Module designation	*Computer Application*
Semester(s) in which the module is taught	*3*
Person responsible for the module	*Sahid, M.Sc*
Language	*Bahasa Indonesia*
Relation to curriculum	*Compulsory course*
Teaching methods	*150 minutes lectures and 180 minutes structured activities per week.*
Workload (incl. contact hours, self-study hours)	*Total workload is 136 hours per semester which consists of 150 minutes lectures, 180 minutes structured activities, and 180 minutes self-study per week for 16 weeks.*
Credit points	*3*
Required and recommended prerequisites for joining the module	*MAT6307 - Algorithms and Programming.*
Module objectives/intended learning outcomes	*After taking this course the students have ability to:* *CO1. Describe the features of a mathematical application software, both commercial and free* *CO2. Using mathematical application software to perform mathematical calculations, both arithmetic operations and calculation of mathematical functions from simple to complex* *CO3. Use the math application software to draw various graphs of mathematical functions in two dimensions (2D)* *CO4. Use the math application software to draw various graphs of mathematical functions in three dimensions (3D)* *CO5. Use mathematical application software to perform algebraic calculations* *CO6. Use the math application software to do calculus calculations* *CO7. Using the math application software for construct geometric objects* *CO8. Using LaTeX software to write mathematical expressions, from simple to complex mathematical expressions* *CO9. Using LaTeX software to produce mathematical documents*

<table>
<tr><td>Content</td><td>This course is about introduction of mathematical software - both commercial and free, comparison of features of mathematical software, and the use of several free mathematical software to solve mathematical problems and processing mathematical documents.
In this course students learn to use some free math software that has the ability to solve mathematical problems in an analytical (exact) or numerical manner and for processing mathematical documents, for example Euler Maths Toolbox (EMT), Octave, Maxima, Scilab, GeoGebra, and LaTeX software.
The use of free software is based on the fact that the Mathematics Education Department of UNY does not have commercial mathematical software that is legally licensed (the process of procuring such software is not easy) and the fact that free mathematical software has the ability is not inferior to commercial software.</td></tr>
<tr><td>Examination forms</td><td>Attitude assessment is carried out at each meeting by observation and / or self-assessment techniques using the assumption that basically every student has a good attitude. The student is given a value of very good or not good attitudeif they show it significantlycompared to other students in general. The result of attitude assessment is not a component of the final grades, but as one of therequirements to pass the course. Students will pass from this course if at least have a good attitude.</td></tr>
<tr><td>Study and examination requirements</td><td>The final mark will be weight as follow:
<table>
<tr><th>No</th><th>CO</th><th>Assessment Object</th><th>Assessment Technique</th><th>Weight</th></tr>
<tr><td>1</td><td>CO 1 sd CO 9</td><td>Student’s answer</td><td>Verbal Quiz</td><td>20%</td></tr>
<tr><td>2</td><td>CO1-CO7</td><td>Student’s work and answer</td><td>Written test</td><td>30%</td></tr>
<tr><td>3</td><td>CO8-CO9</td><td>Student’s work</td><td>Final project course</td><td>50%</td></tr>
<tr><td colspan="3"></td><td>Total</td><td>100%</td></tr>
</table></td></tr>
</table>

Reading list	1. *Panduan Penggunaan Software Euler Maths Toolbox (EMT), Euler Math Toolbox - An Introduction (Rene Grothmann, January 2017) dapat diunduh/dibaca dari situs EMT (www.euler-math-toolbox.de).* 2. *Panduan Penggunaan Software GeoGebra, dapat iunduh/dibaca dari situs GeoGebra (www.geogebra.org).* 3. *Panduan Penggunaan LaTeX, dapat diunduh/dibaca dari situs TUG (TeX User Group, www.tug.org) dan sumber-sumber Internet lain.* 4. *Pengantar LaTeX 2e, Petunjuk Pembuatan Dokumen Secara Efektif bagi Para Penulis (1999). oleh Sahid (Penerbit ANDI YOGYA).*