

Course Title	Sustainable Metrics Seminar				
Course Format	SE	ECTS	6	Weekly Hours	2
Study Programs	<p>THE ACO WILL COMPLETE THIS SECTION</p> <p>123 MSc International Tourism Management (MSc ITM 2013)</p> <p>223 MSc Sustainable Development, Management, and Policy (MSc SDMP 2013)</p> <p>224 MSc Sustainable Development, Management, and Policy (MSc SDMP 2016)</p> <p>323 MSc in Management (MSc MGMT 2016)</p>				
Module(s)	<p>THE ACO WILL COMPLETE THIS SECTION</p> <p>MiM: Module II Module name</p> <p>ITM: Module IV Module name</p> <p>SDMP: Module III Module name</p>				
Course Prerequisites	<p>Required Prerequisite Courses: none</p> <p>Recommended Prerequisite Courses/Skills: 0101 Advanced Economics, 0102 Advanced Data Analysis and Decision Making, 0205 Principles of Sustainability and Economic Development</p>				
Required for					
Registration Period	<p>4 September 2017 : First day to enroll in this class</p> <p>15 September 2017: Last day to enroll in this course</p>				
Course Withdrawal Policy	<p>Students have permission to drop this course/ add this course/ switch groups</p> <p>Before unit 2</p> <p><u>MU Course Registration Policy</u></p> <p><i>Taken from the MU Examination Regulations and Student Code of Conduct</i></p> <p><i>§5 Course Registration</i></p> <p>(1) Registration Period: <i>Students are required to register for all courses within the official registration period prior to the start of the subsequent semester/term. If a student registers late or requests changes (drops a course, adds a course, or switches groups) after the closing of the registration period, a fee may apply. Details on any special extensions to the registration period will be available on the individual course syllabus. The extended registration period for blocked courses in the MSc and MBA programs ends two weeks prior to the course.</i></p> <p>(2) Late Changes to Course Registration: <i>Changes to course registration after the registration period: are only permitted if an extended course registration period as outlined in (1) has been made available. Additionally, late course cancellations will only be permitted if 1) the student has not yet participated in any course-related assessment and 2) when no disadvantage to other students arises from the student's withdrawal. Late changes to course registration are processed by the Academic Office. A fee may apply.</i></p> <p>(3) <i>Any withdrawal requests made after the extended registration period must be addressed to the Dean. A fee may apply.</i></p>				

Learning Objectives	<p>The aim of this course is to develop students' understanding of the key concepts and principles of quantitative measures of sustainability.</p> <p>To successfully complete this course students must:</p> <ul style="list-style-type: none"> • Be prepared for each class by reading the relevant materials • Actively participate in discussions in every class • Acquire detailed knowledge about at least one sustainable metric and introduce it to the group via oral presentation; moderate the subsequent discussion • Assess a country / region / city / district's sustainability using one of metrics introduced before 																																								
Course Contents	<p>This seminar covers a range of quantitative measures of sustainability. Students will learn how some of the metrics most frequently used in academia as well as in the public policy debate are actually calculated. In particular, students will critically challenge the discussed metrics, highlight their strengths and weaknesses and think about possible ways ahead.</p> <p>In addition to challenging some approaches, students will also experience the practical dimension of implementing a quantitative sustainability metric on their own.</p> <p>Taken together, students will not only critically challenge theoretical concepts, but will also gain experience in practically applying such concepts.</p> <table border="1" data-bbox="359 1187 973 1579"> <thead> <tr> <th>Class</th> <th>Date</th> <th>Start</th> <th>End</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>04.10.2017</td> <td>17:15</td> <td>18:00</td> </tr> <tr> <td>2</td> <td>11.10.2017</td> <td>15:30</td> <td>18:45</td> </tr> <tr> <td>3</td> <td>18.10.2017</td> <td>15:30</td> <td>18:45</td> </tr> <tr> <td>4</td> <td>25.10.2017</td> <td>15:30</td> <td>18:45</td> </tr> <tr> <td>5</td> <td>08.11.2017</td> <td>15:30</td> <td>18:45</td> </tr> <tr> <td>6</td> <td>22.11.2017</td> <td>15:30</td> <td>18:45</td> </tr> <tr> <td>7</td> <td>29.11.2017</td> <td>15:30</td> <td>18:45</td> </tr> <tr> <td>8</td> <td>13.12.2017</td> <td>17:15</td> <td>18:45</td> </tr> <tr> <td>9</td> <td>17.01.2018</td> <td>15:30</td> <td>18:45</td> </tr> </tbody> </table>	Class	Date	Start	End	1	04.10.2017	17:15	18:00	2	11.10.2017	15:30	18:45	3	18.10.2017	15:30	18:45	4	25.10.2017	15:30	18:45	5	08.11.2017	15:30	18:45	6	22.11.2017	15:30	18:45	7	29.11.2017	15:30	18:45	8	13.12.2017	17:15	18:45	9	17.01.2018	15:30	18:45
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Instructor's Contact Information	<p>Name: Dr. Axel Sonntag Affiliation: Vienna Center for Experimental Economics, University of Vienna Address: Oskar-Morgenstern-Platz 1, 1090 Vienna Phone: 0043 1 4277 37410 Web: axelsonntag.com E-mail: axel.sonntag@univie.ac.at</p>																																								
Reading Material	<p>Required Reading: Barro, R.J., Lee, J.W., 2013. A new data set of educational attainment in the world, 1950-</p>																																								

	<p>2010. <i>J. Dev. Econ.</i> 104, 184–198. doi:10.1016/j.jdeveco.2012.10.001</p> <p>Cohen, S., Bose, S., Guo, D., Miller, A., DeFrancia, K., Berger, O., Loman, M., Filitrait, B., Qiu, W., Zhang, C., 2014. The Growth of Sustainability Metrics 1–16.</p> <p>Costanza, R., Erickson, J., Fligger, K., Adams, A., Adams, C., Altschuler, B., Balter, S., Fisher, B., Hike, J., Kelly, J., Kerr, T., McCauley, M., Montone, K., Rauch, M., Schmiedeskamp, K., Saxton, D., Sparacino, L., Tusinski, W., Williams, L., 2004. Estimates of the Genuine Progress Indicator (GPI) for Vermont, Chittenden County and Burlington, from 1950 to 2000. <i>Ecol. Econ.</i> 51, 139–155. doi:10.1016/j.ecolecon.2004.04.009</p> <p>Goldfinger, S., Wackernagel, M., Galli, A., Lazarus, E., Lin, D., 2014. Footprint facts and fallacies: A response to Giampietro and Saltelli (2014) “Footprints to Nowhere.” <i>Ecol. Indic.</i> 46, 622–632. doi:10.1016/j.ecolind.2014.04.025</p> <p>Guo, D., DeFrancia, K., Chen, M., Filitrait, B., Zhang, C., 2015. Assessing Sustainability: Frameworks and Indices.</p> <p>Hamilton, C., 1999. The genuine progress indicator methodological developments and results from Australia. <i>Ecol. Econ.</i> 30, 13–28. doi:10.1016/S0921-8009(98)00099-8</p> <p>Hsu, A. et al., 2016. 2016 Environmental Performance Index. <i>Yale Cent. Environ. Law Policy</i> 123.</p> <p>James, P., 2015. <i>Urban sustainability in theory and practice: circles of sustainability.</i> Routledge, London.</p> <p>Lawn, P.A., 2003. A theoretical foundation to support the Index of Sustainable Economic Welfare (ISEW), Genuine Progress Indicator (GPI), and other related indexes. <i>Ecol. Econ.</i> 44, 105–118. doi:10.1016/S0921-8009(02)00258-6</p> <p>Loman, M., 2014. Measuring and Reporting Sustainability: The Role of the Public Sector 1–14.</p> <p>Pritzker, P.S., Arnold, K., Moyer, B.C., 2015. Measuring the Economy: A Primer on GDP and the National Income and Product Accounts. <i>Bea</i> 1–25.</p> <p>UNDP, 2016. Human Development Report 2016, United Nations Development Programme. doi:eISBN: 978-92-1-060036-1</p> <p>Van de Kerk, G., Manuel, A.R., 2008. A comprehensive index for a sustainable society: The SSI - the Sustainable Society Index. <i>Ecol. Econ.</i> 66, 228–242. doi:10.1016/j.ecolecon.2008.01.029</p> <p>Van Kooten, G.C., Bulte, E.H., 2000. The ecological footprint: Useful science or politics? <i>Ecol. Econ.</i> 32, 385–389. doi:10.1016/S0921-8009(99)00160-3</p> <p><u>Additional Reading:</u></p> <p>To be announced in due course.</p>
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Detailed Schedule for Each Unit		
Unit	Topic	Reading Assignment
01	Announcements, semester outline, organizational issues	none
02	Why metrics? Introduction to the current debate of sustainable metrics.	<ul style="list-style-type: none"> • Cohen et al. (2014) • Guo et al. (2015) • Loman (2014)
03	Ecological measures: <ul style="list-style-type: none"> • Ecological footprint • Environmental performance index (EPI) 	<ul style="list-style-type: none"> • Goldfinger et al. (2014) • Van Kooten and Bulte (2000) • Hsu et al. (2016)
04	Social measures: <ul style="list-style-type: none"> • Educational attainment • Sustainable society index • Human development index 	<ul style="list-style-type: none"> • Barro and Lee (2013) • Van de Kerk and Manuel (2008) • UNDP (2016)
05	Economic measures: <ul style="list-style-type: none"> • Gross domestic product (GDP) 	<ul style="list-style-type: none"> • Pritzker et al. (2015)
06	Combined measures: <ul style="list-style-type: none"> • Genuine progress indicator (GPI) • Circles of sustainability 	<ul style="list-style-type: none"> • Costanza et al. (2004) • Hamilton (1999) • Lawn (2003) Circles of sustainability (James, 2015)
07	Implementation issues of sustainability goals <ul style="list-style-type: none"> • Prisoners' dilemma and common pool resources • Some (revisiting) theory and computerized class room experiment Group assignment	none
08	Intermediate presentation of practical assessment	none
09	Final presentation of practical assessment and handing-in of final report	none
10		
Teaching Approach	The teaching approach in this seminar is twofold: The first part (units 1-6) is organized as a reading class with extensive critical appreciation of different concepts of sustainable metrics. During the second part (units 7-9) students need to engage in hands-on practical activities to compute sustainable metrics. Overall, the course is set to be a highly interactive seminar.	

Grading	<p>The final grade will be determined by:</p> <p>Grade: minimum points – maximum points 1: 91 – 100 2: 79 – 90 3: 66 – 78 4: 50 – 65 5: 0 – 49</p> <p>Students will obtain points for</p> <ul style="list-style-type: none"> • regular attendance and active participation in class room discussions <ul style="list-style-type: none"> ○ up to 20 points ○ 5 points deduction per missed class • presentation of metrics (oral part, slides) <ul style="list-style-type: none"> ○ up to 30 points • intermediate presentation of the practical assessment exercise <ul style="list-style-type: none"> ○ up to 10 points • final presentation of the practical assessment exercise (oral part, slides) <ul style="list-style-type: none"> ○ up to 20 points • short written report about the practical assessment <ul style="list-style-type: none"> ○ up to 20 points
Attendance Policy	<p>§4 (13) <i>For courses with continuous assessment of performance (including this course), attendance is mandatory with the exception of the LE part of LX and LS combined courses in which attendance is not mandatory. For courses with mandatory attendance, an absence of more than 20% of the scheduled course time will negatively impact a student's final grade. In the event that more than 20% of a course with mandatory attendance has been missed due to reasons beyond the student's control, the student has the opportunity to submit an "Application for Special Consideration – General Form" to present to the lecturer, explaining his or her previous and – if already known – future absences. If this should occur, the lecturer may decide, based on the individual case, whether the student is allowed to continue attending the course. The granting of special consideration is at the discretion of the lecturer. Exceeding the 20% limit typically entails some additional work completed by the student to compensate for any parts missed.</i></p>
Academic Misconduct: About Plagiarism	<p>The following excerpt is taken from page 1-2 of MU's Guide to Understanding Plagiarism. Students should familiarize themselves with the entire document which can be accessed on the MU Intranet under https://intranet.modul.ac.at/studentdownload .</p> <p>Students are expected to acquire a number of skills at university. In order to assess the level of learning, educational institutions have put in place a system of measures, which include oral and written forms of assessment (tests, seminar works, presentations, etc.). A fair and honest conduct of such evaluations forms the basis for a properly functional system. Hence, any type of academic dishonesty, i.e. any attempt by students to gain an unfair advantage in an assessment, will be punished by the university following normal academic standards.</p> <p>Academic dishonesty takes various forms. Pavela (1978) distinguishes:</p> <ul style="list-style-type: none"> - Cheating (using or attempting to use unauthorized materials or other aids)

	<ul style="list-style-type: none"> - Fabrication (falsifying or inventing information or citations) - Facilitation of academic dishonesty (helping or attempting to help others violate the code of academic integrity) and - Plagiarism (adoption or reproduction of ideas/words of another person as one’s own without acknowledgement). <p>Further types include copying from others or communicating information during an examination; arranging or attempting to arrange for another person to take one’s place in an examination; letting others do one’s assignment or parts of it; buying/downloading/copying papers or presentations; resubmitting materials that were previously submitted for another assessment at university or elsewhere; bribing, altering or forging documents (e.g. exam answers, grade records); and providing false information in order to receive special consideration (Aluede et al. 2006).</p> <p>While most of these offences are straightforward, students tend to have problems grasping the concept of plagiarism. Plagiarism may be defined as a combination of intellectual theft and lying. On the one hand, plagiarizers steal the ideas or words of someone else, and on the other hand, they claim that these ideas or words are their own (What is Plagiarism? n.d.). The former indicates that plagiarism is a copyright issue, which is regulated by law. This means that not only plagiarizers but also students, who assist or condone plagiarism by allowing their work to be copied, will be subject to severe disciplinary action. In addition to plagiarism being illegal, such behavior is also unethical, as it portrays disrespect for the lecturer, the other students and the educational system in general (Aluede et al. 2006).</p> <p>In order to avoid plagiarism, MU Vienna insists on appropriate referencing. Such a conduct does not only indicate the student’s respect for others and their works but actually enhances the credibility of a student’s work. Any arguments provided in a written or oral assignment are strengthened by citing experts in the field and supports the defense of one’s position against the examiners (ibid.).</p> <p>In line with the current academic standard, MODUL University Vienna stipulates strict measures against plagiarism and will apply them. Plagiarism, in whichever form it manifests, is clearly out of the range of tolerable behavior, not just a matter of gambling or tactic trade-offs but a severe violation of the student’s contract with the university, with all its consequences. Moreover, being able to reference and quote properly and to deliver academic work without plagiarizing is a fundamental, indispensable skill for any future university graduate. Therefore, ignorance can and will not be taken as an excuse, not in general and, in particular, not in view of the student’s signature guaranteeing acknowledgment of MODUL’s plagiarism rules.</p>
<p>Notes</p>	<p>*Please remember that English is the working language of the university and should be spoken in all course-related settings.</p> <p>**Many university-level courses may require students to work on assignments/projects in groups. The formation of the groups is the decision of the lecturer. MODUL University encourages students and faculty to form working groups that reflect the diversity of the university's student body.</p>