

The Teaching of Transport Phenomena and Related Courses: Survey Results

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Survey Results and Best Practices: Transport Phenomena
and Related Courses



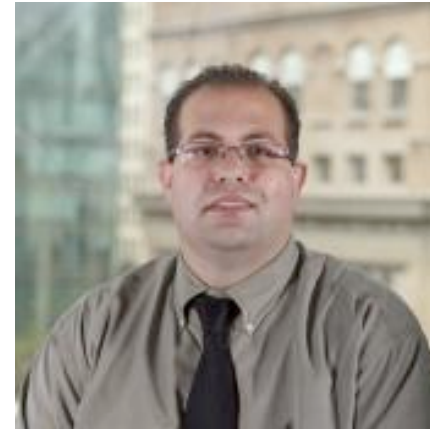
Authors

Daniel Lepek

The Cooper Union

Margot Vigeant

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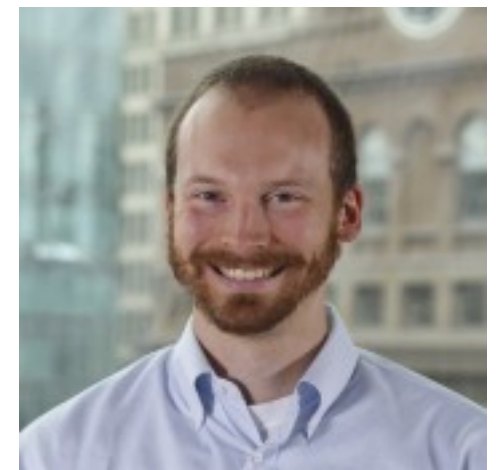
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Jason Keith

Mississippi State University



Universities

Auburn University
Brigham Young University
Brown University
Bucknell University
Cal Poly Pomona
Colorado State University
Florida Institute of Technology
Georgia Institute of Technology
Kansas State University
Kettering University
Lagos State Polytechnic
Lehigh University
Louisiana Tech University
Michigan Technological University
Mississippi State University
Missouri University of Science & Technology
New Jersey Institute of Technology
New Mexico Tech

North Carolina State University
Northwestern University
NYU Polytechnic School of Engineering
Ohio State University
Ohio University
Pennsylvania State University
Purdue University
South Dakota School of Mines and Technology
Texas A&M University
The Cooper Union
The Ohio State University
The University of Arizona
Tulane University
U of Arkansas
Univ. of South Alabama
Univ. of Southern California
University of Arizona

University of Arkansas
University of California at Berkeley
University of Florida
University of Houston
University of Illinois, Urbana-Champaign
University of Iowa
University of Kentucky
University of Kentucky (Lexington)
University of Maryland
University of Minnesota Duluth
University of New Mexico
University of Notre Dame
University of Toledo
University of Tulsa
University of Wisconsin
University of Wisconsin-Madison
Villanova University
Washington State University
West Virginia University

86 replies - 59 unique schools - 72 instructors

Course Survey History

2014 - Transport Phenomena

2013 - ChE Electives

2012 - Process Design

2011 - Material and Energy Balances

2010 - Kinetics and Reactor Design

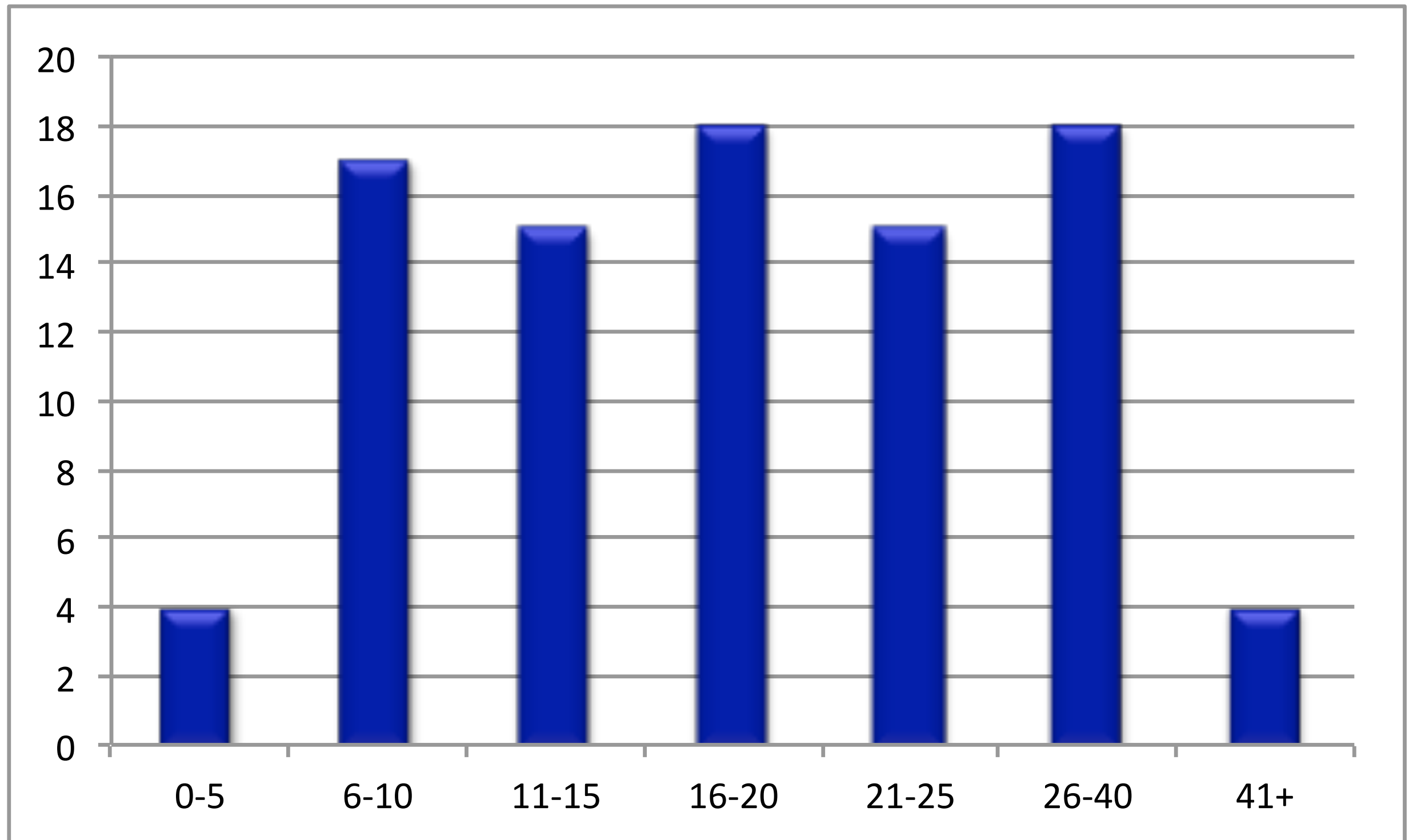
2009 - Freshman Introduction to Chemical Engineering

1987 - Mass Transfer

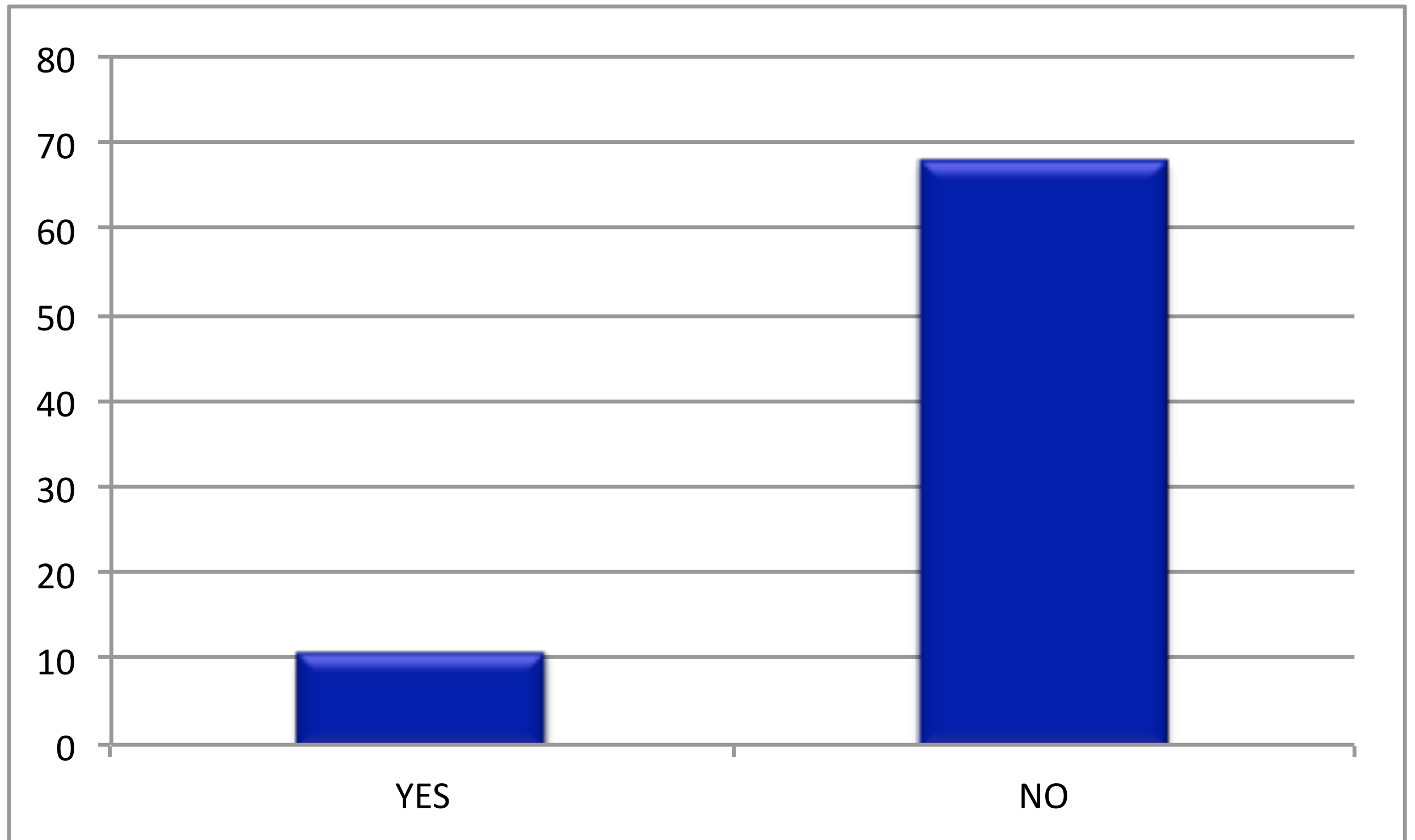
1978 - Mass Transfer

1977 - Fluid Flow and Heat Transfer

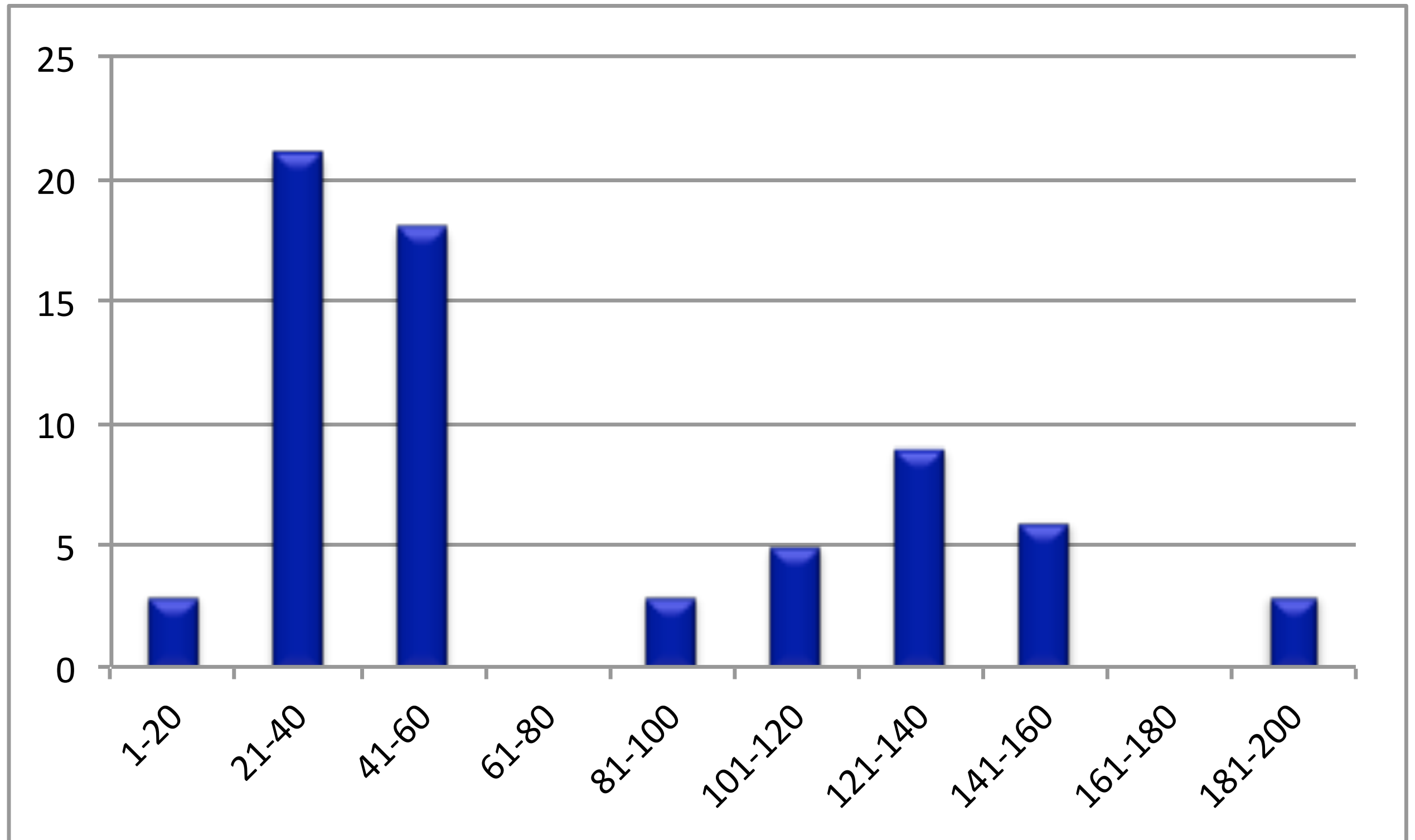
Faculty Size of Department



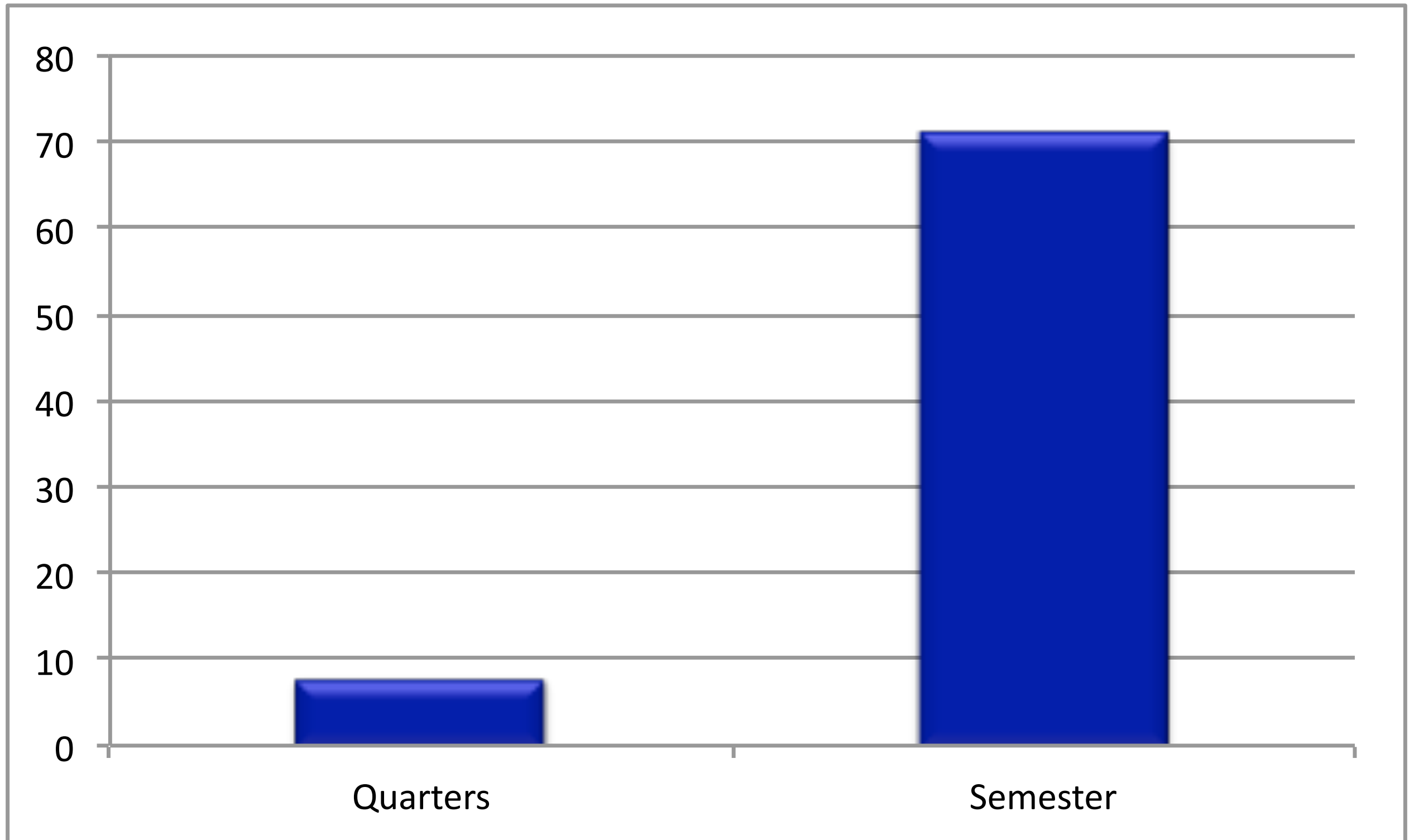
More than one degree?



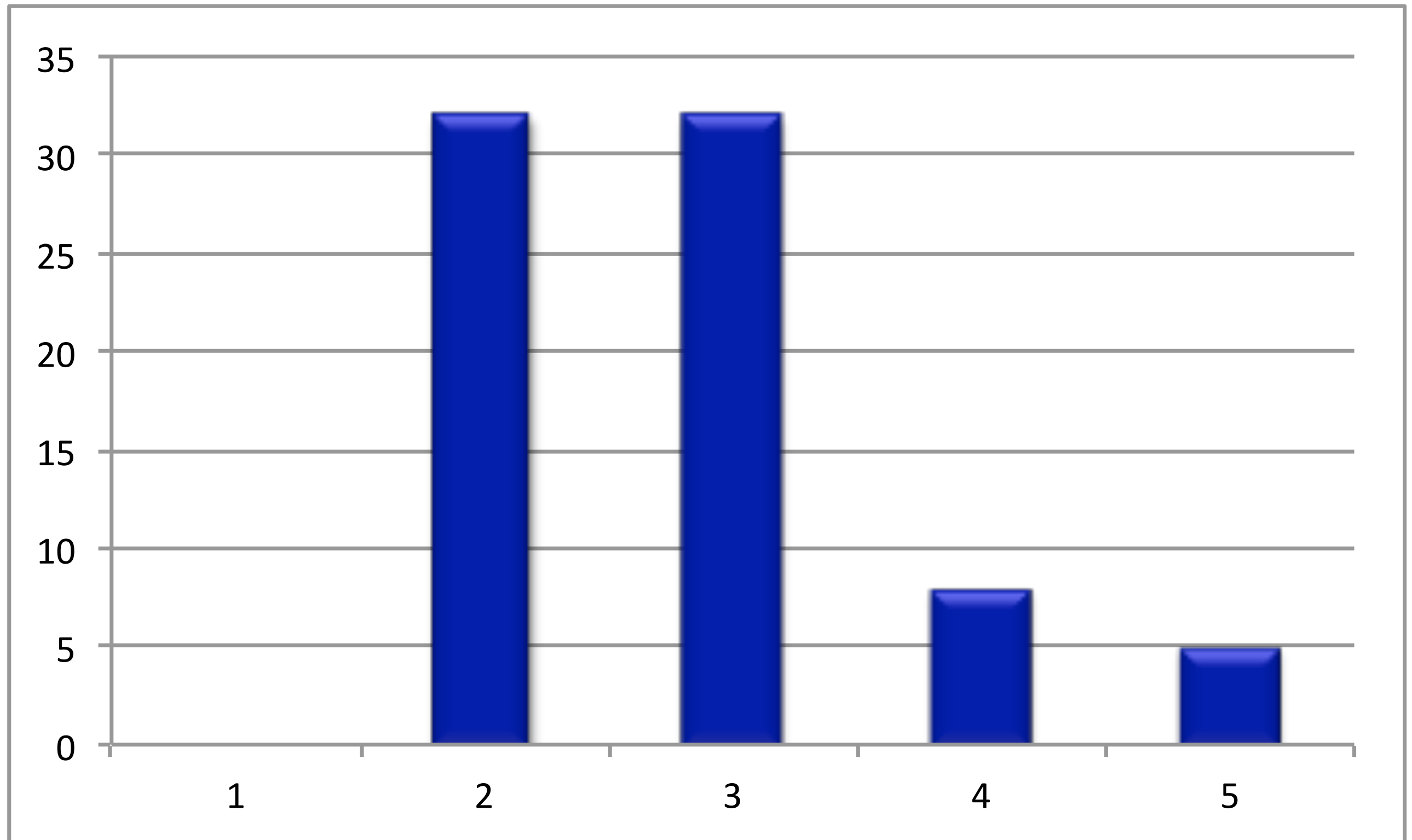
Undergrads per Program



Quarters or Semesters



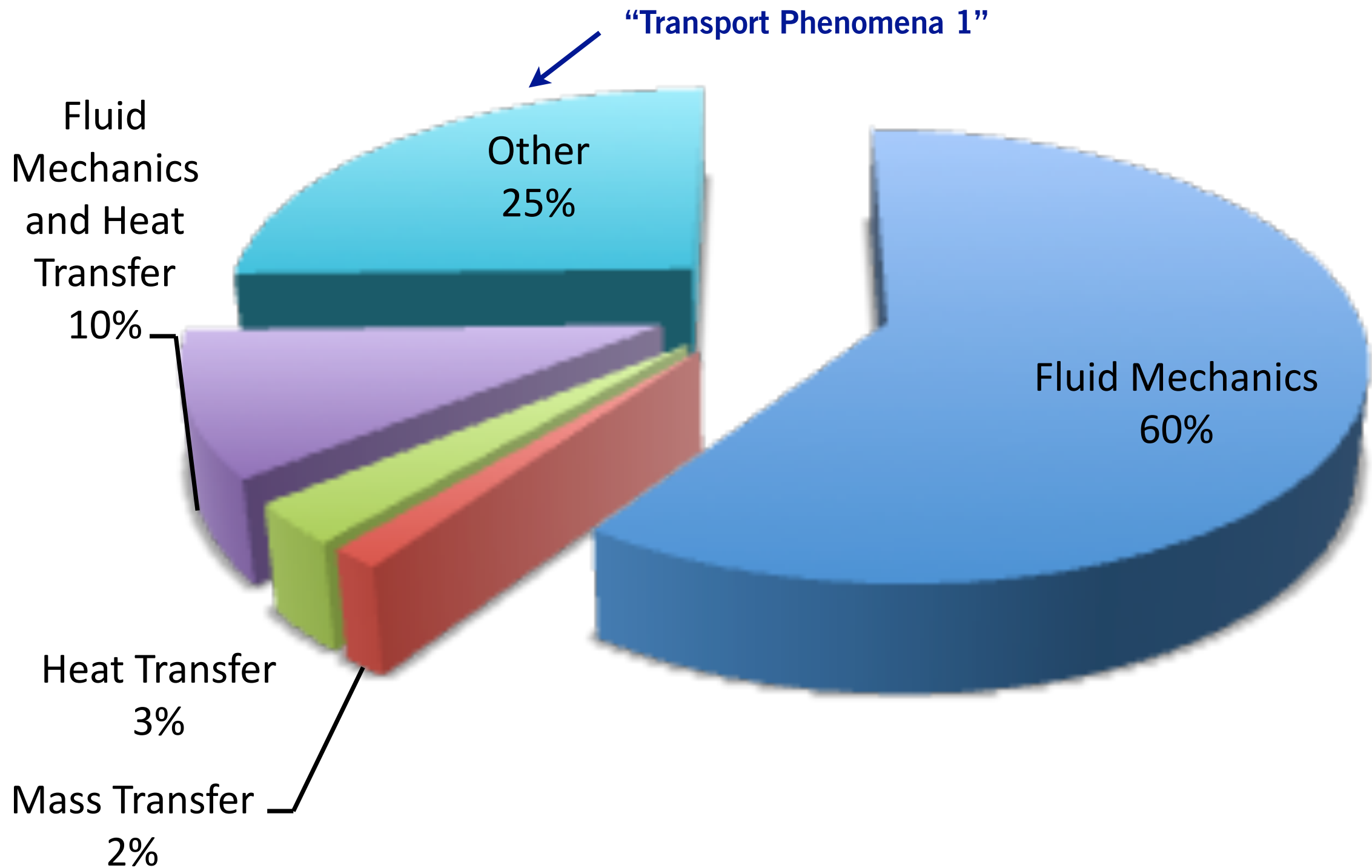
Number of Transport Courses



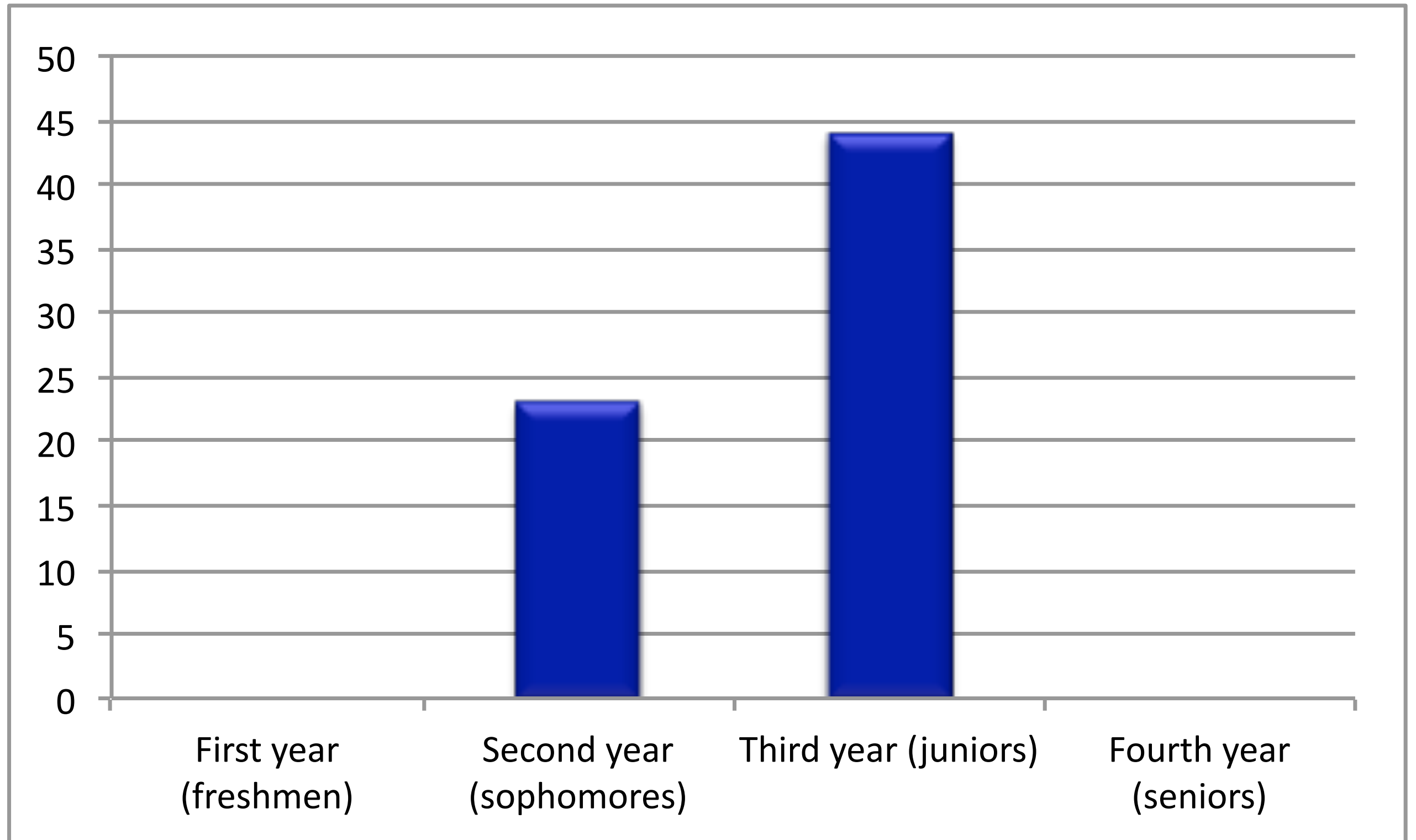
The “First” Course in the Transport Sequence

Fluid Mechanics

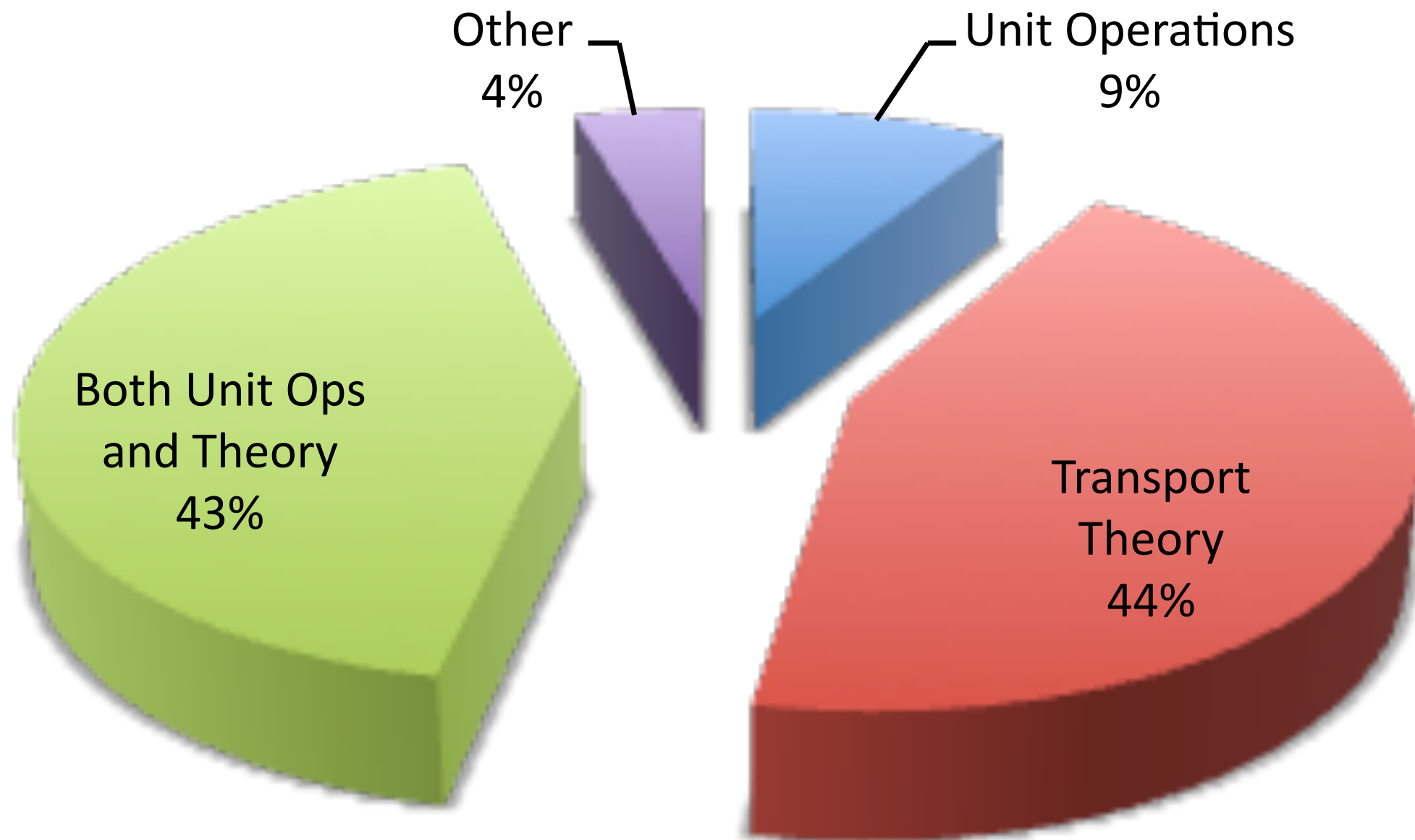
Title of First Course



Primary Audience

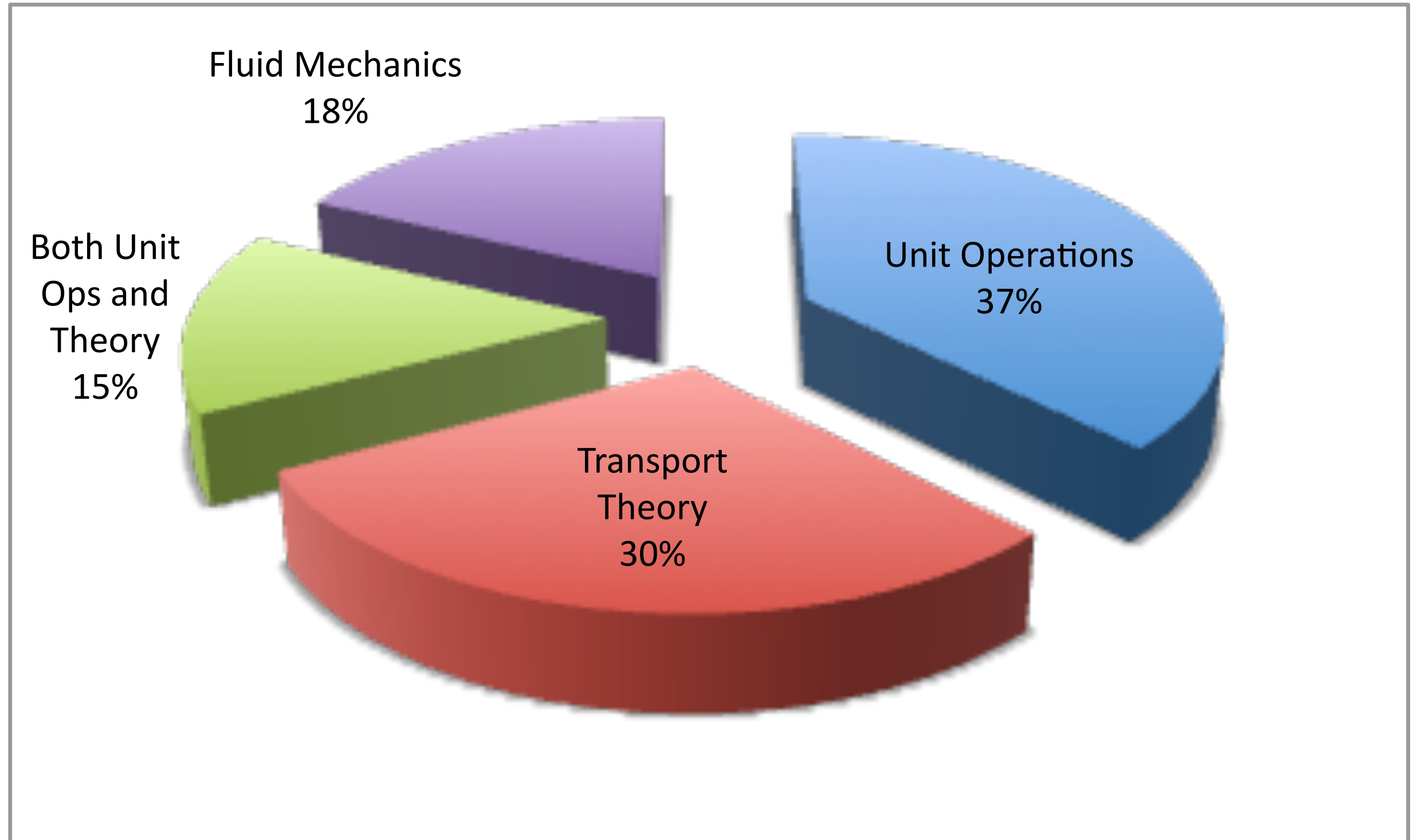


Balance/Orientation of Content

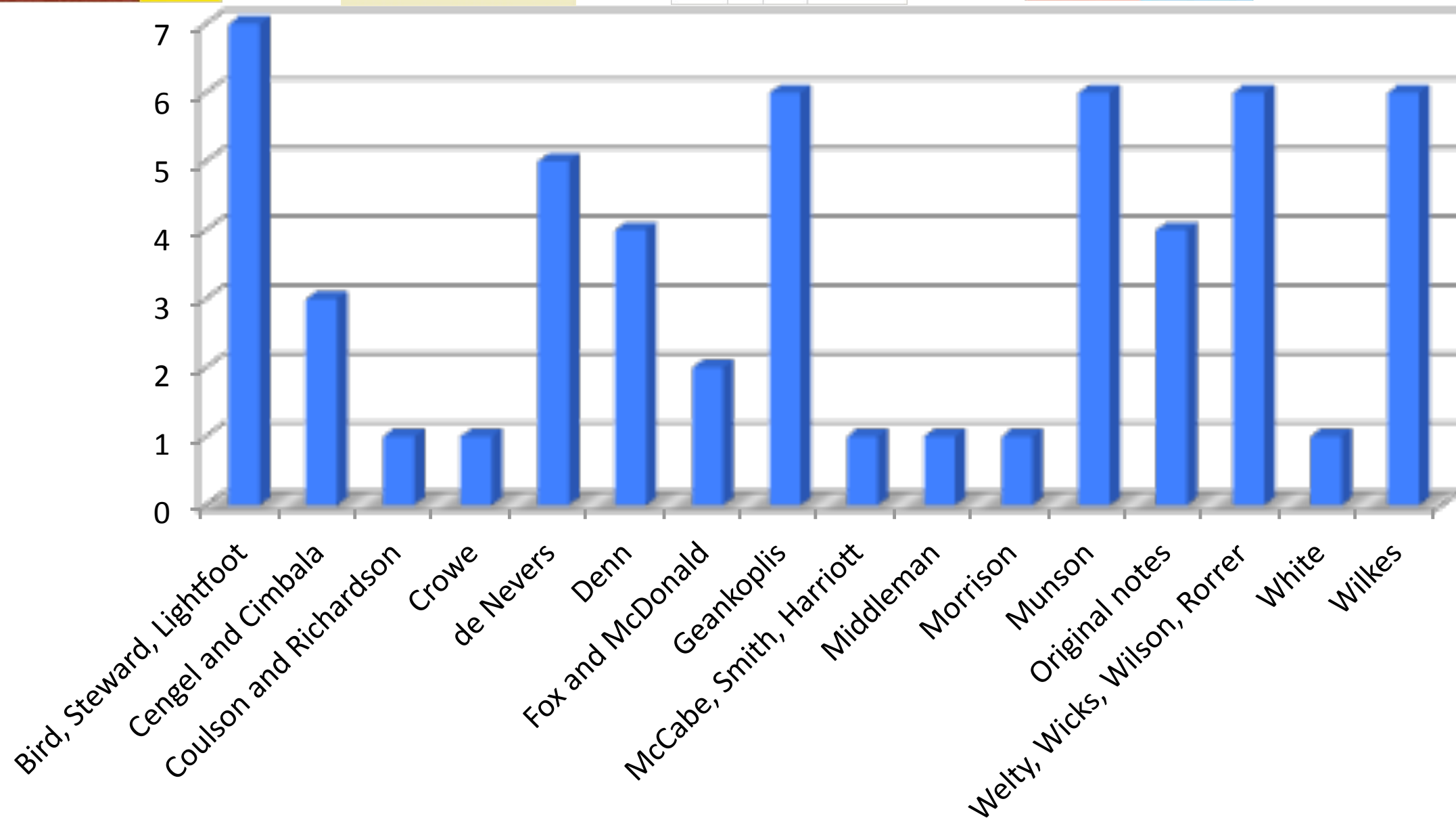
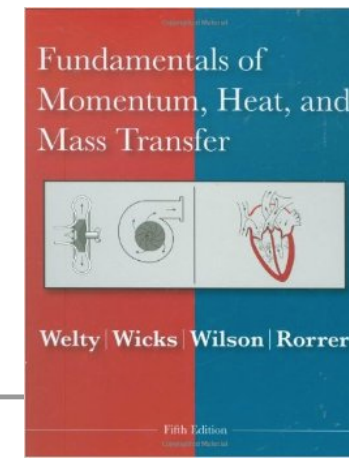
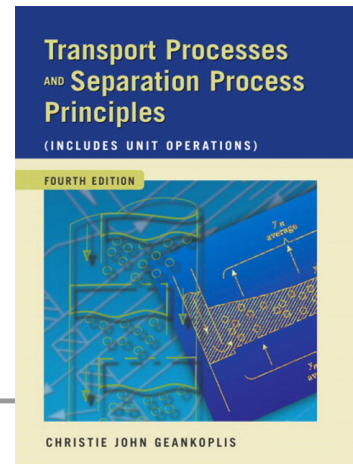
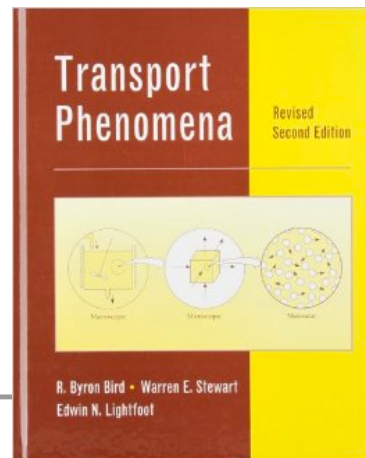


Balance/Orientation of Content

1977

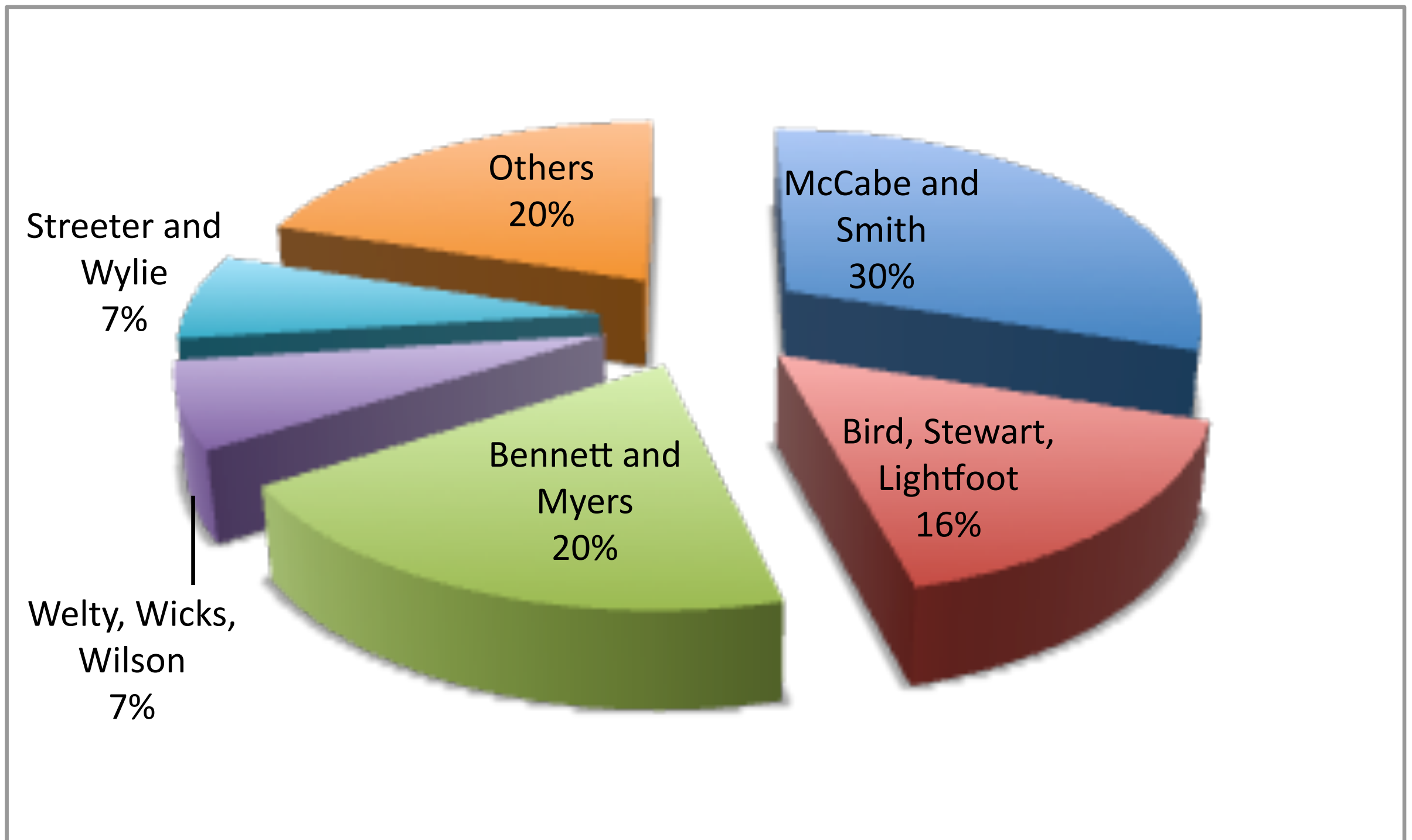


Textbook

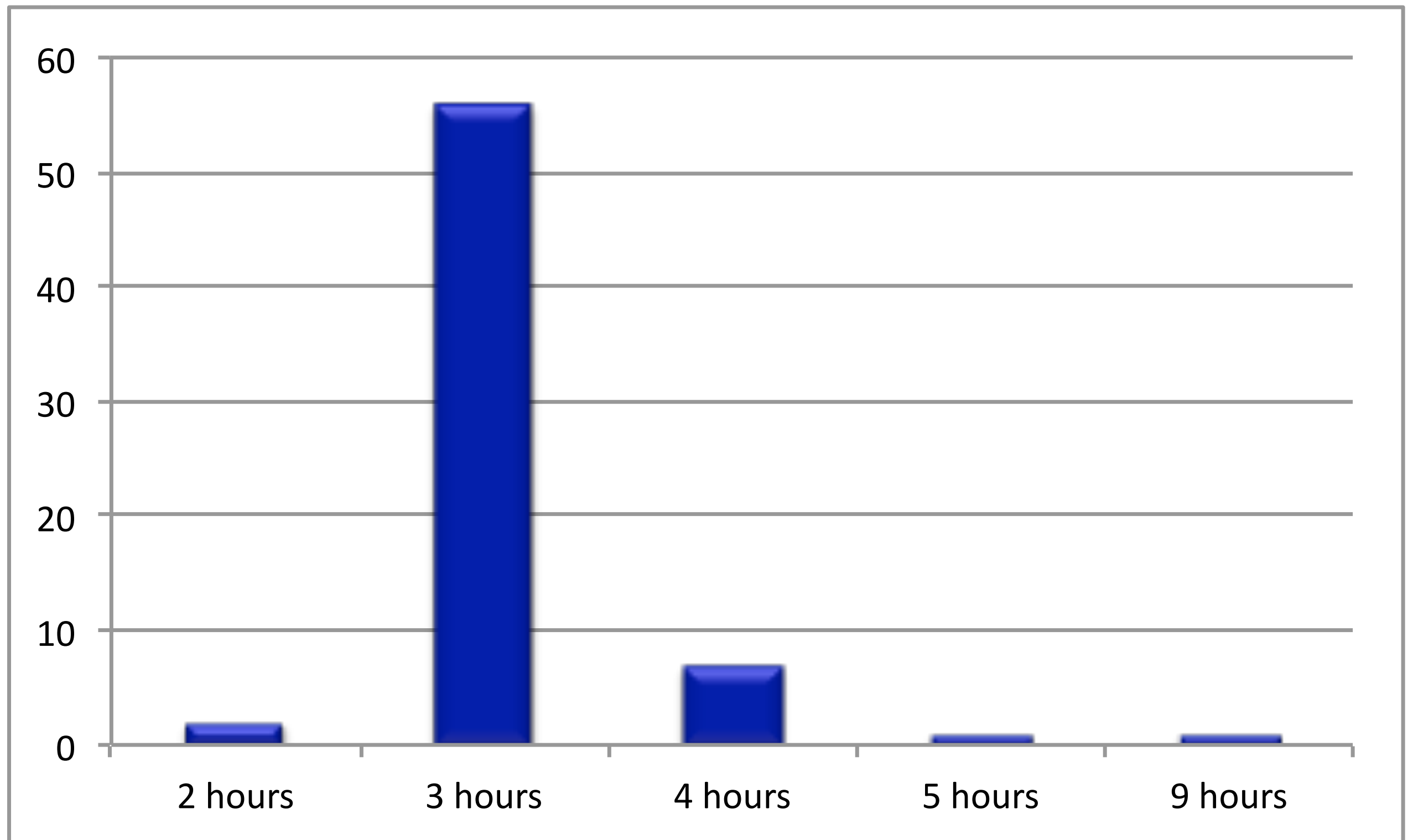


Textbooks

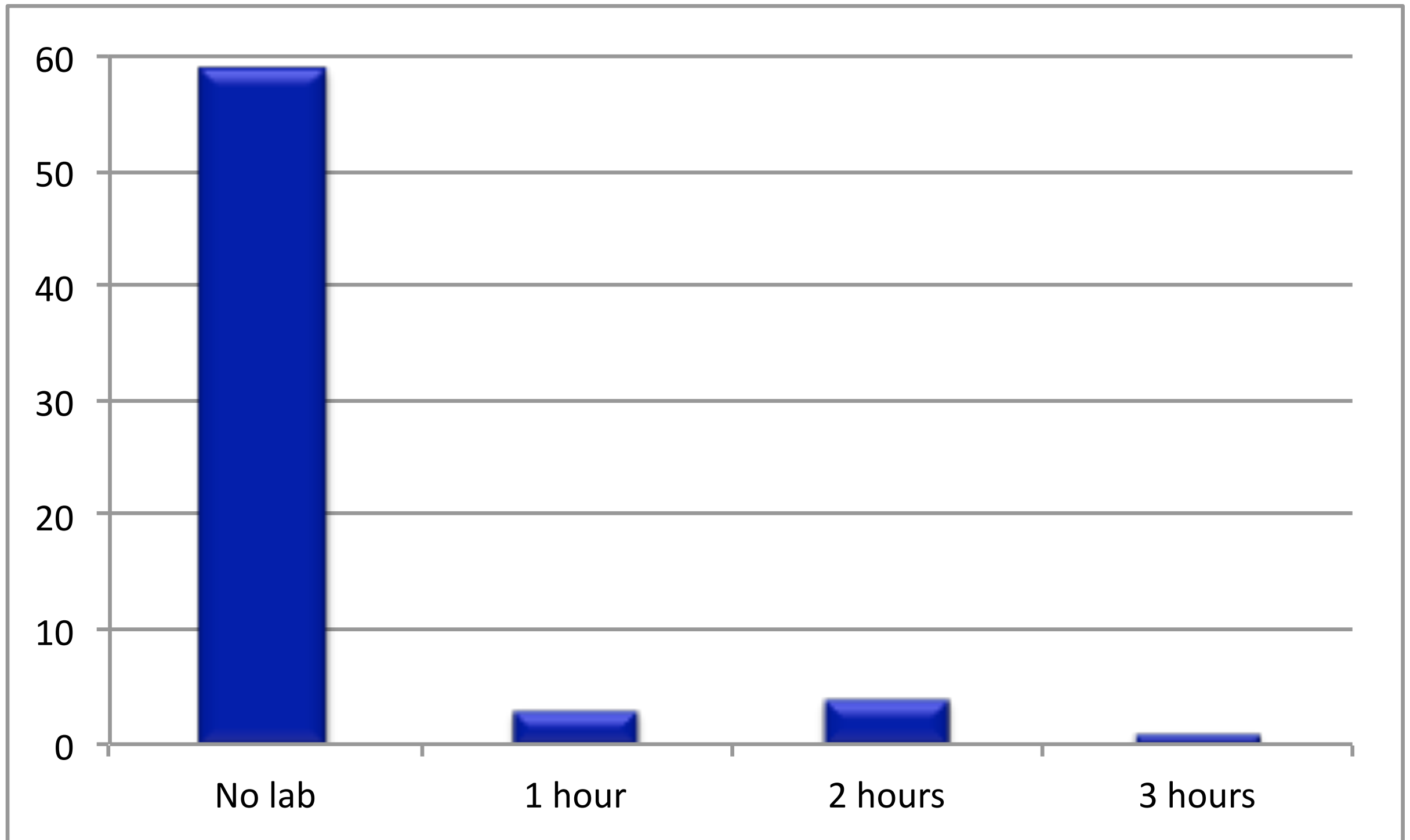
1977



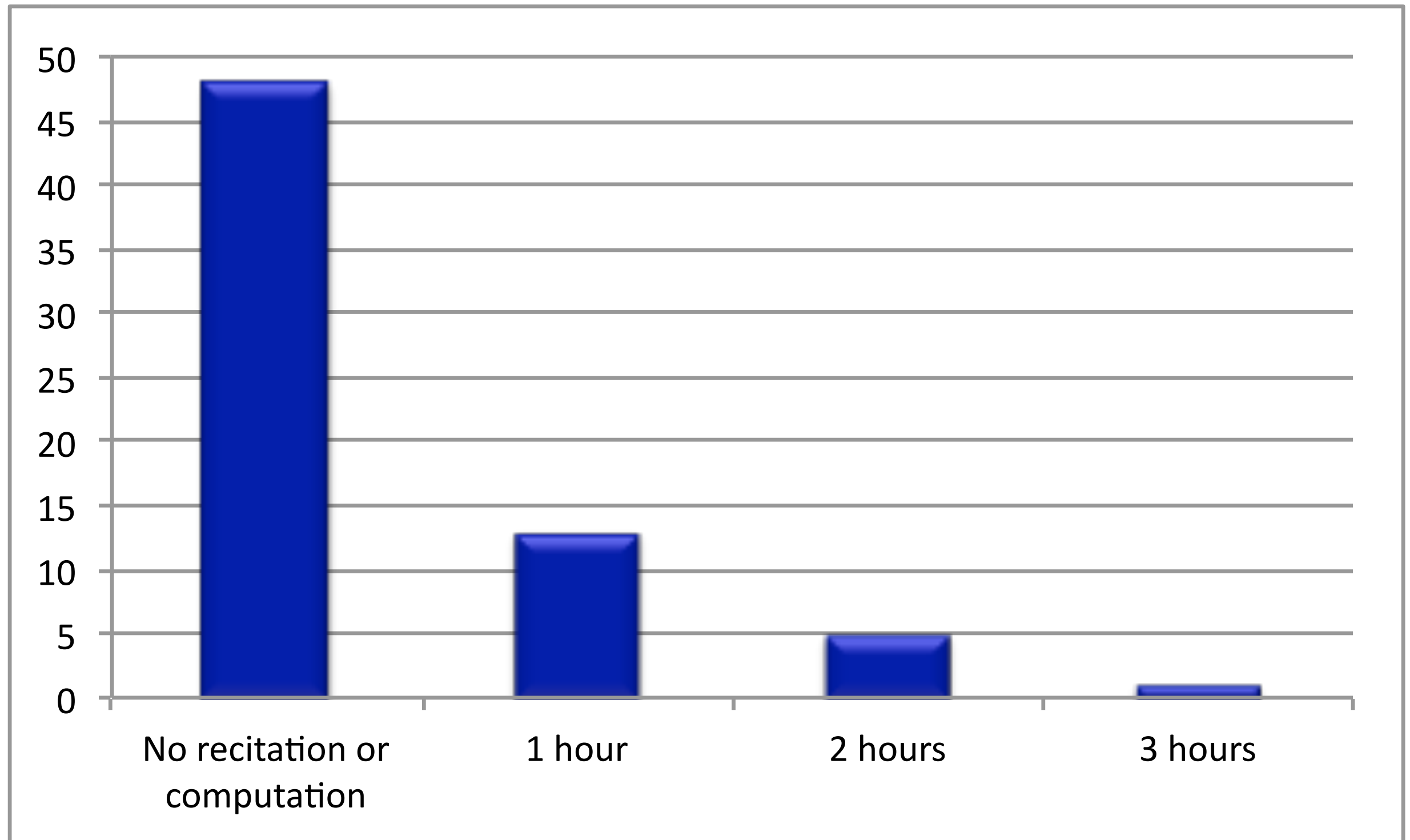
Hours for “Lecture”



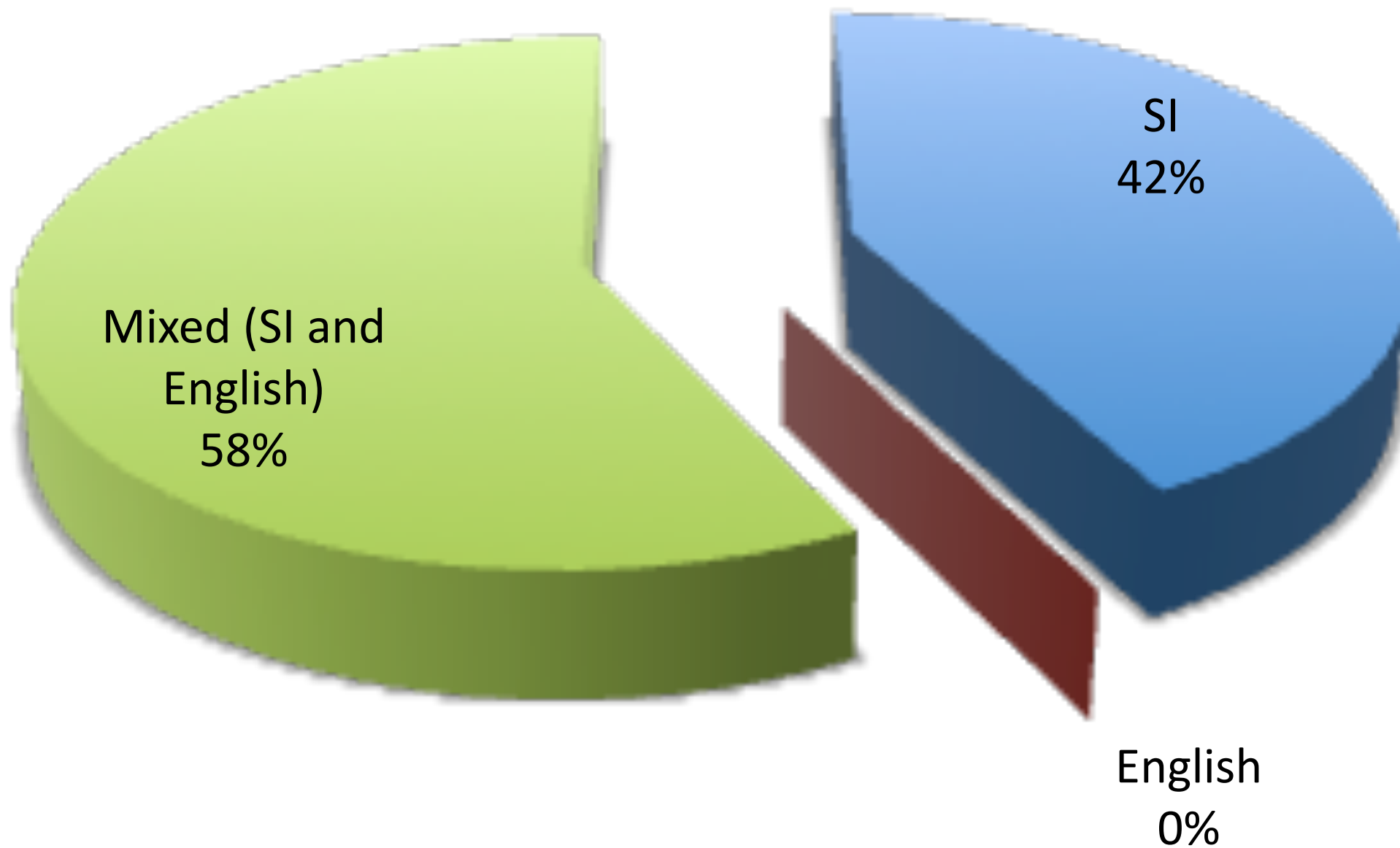
Hours for “Lab”



Hours for Recitation or “Comp Lab”



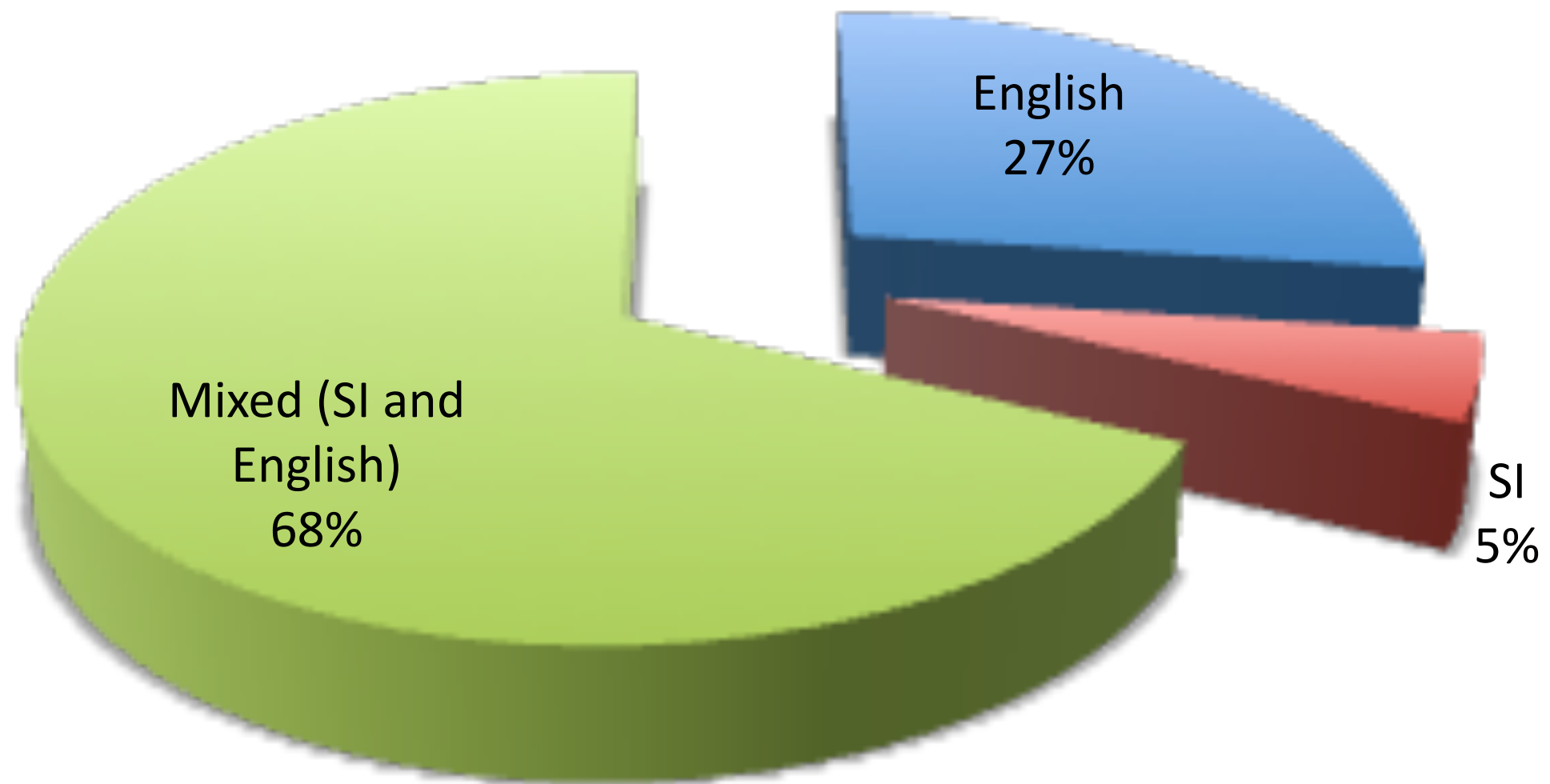
System of Units



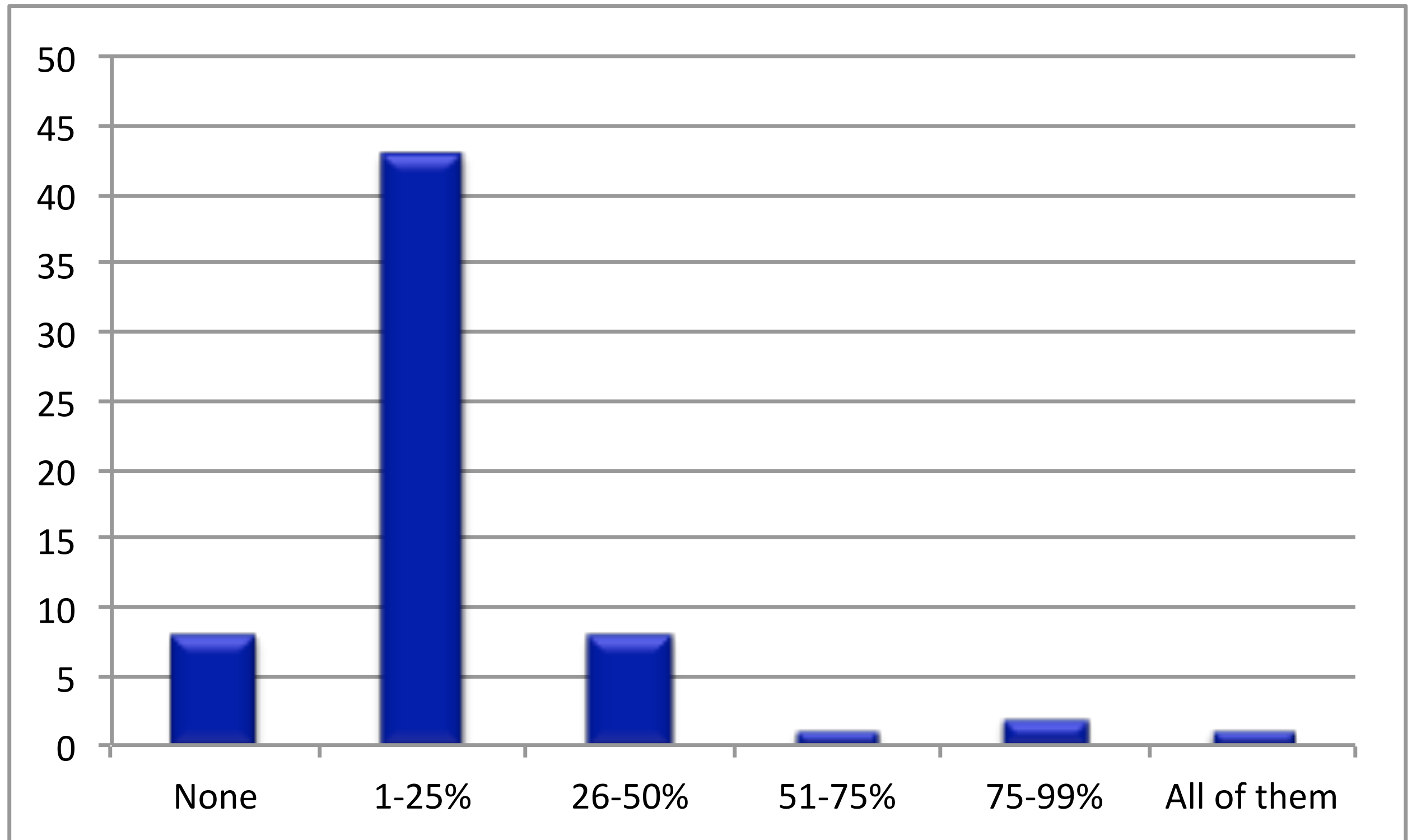
System of Units

1977

(n=92)



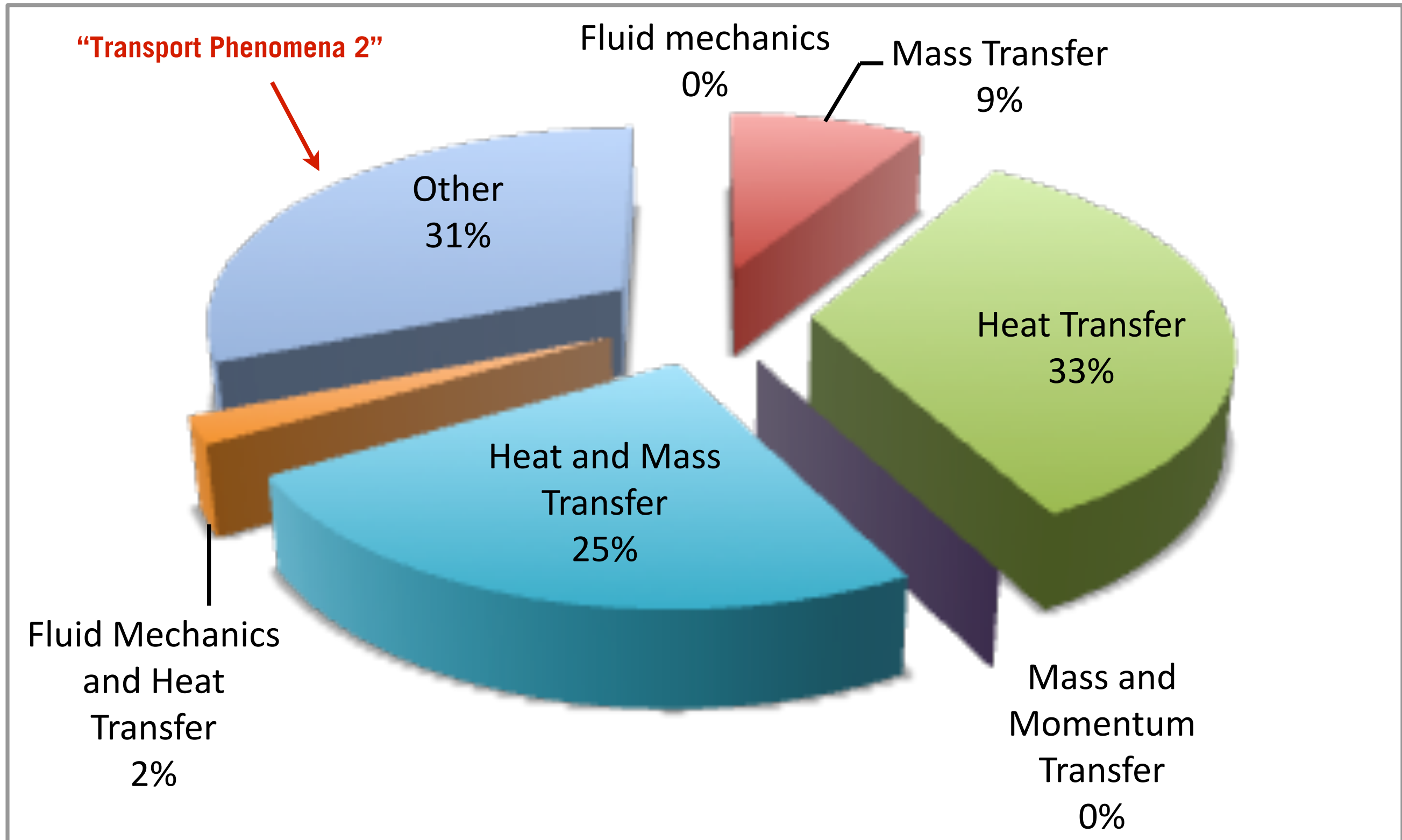
Percent of Assignments involving Computer



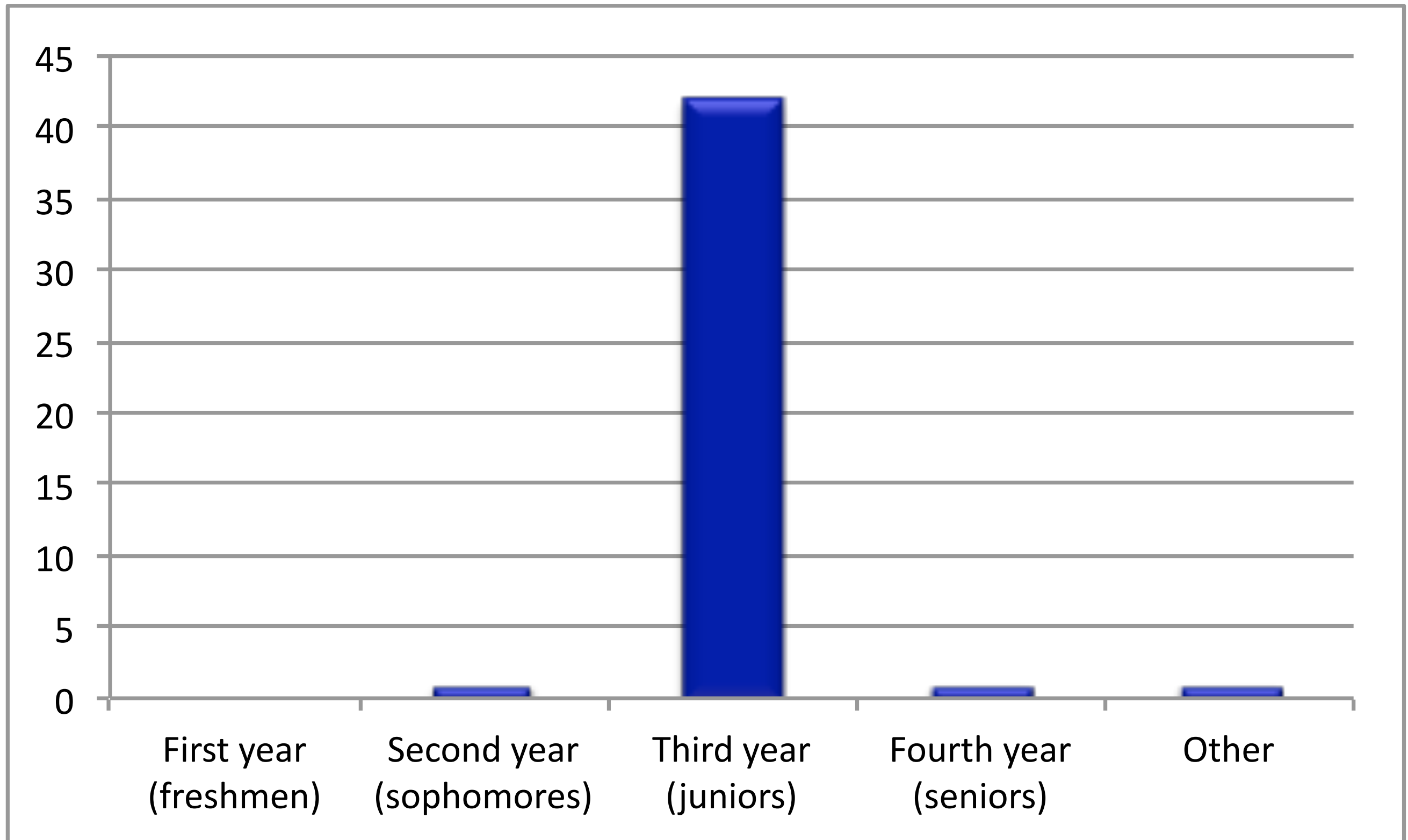
The “Second” Course in the Transport Sequence

Heat (and Mass) Transfer

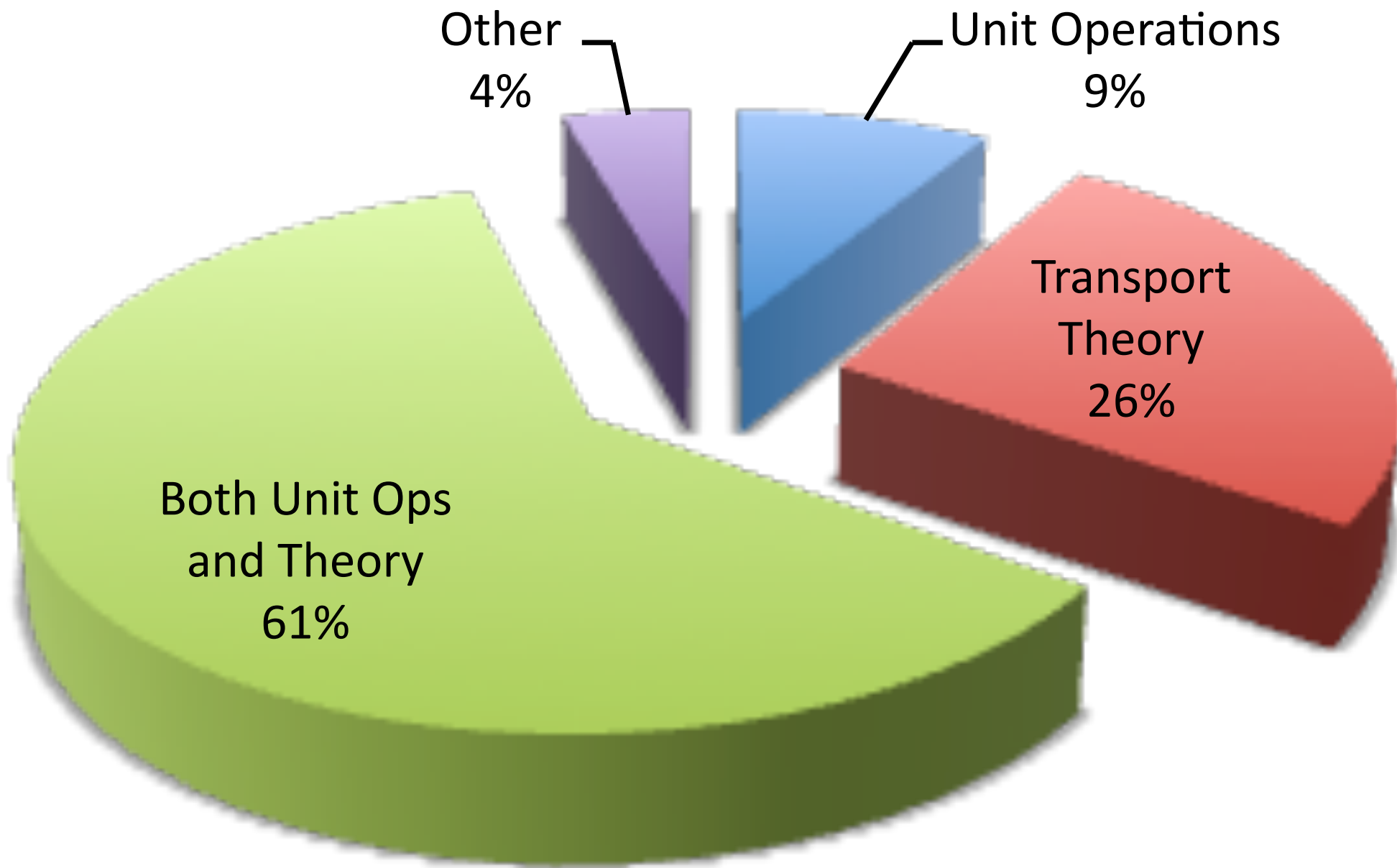
Title of Second Course



Primary Audience

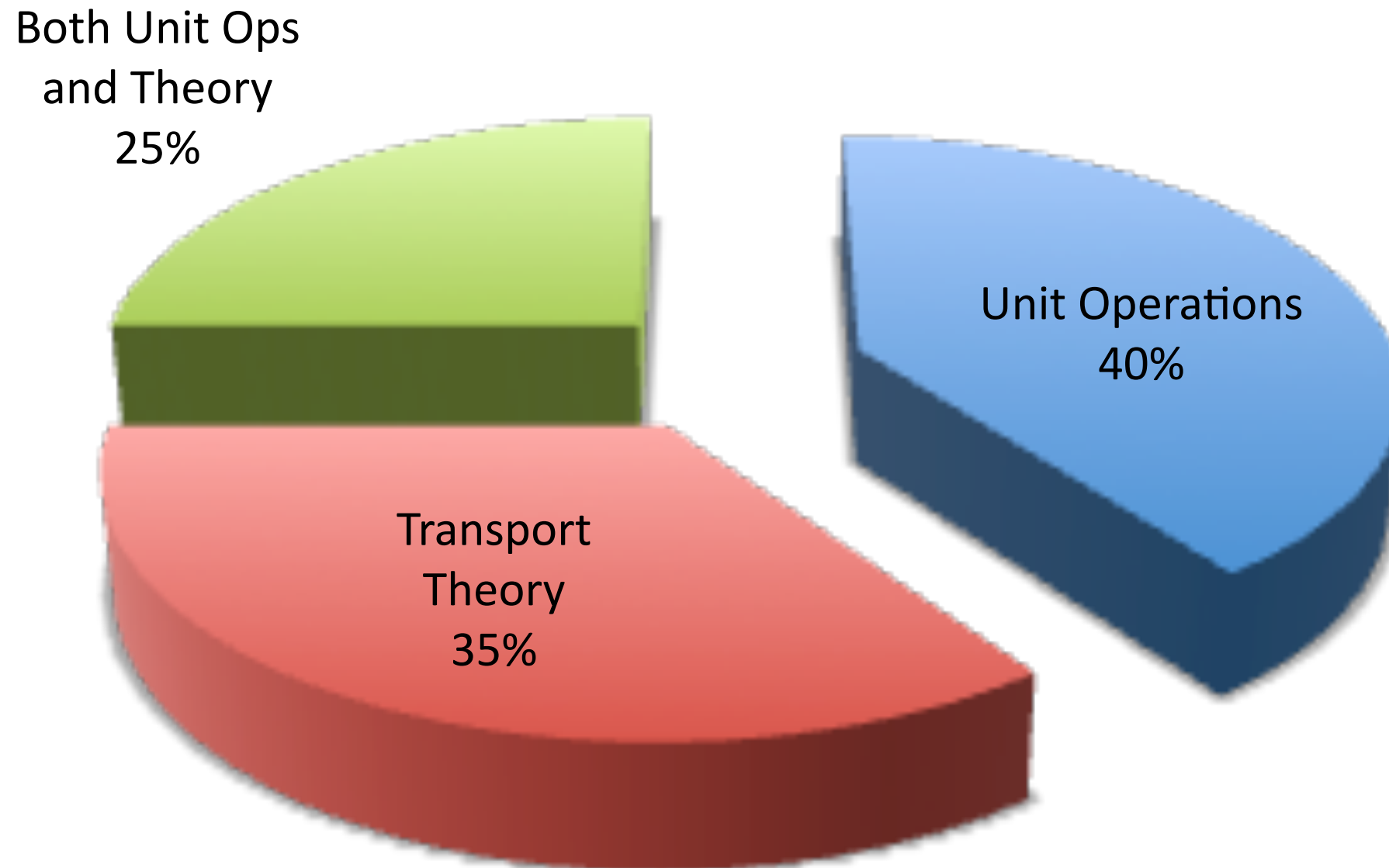


Balance/Orientation of Content

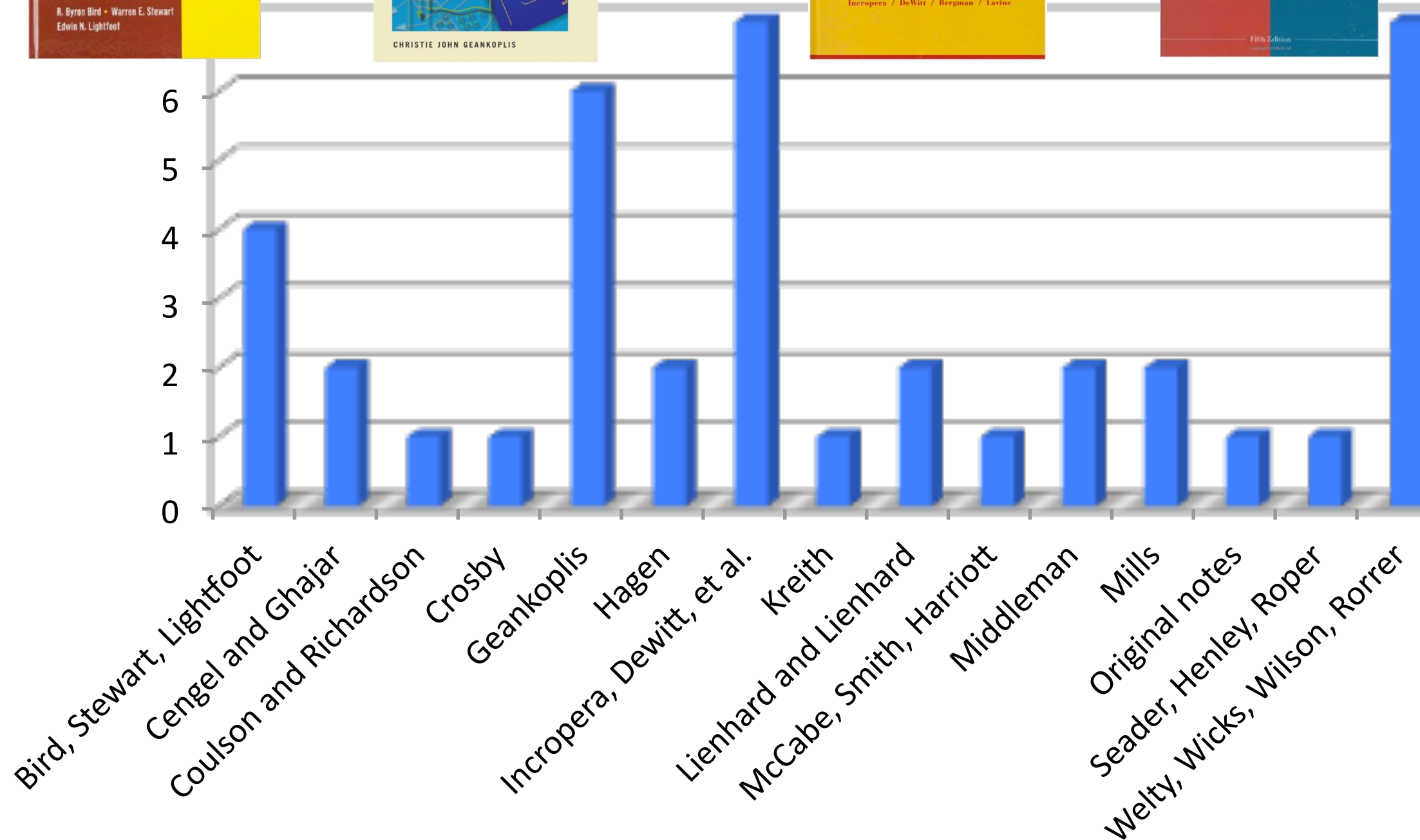
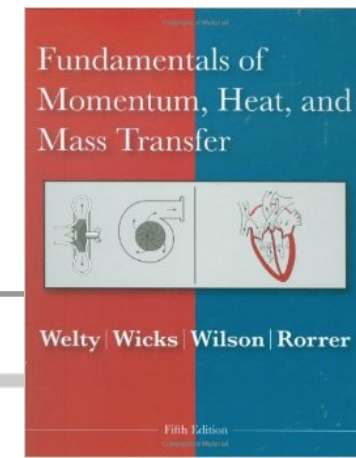
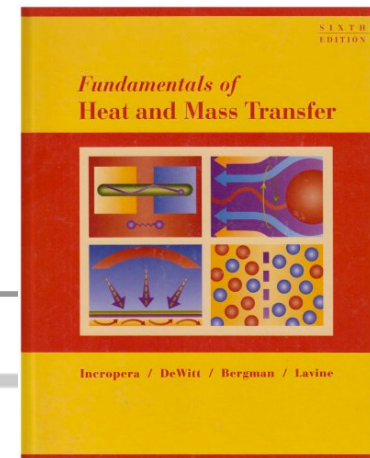
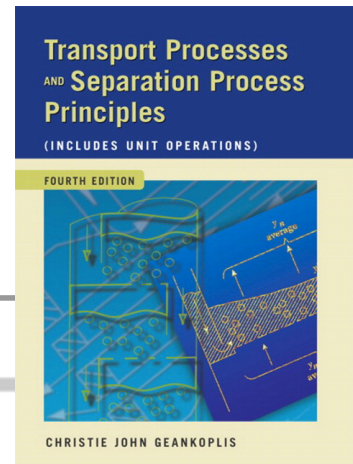
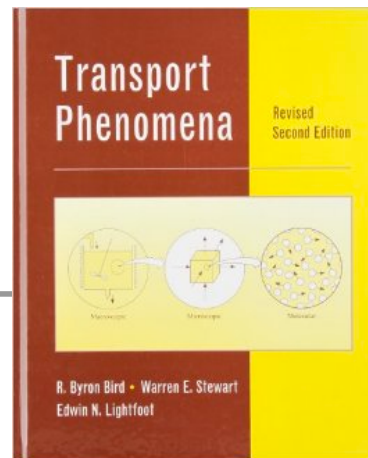


Balance/Orientation of Content

1977 - Heat Transfer



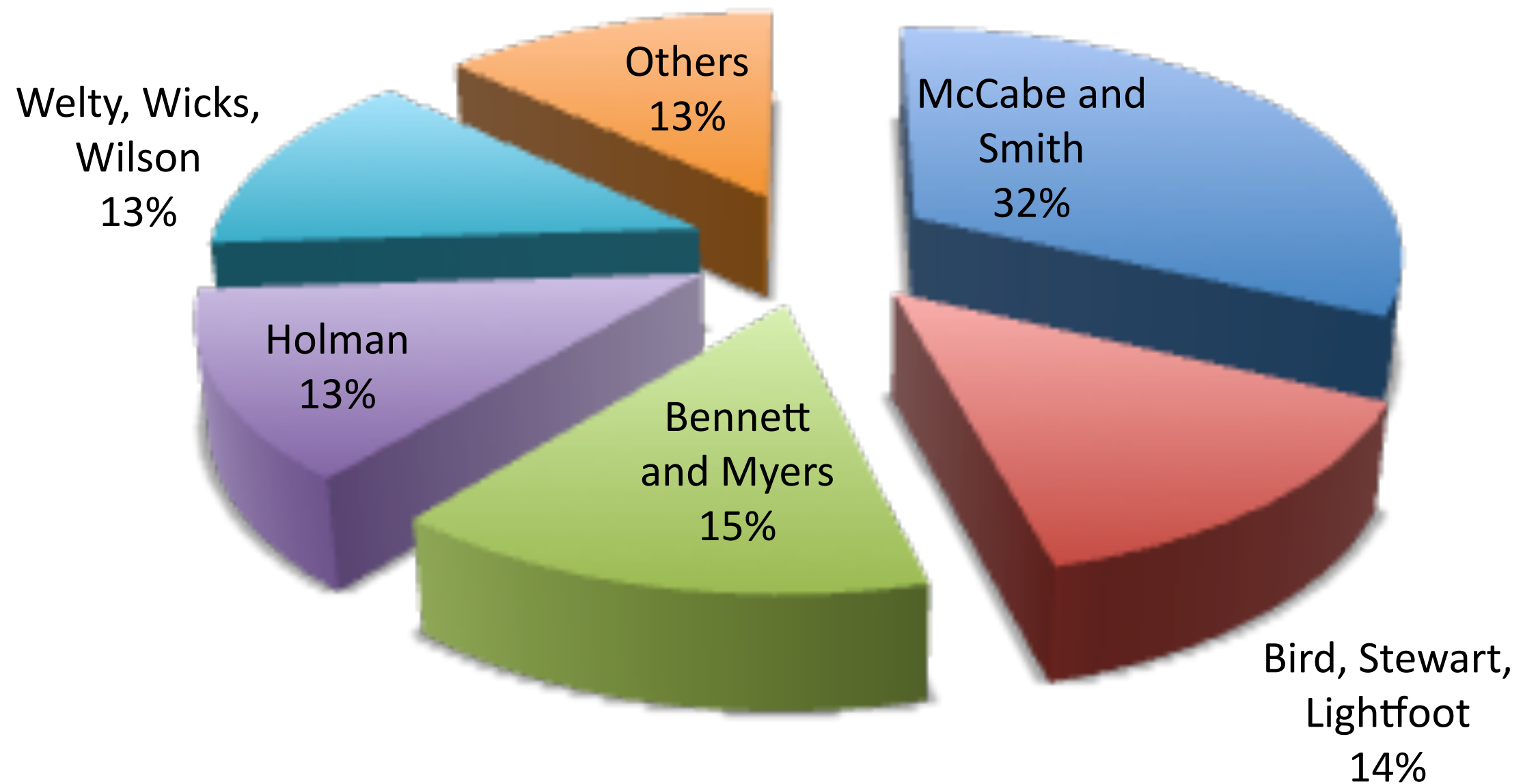
Textbook



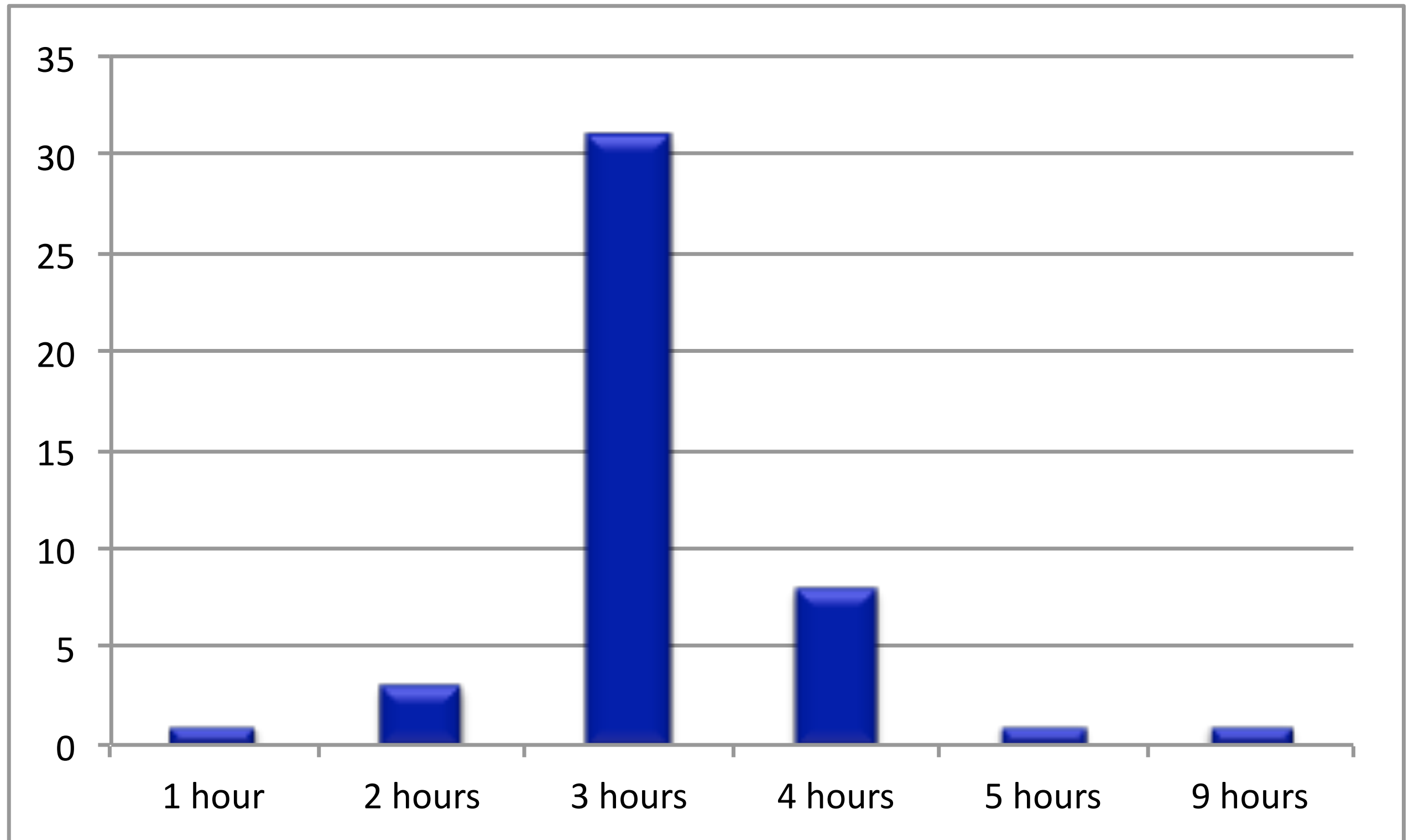
Textbooks - Heat Transfer

1977

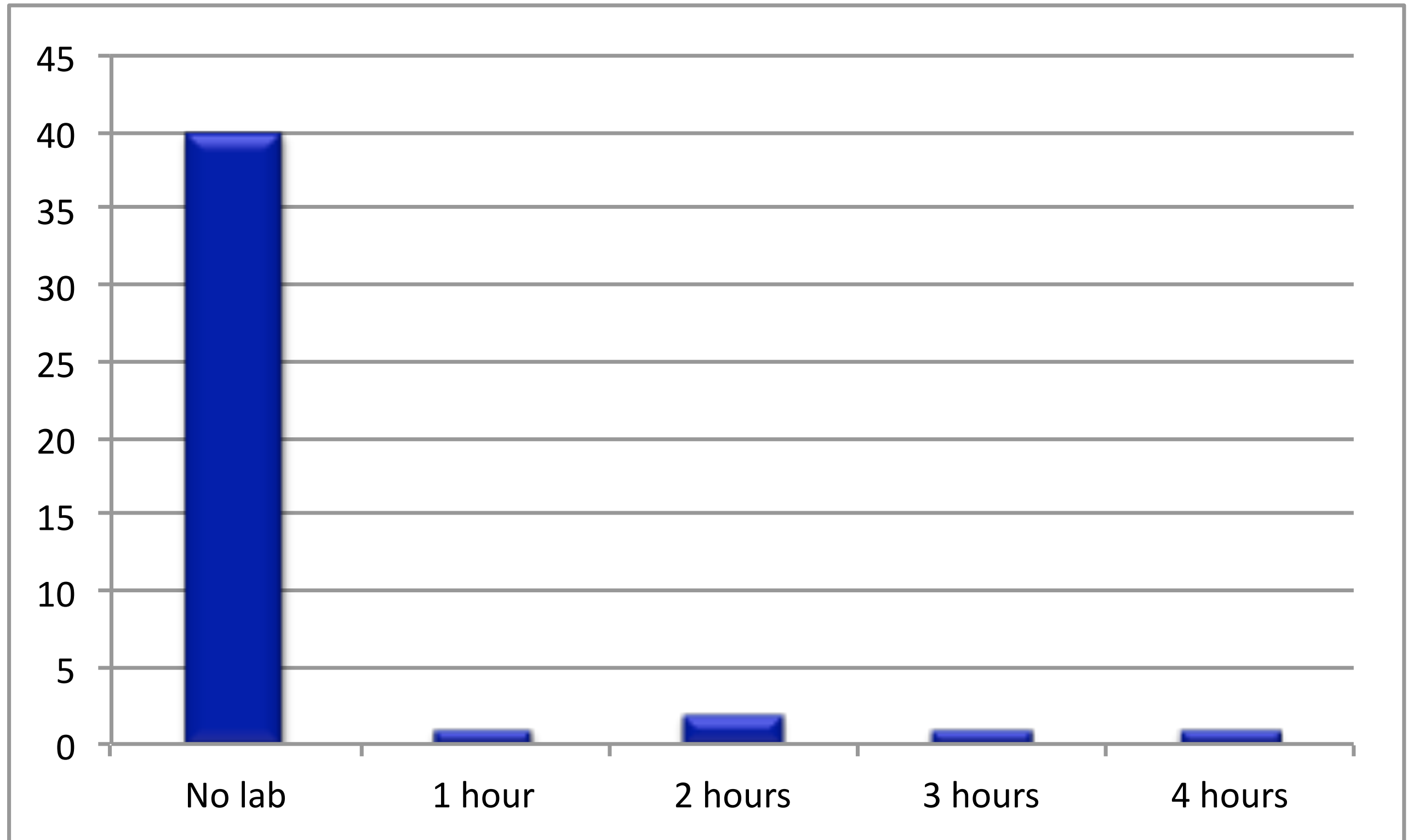
(n=92)



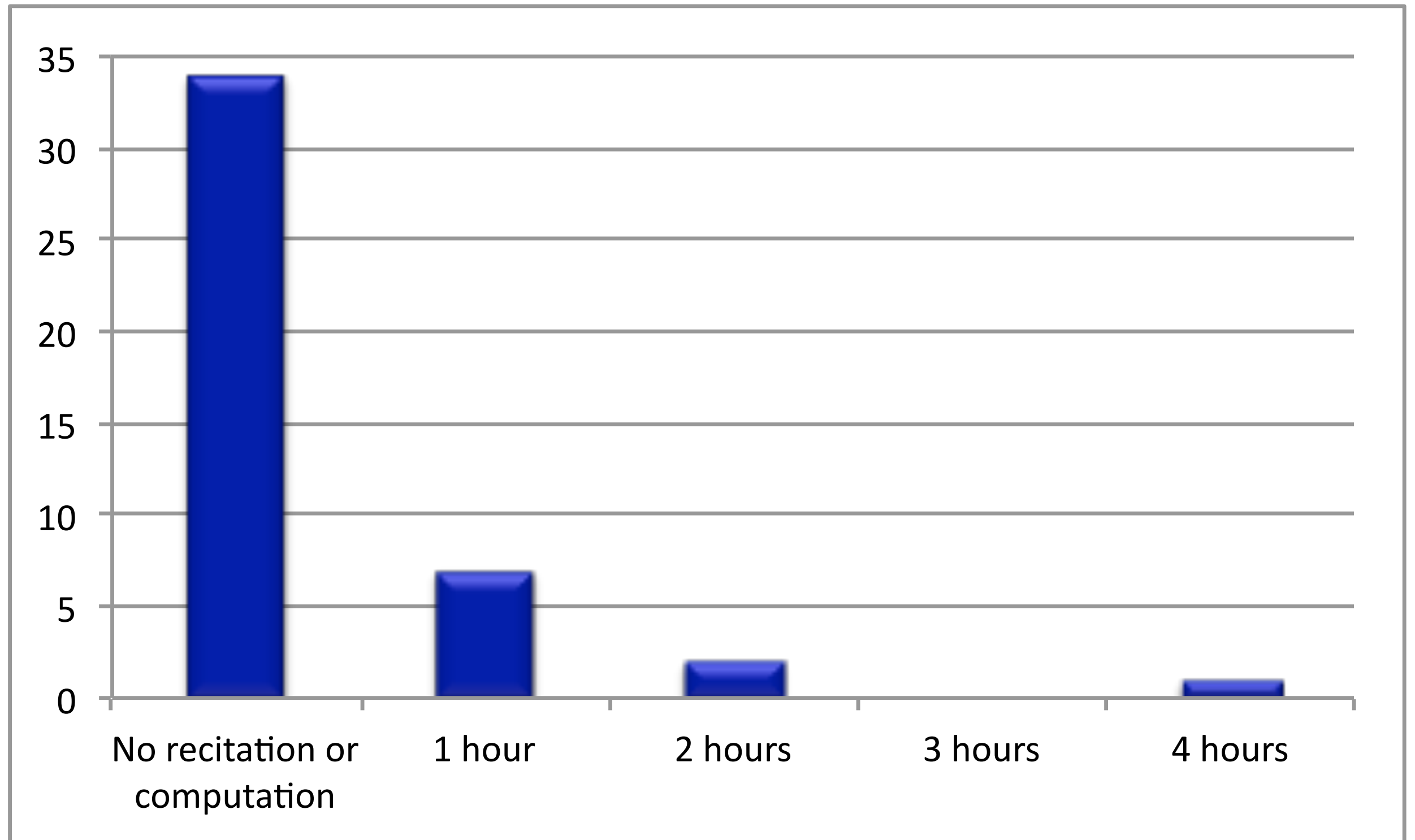
Hours for “Lecture”



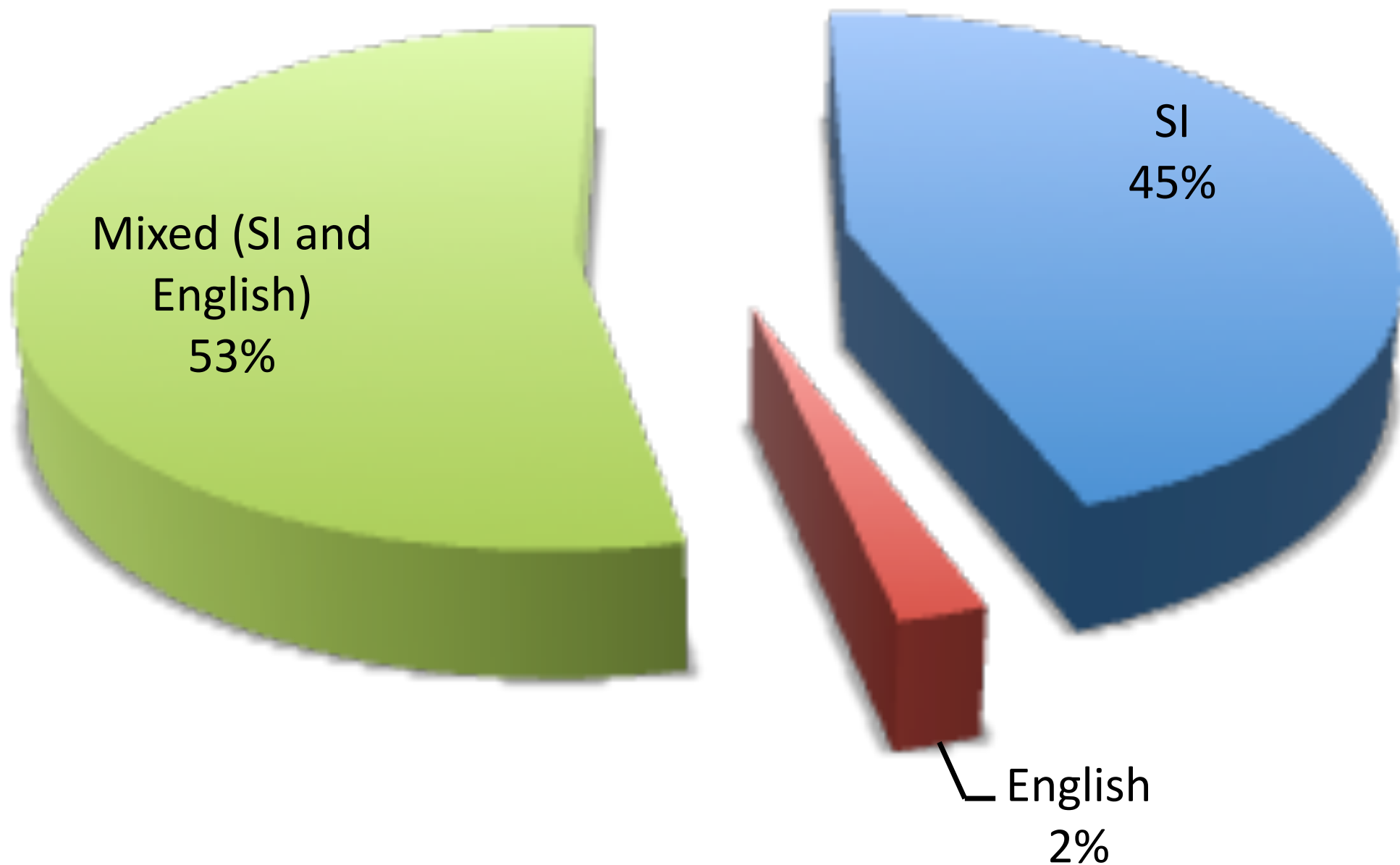
Hours for “Lab”



Hours for Recitation or “Comp Lab”

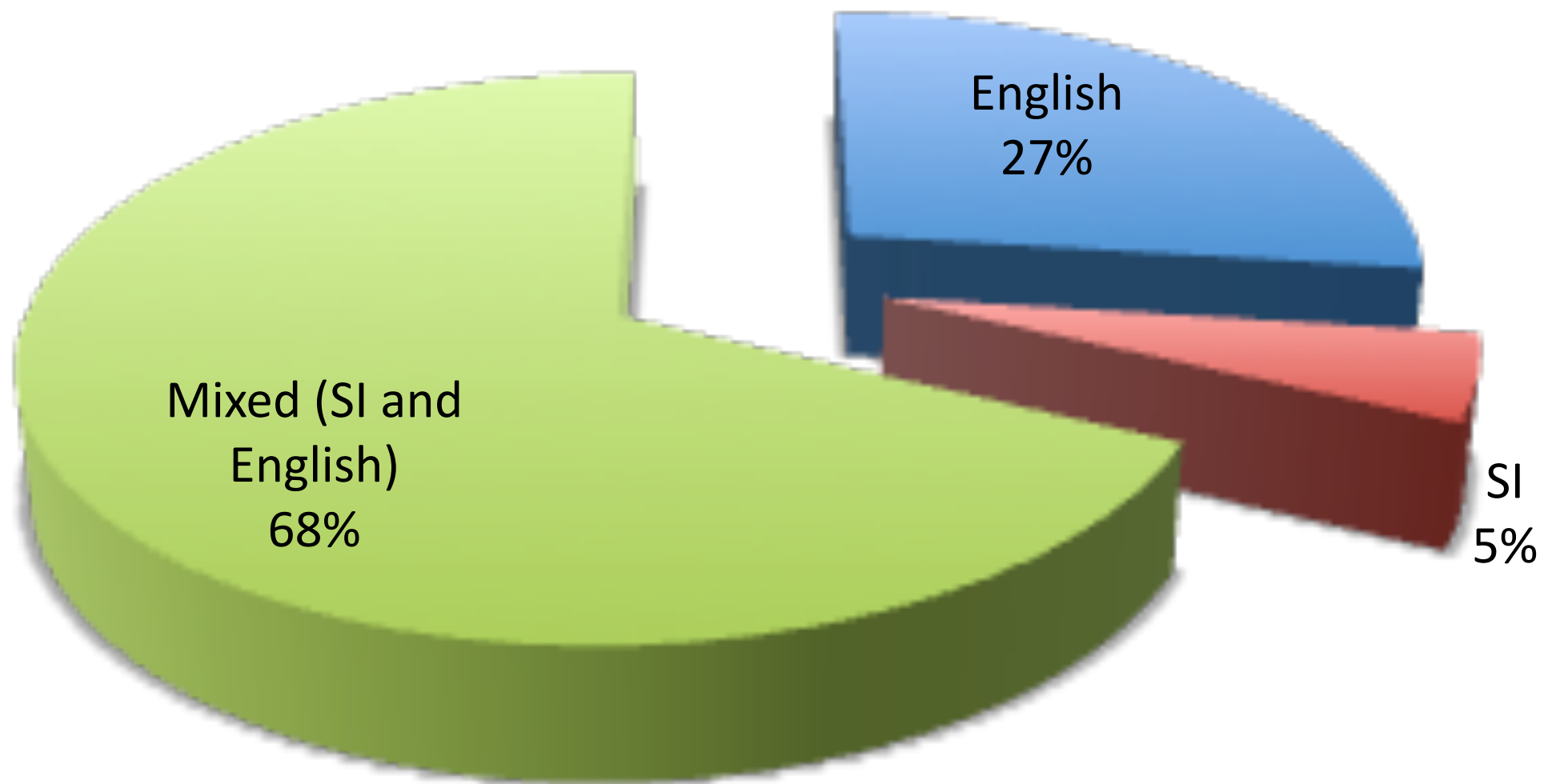


System of Units

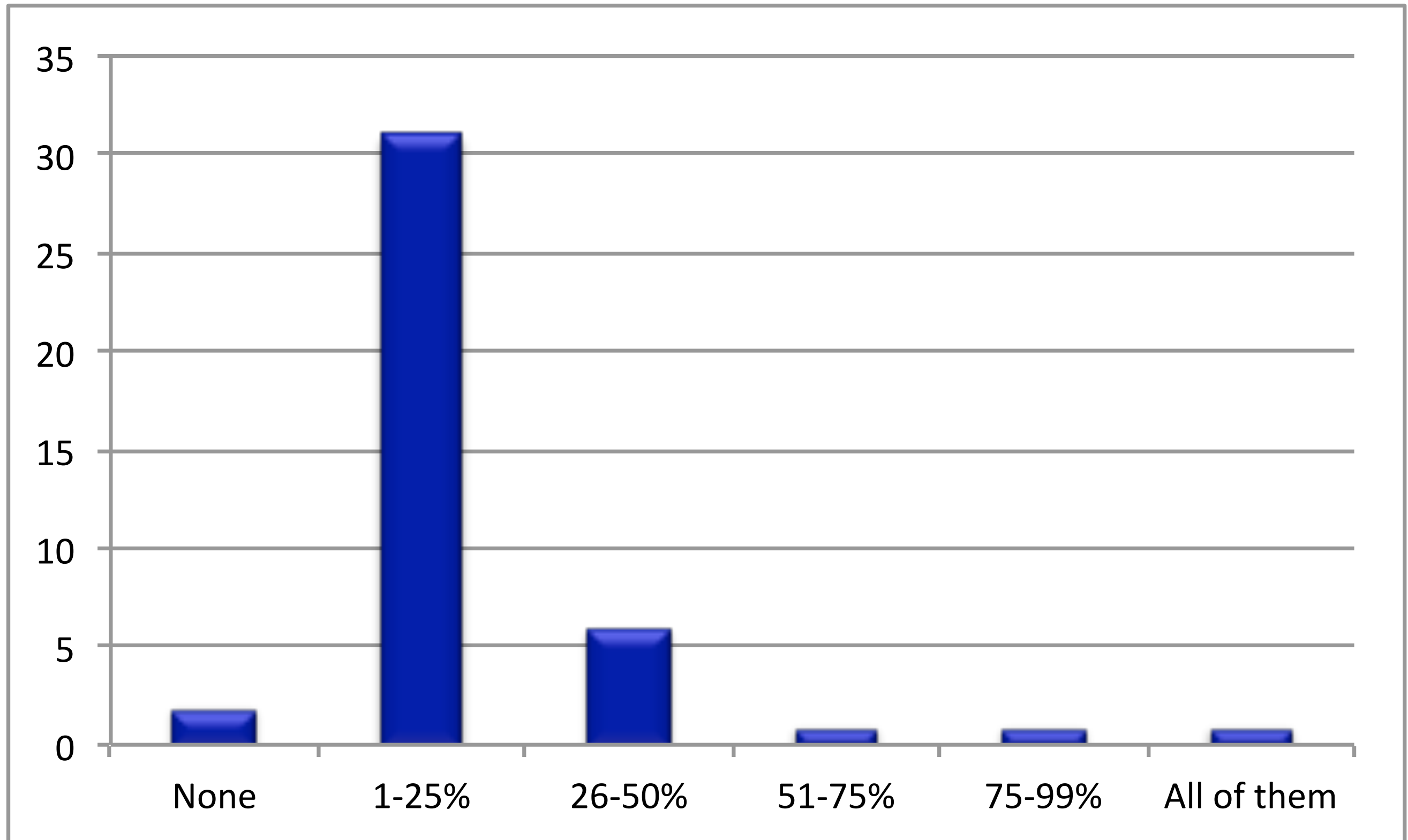


System of Units

1977



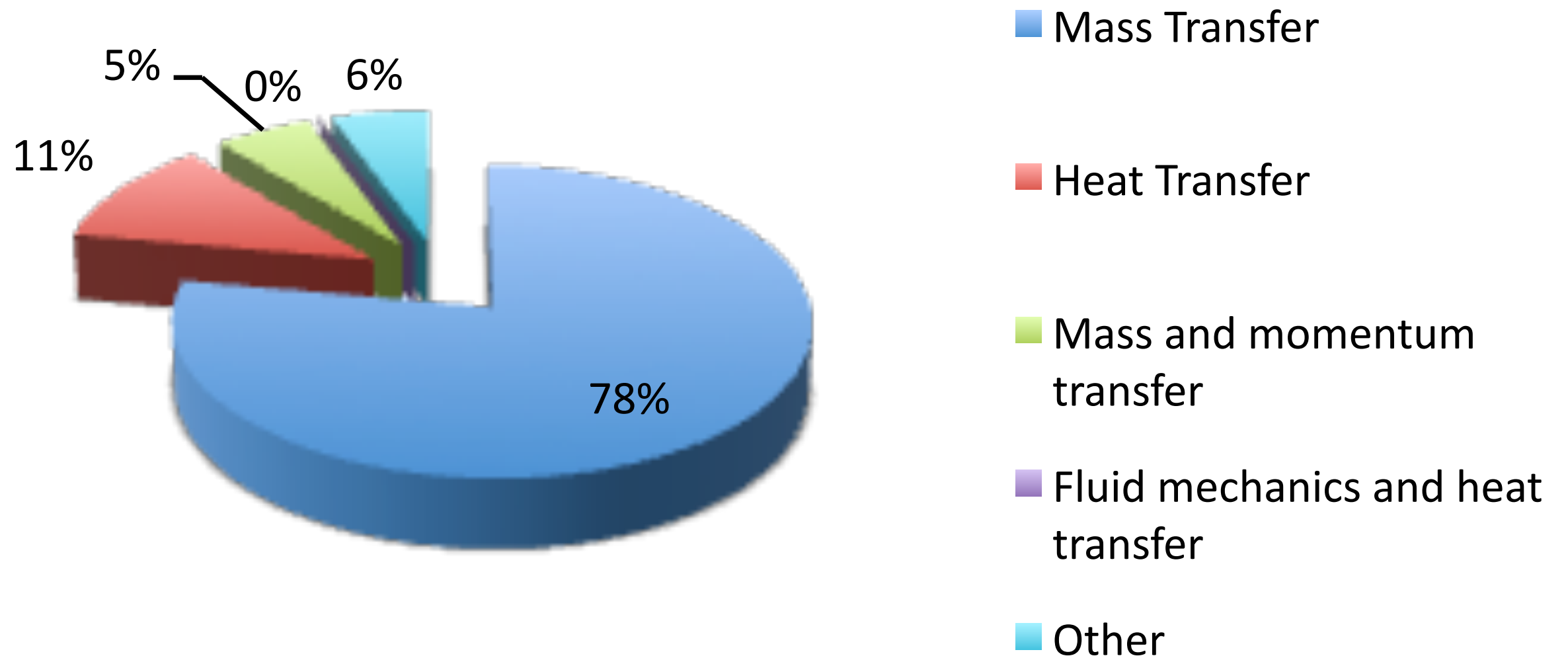
Percent of Assignments involving Computer



The “Third” Course in the Transport Sequence

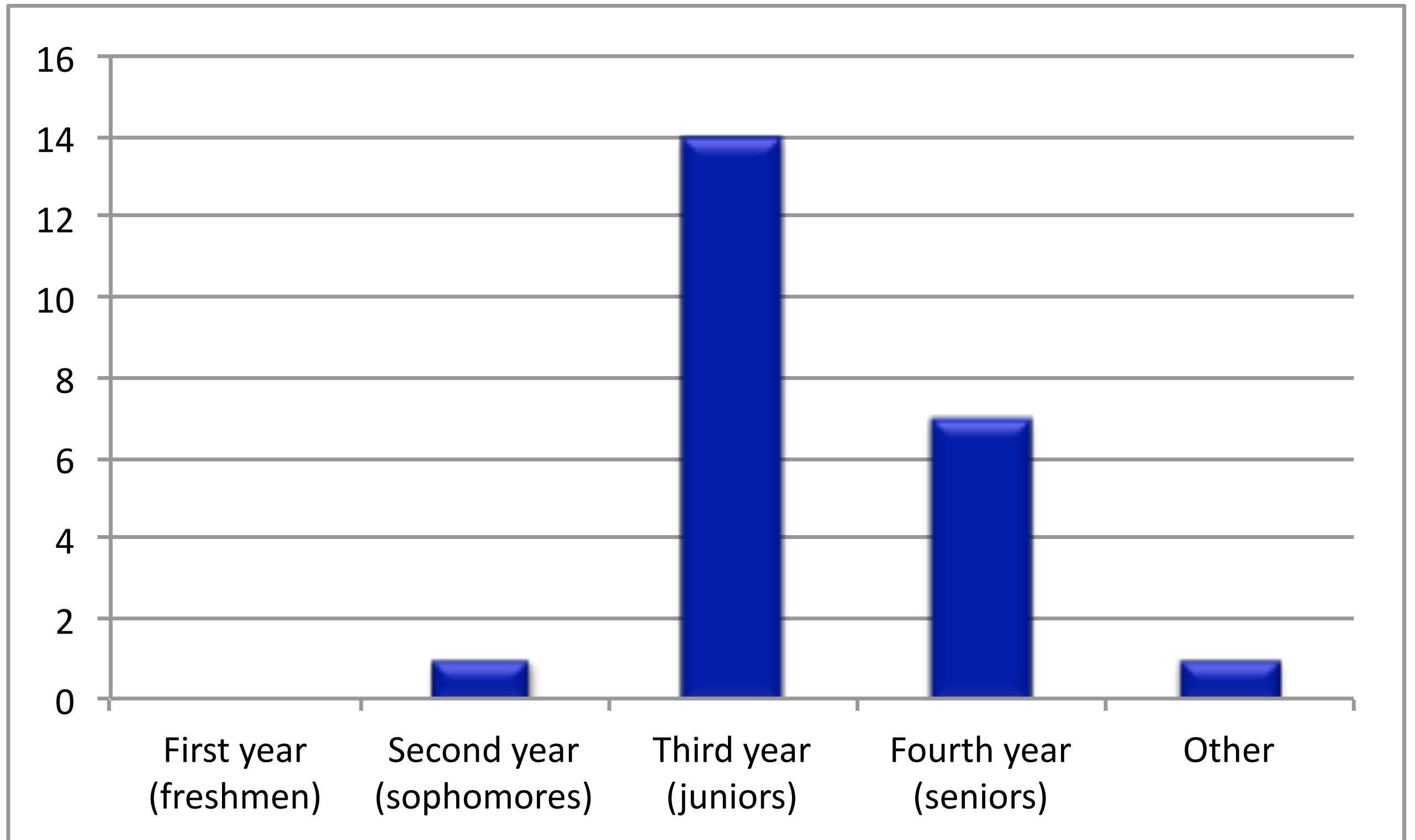
Mass Transfer (and Separations)

Title of Third Course

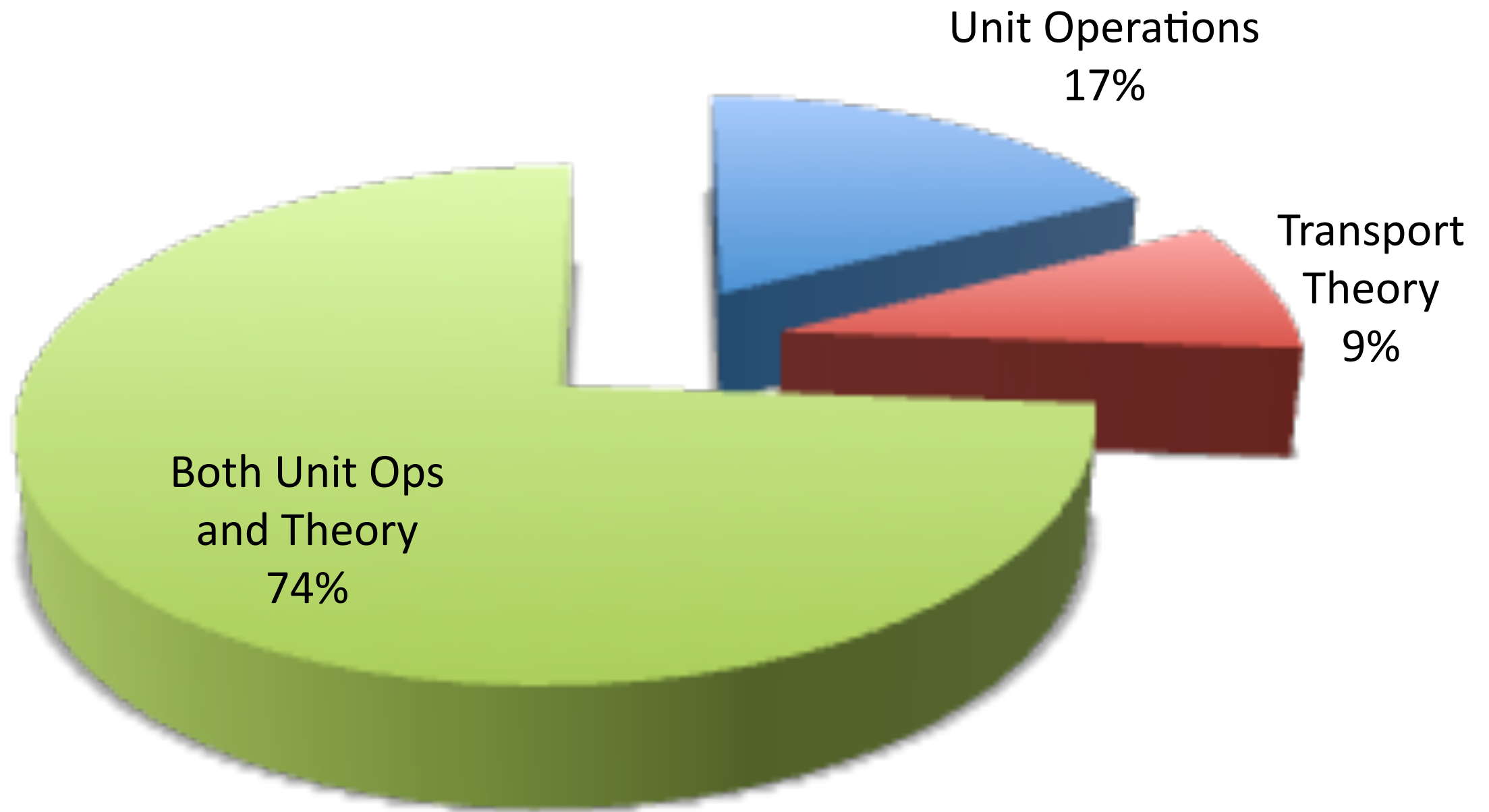


“Separation Processes (2)”

Primary Audience



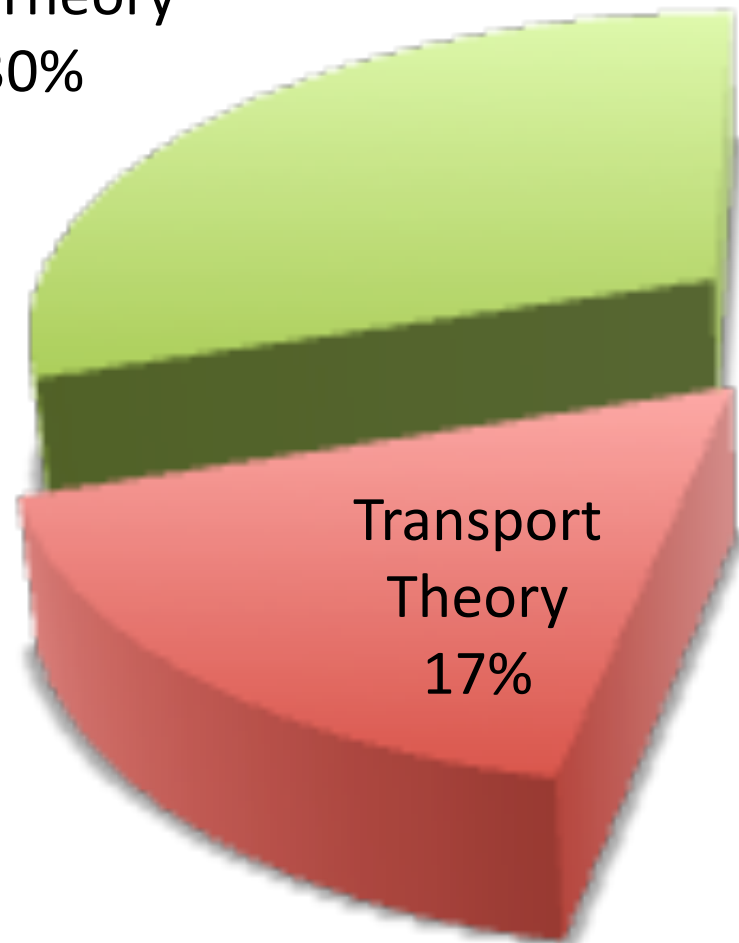
Balance/Orientation of Content



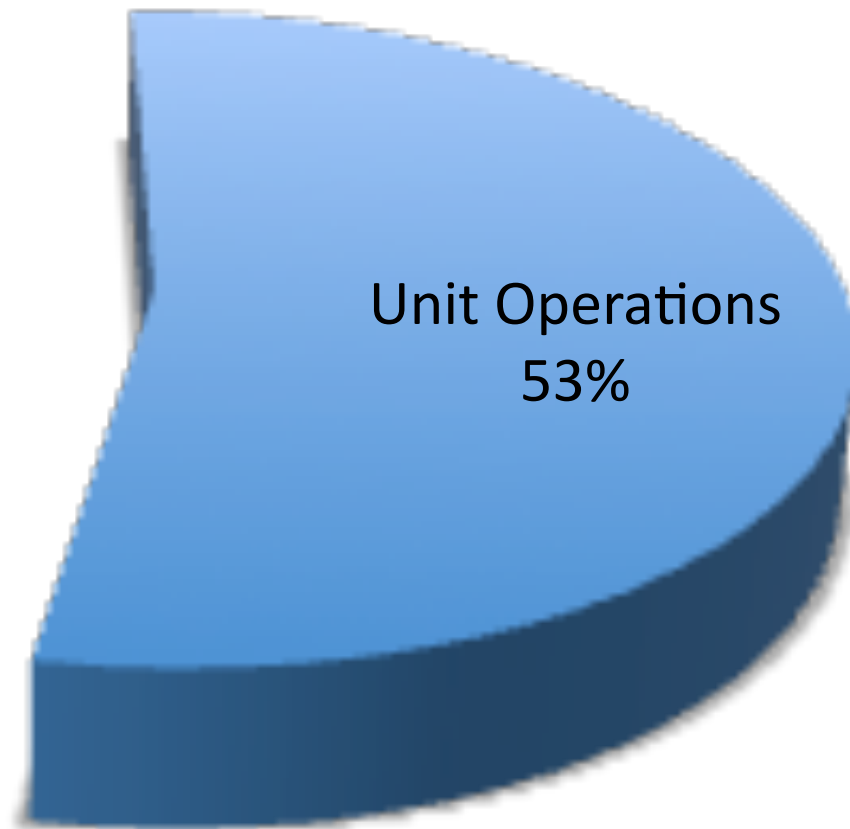
Balance/Orientation of Content

1978 - Mass Transfer

Both Unit Ops
and Theory
30%

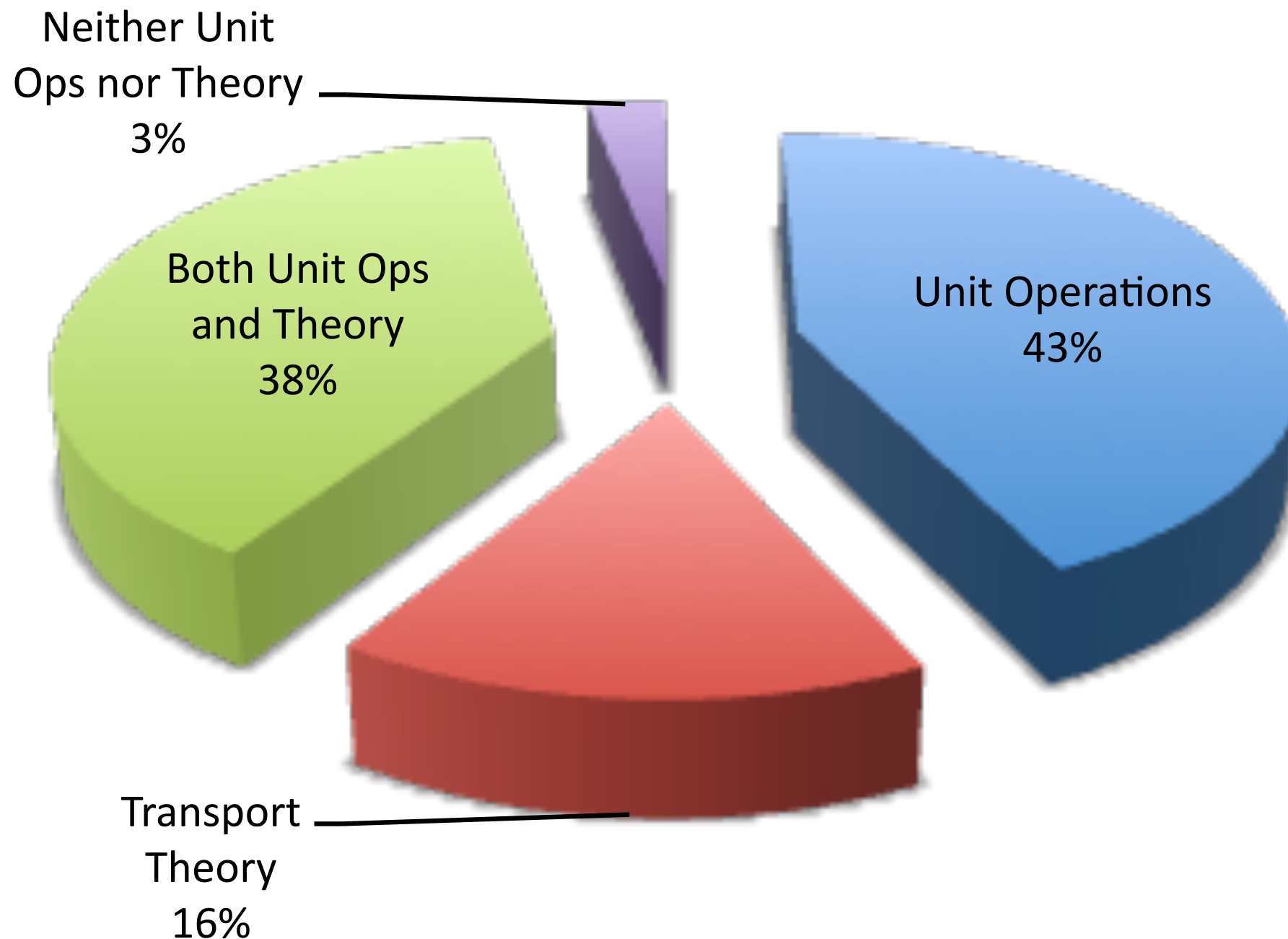


Unit Operations
53%

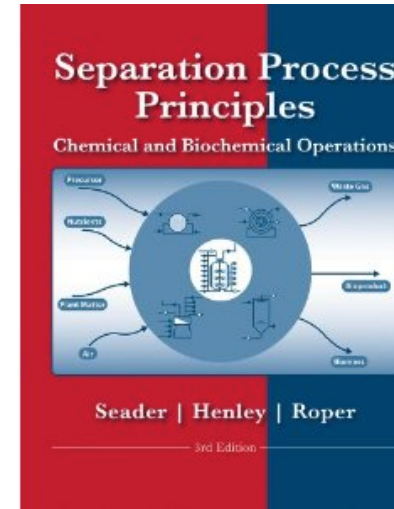
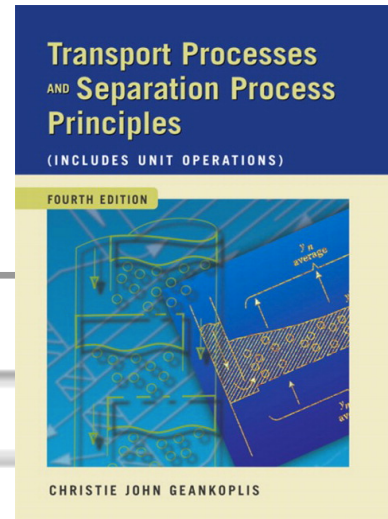


Balance/Orientation of Content

1987 - Mass Transfer



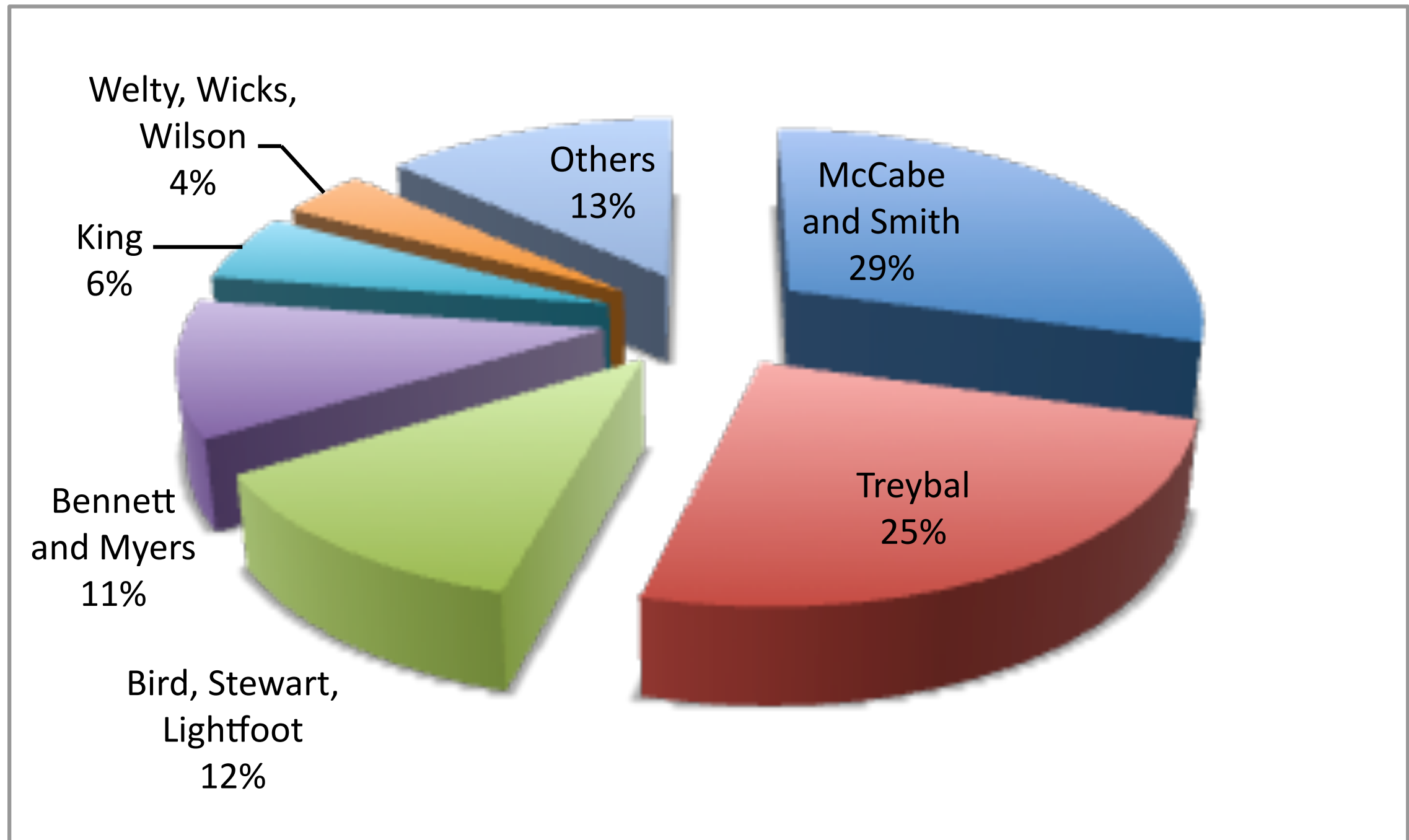
Textbook



Textbooks - Mass Transfer

1978

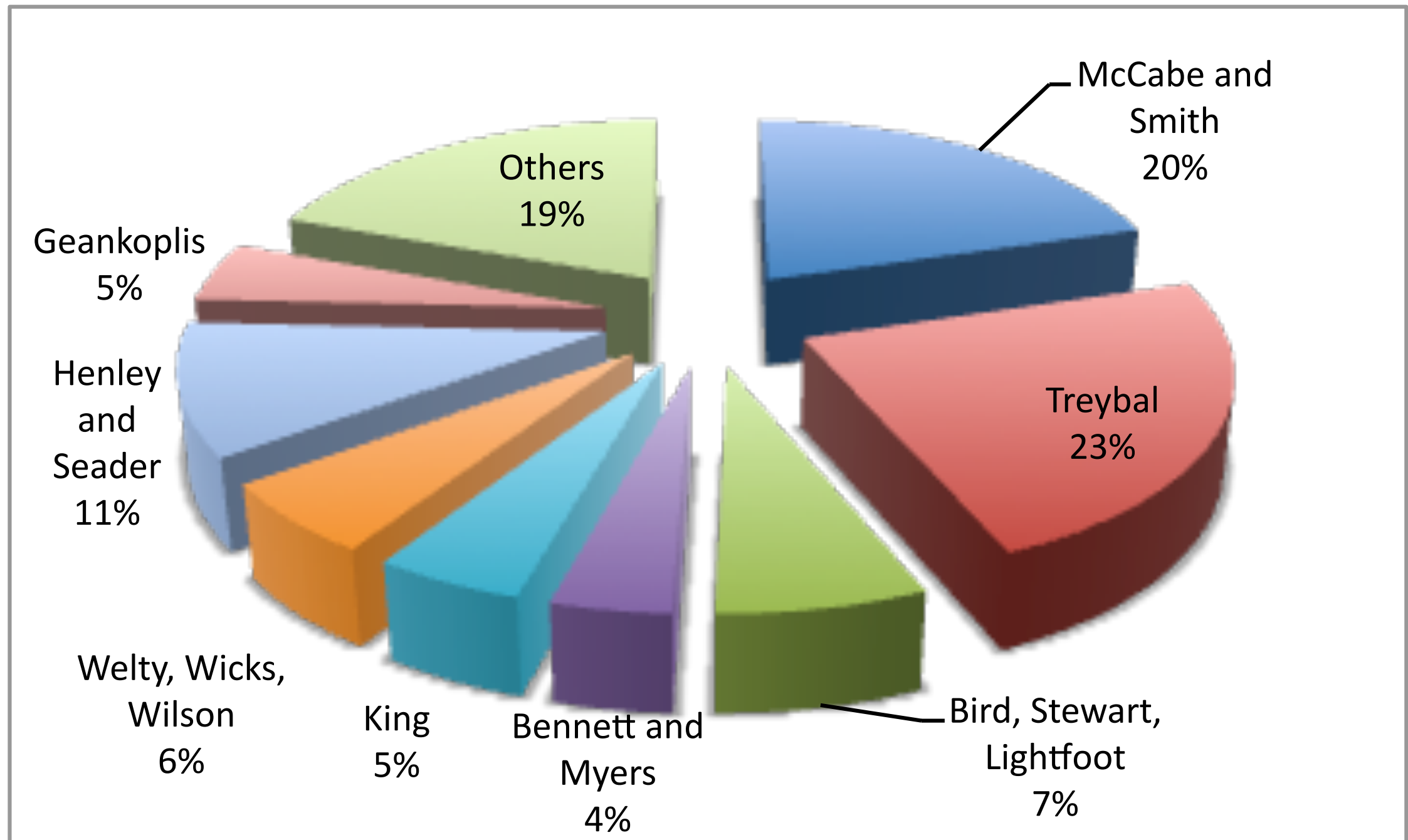
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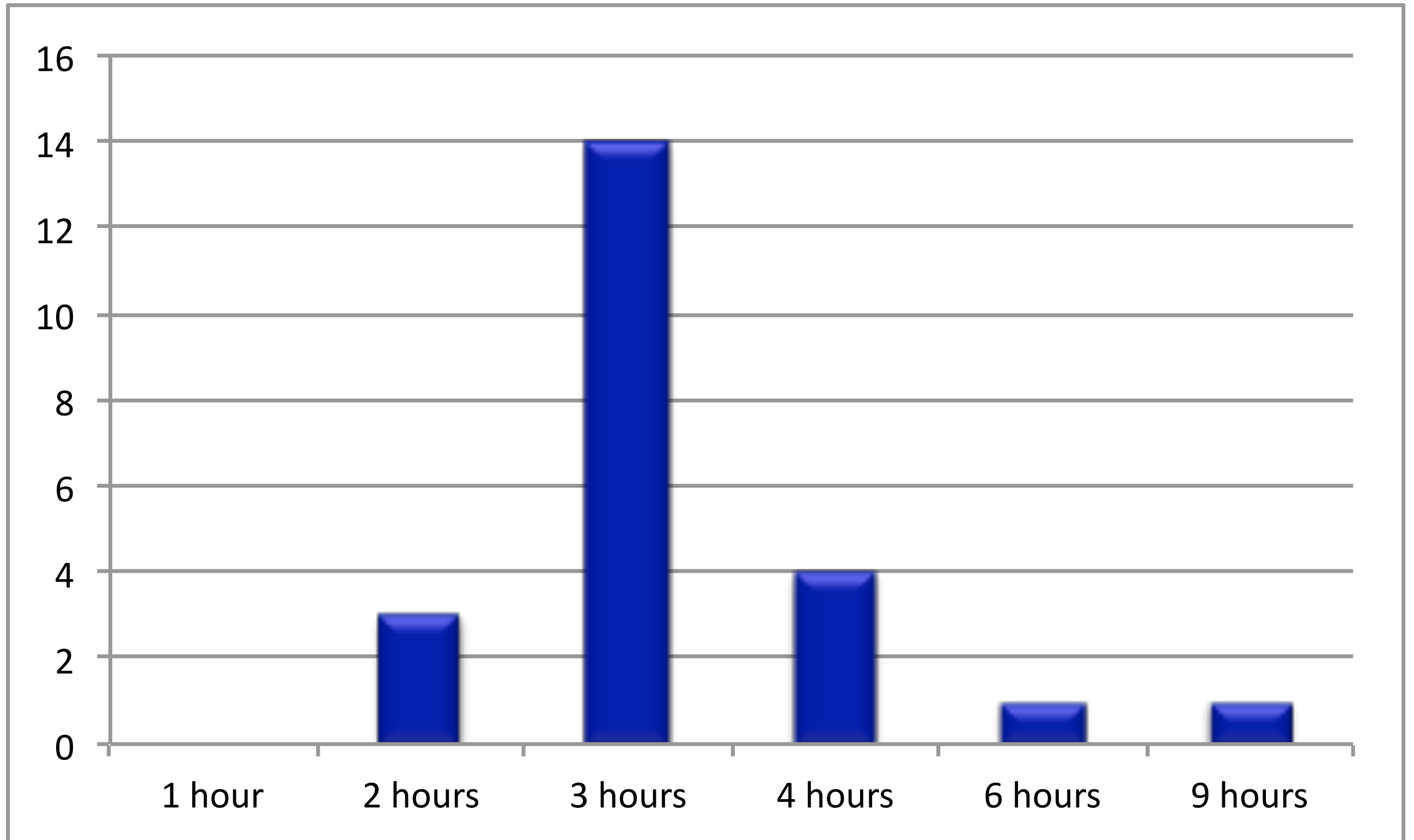
Textbooks - Mass Transfer

1987

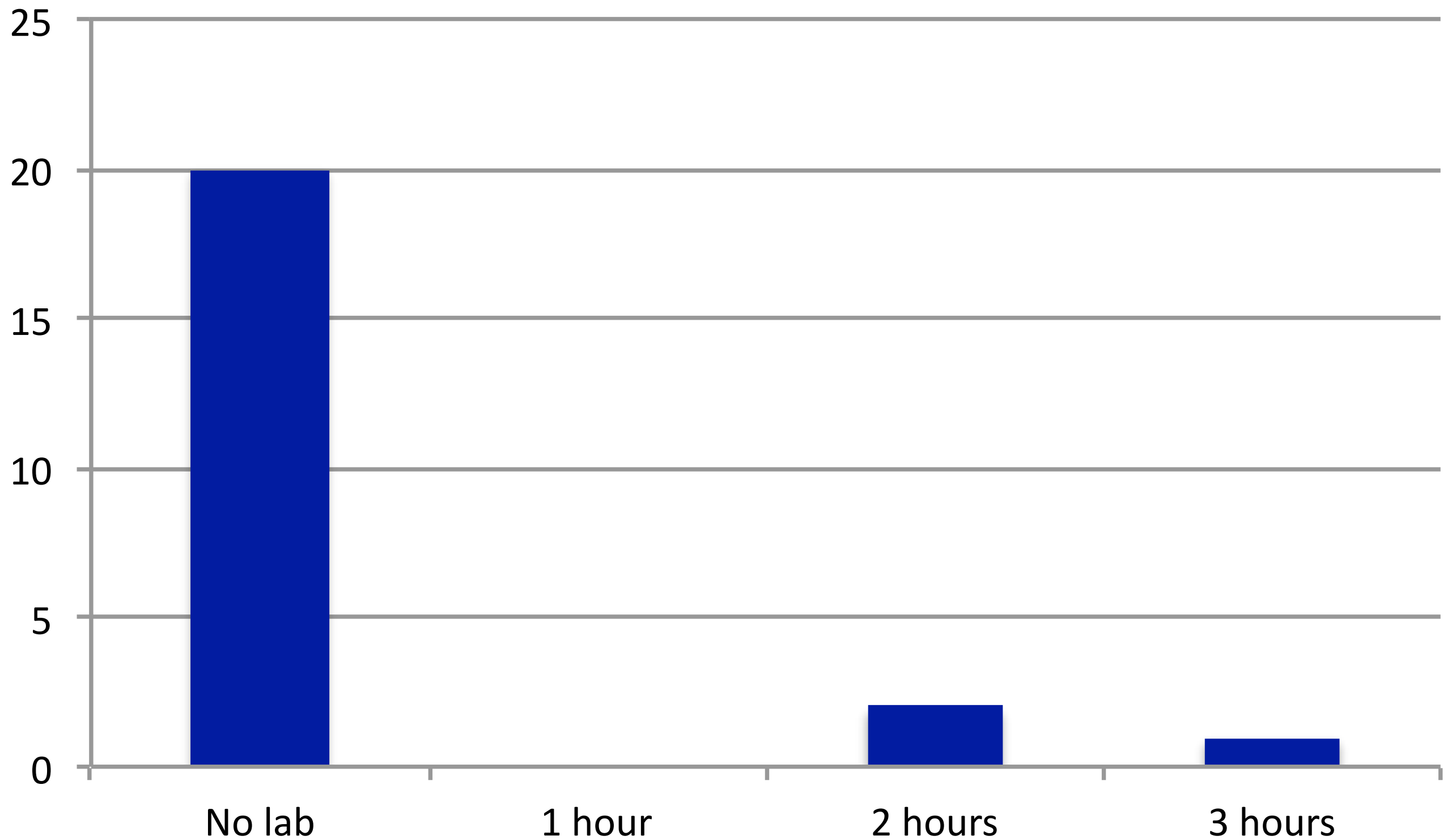
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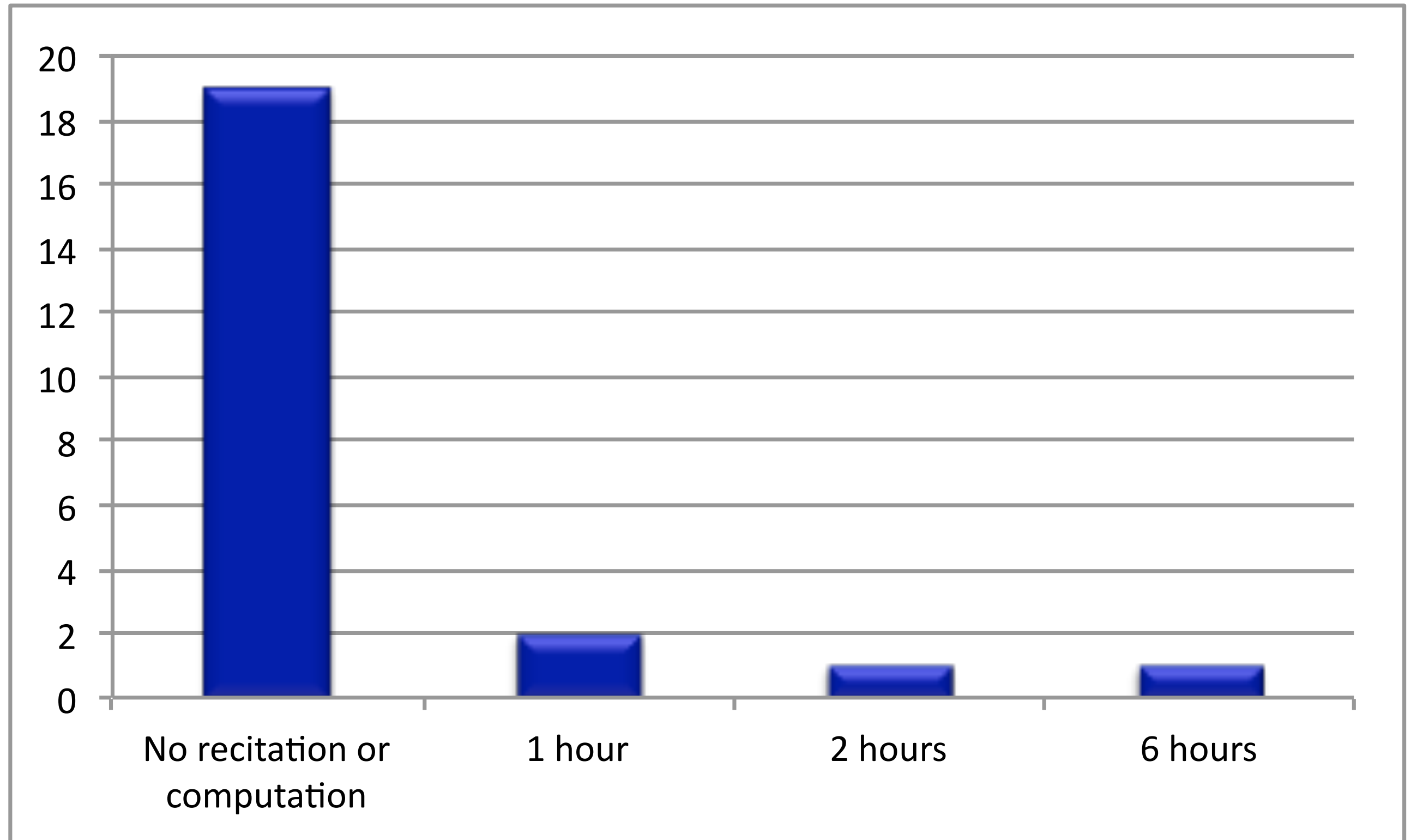
Hours for “Lecture”



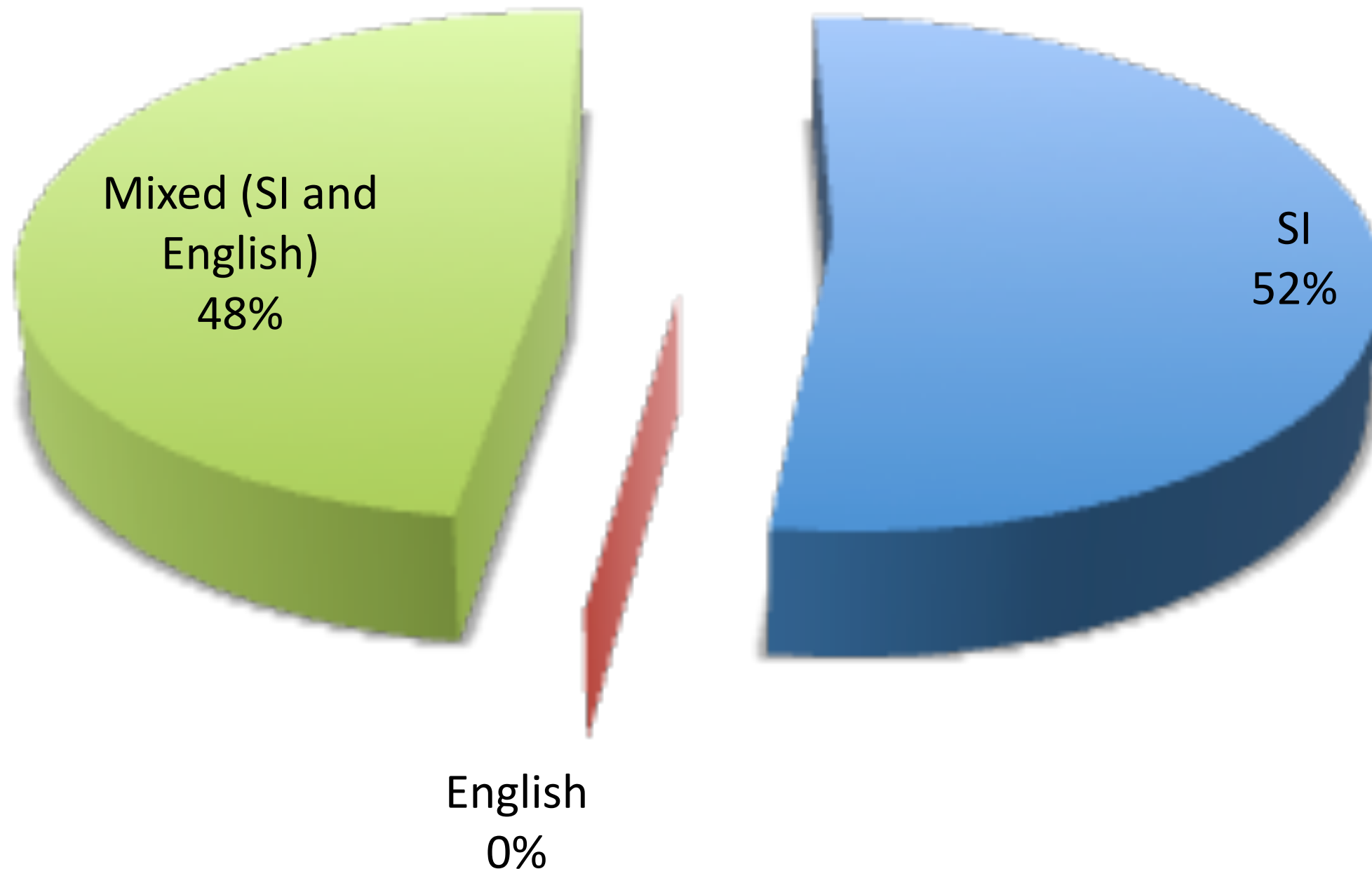
Hours for “Lab”



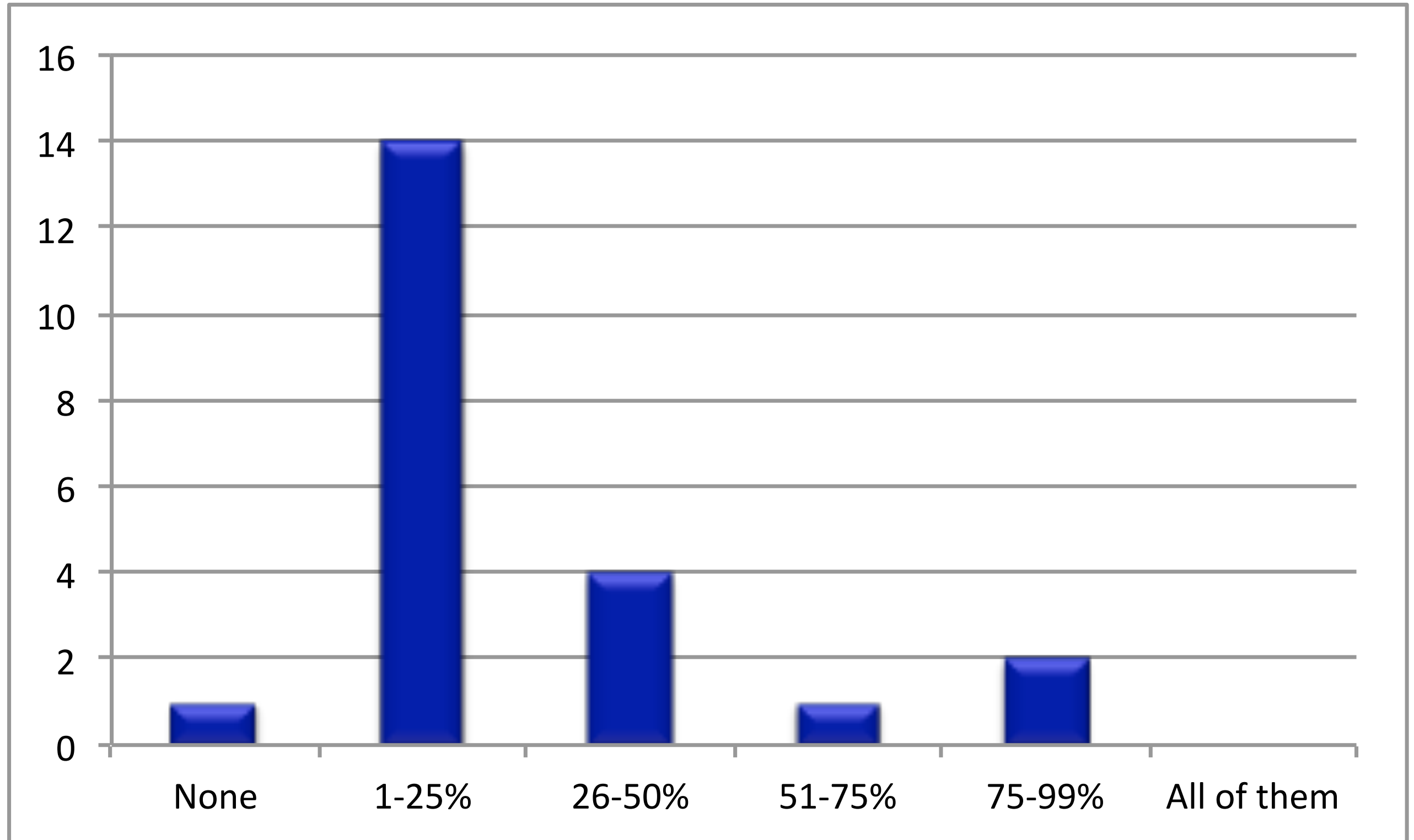
Hours for Recitation or “Comp Lab”



System of Units



Percent of Assignments involving Computer



Open Discussion

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**Survey Results and Best Practices: Transport Phenomena
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