COURSE OUTLINE : BUSAD 165
D Credit – Degree Applicable
COURSE ID
2/11/2019

COURSE DISCIPLINE : BUSAD

COURSE NUMBER : 165

COURSE TITLE (FULL) : Social Media Marketing II

COURSE TITLE (SHORT) : Social Media Marketing II

CATALOG DESCRIPTION

BUSAD 165 introduces students to social media platforms such as Facebook, Twitter, Instagram, LinkedIn, YouTube, Yelp, and Pinterest. Students will learn how to use these media forms either as a stand-alone vehicle or as a component of an overall media plan. The class touches on how each of these channels can be optimized most effectively for professional objectives such as creating a targeted advertising campaign or how to achieve overall campaign success. Determining the level of social media campaign success is possible through various analytics programs covered in class, including Facebook Insights and Google Analytics. The course serves as a foundation for later specialized study and directs the thinking of students to possible entrepreneurial ventures or careers in social media marketing.

Total Lecture Units:3.00

Total Laboratory Units: 0.00

Total Course Units: 3.00

Total Lecture Hours:54.00

Total Laboratory Hours: 0.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 54.00

Recommended Preparation:

BUSAD - 163 - Social Media Marketing I or equivalent

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1	BUSAD	163	Social Media Marketing I	Cite the various elements that comprise the visual side of social media branding including color, logo, value proposition, style, and touchpoints;	Yes

2	BUSAD	163	Social Media Marketing I	understand the nuances involved in targeting different audiences;	Yes
3	BUSAD	163	Social Media Marketing I	define analytics and goals in relation to CRM (Customer Relationship Management);	Yes
4	BUSAD	163	Social Media Marketing I	create a domain name and compare with URLs;	Yes
5	BUSAD	163	Social Media Marketing I	identify the elements of a Unique Selling Proposition (USP) and understand how the proposition relates to the development of: Overall site content, SEO (Search Engine Optimization), PPC (Pay Per Click) and Copywriting;	Yes
6	BUSAD	163	Social Media Marketing I	learn the history and evolution of social media;	Yes
7	BUSAD	163	Social Media Marketing I	appreciate the ethics of social media marketing and determine how to be compliant;	Yes
8	BUSAD	163	Social Media Marketing I	identify the key categories of a social media budget;	Yes
9	BUSAD	163	Social Media Marketing I	develop a brand style guide in preparation for the design of a website.	Yes

EXIT STANDARDS

1 Identify social media campaign goals;

2 identify the different social media channels;

3 recognize when to utilize the different social media channels;

4 apply social media marketing analysis; identify personal and business marketing strategies for each of the following social media platforms:

5 Facebook, Twitter, Instagram, LinkedIn, YouTube, and Yelp.

STUDENT LEARNING OUTCOMES

1 describe how social media analytics function and enable marketers to make informed, data-driven decisions

2 analyze how various social media channels are utilized for personal and business purposes;

3 describe the required information to initiate and maintain a social media campaign

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
1	Social Media Governing Strategies • The Social Media Campaign Goals • The Target Consumer's Persona • The Competitor's Social Media Strategies • The Selection of Social Media Channels • Utilizing Social Media Channels	9	0	9
2	Facebook Marketing Strategies • History • Personal • Business • Advertising • Running a Targeted Campaign • Analytics	9	0	9
3	Twitter Marketing Strategies • History • Personal • Business • Advertising • Running a Targeted Campaign • Analytics	6	0	6
4	Instagram • History • Personal • Business • Advertising • Running a Targeted Campaign	3	0	3

	• Analytics			
5	LinkedIn Marketing Strategies • History • Personal • Business • Advertising • Running a Targeted Campaign • Analytics	9	0	9
6	YouTube Marketing Strategies • History • Personal • Business • Advertising • Running a Targeted Campaign • Analytics	9	0	9
7	Yelp Marketing Strategies • History • Personal • Business • Advertising • Running a Targeted Campaign • Analytics	9	0	9
				54

OUT OF CLASS ASSIGNMENTS

1 social media strategy project (e.g. interview a small business owner, develop a social media strategy, and present a campaign to the class and the business owner).

METHODS OF EVALUATION

1 Quizzes
2 Midterm examination
3 Final examination

METHODS OF INSTRUCTION

- [x] Lecture
- [ ] Laboratory
  - [ ] Studio
- [ ] Discussion
- [ ] Multimedia
- [ ] Tutorial
- [ ] Independent Study
- [x] Collaboratory Learning
- [x] Demonstration
- [ ] Field Activities (Trips)
- [x] Guest Speakers
- [ ] Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	IBSN	Date
Digital Marketing Fundamentals		Mujo Learning Systems			Moore & Wilkins	10-1530962102	2016

COURSE OUTLINE : ENGR 117
D Credit – Degree Applicable
COURSE ID
2/11/2019

COURSE DISCIPLINE : ENGR

COURSE NUMBER : 117

COURSE TITLE (FULL) : Introduction to Engineering Technology

COURSE TITLE (SHORT) : Intro Engr Tech

CATALOG DESCRIPTION

ENGR 117 explores the professional activities and working environment of engineering technology, which is an emerging, hands-on discipline of applied engineering. The role of engineering technology in industry, the history of technology, and the future of the profession of engineering and engineering technology are covered. Students learn specific technical skills and tool use in this activity-based course. Safety and environmental sustainability concerns as well as the effects of technology on society are taught in a collaborative project-based class environment.

Catalog Note: ENGR 117 does not satisfy the engineering major requirement of ENGR 100.

Total Lecture Units:2.00

Total Laboratory Units: 1.00

Total Course Units: 3.00

Total Lecture Hours:36.00

Total Laboratory Hours: 54.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 90.00

Recommended Preparation:

ENGL - 120 - Composition and Reading or equivalent

ESL - 141 - Grammar And Writing IV or equivalent

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1	ENGL	120	Composition and Reading	compose thesis-based essays at a first-year college level;	Yes
2	ENGL	120	Composition and Reading	use detailed examples, facts, logical explanations, and other appropriate support for thesis statements;	No
3	ENGL	120	Composition and Reading	critically analyze selected prose works dealing with important contemporary issues;	Yes
4	ENGL	120	Composition and Reading	summarize, analyze, and synthesize information, express and apply standards for judgment, compare and contrast, and evaluate evidence in order to form and state reasoned opinions;	No
5	ENGL	120	Composition and Reading	gather and organize information through library research;	Yes
6	ENGL	120	Composition and Reading	demonstrate a command of grammar, diction, syntax, and mechanics sufficient for college level work: control of standard English at the sentence level, with few major errors in grammar and punctuation.	Yes
7	ESL	141	Grammar And Writing IV	compose a 400 to 450-word thesis-based essay which:	Yes
8	ESL	141	Grammar And Writing IV	a. summarizes and cites appropriately a reading passage provided as a prompt;	Yes
9	ESL	141	Grammar And Writing IV	b. includes a clear thesis statement;	Yes
10	ESL	141	Grammar And Writing IV	c. uses evidence to support the thesis;	Yes
11	ESL	141	Grammar And Writing IV	d. shows clear organization into an introduction, body and conclusion;	No
12	ESL	141	Grammar And Writing IV	e. uses appropriate rhetorical modes such as comparison/contrast, cause/effect and persuasion in order to support a thesis;	No

13	ESL	141	Grammar And Writing IV	demonstrate control of verb tenses in active and passive voice, gerunds and infinitives, conditionals real and unreal, adjective, noun, and adverb clauses, and transitional expressions;	No
14	ESL	141	Grammar And Writing IV	comprehend multi-paragraph reading passages in textbooks.	Yes

EXIT STANDARDS

1 explain the various disciplines and terminology of engineering technology;
2 describe social, economic, environmental and ethical impacts of engineering;
3 demonstrate safety practices and industry safety standards;
4 work and collaborate in a diverse team environment;
5 apply unit systems and use engineering measurement tools;
6 reference engineering and technological industry standards;
7 design, assemble, program and test a robot to perform autonomous tasks.

STUDENT LEARNING OUTCOMES

1 define the various disciplines of engineering technology and compare them to engineering disciplines.
2 demonstrate the effective use of measurement tools employed by engineering technologists and technicians.
3 analyze the positive and negative effects of engineering and technological designs and developments in the context of environmental sustainability and human and animal safety.

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
1	Introduction • Definition of engineering technology • Relationship to engineering • History of engineering and engineering technology • Engineering technology as an emerging profession	2	2	4

2	Sustainability and Society • Environmental issues and developmental sustainability • Effects of technology on the environment and society • Social justice issues in technological development • Ethical considerations of engineering design and technology	2	5	7

3	Safety • Industry standards and governmental regulations (OSHA) • Workplace safety practices • Personal protective devices (PPD) • Industry and corporate attitudes and best practices	2	5	7
4	Careers in Engineering and Engineering Technology • Engineering technology disciplines • Job functions and work environment • Roles of people who work in industry • Student preparation and study skills • Academic success strategies for careers in technology • Time management • Goals and commitment to your training	2	5	7

5	Measurement and Analysis • Unit systems. System Internationale (SI) and U.S. Customary • Precision and accuracy • Instruments and tools • Data acquisition, calculations and analysis • Graphing • Material properties	3	6	9
6	Design Process • Engineering design process steps • Reverse engineering • Economic, environmental and societal influences on the engineering design process	3	5	8

7	Engineering and Engineering Technology Systems • Mechanics • Thermodynamics • Fluids • Electrical • Control systems • Electro-mechanical • Mechatronics and robotics • Computer systems	3	5	8

8	Mechanical and Chemical Engineering Technology Oriented Industry Sectors • Materials • Manufacturing • Processes • Energy and energy efficiency • Biotechnology • Chemical • Biomedical • Agricultural • Aerospace • Mechatronics and robotics • Technical drafting and graphics • Automotive • Mining • Robotics	4	4	8
9	Civil Engineering Technology Oriented Industry Sectors • Construction • Transportation • Environmental • Water resources • Land surveying and geomatics	4	4	8
10	Electrical Engineering Technology Oriented Industry Sectors • Energy and Power • Electronics • Automotive • Aerospace • Communications • Computer • Systems engineering technology • Biomedical • Robotics	4	4	8

11	Computer Engineering Technology Oriented Industry Sectors • Information and computer technology • Networking and communications • Systems engineering technology, internet of things (IOC) • Computer architecture • Robotics and artificial intelligence (AI)	4	4	8
12	Applied Science and Engineering (optional topics) • Basic and applied statics • Basic and applied thermodynamics • Basic and applied fluid control and hydraulic systems • Control systems for electro-mechanical systems • Materials and material properties	3	5	8
				90

OUT OF CLASS ASSIGNMENTS

1 Journal Writing (e.g. create entries in an engineering lab journal)
2 Calculations (e.g. calculate the rotational speed of a wheel driven by an electric motor)
3 Essay (e.g. summarize the steps of the engineering design project)
4 Project (e.g. design a solar car from a kit and optimize its speed)
5 Research Project with Technical Report (e.g. use library resources to research water filtration, build a water filter and conduct experiments on its effectiveness and then write a technical report or memo on the findings).

METHODS OF EVALUATION

1 Quizzes
2 Collaborative Learning (e.g. small group discussion about the environmental effects of technology)
3 Projects (e.g. program a microcontroller that uses an air pollution sensor to measure particulate matter)
4 Exams

5 Presentation (e.g. write a technical poster and give an oral presentation on a specific field of engineering technology such as electro-mechanical engineering technology)
6 Final Exam (e.g. written final exam with an oral practicum component where students explain the proper use of engineering tools or measurement devices)

METHODS OF INSTRUCTION

- [x] Lecture
- [x] Laboratory
- [ ] Studio
- [x] Discussion
- [x] Multimedia
- [ ] Tutorial
- [ ] Independent Study
- [x] Collaboratory Learning
- [x] Demonstration
- [ ] Field Activities (Trips)
- [x] Guest Speakers
- [x] Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	IBSN	Date
Engineering & Technology	Required	Delmar Cengage Learning	1	Print	Michael Hacker	978-1-4180-7389-3	2010
Introduction to Engineering Technology	Required	Pearson	8	Print	Robert J. Pond	978-0-13-284011-8	2015

COURSE OUTLINE : ENGR 122
D Credit – Degree Applicable
COURSE ID
2/11/2019

COURSE DISCIPLINE : ENGR

COURSE NUMBER : 122

COURSE TITLE (FULL) : Engineering Graphics

COURSE TITLE (SHORT) : Engr Graphics

CATALOG DESCRIPTION

ENGR 122 presents the fundamental principles of engineering graphical communication and drawing using computer aided design (CAD) software as an integral teaching and learning methodology. Students develop 3-D visualization and spatial acuity skills in practical applications of descriptive geometry. Topics include orthographic projection, glass box theory, auxiliary views, sectioning, dimensioning, and geometric dimensioning and tolerancing (GD&T) as well as the engineering design process. Theory and practice of engineering graphics is taught using two professional CAD software packages, typically AutoCAD and SOLIDWORKS. Students develop skills in both 2-D and 3-D CAD modeling.

Catalog Note: This course may not be used as a substitute for any computer aided design course in the Engineering Technology - CAD Drafting & Design certificate program.

Total Lecture Units:2.00

Total Laboratory Units: 1.00

Total Course Units: 3.00

Total Lecture Hours:36.00

Total Laboratory Hours: 54.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 90.00

Prerequisite: MATH 110 or MATH 110B or equivalent

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1				Solve equations including rational, linear, polynomial, exponential, absolute value, radical, and logarithmic;	No

2				apply functions to model real world applications;	No

3				solve linear, non-linear, and absolute value inequalities;	No
4				graph the following types of functions and relations: polynomial, rational, exponential, logarithm, and conic section;	No
5				graph the basic trigonometric functions and apply changes in period, phase and amplitude to generate new graphs;	Yes
6				apply transformations to the graphs of functions and relations;	No
7				recognize the relationship between functions and their inverses graphically and algebraically;	No
8				evaluate and graph inverse trigonometric functions;	No
9				solve exponential and logarithmic equations;	No
10				apply the Fundamental Theorem of Algebra and related theorems to find the roots of a polynomial;	No
11				solve linear and non-linear systems of equations and inequalities;	No
12				apply the method of partial fraction decomposition;	No
13				apply the Binomial Theorem;	No
14				prove various trigonometric identities;	No
15				evaluate a trigonometric function at an angle whose measure is given in degrees and radians;	Yes
16				simplify trigonometric expressions;	No
17				solve trigonometric equations;	No

18				apply the basic definitions of trigonometry to solve right triangle application problems;	Yes
19				apply the laws of sines and cosines to solve application problems;	Yes
20				graph both polar and parametric equations;	No
21				convert between polar and rectangular coordinates;	Yes
22				use De Moivre's Theorem to find powers and roots of complex numbers.	No
23	MATH	110B	Precalculus II	solve algebraic equations;	No
24	MATH	110B	Precalculus II	apply functions to model real world applications;	No
25	MATH	110B	Precalculus II	solve linear, non-linear, and absolute value inequalities;	No
26	MATH	110B	Precalculus II	graph the following types of functions and relations: polynomial, rational, exponential, logarithm, conic section, and trigonometric;	No
27	MATH	110B	Precalculus II	apply transformations to the graphs of functions and relations;	No
28	MATH	110B	Precalculus II	solve exponential and logarithmic equations;	No
29	MATH	110B	Precalculus II	apply the Fundamental Theorem of Algebra and related theorems to find the roots of a polynomial;	No
30	MATH	110B	Precalculus II	solve linear and non-linear systems of equations and inequalities;	No
31	MATH	110B	Precalculus II	graph the basic trigonometric functions and apply changes in period, phase and amplitude to generate new graphs;	No
32	MATH	110B	Precalculus II	evaluate and graph inverse trigonometric functions;	No
33	MATH	110B	Precalculus II	apply the method of partial fraction decomposition;	No
34	MATH	110B	Precalculus II	apply the Binomial Theorem;	No

35	MATH	110B	Precalculus II	prove various trigonometric identities;	No
36	MATH	110B	Precalculus II	evaluate a trigonometric function at an angle whose measure is given in degrees and radians;	Yes
37	MATH	110B	Precalculus II	simplify trigonometric expressions;	No
38	MATH	110B	Precalculus II	solve trigonometric equations;	No
39	MATH	110B	Precalculus II	apply the basic definitions of trigonometry to solve right triangle application problems;	Yes
40	MATH	110B	Precalculus II	apply the laws of sines and cosines to solve application problems;	No
41	MATH	110B	Precalculus II	graph both polar and parametric equations;	Yes
42	MATH	110B	Precalculus II	convert between polar and rectangular coordinates;	Yes
43	MATH	110B	Precalculus II	use De Moivre's Theorem to find powers and roots of complex numbers;	No
44	MATH	110B	Precalculus II	use mathematical induction to prove formulas;	No
45	MATH	110B	Precalculus II	represent a vector in in the form < a , b > and ai+bj;	No
46	MATH	110B	Precalculus II	solve applications using vectors.	Yes

EXIT STANDARDS

1 Apply the principles of orthographic projection to create complete multi-view engineering drawings;

2 create pictorial drawings from three dimensional objects and orthographic projections; use computer aided design software to create 2D engineering drawings, including working,

3 production and assembly drawings; use computer aided design software to create 3D models, assemblies, exploded views and

4 engineering drawings;

5 create clear and concise auxiliary and section views of an object using industry standards;

6 demonstrate proficiency in coordinate dimensioning and tolerancing of engineering drawings; demonstrate geometric dimensioning and tolerancing (GD&T) as applied to an engineering

7 design drawing;

8 apply the engineering design process and demonstrate its steps in a design project.

STUDENT LEARNING OUTCOMES

1 apply the standards of orthographic projection in computer aided designs to efficiently communicate detailed drawing information by creating completely defined drawings without excess information.
2 evaluate engineering design needs and use judgement to include proper dimensioning and tolerances in a CAD design for efficient manufacturing of the part, construction or machine.
3 demonstrate the engineering design process in a computer aided drafting and design project.

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
1	Introduction • Definition of engineering graphics • Industry uses and history of drafting • Evolution of computer aided design (CAD) software • Engineering drawing types • Visualization skills	2	1	3
2	Lettering and Review of Geometric Construction • Lettering fonts • Mark-ups and field notes • Geometric construction practice • Bisecting lines and arcs • Tangencies • Circles and curves	2	3	5
3	Lines and Line Types • Solid, hidden, center lines and center marks • Construction lines, fold lines and references • Line thickness and quality • Hand drawing versus CAD tools for lines	2	3	5

4	Measurement Tools • Engineering scales • Architecture scales • Calipers and micrometers • CAD software measurement tools for distance, mass and density	3	4	7
5	Orthographic Projection • Glass box concept • Vocabulary of drawing concepts • Visualization of 3D objects • Third angle and first angle projection • 2D CAD software for orthographic projection • Using layers in AutoCAD for line types • Multiview drawings by hand and in CAD software • 2D and 3D construction and editing tools	4	8	12
6	Pictorials • Visualization of 3D objects • Axonometric projection • Isometric views • Dimetric views • Trimetric views • Oblique Projection • Perspective View • Selecting views in CAD	4	6	10

7	Auxiliary Views • Determining the need for an auxiliary view • Descriptive geometry • True size and shape • Creating auxiliary views in CAD	4	6	10
8	Section Views • Types of sections • Full and half sections • Revolved sections • Fasteners and standard notation of threaded fasteners • Cutting planes	3	5	8
9	Dimensioning and Tolerancing • Coordinate dimensioning and tolerancing • Arrow heads, callouts, leader lines • Placement of dimensions • Dimensioning and tolerancing in CAD • Design judgement for complete dimensioning and tolerance selection	3	6	9

10	Geometric Dimensioning and Tolerancing • Feature control frames • Maximum and least material condition • Using engineering or design judgement to determine tolerance • Manufacturability and cost and quality considerations • Working with technicians and technologists for efficient designs	3	6	9
11	Types of Drawings • Detail, shop and assembly drawings • Production drawings • Assembly drawings in CAD • Exploded views • 3D project modeling, building information management (BIM) • File maintenance and conversion • Electronic documentation of large engineering projects	3	2	5
12	Engineering Design Process • Steps in the engineering design process • Design, prototyping and iteration • Efficiency in CAD design	3	4	7
				90

OUT OF CLASS ASSIGNMENTS

1 Drawing (e.g. create pictorial drawing such as an isometric view drawing)
2 Project (e.g. design and build a pencil holder and then create engineering drawings of the item using CAD)
3 Essay (e.g. write a brief summary of an industry organization such as the American Society of Civil Engineers ASCE)
4 Group Project (e.g. design a water filtration system and produce a complete set of engineering drawings using CAD)

METHODS OF EVALUATION

1 Drawings (e.g. create an engineering drawing of an object)
2 Exams
3 Projects (e.g. reverse engineer an object of device and create engineering design drawings)
4 Final Exam

METHODS OF INSTRUCTION

- [x] Lecture
- [x] Laboratory
- [ ] Studio
- [x] Discussion
- [x] Multimedia
- [ ] Tutorial
- [ ] Independent Study
- [ ] Collaboratory Learning
- [x] Demonstration
- [ ] Field Activities (Trips)
- [ ] Guest Speakers
- [x] Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	IBSN	Date
Engineering Graphics Essentials	Required	SDC Publications	5	Print	Kirstie Plantenberg	978-163057-0521	2017
Engineering Graphics Essentials with AutoCAD Instruction	Required	SDC Publications	1	Print	Kirstie Plantenberg	978-163057-1917	2018
Engineering Graphics Principles with Geometric Dimensioning and Tolerancing	Required	SDC Publications	2	Print	E. Max Raisor FIAE	978-163057-1214	2017

COURSE OUTLINE : ENGR 125
D Credit – Degree Applicable
COURSE ID
2/11/2019

COURSE DISCIPLINE : ENGR

COURSE NUMBER : 125

COURSE TITLE (FULL) : Programming Concepts and Methodologies for Engineers

COURSE TITLE (SHORT) : Prog Meth for Engineers

CATALOG DESCRIPTION

ENGR 125 teaches the application of structured programming concepts for engineering problems. Topics include practical mechanics, electronics, robotics, as well as the design, reduction and analysis of experimental data using high level languages. Required for electrical and computer engineering majors, students learn to program and control engineering devices and sensors that interface with the physical world. The interaction between computer programming and the physical world is a major focus of the course.

Catalog Note: This course may not be used to meet the requirements of any computer science program.

Total Lecture Units:3.00

Total Laboratory Units: 1.00

Total Course Units: 4.00

Total Lecture Hours:54.00

Total Laboratory Hours: 54.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 108.00

Prerequisite: MATH 103 or equivalent

Recommended Preparation:

ENGL - 120 - Composition and Reading or equivalent

ESL - 141 - Grammar And Writing IV or equivalent

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1	MATH	103	Calculus And Analytic Geometry	Find limits of functions at points and at infinity;	No
2	MATH	103	Calculus And Analytic Geometry	determine and prove continuity of a function at a point;	No
3	MATH	103	Calculus And Analytic Geometry	use the derivative for rate of change problems;	Yes
4	MATH	103	Calculus And Analytic Geometry	implicitly differentiate and apply the technique of implicit differentiation;	Yes
5	MATH	103	Calculus And Analytic Geometry	find derivatives of composite functions;	No
6	MATH	103	Calculus And Analytic Geometry	determine relative and absolute maximum and minimum points of functions and points of inflection;	Yes
7	MATH	103	Calculus And Analytic Geometry	evaluate the area under a curve using Riemann sums;	Yes
8	MATH	103	Calculus And Analytic Geometry	apply the mean-value theorem for integrals and demonstrate an understanding of the Fundamental Theorem of Calculus;	Yes
9	MATH	103	Calculus And Analytic Geometry	use substitution to integrate;	No
10	MATH	103	Calculus And Analytic Geometry	determine the area between curves and the average value of a function;	Yes
11	MATH	103	Calculus And Analytic Geometry	determine the volumes of solids of revolution using the disk method, the cylindrical shell method, and the cross-section method;	Yes
12	MATH	103	Calculus And Analytic Geometry	determine work done in applications involving liquids and springs;	Yes
13				basic knowledge of computer usage.	Yes
14	ENGL	120	Composition and Reading	compose thesis-based essays at a first-year college level;	Yes
15	ENGL	120	Composition and Reading	use detailed examples, facts, logical explanations, and other appropriate support for thesis statements;	No

16	ENGL	120	Composition and Reading	critically analyze selected prose works dealing with important contemporary issues;	No
17	ENGL	120	Composition and Reading	summarize, analyze, and synthesize information, express and apply standards for judgment, compare and contrast, and evaluate evidence in order to form and state reasoned opinions;	Yes
18	ENGL	120	Composition and Reading	gather and organize information through library research;	Yes
19	ENGL	120	Composition and Reading	demonstrate a command of grammar, diction, syntax, and mechanics sufficient for college level work: control of standard English at the sentence level, with few major errors in grammar and punctuation.	No
20	ESL	141	Grammar And Writing IV	compose a 400 to 450-word thesis-based essay which:	Yes
21	ESL	141	Grammar And Writing IV	a. summarizes and cites appropriately a reading passage provided as a prompt;	Yes
22	ESL	141	Grammar And Writing IV	b. includes a clear thesis statement;	Yes
23	ESL	141	Grammar And Writing IV	c. uses evidence to support the thesis;	Yes
24	ESL	141	Grammar And Writing IV	d. shows clear organization into an introduction, body and conclusion;	Yes
25	ESL	141	Grammar And Writing IV	e. uses appropriate rhetorical modes such as comparison/contrast, cause/effect and persuasion in order to support a thesis;	No
26	ESL	141	Grammar And Writing IV	demonstrate control of verb tenses in active and passive voice, gerunds and infinitives, conditionals real and unreal, adjective, noun, and adverb clauses, and transitional expressions;	No
27	ESL	141	Grammar And Writing IV	comprehend multi-paragraph reading passages in textbooks.	Yes

EXIT STANDARDS

1 Demonstrate different forms of binding, visibility, scoping, and lifetime management;
2 integrate software and hardware components in order to respond to physical phenomena and manipulate physical devices and objects;

3 analyze and explain simple programs involving fundamental programming constructs;
4 modify and expand short programs that use standard conditional and iterative control structures and functions;
5 create algorithms for solving simple problems;
6 apply pseudocode or a programming language to implement, test, and debug algorithms for solving simple problems;
7 identify and describe the properties of a variable such as its associated address, value, scope persistence, and size;
7 apply software developed by others, modify the software, and validate the quality of the modifications;
9 demonstrate the interaction between software and the physical world;
10 describe simple software quality assurance (QA) procedures;
11 demonstrate systematic QA procedures to evaluate design and implementation quality;
12 demonstrate awareness of industry standards for quality assurance and software life cycle such as ISO 9000 and IEEE.

STUDENT LEARNING OUTCOMES

1 design, implement, test, and debug a program that uses fundamental programming constructs such as basic computation, input-output, conditional and iterative structures, and the definition of functions;
2 Summarize the evolution of programming languages and show how the classification of programming features have created the programming paradigms that are used today;
3 create programs using basic development tools and integrated development environments that allows for the interface with the physical world by using a microcontroller to record and display data or control a device

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
1	Introduction • History of computer engineering • Definitions and interdisciplinary engineering • Review of basic computer usage • Engineering design process applications in computer and electrical engineering	2	2	4

2	Programming Fundamentals • Basic computer science concepts • Syntax and semantics in high level languages • Variables, types, expressions, and assignment • Data types • Simple input-output • Simple decision making statements • Conditional and iterative control structures • Functions and parameter passing • Structured decomposition	4	4	8
3	Control Structures • Top down methodology • Algorithms and stepwise refinement • Conditional control structures • Choosing the best iterative constructs for a programming task • Iterative control structures • If, if/else and switch selection structures • While, do/while repetition structures	4	4	8

4	Functions • Functions and parameter passing • Mechanics of parameter passing • Structured decomposition • Techniques of functional decomposition to break a program into smaller pieces • Simulation techniques using random number generation • Visibility of identifiers and limitations • Functions that call themselves • Recursion	4	4	8

5	Arrays • Array data structure • Declare and initialize arrays • Passing arrays to functions • Array elements and indices • Basic sorting techniques • Declare and manipulate multiple subscript arrays • Limits of data in microcontrollers	4	4	8
6	Algorithms and Problem Solving • Engineering problem solving strategies and methods • Concept and properties of algorithms • Identifying effective properties of strong algorithms • Importance of algorithms in the engineering design and problem solving processes • Algorithms as problem solving and organization tools • Implementation strategies using algorithms • Debugging skills and strategies • Communicating effective algorithm and debugging techniques	4	4	8
7	Programming Languages Used in Engineering • History and overview of programming language development in the context of engineering needs • Survey of programming paradigms • Procedural languages • Object-oriented languages • Distinguishing characteristics of programming paradigms	4	4	8

8	Declaration and Types • Conception of types as a set of values with a set of operations • Declaration models • Blinding • Visibility • Scope • Lifetime • Value of declaration models with respect to programming-in-the-large • Type checking • Type incompatibility • Importance of types and type-checking in providing abstraction and safety	4	4	8
9	Interface with the Physical World • Software development tools • Basic hardware interface development tools • Modifying software • Demonstration of designs and implementations • Implementing software that manipulates or responds to physical phenomena	8	8	16

10	Interface with the Physical World (continued) • Embedded programming in the microcontroller • Using microcontrollers that are preprogrammed • Programming for sensors • Programming for servo motors • Graphical user interface • Circuit fundamentals and building circuits for sensors and actuators • Different types of commercially available microcontroller platforms such as Arduino, Raspberry Pi, National Instruments and LABVIEW • Using other software tools such as MATLAB • Basics of signal processing such as amplification and noise reduction to obtain and use sensor data • Robotics and variations on microcontroller uses • Automatic and autonomous functioning of microcontrollers embedded in everyday devices	8	8	16
11	Pointers and Strings • Using pointers to pass arguments to functions by reference • Relationships between pointers, arrays, and strings • Declare and use arrays of strings	4	4	8
12	File Processing • Create, read, write, and update files • Sequential-access file processing • Random-access file processing • Formatted data vs. raw data file processing	4	4	8
				108

OUT OF CLASS ASSIGNMENTS

1 homework (e.g. write an algorithm that solves a set of linear equations)

2 essay [e.g. summarize the activities of the Association for Computing Machinery (ACM), including industry standards]

3 project (e.g. use a microcontroller to design a digital thermometer)

METHODS OF EVALUATION

1 quizzes
2 laboratory assignments (e.g. program a microcontroller to use various sensors)
3 project (e.g. programming a microcontroller to collect air pollution data using a particulate matter sensor)
4 exams (e.g. midterm)
5 final exam

METHODS OF INSTRUCTION

- [x] Lecture
- [x] Laboratory
- [ ] Studio
- [x] Discussion
- [x] Multimedia
- [ ] Tutorial
- [ ] Independent Study
- [x] Collaboratory Learning
- [x] Demonstration
- [ ] Field Activities (Trips)
- [ ] Guest Speakers
- [ ] Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	IBSN	Date
Problem Solving with C++	Required	Pearson	10	Print	Walter Savitch	9780134448282	2018

COURSE OUTLINE : ENGR 180
D Credit – Degree Applicable
COURSE ID
2/11/2019

COURSE DISCIPLINE : ENGR

COURSE NUMBER : 180

COURSE TITLE (FULL) : Surveying

COURSE TITLE (SHORT) : Surveying

CATALOG DESCRIPTION

ENGR 180 covers the theory, principles, and practice of plane surveying and includes office computations and design, operation of surveying field equipment, and production of engineering plans and maps. Topics include measurement of distances, angles, and directions, differential leveling, traversing, property and boundary surveys. Students learn topographic surveying and mapping, volume and earthwork calculations, horizontal and vertical curves, land description techniques and global positioning system (GPS). Students may transfer this course to a university civil engineering program or apply it toward a technical career as a land surveyor.

Catalog Note: ENGR 180 requires significant field work that is conducted on campus during the lab hours.

Total Lecture Units:2.00

Total Laboratory Units: 1.00

Total Course Units: 3.00

Total Lecture Hours:36.00

Total Laboratory Hours: 54.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 90.00

Prerequisite: MATH 110 or MATH 110B or equivalent

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1	MATH	110	Precalculus	Solve equations including rational, linear, polynomial, exponential, absolute value, radical, and logarithmic;	No
2	MATH	110	Precalculus	apply functions to model real world applications;	Yes

3	MATH	110	Precalculus	solve linear, non-linear, and absolute value inequalities;	No

4	MATH	110	Precalculus	graph the following types of functions and relations: polynomial, rational, exponential, logarithm, and conic section;	No
5	MATH	110	Precalculus	graph the basic trigonometric functions and apply changes in period, phase and amplitude to generate new graphs;	Yes
6	MATH	110	Precalculus	apply transformations to the graphs of functions and relations;	No
7	MATH	110	Precalculus	recognize the relationship between functions and their inverses graphically and algebraically;	No
8	MATH	110	Precalculus	evaluate and graph inverse trigonometric functions;	No
9	MATH	110	Precalculus	solve exponential and logarithmic equations;	No
10	MATH	110	Precalculus	apply the Fundamental Theorem of Algebra and related theorems to find the roots of a polynomial;	Yes
11	MATH	110	Precalculus	solve linear and non-linear systems of equations and inequalities;	No
12	MATH	110	Precalculus	apply the method of partial fraction decomposition;	No
13	MATH	110	Precalculus	apply the Binomial Theorem;	Yes
14	MATH	110	Precalculus	prove various trigonometric identities;	Yes
15	MATH	110	Precalculus	evaluate a trigonometric function at an angle whose measure is given in degrees and radians;	Yes
16	MATH	110	Precalculus	simplify trigonometric expressions;	Yes
17	MATH	110	Precalculus	solve trigonometric equations;	Yes
18	MATH	110	Precalculus	apply the basic definitions of trigonometry to solve right triangle application problems;	Yes
19	MATH	110	Precalculus	apply the laws of sines and cosines to solve application problems;	Yes
20	MATH	110	Precalculus	graph both polar and parametric equations;	Yes

21	MATH	110	Precalculus	convert between polar and rectangular coordinates;	Yes
22	MATH	110	Precalculus	use De Moivre's Theorem to find powers and roots of complex numbers;	No
23	MATH	110	Precalculus	represent a vector (a quantity with magnitude and direction) in the form <a,b> and ai+bj.	Yes
24	MATH	110B	Precalculus II	solve algebraic equations;	Yes

25	MATH	110B	Precalculus II	apply functions to model real world applications;	No
26	MATH	110B	Precalculus II	solve linear, non-linear, and absolute value inequalities;	No
27	MATH	110B	Precalculus II	graph the following types of functions and relations: polynomial, rational, exponential, logarithm, conic section, and trigonometric;	No
28	MATH	110B	Precalculus II	apply transformations to the graphs of functions and relations;	No
29	MATH	110B	Precalculus II	solve exponential and logarithmic equations;	No
30	MATH	110B	Precalculus II	apply the Fundamental Theorem of Algebra and related theorems to find the roots of a polynomial;	No
31	MATH	110B	Precalculus II	solve linear and non-linear systems of equations and inequalities;	No
32	MATH	110B	Precalculus II	graph the basic trigonometric functions and apply changes in period, phase and amplitude to generate new graphs;	No
33	MATH	110B	Precalculus II	evaluate and graph inverse trigonometric functions;	No
34	MATH	110B	Precalculus II	apply the method of partial fraction decomposition;	No
35	MATH	110B	Precalculus II	apply the Binomial Theorem;	No
36	MATH	110B	Precalculus II	prove various trigonometric identities;	No
37	MATH	110B	Precalculus II	evaluate a trigonometric function at an angle whose measure is given in degrees and radians;	Yes

38	MATH	110B	Precalculus II	simplify trigonometric expressions;	No
39	MATH	110B	Precalculus II	solve trigonometric equations;	Yes
40	MATH	110B	Precalculus II	apply the basic definitions of trigonometry to solve right triangle application problems;	Yes
41	MATH	110B	Precalculus II	apply the laws of sines and cosines to solve application problems;	Yes
42	MATH	110B	Precalculus II	graph both polar and parametric equations;	No
43	MATH	110B	Precalculus II	convert between polar and rectangular coordinates;	Yes
44	MATH	110B	Precalculus II	use De Moivre's Theorem to find powers and roots of complex numbers;	No
45	MATH	110B	Precalculus II	use mathematical induction to prove formulas;	No
46	MATH	110B	Precalculus II	represent a vector in in the form < a , b > and ai+bj;	No
47	MATH	110B	Precalculus II	solve applications using vectors.	No

EXIT STANDARDS

1 Perform office computations for area calculations, traversing, property and boundary surveys, topographic surveys and mapping, volume and earthwork, horizontal and vertical curves and error analyses;
2 reduce field notes using various mathematical techniques to generate records describing horizontal and vertical control of landforms;
3 create plots, plans, and maps from field work data using manual and CAD drafting;
4 describe professional practice issues including professional ethics in land surveying;
5 discuss the technical activities and responsibilities of professional engineers (PE) and land surveyors (LS) including licensing requirements;
6 demonstrate appropriate safety practices such as personal protection equipment (PPE) during field work training.

STUDENT LEARNING OUTCOMES

1 operate surveying related equipment such as tape, level, transit, theodolite, compass, total station and GPS safely and efficiently;
2 work effectively in groups during field surveying and engineering design activities and communicate with written reports and oral presentations of problem solutions;

3 organize data from field notes to create meaningful and useful records.

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
1	Introduction • History of land surveying • Definition of surveying and geomatics • Technological evolution of land surveying equipment • Professionalism and licensing of land surveyors and professional engineers • Relevant industries and uses of surveying skills and services • Governmental involvement in surveying and mapping	2	2	4
2	Units Systems and Measurements • International system of units (SI) and US customary units • Unit conversion • Significant figures • Rounding numbers • Accuracy and precision • Units of measurement: distance, angles, area, volume	2	4	6
3	Field Notes • Writing field notes • Types of notes and organizing field book entries • Electronic data collection and devices • File management and field notes reduction	2	4	6

4	Distance Measurements • Methods of linear measurements • Taping, pacing odometer, optical rangefinders, tacheometry (stadia), subtense bars, electronic distance measurement (EDM), satellite systems. • Total station instruments	2	4	6
5	Leveling • Differential leveling • Equipment setup • Observer and rod-person duties • Notes, calculations, and precision • Types of leveling: circuit, reciprocal, profile, and three wire leveling • Errors in leveling	3	6	9
6	Angles and Directions • Units of angle measurement • Azimuths and bearings • Compass and the earth's magnetic field • Calculating azimuths and bearings	3	5	8

7	Traversing • Coordinates • Computations such as zenith, bearing, latitude, departure, and coordinates of a line utilizing field data • Departures and latitude closure • Land area calculations • Determination of rotation angle • Computation of final distance • Area for balanced traverse • Error analysis	6	6	12
8	Coordinate Geometry • Coordinate forms of equations of lines and circles • Perpendicular distances • Intersections of lines and circles	2	4	6
9	Property and Boundary Surveys • Categories of land surveys • Metes and bounds descriptions • Retracement, subdivisions, partitioning land, registration of title • History • Sources of error in boundary surveys	2	4	6
10	Topographic and Mapping Surveys • Basic methods • Map scales • Contours and location methods • Field methods for locating topographic details such as using total station, stadia, grid method	2	4	6

11	Volume and Earthwork • Average end area formula • Calculating slope intercepts • Prismoidal formula • Contour-area method	4	4	8
12	Horizontal and Vertical Curves • Degree of circular curve • Definitions and derivation of circular curve formulas • Equations of vertical parabolic curve • High and low point • Staking a vertical parabolic curve	2	2	4
13	Equipment • Tapes, levels, transits, theodolites, total stations, GPS • Computers and manual and computer aided drafting of plans	2	2	4
14	Optional Topics • Introduction to GPS • Introduction to Photogrammetry Theory/Viewing Aerial Photos • Stadia theory • Construction applications	2	3	5
				90

OUT OF CLASS ASSIGNMENTS

1 hand drawings (e.g. draw a topographical map)
2 calculations (e.g. calculate the distance between two points with appropriate precision)
3 projects (e.g. calculate and report on error analysis of a set of data)

METHODS OF EVALUATION

1 field work (e.g. operating field equipment safely and effectively)
2 field book (e.g. organized, clear and accurate notes written in a field book)

3 quizzes
4 projects [e.g. create a plot plan or map using computer aided design software (CAD)]
5 final exam (e.g. written and practical demonstration exam)

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
Elementary Surveying: An Introduction to Geomatics	Required	Pearson	15	Print	Charles D. Ghilani	9780134604657	2018
Surveying	Required	Wiley	6	Print	Jack McCormac	9780470496619	2012

COURSE OUTLINE : KIN 158
D Credit – Degree Applicable
COURSE ID
2/11/2019

COURSE DISCIPLINE : KIN

COURSE NUMBER : 158

COURSE TITLE (FULL) : Fitness Training for Special Populations

COURSE TITLE (SHORT) : Fitness Training for Special Populations

CATALOG DESCRIPTION

KIN 158 provides instruction and practical application of personal and group fitness training techniques for special populations including; older adults, persons with disabilities, persons with musculoskeletal disorders, and persons with chronic diseases. Evidence-based protocols, adaptations of activities, contraindications, and effective fitness programming will be emphasized. Psychosocial issues related to aging, disease and disability will also be addressed, as well as effective methods for communication, demonstration, and creating an accessible environment. This course is recommended for students interested in pursuing careers in physical education, kinesiology, fitness training, physical therapy, occupational therapy or gerontology.

Total Lecture Units:3.00

Total Laboratory Units: 1.00

Total Course Units: 4.00

Total Lecture Hours:54.00

Total Laboratory Hours: 54.00

Total Laboratory Hours To Be Arranged: 54.00

Total Contact Hours: 162.00

Recommended Preparation:

KIN 167 and KIN 151 or KIN 156 or KIN 157, HLTH 102 or equivalent, ENGL 120 or equivalent.

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1	KIN	167	Weight Training and Conditioning I	Evaluate current health-related fitness status and set appropriate goals for improving or maintaining fitness;	No

2	KIN	167	Weight Training and Conditioning I	explain the significance of body awareness related to proper body mechanics;	Yes
3	KIN	167	Weight Training and Conditioning I	explain how core strength, posture and proper form promotes health and prevents injuries;	Yes
4	KIN	167	Weight Training and Conditioning I	demonstrate proper lifting technique for basic resistance, cardiorespiratory, flexibility and balance training exercises;	Yes
5	KIN	167	Weight Training and Conditioning I	identify appropriate resistance exercises to train major muscle groups;	Yes
6	KIN	167	Weight Training and Conditioning I	identify errors of posture during activities of life and workplace body mechanics;	Yes
7	KIN	167	Weight Training and Conditioning I	describe the principles of fitness;	Yes
8	KIN	167	Weight Training and Conditioning I	design a personalized exercise program to achieve health-related fitness goals;	No
9	KIN	167	Weight Training and Conditioning I	identify appropriate exercises for enhancement of core stability.	Yes
10	KIN	156	Foundations For Personal Fitness Training	demonstrate a basic understanding of scientific principles used for personal training;	Yes
11	KIN	156	Foundations For Personal Fitness Training	design individualized fitness programs and routines applying principles of exercise;	No
12	KIN	156	Foundations For Personal Fitness Training	instruct individual exercise sessions effectively, providing appropriate motivational and correctional feedback;	No
13	KIN	156	Foundations For Personal Fitness Training	adapt exercise programs for special populations.	Yes
14	ENGL	120	Composition and Reading	compose thesis-based essays at a first-year college level;	No
15	ENGL	120	Composition and Reading	use detailed examples, facts, logical explanations, and other appropriate support for thesis statements;	No
16	ENGL	120	Composition and Reading	critically analyze selected prose works dealing with important contemporary issues;	No

17	ENGL	120	Composition and Reading	summarize, analyze, and synthesize information, express and apply standards for judgment, compare and contrast, and evaluate evidence in order to form and state reasoned opinions;	Yes
18	ENGL	120	Composition and Reading	gather and organize information through library research;	No
19	ENGL	120	Composition and Reading	demonstrate a command of grammar, diction, syntax, and mechanics sufficient for college level work: control of standard English at the sentence level, with few major errors in grammar and punctuation.	No
20				identify the emergency action principles	Yes

EXIT STANDARDS

1 Recognize terminology of common disabilities and conditions;
2 identify and explain contraindications to exercise for special populations;
3 apply principles of fitness and best practices to design a fitness program for an individual with a disability or chronic condition;
4 demonstrate best practices when working with special populations in an exercise setting to promote safety and improve fitness measures;
5 recognize psychosocial considerations and utilize best practices in working with individuals with disabilities.

STUDENT LEARNING OUTCOMES

1 Identify and explain terminology, conditions present and considerations for fitness training in special populations.
2 Apply principles of fitness and best practices to work with special population clientele in an exercise setting.
3 Utilize universal risk management strategies.

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
1	Introduction • Review of principles of fitness • Review of nervous, musculoskeletal, cardiovascular and pulmonary anatomy/physiology • Review of scope of practice of a fitness professional • Liability issues and professionalism • Continued education and certifications	9	0	9
2	Older Adults • Population growth • Natural process of aging • Overview of common conditions and risk factors • Functional fitness testing • Contraindications • Application of fitness principles • Balance training/fall prevention strategies • Psychosocial considerations • Nutritional Considerations • Considerations for common medications and exercise • Resources	9	0	9

3	Children and Youth • Motor development spectrum • Application of fitness testing • Application of fitness principles • Contraindications • Psychosocial considerations • Nutritional considerations • Resources	3	0	3

4	Chronic Diseases • Overview • Cardiovascular diseases • Metabolic disorders • Cancers • Respiratory diseases • Genetics • Application of fitness testing • Application of fitness principles • Contraindications • Psychosocial considerations • Nutritional considerations • Considerations for common medications and exercise • Resources	18	0	18
5	Neuromuscular Disorders • Overview • Application of fitness testing • Application of fitness principles • Contraindications • Psychosocial considerations • Nutritional considerations • Considerations for common medications and exercise • Resources	9	0	9

6	Sensory Disabilities • Overview • Application of fitness testing • Application of fitness principles • Contraindications • Psychosocial considerations • Nutritional considerations • Resources	3	0	3
7	Cognitive, Psychological and Behavioral Disabilities • Overview • Application of fitness testing • Application of fitness principles • Contraindications • Psychosocial considerations • Nutritional considerations • Resources	3	0	3
8	Laboratory • Protocols • Privacy, respect and offering assistance • Focusing on the abilities of the client, not disabilities • Fitness assessments, goal setting and programming • Providing instruction and cuing exercises • Motivational strategies, promoting autonomy • Record keeping • Wheelchair transfers • Adapting exercises • Utilizing specialized equipment	0	54	54
				108

OUT OF CLASS ASSIGNMENTS

1 written assignments (e.g. reflection on individual growth in working with a variety of clientele)
2 interviews (e.g. interview a coach with Special Olympics)
3 case studies (e.g. online research of resources for individuals with cerebral palsy)

METHODS OF EVALUATION

1 quizzes
2 midterm exams
3 lab practical
4 final exam

METHODS OF INSTRUCTION

- [x] Lecture
- [x] Laboratory
- [ ] Studio
- [x] Discussion
- [x] Multimedia
- [ ] Tutorial
- [ ] Independent Study
- [x] Collaboratory Learning
- [x] Demonstration
- [x] Field Activities (Trips)
- [x] Guest Speakers
- [x] Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	IBSN	Date
ACSM's Exercise Management for Persons with Chronic Diseases and Disabilities	Supplemental	Human Kinetics	4		Geoffrey Moore, J. Larry Durstine and Patricia Painter	9781450434140	2016
Instructor-generated reading materials	Required						

COURSE OUTLINE : OBT 63
N Non-Credit
COURSE ID
2/11/2019

COURSE DISCIPLINE : OBT

COURSE NUMBER : 63

COURSE TITLE (FULL) : Medical Clinical Assisting

COURSE TITLE (SHORT) : Medical Clinical Assisting

CATALOG DESCRIPTION

OBT 63 provides the student with a comprehensive understanding and mastery of clinical back office procedures. Students gain the skills needed to hold a variety of roles in a medical practice setting, including checking blood pressure, injections, and drawing blood.

Total Lecture Units:0.00

Total Laboratory Units: 0.00

Total Course Units: 0.00

Total Lecture Hours:0.00

Total Laboratory Hours: 264.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 264.00

Recommended Preparation:

OBT - 61 - MEDICAL FRONT OFFICE
ABSE - 20 - BASIC MATH
ESL - 30 - LEVEL 3 (INTERMEDIATE)

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1				type and document a variety of medical reports;	Yes
2				Comprehend medical vocabulary applicable to all specialties;	Yes

3				distinguish between the various data-bases in a medical software program;	Yes
4				explain all phases of medical insurance billing for doctor's offices;	Yes
5				demonstrate proper telephone techniques in a variety of medical front office situations;	Yes
6				recognize the strategies of maintaining patient confidentiality;	Yes
7				apply legal safeguards to a charting system;	Yes
8				write paragraphs at the low-intermediate level with sufficient unity;	Yes
9				converse at a functional level adequate for everyday use on the campus and in the community;	Yes
10				decode 2,500-word reading passages, respond to inference and recall questions, and utilize a monolingual English dictionary to advantage;	Yes
11				understand fractions, decimal placement and value;	Yes
12				compute problems dealing with addition, subtraction, multiplication and division on fractions, decimals and percent;	Yes
13				convert fractions to decimals and percent;	Yes
14				estimate and understand these functions in word problems.	Yes

EXIT STANDARDS

1 Demonstrate the procedural requirements for assisting with the physical exam;

2 assist the physician during minor office surgery;

3 provide minor and post-operative wound care;

4 perform vision and audiometry screening;

5 perform spirometry testing;

6 perform an electrocardiogram;

7 safely prepare and administer medications in the ambulatory care setting;

8 describe the purpose of the physician office laboratory, and employ the necessary procedures to identify the equipment used to perform CLIA (California Laboratory Improvement Amendments) waived tests;

9 process and perform testing on blood and body fluids in the physician's office laboratory setting;

10 properly collect, process and perform testing of urine specimens;

11 properly collect and process microbiology specimens;

12 assist the physician with specialty procedures;

13 assess and educate patients on nutritional and therapeutic diets.

STUDENT LEARNING OUTCOMES

1 Demonstrate knowledge of basic human anatomy and physiology

2 Apply OSHA's regulations and follow principles of infection control and demonstrate the proper handling and disposal of hazardous and biohazard waste.

3 Process and perform testing on blood and body fluids in the physician's office laboratory setting.

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
1	Infection Control • Infection Control Methods • Safe Injection Practices and Sharps Safety • Infection Control Practices with Medical Equipment • Respiratory Hygiene/Cough Etiquette Practices • Surgical Site Infections • Sterilization Guidelines for Infectious Diseases	0	50	50
2	Patient Preparation/Patient History • Patient Interview and History • Medical Assistant's Role as an Observer • Documenting Patient Information • Recording the Patient's Medical History	0	32	32

3	Lab Procedures/Diagnostic Testing • Vital Signs and Measurements • Assisting with a General Physical Examination • Assisting with Specialty Procedures such as Reproductive and Urinary, Eye, Pediatrics, Geriatrics, and etc. • Assisting with Eye and Ear Care • Assisting with Minor Surgery • Use of Laboratory • Microbiology and Disease • Collecting, Processing, and Testing (Urine and Stool Specimens) Collecting, Processing, and Testing (Blood Specimens) Electrocardiography and Pulmonary Function Testing • Diagnostic Imaging	0	68	68

4	Intro to Anatomy and Physiology • Organization of the Body • The Integumentary System and Common Diseases and Disorders • The Skeletal System and Common Diseases and Disorders The Muscular System and Common Diseases and Disorders • The Cardiovascular System and Common Diseases and Disorders • The Blood and Common Diseases and Disorders • The Lymphatic System and Immune System and Common Diseases and Disorders • The Respiratory System and Common Diseases and Disorders • The Nervous System and Common Diseases and Disorders • The Urinary System and Common Diseases and Disorders • The Reproductive System and Common Diseases and Disorders • The Digestive System and Common Diseases and Disorders • The Endocrine System and Common Diseases and Disorders • Special Senses and Common Diseases and Disorders	0	62	62
5	Pharmacology • Medication Administration • Dosage Calculations	0	40	40
6	Patient Education/Nutrition • Nutrition and Health	0	4	4
7	CPR Training and Office Emergencies • Emergency Practices	0	8	8
				264

OUT OF CLASS ASSIGNMENTS

1 Complete assigned readings from textbook.

METHODS OF EVALUATION

1 Unit Tests
2 Final Examination

METHODS OF INSTRUCTION

- [x] Lecture
- [x] Laboratory
- [ ] Studio
- [ ] Discussion
- [x] Multimedia
- [ ] Tutorial
- [x] Independent Study
- [x] Collaboratory Learning
- [x] Demonstration
- [ ] Field Activities (Trips)
- [ ] Guest Speakers
- [ ] Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	IBSN	Date
Medical Assisting: Administrative and Clinical Procedures	Required	McGraw-Hill Companies, INC	6	Print	K. Booth	9781259197741	2016
Student Workbook for use with Medical Assisting	Required	McGraw- Hill Companies, INC	6	print	K. Booth	1259731901	2016