MATH&151 - Calculus I

Document Type: Master Course Outline Supplemental
Proposal Type: Revision
Requester(s): Ted Coskey
College: South
Origination Approved: 06/11/2014 - 10:12 AM

BASIC INFORMATION

Requester(s): Ted Coskey

College: South Seattle Community College

Division/Dept: Academic Programs

Dean: Laura Kingston

Peer Reviewer(s): Rick A Downs

COLLEGE SUPPLEMENTAL

Proposed Quarter of Implementation: NA ☑ Request Provisional Exception
Summer of 2014 implementation

Class Capacity: 35

Modes of Delivery: (Check all that apply)
- ☑ Fully On Campus
- ☐ Fully Online
- ☑ Hybrid
- ☐ Other Explanation:

Select the Special Designation(s) this course will satisfy, if applicable:
(No Special Designations Selected)

Class Schedule Description:
Covers Pre-Calculus review, Limits and their properties, Differentiation, Applications of differentiation, and Antiderivatives
NOTE: While institutions usually cover the same topics throughout the calculus sequence, individual topics may be covered in different courses within the sequence. To ensure proper transfer credit, students should consult with an adviser before taking different parts of the sequence at different institutions. Prerequisite: MATH& 142 with a 2.0 or higher

Student Learning Outcomes:

Communication
Read and listen actively to learn and communicate

Computation
Use arithmetic and other basic mathematical operations as required by program of study

Apply quantitative skills for academic and career purposes

Critical Thinking and Problem-Solving

Think critically in evaluating information, solving problems, and making decisions

Technology

Select and use appropriate technological tools for academic and career tasks

Personal Responsibility

Uphold the highest standard of academic honesty and integrity

Respect the rights of others in the classroom, online and in all other school activities

Attend class regularly, complete assignments on time and effectively participate in classroom and online discussions, group work and other class-related projects and activities

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Program Outcomes:

Included in Course Objective Number	SSCC Student Learning Outcomes	
SLO 1.1		Communicatio communicate.
SLO 1.2		Communicatio career purpose
SLO 2.1	1 - 6	Computation - operations as
SLO 2.2	1 - 6	Computation - purposes.
SLO 3.1		Human Relatio
SLO 3.2		Human Relatio represented in
SLO 4.1	1 - 6	Critical Thinkin problems, and
SLO 5.1	1 - 6	Technology - S academic, and
SLO 6.1		Personal Resp honesty and in
SLO 6.2		Personal Resp classroom, onl
SLO 6.3		Personal Resp assignments o online discussi and activities.

SLO 6.4		Personal Resp laboratories, sl
SLO 7.1		Information Lit information fro
SLO 7.2		Information Lit issues related
SLO 7.3		Information Lit a specific purp

Course Outcomes / Objectives:

After completing the course, students are expected to be able to:

1. Calculate the limit of a function at a point algebraically using appropriate techniques and by using l'Hospital's rule.
2. Find points of discontinuity for functions and classify them.
3. Determine whether a function is differentiable at a point.
4. Compute the value of the derivative at a point algebraically using the definition of the derivative.
5. Differentiate various types of functions using the differentiation rules: Powers, Sum, Difference, Product, Quotient Rules, Chain Rule, Implicit and Logarithmic Differentiation.
6. Apply differentiation to solve problems involving rates of change, related rates and optimization.
7. Sketch the graph of the derivative of a function from the given graph of the function.
8. Compute the expression for the line tangent to a function at a point.
9. Interpret the tangent line geometrically as the local linearization of a function.
10. Find an antiderivative.

Explain the student demand for the course and potential enrollment:

The class is offered seven times a year at South.

Explain why this course is being revised:

This course revision is to update the outline to account for the change in the number of the third course in this sequence from Math& 153 to Math& 163.

What challenges, if any, do you foresee in offering this course:

None.

This is to certify that the above criteria have all been met and all statements are accurate to the best of my knowledge.

Faculty involved in originating this program:

Ted Coskey	*Ted Coskey*	6/5/2014
Print Name	**Signature**	**Date**

Dean:

Karen L Whitney (Admin)	*Karen L Whitney*	6/9/2014
Print Name	**Signature**	**Date**

Results of SSCC Curriculum Coordinating Council Findings

Participating Faculty Response and Remarks

[X] Recommended for approval

[ ] Not recommended for approval

Chairman, Curriculum Coordinating Council:

Diane Schmidt	*Diane Schmidt*	6/10/2014
Print Name	**Signature**	**Date**

Vice President for Instruction:

Donna Miller-Parker	*Donna Miller-Parker*	6/11/2014
Print Name	**Signature**	**Date**