) • Reading and cognitive techniques • Study and test taking skills	16	0	16
				108

OUT OF CLASS ASSIGNMENTS

1   homework (e.g. problems sets related to course content);

2   online assignments (e.g. problems sets related to course content).

METHODS OF EVALUATION

1   group work.

2   quizzes

3   five to eight examinations are required;

4   a comprehensive final examination is required.

METHODS OF INSTRUCTION

☑ Lecture

☐ Laboratory

☐ Studio

☑ Discussion

☑ Multimedia

☐ Tutorial

☐ Independent Study

☑ Collaboratory Learning

☐ Demonstration

☐ Field Activities (Trips)

☐ Guest Speakers

☑ Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	IBSN	Date
Intermediate Algebra	Required	Cengage	5	Print	Tussy, Alan	1-111-56767-0	2013

COURSE DISCIPLINE :   MATH

COURSE NUMBER :   90+

COURSE TITLE (FULL) :   Intermediate Algebra for BSTEM with Support

COURSE TITLE (SHORT) :   Inter Alg for BSTEM with Support

CATALOG DESCRIPTION

MATH 90+ is a one-semester Intermediate Algebra course with a built-in support lab component intended to prepare students for algebra-intensive transfer courses (i.e. Pre-calculus, Business Calculus, or College Algebra). Topics include fundamental laws, curve plotting, linear equations, fractional exponents, quadratic equations and inequalities, radical and rational expressions and equations, factoring, functions and inverse functions, algebra of functions, graphs of functions, systems of linear and nonlinear equations and inequalities, and exponential and logarithmic functions. MATH 90+ is intended for students who plan to major in BSTEM (business, science, technology, engineering, and math).

Note: This course may not be taken for credit by students who have completed MATH 90, 101, 118, 120, 220A, 220B or 220S. A maximum of 6.5 units will be granted for MATH 90+ and any of the following courses: MATH 119, 219A, 219B, 219C, 146, 246A, or 246B. A maximum of 8 units will be granted for MATH 90+ and either of the following: MATH 130 or 131.

Total Lecture Units:6.00

Total Laboratory Units: 0.83

Total Course Units: 6.50

Total Lecture Hours:108.00

Total Laboratory Hours: 45.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 153.00

Prerequisite: MATH 15.

This course is a prerequisite for MATH 100, 110A, 110, 112, 136, 135, 138, and 133.

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1	MATH	15	Foundations of Algebra	Add, subtract, multiply, and divide real numbers;	Yes
2	MATH	15	Foundations of Algebra	convert between percent, decimals and fractions;	Yes
3	MATH	15	Foundations of Algebra	solve introductory linear equations and inequalities;	Yes
4	MATH	15	Foundations of Algebra	simplify introductory exponential expressions;	Yes
5	MATH	15	Foundations of Algebra	add, subtract, multiply and divide polynomials;	Yes
6	MATH	15	Foundations of Algebra	graph introductory linear equations and inequalities;	Yes
7	MATH	15	Foundations of Algebra	find the equation of a line;	Yes
8	MATH	15	Foundations of Algebra	solve linear systems using graphing, substitution and elimination methods;	Yes
9	MATH	15	Foundations of Algebra	use algebra to solve applied problems;	Yes
10	MATH	15	Foundations of Algebra	factor polynomials;	Yes
11	MATH	15	Foundations of Algebra	demonstrate knowledge of test-taking strategies and study skills.	Yes

EXIT STANDARDS

1   Solve absolute value equations and inequalities;
2   solve linear equations and compound inequalities;
3   perform operations with polynomials;
4   simplify complex fractions;
5   perform operations with radical expressions;
6   simplify expressions with rational exponents;
7   solve rational equations;
8   solve equations with radicals;
9   find the equation of a line parallel or perpendicular to a given line;
10 solve a system of linear equations using elimination and/or substitution;

11   solve systems of linear inequalities;

12   find the composition of two functions;

13   solve applied problems;

14   solve quadratic equations with real and complex solutions;

15   find the inverse of a function;

16   use the properties of logarithms to simplify and expand expressions;

17   solve logarithmic and exponential equations;

18   graph functions (linear, quadratic, exponential, logarithmic);

19   graph parabolas and circles centered at any point.

STUDENT LEARNING OUTCOMES

1   simplify linear, polynomial, rational, and radical expressions;

2   identify different types of equations and inequalities, select the appropriate strategy and solve the equation or inequality, and check the reasonableness of the solution;

3   identify, formulate, and analyze mathematical functions numerically, graphically, and symbolically at the intermediate algebra level and have the ability to transition between these representations;

4   formulate mathematical models for a variety of real-world phenomena and communicate mathematical solutions clearly and effectively;

5   incorporate academic strategies and mindset in planning and self-assessment of mathematical success.

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
1	The Real Number System • Sets and the real number system • Equality and properties of real numbers • Inequalities and graphs of sets of real numbers • Arithmetic of real numbers	3	0	3

2	Equations and Inequalities • Linear equations and their solutions • Applications • Formulas and literal equations • Absolute value equations • Linear inequalities • Inequalities with absolute values	10	0	10
3	Graphs of Lines, Equations of Lines, and Variation • The rectangular coordinate system • The slope of a line • Equations of lines • Graphs of linear inequalities in two variables • Introduction to functions • The algebra of functions, composition of functions • Translations and reflections of functions • Proportion and variation	10	0	10
4	Systems of Equations and Inequalities • Solution by graphing • Solution by substitution • Solution by elimination • Solution of three equations in three variables • Applications • Systems of linear inequalities	8	0	8
5	Exponents, Polynomials, and Factoring • Exponents and scientific notation • Adding and subtracting polynomials • Multiplying polynomials and dividing polynomials • The greatest common factor and factoring by grouping • The difference of two squares; the sum and difference of two cubes • Factoring trinomials • Solving equations by factoring • Applications	13	0	13

6	Rational Expressions • Simplifying rational expressions • Multiplying and dividing rational expressions • Adding and subtracting rational expressions • Complex fractions • Equations containing rational expressions • Applications • Graph rational functions	13	0	13
7	Rational Exponents and Radicals • Rational exponents • Radical expressions • Adding and subtracting radical expressions • Multiplying and dividing radical expressions • Solving equations with radicals • Applications of radicals • Complex numbers	11	0	11
8	Quadratic Equations • Completing the square • Quadratic formula • The discriminant and its applications • Equations quadratic in form • Non-linear inequalities of one variable	9	0	9

9	Exponential and Logarithmic Functions • One-to-one functions • Inverse functions • Exponential functions • Logarithmic functions • Properties of logarithms • Common and natural logarithms • Exponential equations and change of base • Solving logarithmic equations • Applications	11	0	11

10	The Conic Sections • Parabolas • Circles	4	0	4
11	Metacognition and Affective Domain • Study plans • Mindset (growth, resilience, hardiness, and grit) • Reading and cognitive techniques • Study and test taking skills Affective domain • Metacognition and the brain • Skills for success in a math class • Productive persistence and struggle • Time Management	16	0	16

| 12 | Arithmetic of real numbers

• Fractions

Linear equations

• Applications

Formulas and literal equations

Inequalities with absolute values

Equations of lines

Introduction to functions

Systems of Equations

• Applications

Exponents and scientific notation

Addition and subtraction of polynomials

Multiplication and division of polynomials

Factoring

Solving equations by factoring

Addition and subtraction of rational expressions

Proportions/Variations | 0 | 45 | 45 |

153

OUT OF CLASS ASSIGNMENTS

1   homework (e.g. problems sets related to course content);
2   online assignments (e.g. problems sets related to course content);
3   projects (e.g. analyze a real life situation and create a mathematical model).

METHODS OF EVALUATION

1   group work;
2   quizzes;
3   five to eight examinations are required;
4   a comprehensive final examination is required.

METHODS OF INSTRUCTION

☑ Lecture

☑ Laboratory

☐ Studio

☑ Discussion

☑ Multimedia

☐ Tutorial

☐ Independent Study

☑ Collaboratory Learning

☐ Demonstration

☐ Field Activities (Trips)

☑ Guest Speakers

☑ Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	IBSN	Date
Intermediate Algebra	Required	Cengage	5	Print	Tussy, Alan	1-111-56767-0	2013

Division generated materials							