APPROVED
CAA - 09-21-06

EASTERN KENTUCKY UNIVERSITY

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Office of Academic Affairs and Research
Assistant Vice President
Enrollment Management

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TO: Council on Academic Affairs

FROM: Edward J. Keeley, Ph.D.
Interim Assistant Vice President
Enrollment Management

DATE: September 13, 2006

RE: Credit-by-examination Proposal for September 21, 2006 Meeting
(To include revisions for APP and CLEP examinations)

I wish to put forward a proposal for the Council on Academic Affair's consideration to revise credit-by-examination for the specific cases listed in the attached memo and detailed descriptions.

I approve of the suggested changes, and all departmental chairs involved approved the changes to the proposal pertaining to their respective departments.

Thank you for your consideration.

Attachments

EASTERN KENTUCKY UNIVERSITY

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Transition and University Services
Academic Testing

Student Services Building Room 327
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Richmond, Kentucky 40475-3164
(859) 622-1281 Fax (859) 622-5887

TO: Council on Academic Affairs

FROM: Alethea Ingram Bernard, Academic Testing Office
Office of Academic Testing

DATE: August 21, 2006

RE: Credit-by-examination Proposal for September 21, 2006 Meeting
(To include revisions for APP and CLEP examinations)

The Office of Academic Testing submits the attached revised lists of credit-by-examinations for approval by the Council beginning Fall 2006.

The revisions for each examination type include the following:

Advanced Placement Program (APP) credit

- APMT Music Theory with a score of 3 has been changed from MUS 181, 182 for 8 credit hours to "MUS 181" for 4 credit hours.
- APMT Music Theory with a score of 4 has been added to reflect the following awarded credit: "MUS 181, 182"" for 8 credit hours.

CLEP® Tests credit

- Calculus with a score of 50 has been changed from MAT 124 and MAT 224 for 4 credit hours to "MAT 124" 4 credit hours.

Attachments

CLEP® Test credit awarded at Eastern Kentucky University

CLEP® Test	Minimum Score	Credit Hours	Equivalent EKU Course(s)
American Government	50	3	POL 101
American Literature	50	3	ENG 350 or ENG 351
Analyzing and Interpreting Literature			No course credit given.
Biology	50	4	BIO 121
Calculus	50	4	MAT 124
Chemistry	50	4	CHE 111/115
College Algebra	55	3	MAT 107
Precalculus	50	5	MAT 109
College Mathematics	50	3	MAT 105
English Composition (with essay)	50	3	ENG 101
English Composition (without essay)			No course credit given.
English Literature	50	3	ENG 352 or ENG 353
French Language	50	6	FRE 101 and FRE 102
Freshman College Composition			No course credit given.
German Language	50	6	GER 101 and GER 102
History of the United States I	60	3	HIS 202
History of the United States II	60	3	HIS 203
Human Growth and Development			No course credit given.
Humanities	50	3	HUM 124
Information Systems and Computer Applications	50	3	CIS 212
Introduction to Educational Psychology			No course credit given.
Introductory Business Law			No course credit given.
Introductory Psychology	50	3	PSY 200
Introductory Sociology	50	3	SOC 131
Principles of Accounting	50	3	ACC 201
Principles of Macroeconomics	50	3	ECO 231
Principles of Management	56	3	MGT 300
Principles of Marketing	56	3	MKT 300
Principles of Microeconomics	50	3	ECO 230
Social Sciences and History			No course credit given.
Spanish Language	50	6	SPA 101 and SPA 102
Western Civilization I	60	3	HIS 231
Western Civilization II	60	3	HIS 232

Advanced Placement Program (APP) credit awarded at Eastern Kentucky University

Test Score Code	APP Test	Minimum Score	Credit Hours	Course
APAH	Art History	3	3	ART 200
APB	Biology	3	4	BIO 121
APMA	Calculus AB	3	4	MAT 124
APMB	Calculus BC	3	8	MAT 124, 224
APC	Chemistry	3	4	CHE 111/115
APC	Chemistry	4	8	CHE 111/115 and CHE 112/116
APCA	Computer Science A	3	3	CSC 104
APCB	Computer Science AB	3	3	CSC 190
APME	Economics: Macro	3	3	ECO 231
APMC	Economics: Micro	3	3	ECO 230
APEC	English Language and Composition	3	3	ENG 101
APEL	English Literature and Composition	3	3	ENG 101
APES	Environmental Science	3	3	GLY 172
APEH	European History	3	6	HIS 231, 232
APF	French Language	3	9	FRE, 101, 102, 201
APF	French Language	4	12	FRE 101, 102, 201, 202
APFL	French Literature	3	3	FRE 310
APG	German Language	3	9	GER 101, 102, 201
APG	German Language	4	12	GER 101, 102, 201, 202
APGC	Government and Politics: Comparative	3	3	POL 212
APGP	Government and Politics: United States	3	3	POL 101
APHG	Human Geography	3	3	GEO 220
APL	Latin: Literature	3	6	LAT 101, 102
APLV	Latin: Virgil	3	6	LAT 101, 102
APMT	Music Theory	3	4	~~MUS 181~~
APMT	Music Theory	4	8	MUS 181, 182
APPB	Physics B	3	3	PHY 101
APPE	Physics C: Electricity and Magnetism	3	5	PHY 132
APPM	Physics C: Mechanics	3	5	PHY 131
APPY	Psychology	3	3	PSY 200
APS	Spanish Language	3	9	SPA 101, 102, 201
APS	Spanish Language	4	12	SPA 101, 102, 201, 202
APSL	Spanish Literature	3	3	SPA 310
APMS	Statistics	3	3	STA 270
APD	Studio Art: Drawing	3	3	ART 100
APDA	Studio Art: 2-D Design	3	3	ART 152
APDB	Studio Art: 3-D Design	3	3	ART 153
APH	United States History	3	6	HIS 202, 203
APWH	World History	3	6	HIS 246, 247

TO: Sue Cain

FROM: Dirk Schlingmann
Dirk Schlingmann

DATE: August 18, 2006

RE: CLEP Calculus Credit

Please find attached our decision on the CLEP Calculus Credits proposal. As in the attachment outlined we will only award credit for MAT 124, Calculus I.

Proposal: The Department of Mathematics and Statistics will award credit for MAT 124 only for a passing score on the CLEP Calculus exam.

Rationale: The description of the CLEP Calculus exam covers the topics in MAT 124 well, but omits the following topics typically covered in MAT 224: infinite series, volumes of solids, advanced techniques of integration, and improper integrals. These topics compromise a substantial part of the MAT 224 syllabus. Therefore, it is not appropriate to continue the current practice of granting credit for both MAT 124 and MAT 224.

Note: This proposal was approved by a majority vote of the faculty at the August 16, 2006 department meeting.

Redmond, Shane

From: Cain, Sue
Sent: Thursday, August 17, 2006 11:41 AM
To: Redmond, Shane
Cc: Cain, Sue; Bernard, Alethea
Subject: RE: CLEP and Calculus

Remember that we have one student who took the test and is awaiting information on Calculus II credit. That is why I would like it to be put into place for fall 2006. Can you write a brief proposal and have Dirk send it to the college for review? Alethea will send you a CLEP update with the revision as proposed for Calculus included.
Sue

From: Redmond, Shane
Sent: Thursday, August 17, 2006 11:03 AM
To: Cain, Sue
Subject: RE: CLEP and Calculus

We can have this start as soon as it is practical. If we can put it in place now, that's great. If not, then next semester is fine.

Thanks Sue.
Shane

From: Cain, Sue
Sent: Wed 8/16/2006 5:44 PM
To: Redmond, Shane
Cc: Cain, Sue; Bernard, Alethea; Jones, Evelyn
Subject: RE: CLEP and Calculus

Yes we will. Thank you for working through this process.
I will have Alethea send you an updated CLEP chart to send to the college committee and then I will take it to CAA for approval. Do you want this to begin fall 2006 or spring 2007?
Sue

Alethea,
Can you please make the needed changes to a CLEP chart and send it to me by next Friday? I will try to get this on the CAA calendar next month.
Sue

From: Redmond, Shane
Sent: Wednesday, August 16, 2006 2:18 PM
To: Cain, Sue
Subject: CLEP and Calculus

Sue,

At today's department meeting, we voted to give credit for only MAT 124 for the CLEP Calculus exam. Can you make the necessary changes or let me know what we need to do to update our information?

Thanks,
Shane

Shane Redmond
Eastern Kentucky University
307 Wallace
521 Lancaster Ave.
Richmond, KY 40475

Calculus

Description of the Examination

The Calculus examination covers skills and concepts that are usually taught in a one-semester college course in calculus. The content of each examination is approximately 60% limits and differential calculus and 40% integral calculus. Algebraic, trigonometric, exponential, logarithmic, and general functions are included. The exam is primarily concerned with an intuitive understanding of calculus and experience with its methods and applications. Knowledge of preparatory mathematics, including algebra, plane and solid geometry, trigonometry, and analytic geometry is assumed.

Students are not permitted to use a calculator during the CLEP Calculus exam.

The examination contains 45 questions to be answered in 90 minutes. Any time candidates spend on tutorials and providing personal information is in addition to the actual testing time.

Knowledge and Skills Required

Questions on the exam require candidates to demonstrate the following abilities:

- Solving routine problems involving the techniques of calculus (about 50% of the examination)
- Solving nonroutine problems involving an understanding of the concepts and applications of calculus (about 50% of the examination)

The subject matter of the calculus examination is drawn from the following topics. The percentages next to the main topics indicate the approximate percentage of exam questions on that topic.

5% Limits

- Statement of properties, e.g., limit of a constant, sum, product, or quotient
- Limits that involve infinity, e.g., $\lim_{x\to 0}\frac{1}{x}$ is nonexistent and $\lim_{x\to\infty}\frac{\sin x}{x}=0$
- Continuity

55% Differential Calculus

The Derivative

- Definitions of the derivative,
  e.g., $f'(a)=\lim_{x\to a}\frac{f(x)-f(a)}{x-a}$ and $f'(x)=\lim_{h\to 0}\frac{f(x+h)-f(x)}{h}$
- Derivatives of elementary functions
- Derivatives of sum, product, and quotient (including $\tan x$ and $\cot x$)
- Derivative of a composite function (chain rule), e.g., $\sin(ax+b)$, ae^{kx}, $\ln(kx)$
- Derivative of an implicitly-defined function
- Derivative of the inverse of a function (including Arcsin x and Arctan x)
- Derivatives of higher order
- Corresponding characteristics of graphs of f, f', and f''
- Statement (without proof) of the Mean Value Theorem; applications and graphical illustrations
- Relation between differentiability and continuity
- Use of L'Hôpital's rule (quotient and indeterminate forms)

Applications of the Derivative

- Slope at a point
- Tangent lines and linear approximation
- Curve sketching: increasing and decreasing functions; relative and absolute maximum and minimum points; concavity; points of inflection
- Extreme value problems
- Velocity and acceleration of a particle moving along a line
- Average and instantaneous rates of change
- Related rates of change

40% Integral Calculus

Antiderivatives and Techniques of Integration

- Concept of antiderivatives
- Basic integration formulas
- Integration by substitution (use of identities, change of variable)

Applications of Antiderivatives

- Distance and velocity from acceleration with initial conditions
- Solutions of $y' = ky$ and applications to growth and decay

The Definite Integral

- Definition of the definite integral as the limit of a sequence of Riemann sums and approximations of the definite integral using rectangles and trapezoids
- Properties of the definite integral
- The Fundamental Theorem:

$$\frac{d}{dx}\int_a^x f(t)dt = f(x)$$

$$\int_a^b F'(x)\,dx = F(b) - F(a)$$

Applications of the Definite Integral

- Average value of a function on an interval
- Area

Missing:
Series
Volumes
Adv. Techniques of Integration
Improper Integrals

Study Resources

To prepare for the Calculus exam, you should study the contents of at least one introductory college level calculus textbook, which you can find in most college bookstores. You would do well to consult several textbooks because the approaches to certain topics may vary. When selecting a textbook, check the table of contents against the "Knowledge and Skills Required" for this exam.

Additional suggestions for preparing for CLEP exams are given in "Preparing to Take CLEP Examinations."